

ATHLETIC TRAINING
FOR
MEN AND BOYS

STELIOS J. KYRIAKIDES

1935

F. A. M. WEBSTER
AND
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STELIOS I. KYRIAKIDES

Greek Champion 1934

1934. Balkan Peninsular Champion

Hungary Champion 1934.

England Champion 1935.

Cyprus Champion 1932-35.



T. Hampson, O.U.A.C., Olympic Victor 1932. World's and Olympic 800 metres Record Holder 1 min. 49 $\frac{1}{2}$ secs. English 880 yards Record Holder 1 min. 53 $\frac{1}{2}$ secs. Olympic Champion 1932. English Champion 1930-32.

ATHLETIC TRAINING

FOR MEN AND BOYS

A COMPREHENSIVE SYSTEM OF TRAINING
TABLES FOR ALL EVENTS

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TO

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PART I

CHAPTER ONE

VALUE OF TRAINING AND USE OF TRAINING TABLES

WHEN the members of the British Olympic Team came back from America in 1932, many of them stated frankly that they had been amazed by the really hard work done by the ever-successful Americans in their training. Incidentally, the four British athletes who had undertaken the most strenuous preparation for the Olympic Games at Los Angeles were T. Hampson, who won the 800 metres in world's record time of 1 min. 49 $\frac{1}{2}$ secs. ; T. Green, who set up a world's record of 4 hrs. 50 mins. 10 secs. in winning the 50,000 metres walk, and our long-distance runners, S. Ferris and D. McLeod Wright, who finished 2nd and 4th respectively in the Marathon Race. "The results achieved by these athletes," said an important British official, "are a complete vindication of the policy of hard, continuous training. Most of our fellows seem afraid to work as the Americans do. There is excuse for —, who is even now not in normal health. Even he ran better after four hard races in three days than at any other time. Of all our people the men who worked hardest did best at Los Angeles."

There you have the basic principle of failure to achieve success in athletics. It has been said, also, that "the more matured athlete dislikes the drudgery of strenuous and consistent training." The statement is true in essence, but needs qualification, because the main disability of many British athletes lies in the fact that they can find no one to teach them technique or to tell them just how much, or how little, training it is necessary for them to do.

In short, the uninitiated athlete is terribly afraid of overdoing his training. In consequence of this fear, combined with the desire to excel, he does too much and strives too hard to produce big results quickly; fatigue and the pain of hardly used muscles is the inevitable punishment. The athlete, alarmed at his condition, then rests long enough to recover his pep and lose his pains, starts again, and repeats the process, *ad nauseam*. That is why many of our athletes show so little improvement from one season to the next.

The two books, particulars of which will be found at the end of this present volume, deal with two of the problems confronting the athlete who proposes going into training. *Athletes in Action* both explains and illustrates by action pictures and slow-motion films all the points of technique that the athlete needs to know. In *Exercises for Athletes* we have set out a system of athletic physical culture, the faithful practise of which will wear smooth the paths of the nerve impulses leading from brain to muscle, will develop speed, strength and balance, together with a subconscious memory of the sensations that should be experienced in the production of a technically perfect effort; and which will, further, save the athlete from suffering those muscular pains which so often interfere with training.

It is to supply yet another need of the athlete that this present work has been prepared, that is to say the need of the man or boy who has not the foggiest notion of how to set about the intricate business of training. And an intricate business it certainly is. The work must be so nicely balanced that speed, stamina, strength, spring, skill and agility are built up in their just proportions. In training there must be relaxation and rest to follow upon effort and strenuous endeavour. The Schedules of Training must be so divided that, say, sprinting does not fall on three days in succession, until muscle tone has been matured, since that would inevitably lead to a breakdown. Nor would it do to have a long jumper, or a hammer

thrower, trying to reach his maximum on five days a week. Simply because the strain, both mental and physical, would be too much and even the man's natural ability would deteriorate. And yet, year after year, one sees just this very thing happening, particularly among schoolboys. That is why an untrained athlete so often does better than a man who has been in over-strenuous training for a short period. In any case one must expect, even with a well-balanced schedule, to find some falling off in one's natural best in the first phase of training. Better results will be achieved later when the muscles, the nerves and the mentality have adjusted themselves to the new demands that are being made upon them.

Many people will maintain, no doubt, that training is such an entirely individual undertaking that no useful purpose can be served by the use of panaceaic training tables. Such is not the case. We admit frankly that the same schedule of training will not suit all athletes, but Captain Webster's practical experience as an Honorary Coach for more than a quarter of a century has proved conclusively that it is far better for an athlete to follow a set schedule, which, at least, will not permit him to overdo things, than to attempt, without much knowledge, to plan his own athletic preparation. Such tables as are set out in this book have been used for the training of those Bedford School Teams which have won seven times the Public Schools Challenge Cup which no other school has held more than twice. By this system, too, schools and individual athletes, whom the authors of the tables have never seen, have been trained successfully. Notable examples of what can be achieved by the use of Training Tables are H. A. Simmons, who represented Great Britain as a high jumper in 1928, he being the youngest athlete who has ever taken part in the Olympic Games, and J. Simpson, who won the World's 400 metres Hurdles Inter-Universities Championship in 1930. It is a system, moreover, which enabled a famous regiment

to win the Championship of the Army in India quite recently.

Apart, however, from the above considerations, the Training Tables and the Tables of Effort, which are contained in this book, have, in every case, been submitted to one or more men who have achieved distinction in the event upon which they were consulted. It may be added that when Captain Webster first started the preparation of such tables, many years ago, he based his experiments upon the results achieved by the different methods which had been used by coaches and varying grades of athletes in each event in many countries. Since then the whole system has been gradually matured and each link in the chain has been tested and re-tested by practical experiment.

In these circumstances we are strongly of the opinion that the athlete in training should abide by the schedules set out in the Training Tables, especially where the field events are concerned. More jumps, puts or throws than are prescribed, or at greater efforts than are indicated, are bound to prove harmful. On the other hand, a man who finds the schedules too heavy for him, and this applies particularly to runners and hurdlers, may cut the work down a little, although, perhaps, he would be better advised to consider the possibility that he may have chosen the wrong event as his speciality, if he discovers that he cannot stand the training.

EXPLANATION OF THE TRAINING TABLE SYSTEM

TABLES OF EFFORT. In explaining the system of preparation for athletic contests by the use of Training Tables, it will be necessary, first, to say something about the Tables of Effort, which are given for each event. In many books athletes have been advised to run at $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ speed; but the term "speed," in this connection, must be a misnomer, for an even-time sprinter travelling at $\frac{1}{2}$ speed would take 20 secs. to cover 100 yards, and

his $\frac{1}{4}$ speed would be even more absurd. It is for this reason that we have, advisedly, chosen the term "effort." In order to arrive at his lesser efforts, in either track or field events, it is not enough for a man to take merely his best performance, which he may have achieved mainly by the adventitious aid of exceptionally favourable extraneous circumstances. There is a racing best and a training best and what a man needs to discover is his average of best performance. This he will find by adding together the times, heights or distances achieved in his last half-dozen contests and/or trials, and dividing the result of the addition by six. We will suppose that he is a high jumper whose average of best performance works out at 5 ft. 9 $\frac{1}{2}$ ins. He now looks up the Table of Effort in Chapter Nine, the High Jump, and finds in the left-hand column that the nearest average best performance given is 5 ft. 10 ins., which is near enough to his own figures for all practical purposes. Looking along the same line he then finds 5 ft. 8 ins. given as $\frac{3}{4}$ effort, 5 ft. 4 ins. as $\frac{1}{2}$ effort and 5 ft. 0 ins. as $\frac{1}{4}$ effort. These are the heights at which he will jump in training, according to the efforts indicated for the particular practises set for him in the table of his day's work.

It should be added that the athlete must from time to time revise his average of best performance as training progresses and, to that end, we have included weekly trials in the tables from certain stages onward. The distance runner, in particular, must remember that for each *racing* best there is a correspondingly lower *training* best, the excitement of competition being absent. To strike a just balance, therefore, he should make his revision by a combination, if possible, of racing and trial results.

Now as to what the various efforts stand for in training. Firstly, $\frac{3}{4}$ effort, where runners are concerned, is supposed to represent the sort of performance that would enable one to qualify in an eliminating trial for the class of final one would expect to compete in. In other words, $\frac{3}{4}$ effort

is designed to accustom the athlete to speed, or almost maximum effort, while providing a crucial test of his ability to retain his form at almost full effort.

The $\frac{1}{2}$ effort figures stand for the sort of speed at which you should run; heights, or lengths, at which you should jump; or the distances you should throw for general work in training, while you are building up stamina, speed and nervous energy, and are perfecting the style which it is so necessary for you to acquire. Work at $\frac{1}{2}$ effort should never be fatiguing, and must, always, be sufficiently easy and self-contained to allow you to pay full attention to the perfection of style and such matters as pace judgment, balance and co-ordination.

The $\frac{1}{4}$ effort figures represent speeds, heights, lengths and distances at which you should work, almost without effort, for the correction of faults and the inculcation of fresh phases in the building up of your technique.

For example, a half-miler showing 1 min. 55 secs. as his average of best performance would find his $\frac{3}{4}$ effort at 2 mins. 4 secs., his $\frac{1}{2}$ effort at 2 mins. 12 secs. and his $\frac{1}{4}$ effort at 2 mins. 25 secs. On the other hand, another half-miler, also with an average best of 1 min. 55 secs., may find his correspondingly lesser efforts working out in practise at 2 mins. 2 secs, 2 mins. 10 secs. and 2 mins. 20 secs. Treated as a distance factor, the efforts would be approximately 50, 100 and 150 yards slower than his average best.

The proportionate efforts for Field Events men are dealt with fully on pages 103 to 105 at the commencement of Part III.

Generally speaking, training should be carried out at $\frac{1}{2}$ effort, although a lot of $\frac{1}{4}$ effort work may be needed for the inculcation of technique. Work at $\frac{3}{4}$ effort is introduced occasionally to accustom the athlete to speed, height, length or the production of almost his full strength, but the main object of $\frac{3}{4}$ effort work is to test his ability to retain his form under pressure.

TRAINING TABLES AND SYMBOLS. Two things will probably strike the reader as soon as he turns to the Training Tables. Firstly, that the work looks very light. He may, in fact, wonder if it is worth while changing into athletic kit for such an apparently small job. Secondly, the Training Tables themselves, with their many symbols, figures and fractions, may seem horribly complicated.

The first point is easily disposed of, since the golden rule for success in athletics is to be found in three words, "Little and often." Apart from the lack of coaching and training facilities, we are firmly convinced that the main cause of the dismal failure of our Field Events men is to be found in their own, hitherto ineradicable, habit of training every day that the Lord sends and jumping or throwing themselves into a state of mental and physical exhaustion at each session of training. Six jumps or eight throws may seem a woefully small allowance for an afternoon or an evening of training, but if the limbering-up run is taken first, followed by the Body Bending and Stretching, or the Form Exercises, applicable to the athlete's event, and if, moreover, the jumps or throws are carried out with intense concentration upon the points marked for attention in the tables, the maximum benefit will undoubtedly be derived and the training period, with rests between practises, will be found sufficiently long.

Athletes are warned that it is most necessary for them to warm up properly by trotting and exercise movements before attempting any serious work, even at $\frac{1}{2}$ effort. Similarly, it is a golden rule that an athlete must keep himself warm. All limbering-up should be done before the sweater and track trousers are taken off. The track suit should be donned again after each practise and should not be discarded at all throughout a whole training period when the weather is cold. It is equally important for the athlete to rest between one practise and the next, being careful to avoid cramped positions when resting.

The length of such rest must be governed by the strain imposed in the previous practise, and even between jumps or throws in a single practise there must be a rest period. An athlete is bound to wait 5 mins. or more between rounds in competition and should do the same in practise. It is sheer athletic suicide to make one attempt after another in quick succession without any break between attempts when one is training. By the same token, one must resist the temptation to do more than the prescribed amount of work, no matter how "good" one may be feeling at the particular moment.

We are entirely in favour of the athlete entering a competition about half-way through his training period. There comes usually a sticking-point in one's preparation which can be got past only by the stimulus and the excitement of keen competition.

And now as to the Training Tables. In the first place, it must be remembered that some athletes come into form far more quickly than do others. The athlete who has been matured by several seasons of competition, the schoolboy who is kept in good physical condition by the games he plays, and the cross-country runner all belong to a type which can be brought to the pitch of perfection by a graduated Three Months' Training Schedule. On the other hand, the novice and some athletes who have lain fallow during the off-season will certainly need a five or six months' preparation to bring them into competition form.

Schoolboys, in themselves, present a problem, and a special chapter at the end of this book is devoted to the welfare of those boys who are at schools where only a few weeks are set aside for training in preparation for the School Sports. For the rest, very carefully thought out, tested and graded Tables for Three Months' Training in all those events which are practised by boys are given after the Men's Tables in the chapters in question.

Boys should be firmly discouraged from going into arduous training, and a master, or coach, who sets a

boy to do twenty starting practises in an afternoon or to run a fast mile on five days out of seven is nothing less than a criminal lunatic. To encourage a boy to strive after Victor Ludorum honours is equally reprehensible, and a system for the limitation of competition by boys is suggested in Chapter Eighteen.

There is one further phase of schoolboy athletics which we feel bound to touch upon, for such great athletes as D. G. A. Lowe, Olympic 800 metres victor in 1924 and 1928, Dr. A. E. Porritt, 3rd in the Olympic 100 metres, 1924, and E. A. Montague, a former O.U.A.C. President and British Olympic representative, are in agreement with us that the main duty of the man who is placed in charge of schoolboys is to teach them style, instead of urging them to strive after records. Records will come automatically, if the tuition is good and the training well balanced; meantime, the main thing is to teach the boy style while he is still young and impressionable enough to build up a perfect technique. That is the road that will lead British athletes of all classes to the highest success at the Olympic Games.

In the foregoing connection it is undoubtedly true that greater encouragement of field events at the Public Schools would have far-reaching results. Such events impose but little strain upon a boy, in comparison with the after effects of too much racing at close intervals. In fact a boy would take less harm from competition in half a dozen throwing and jumping contests than from a single, punishing mile race, leading to such dilatation of the heart as might prevent that organ from readjusting its proper balance within the space of half a year, if the boy runner in question had been insufficiently trained. Even a furlong race imposes too great a strain upon certain types of boy, simply because such boys have never been taught that they must "float" for a spell in the middle of the race, wherefore they go battling along to the bitter end, which is often, also, to the point of utter exhaustion. Such matters as these were well

considered in the planning of our Training Tables, and there are, therefore, certain practises introduced which will get the boy runner into a mechanical habit of floating over the important phase of a furlong race, just as "pace-changing" and "long, fast striding" has been prescribed to force the quarter-miler into the habit of husbanding his resources.

Needless to say, it has not been easy to find a means of setting out the Training Tables in compact form, while still preserving the comprehensive nature of the preparation, combined with such a degree of simplicity as would make the symbols used and the instructions given readily comprehensible after a little practise. Obviously, the symbols employed were bound to be many and varied, having regard to the multiplicity of small, but all-important, details of technique which must be taken care of in any comprehensive system of training. None the less, it has been found possible to preserve a definite similarity between the symbols employed for like purposes in different events; and, in each chapter, before the Training Tables are reached the symbols are set out, practically as indices, in the order of their appearance in the ensuing tables for that event. The meaning of each symbol is given and, further, is illustrated by selected examples, which serve a good deal more than a single purpose, in that they clarify the use of the symbols in question, explain the particular practise in which the symbol, and probably other symbols, occur, and, at the same time, teach the athlete a good deal concerning the acquisition of style, speed and stamina. As a further aid to the athlete, our photographic illustrations have been chosen for their value in bringing out some particular point which will be of service to him in his training.

The training for each event is steadily progressive and during the progressive period the athlete should watch his weight carefully. Any marked decrease in the poundage of a normally fit man must be the signal for

him to cut down his schedule of work to four days' training a week, instead of five. It is in this stage of training, too, that technique should be firmly established; and, again, our plans are progressive, the various phases in the acquisition of style being graded according to the muscular effort involved; their importance to the event as a whole; and the ease, or the difficulty, of mastering such phases.

Next comes the vital process of tapering off the training, as the competition for which one is preparing comes closer. This, too, we have carefully considered, since we have not forgotten the many fine athletes who, through doing just a little too much in final preparation, have made the sad discovery, on the day of the big event, that they have left their running behind them on the training track.

We have indicated, throughout the tables, that a man should rest for two or three days before an important contest. On the day of the event, a good breakfast should be eaten; but luncheon should be taken from two, to two and a half, hours before the contest, and should be of the lightest. Weak tea, dry toast and a couple of lightly boiled eggs make a good pre-competition meal. It is a good thing, too, to eat a plentiful supply of sugar, or glucose, for the surcharging of the liver; since sugar is the foundation of energy, and if one's liver is well charged with sugar, just before the event, the effect is extraordinarily beneficial. The athlete, of course, must pay proper attention to the process of limbering-up before competing, just as he has been told to do before commencing the serious work of his daily training.

Finally, a word of advice must be given to the man who intends to go on with his athletic competitions, after the big event is over for which he went into special training.

For this purpose, he must still continue to follow the Training Tables, and will use the schedule for the third

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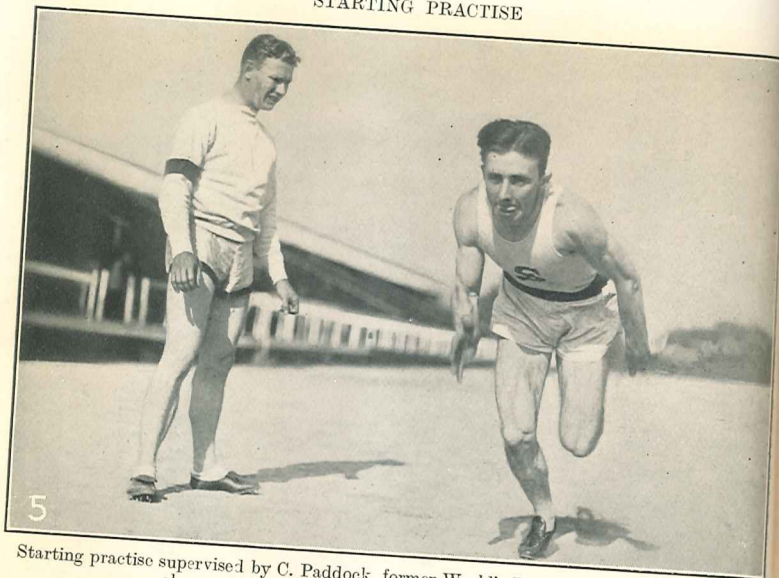
week of the final month of the training he has been doing, as his future, staple training between contests. In the week, however, in which any future competition is to take place on the ensuing Saturday, he must use the light schedule of training given for the fourth week of the last month of the Training Tables for his event, in this book.

Competitions which precede the big event, which is the main object of his training, should be treated, merely, as trials, and the athlete should endeavour, as far as possible, to keep the energy he expends in such preliminary, subsidiary competitions down to $\frac{3}{4}$ effort.

TYPICAL EXERCISES



"BBnS, S & L Exs"—Above are given three typical body bending, stretching, suppling and loosening exercises.



Starting practise supervised by C. Paddock, former World's Record Holder. The runner shows excellent body lean and good forward traction.



Starting practise of British and Japanese University athletes under Evan Hunter, Hon. Sec., B.O.A.

"SP"—The symbol "SP" stands for starting practise such as is seen in the above illustrations.

PART II

INTRODUCTION TO RACING EVENTS

TABLES OF EFFORT EXPLAINED

TABLES OF EFFORT. The purpose of training is best accomplished by the athlete doing work at varying efforts which call upon him but seldom to produce his very best. All work, however, must be based upon the average of his ability. In the Tables of Effort given throughout Part II, will be found four columns of figures. The first column gives best average performances. To find your own best average performance, take the times you returned in your last six races, or Time Trials, add them together, divide the total by six and the resulting figure will be your average best performance. Look up the nearest figure to this in the first column of the Table of Effort you are using and on it base your other proportionate efforts in training.

Quarter effort represents the slow work you will do for stamina, and for learning new features of technique.

Half effort is the sort of speed at which you will do the bulk of your training, with full concentration upon style.

Three-quarter effort is designed to accustom you to speed, and, also, to test your ability to retain your form when running almost flat out.

CHAPTER TWO

THE SPRINTS

SPRINTERS are peculiarly liable to break down through laceration of the thigh or calf muscles; it is, therefore, necessary for them to undergo a preliminary conditioning period, and all running should be done on grass until the muscles are fully strengthened. For the same reason a warming-up process before each practise is needed. On cold days, training should be done in track trousers and a sweater; one should do speed work on warm days and stamina work on cold days.

Tables of Effort for the use of the sprinter will be found on page 20. The use and purpose of such tables is fully explained in Chapter I and on page 17.

TRAINING TABLES—SYMBOLS EXPLAINED.

MW=Mile Walk.

Tr=Trotting. *Examples*: 1MW-Tr 50/880 means you are to walk a mile, trotting 50 yards in each 880 yards. 880- $\frac{1}{4}$ -1 means that you will jog an easy 880 yards, once, at quarter effort.

SS=Swinging Stride. It is necessary for all sprinters to develop a swinging stride for the elimination of natural faults. *Example*: 200-SS- $\frac{1}{4}$ -2 means that you will run 200 yards with a swinging stride, at $\frac{1}{4}$ effort, twice.

BAS=Balanced Arm Swing. The sprinter must learn to balance his arm and leg action. (See Fig. 11.)

P.C.P.=Practise of the Crouch Start Position.

Mark & Set=Practising the process of getting on your mark and getting set, as for the start of a race.

SP=Starting Practise. (See Figs. 5 to 9.)

SPa=A special sort of Starting Practise, for the development of the quadriceps extensor muscles, in which the athlete comes out of his holes with the shortest possible strides. *Examples*: SP-20- $\frac{1}{2}$ -2 means ordinary starting practise in which you run 20 yards at $\frac{1}{2}$ effort, twice. SPa-20- $\frac{3}{4}$ -2 means starting practise, running 20 yards at $\frac{3}{4}$ effort, with the shortest possible strides, twice.

KL=Knee Lift. In order that a sprinter may develop proper form it is necessary for him to cultivate a good knee-lift. *Example*: 150-KL- $\frac{1}{4}$ -1 means that you are to run 150 yards concentrating on knee-lift action at $\frac{1}{4}$ effort, once. (See Figs. 8 and 11.)

BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3 and 4.)

Breathing Ability=There is a special practise to enable a man to adjust his breathing to his needs, which ability is built up as by the following example: 50- $\frac{3}{4}$ +40- $\frac{1}{2}$ +10- $\frac{7}{8}$ -1. This means you are to run 100 yards in all, travelling the first 50 yards at $\frac{3}{4}$ effort, the next 40 yards at $\frac{1}{2}$ effort, and the final 10 yards at a fraction under your full speed. This not only leads to breathing adjustment, but teaches the furlong runner to drop to a striding action for the essential 40 yards, since it is not possible for a man to run more than 150 yards, at the most, in the tense burst required of the 100 yards runner.

RC=Running round the curve of the track. It is necessary that the furlong man should learn to corner properly. *Example*: 120-RC- $\frac{1}{2}$ -2, means that you will go to the start of the furlong and run 120 yards round the curve of the track at $\frac{1}{2}$ effort, twice.

Warming Up=In the early stages of training the warming-up process consists of jogging a quarter mile (440- $\frac{1}{4}$ -1) to increase the depth of tidal breathing and to clear CO₂ from the lower parts of the lungs. Later on it will suffice if the runner jogs several times up and down the sprint path to limber up (100-Tr-2).

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T=Time Trial. *Examples:* 220-T-1 means a time trial at 220 yards. 100-Race- $\frac{7}{8}$ means taking part in a race at a 100 yards without going quite all out.
 B=Bursts of Speed. *Example:* 220- $\frac{1}{4}$ -2B- $\frac{3}{4}$ -1 means that you are to run 220 yards in all, at $\frac{1}{4}$ effort, introducing two speed bursts of 10 to 20 yards at $\frac{3}{4}$ effort.

TABLES OF EFFORT

100 YARDS

Average Best Performance. Secs.	$\frac{3}{4}$ Effort. Secs.	$\frac{1}{2}$ Effort. Secs.	$\frac{1}{4}$ Effort. Secs.
10.0	10.8	11.6	13.0
10.2	11.0	11.8	13.2
10.4	11.2	12.0	13.5
10.6	11.4	12.3	13.8
10.8	11.7	12.5	14.0
11.0	11.9	12.7	14.3
11.2	12.1	13.0	14.5
11.4	12.3	13.2	14.8
11.6	12.5	13.5	15.1
11.8	12.7	13.7	15.3
12.0	13.0	14.0	15.6

220 YARDS

21.8	22.8	24.9	28.0
22.2	23.3	25.4	28.5
22.6	23.7	25.8	29.0
23.0	24.1	26.3	29.5
23.4	24.5	26.7	30.1
23.8	24.9	27.2	30.6
24.2	25.4	27.7	31.1
24.6	25.8	28.1	31.6
25.0	26.2	28.6	32.1
25.4	26.6	29.0	32.6

THE SPRINTS

100 AND 220 YARDS—TWO MONTHS' PRELIMINARY TRAINING

	1st Week.	2nd Week.	3rd Week.	4th Week.
FIRST MONTH	Monday	IMW-Tr 50/880	200-BAS- $\frac{1}{4}$ -1 300-SS- $\frac{1}{4}$ -1	150-SS- $\frac{1}{4}$ -1 P.C.P.-5 mins. 150-BAS- $\frac{1}{4}$ -1
	Wednesday	880- $\frac{1}{4}$ -1	200-BAS- $\frac{1}{4}$ -1 P.C.P.-5 mins. Jog 440-1	300-BAS- $\frac{1}{4}$ -1 Mark & Set-5 mins. 220-SS- $\frac{1}{4}$ -1
	Saturday	IMW-Tr 50/440	300-SS- $\frac{1}{4}$ -1 P.C.P.-5 mins. 150-BAS- $\frac{1}{4}$ -1	300-SS- $\frac{1}{4}$ -1 Mark & Set-5 mins. 150-BAS- $\frac{1}{4}$ -1
SECOND MONTH	Monday	200-BAS- $\frac{1}{4}$ -1 440-Fast Walk 150-SS- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 SPa-20- $\frac{1}{4}$ -4 440-Fast Walk 200-SS- $\frac{1}{4}$ -1	300- $\frac{1}{4}$ -1 SP-30- $\frac{1}{4}$ -2 SPa-20- $\frac{1}{4}$ -3 100-KL- $\frac{1}{4}$ -1
	Wednesday	220-SS- $\frac{1}{4}$ -1 SP-20- $\frac{1}{4}$ -6 200-BAS- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 SP-30- $\frac{1}{4}$ -2 SPa-20- $\frac{1}{4}$ -3 150-BAS- $\frac{1}{4}$ -1	220-SS- $\frac{1}{4}$ -1 SP-30- $\frac{1}{4}$ -2 SPa-20- $\frac{1}{4}$ -1 50-KL- $\frac{1}{4}$ -1
	Saturday	200-BAS- $\frac{1}{4}$ -1 SP-20- $\frac{1}{4}$ -1 440-Fast Walk 150-SS- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 SPa-20- $\frac{1}{4}$ -3 SP-30- $\frac{1}{4}$ -4	200-BAS- $\frac{1}{4}$ -1 SP-30- $\frac{1}{4}$ -3 SPa-20- $\frac{1}{4}$ -2 150-SS- $\frac{1}{4}$ -1

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own event, each morning on rising. During the above two months spend one hour in the Gymnasium skipping and doing light gymnastics for suppling each Tuesday, and walk three to five miles at 4 to 5 miles an hour each Thursday; rest on Fridays.
 SPECIAL REFERENCES. The technique of these events is explained in *Athletes in Action*, pages 10 to 29. Special exercises for these events will be found in *Exercises for Athletes*, Chapter V.

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -3 SPa-20- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -1	220- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -3 50- $\frac{3}{4}$ +40- $\frac{1}{2}$ +10- $\frac{1}{2}$ -1 150- $\frac{1}{2}$ -1	300- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -3 SP-25- $\frac{3}{4}$ -2 50- $\frac{3}{4}$ +40- $\frac{1}{2}$ +10- $\frac{1}{2}$ -2 220- $\frac{1}{2}$ -1
Tuesday	5 Months' Men 300-SS- $\frac{3}{4}$ -1 3 Months' Men 1MW-Tr 50/880	440- $\frac{1}{4}$ -1 75- $\frac{1}{4}$ +25- $\frac{1}{2}$ -2 220- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 100-RC- $\frac{3}{4}$ -2	440- $\frac{1}{4}$ -1 BBnS-5 mins. 50- $\frac{1}{2}$ -2 50-F-1 100- $\frac{3}{4}$ -1
Wednesday	220- $\frac{1}{4}$ -1	300-SS- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -3	220-SS- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-25- $\frac{3}{4}$ -2 220-RC- $\frac{1}{4}$ -1	300-SS- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-25- $\frac{3}{4}$ -2 120-RC- $\frac{1}{4}$ -2
Thursday	5 Months' Men 350-SS- $\frac{1}{4}$ -1 3 Months' Men 1MW-Tr 50/400	440- $\frac{1}{4}$ -1 BBnS-5 mins. 100-KL- $\frac{1}{2}$ -1 SP-40- $\frac{1}{2}$ -2 SPa-20- $\frac{3}{4}$ -2 50-KL- $\frac{1}{2}$ -1	200-SS- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-20- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +40- $\frac{1}{4}$ +10- $\frac{1}{4}$ -1	100-Tr-3 25- $\frac{1}{2}$ -3 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -2 150- $\frac{1}{4}$ -1
Saturday	5 Months' Men 150-SS- $\frac{3}{4}$ -1 3 Months' Men 880- $\frac{1}{4}$ -1	300-SS- $\frac{1}{2}$ -1 BBnS-5 mins. 120- $\frac{1}{4}$ -1 220- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-25- $\frac{3}{8}$ -2 50-T-1 120-RC- $\frac{1}{2}$ -2	220- $\frac{1}{4}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 150-T-1

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-25- $\frac{3}{4}$ -4 220- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. 440- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 220- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 150- $\frac{3}{4}$ -1
Tuesday	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ +40- $\frac{1}{2}$ +10 F-1	120-RC- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 SP-25- $\frac{3}{4}$ -2 50- $\frac{3}{4}$ -2 220- $\frac{3}{4}$ -1	100-Tr-3 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{8}$ -2 150- $\frac{3}{4}$ -1	220- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 220- $\frac{1}{2}$ -1
Wednesday	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 220- $\frac{1}{2}$ -1	100-Tr-3 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +40- $\frac{3}{4}$ +10 F-1 220- $\frac{1}{2}$ -1	300- $\frac{1}{4}$ -1 BBnS-5 mins. 50- $\frac{1}{2}$ +40- $\frac{1}{4}$ +10- $\frac{1}{2}$ -1 220- $\frac{1}{2}$ -1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -1 150- $\frac{1}{2}$ -1
Thursday	220-RC- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -2 SP-80- $\frac{1}{4}$ -2 150- $\frac{3}{4}$ -1	300- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -2 220- $\frac{1}{2}$ -1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 220-T-1	220- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -3 150- $\frac{1}{2}$ -1
Saturday	100-Tr-3 SP-30- $\frac{1}{2}$ -2 100-T-1 BBnS-5 mins. 220-T-1	100-Tr-3 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 100-Race- $\frac{1}{2}$	100-Tr-3 50- $\frac{3}{4}$ -1 SP-30- $\frac{1}{2}$ -2 220-T-1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 220-Race- $\frac{1}{2}$

24 ATHLETIC TRAINING FOR MEN AND BOYS

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	220- $\frac{1}{2}$ B- $\frac{3}{4}$ -1 BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 50-T-1	440- $\frac{1}{2}$ -1 BBnS-5 mins. 440- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. 440- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{3}{4}$ -2 SP-30- $\frac{3}{8}$ -2 SP-30- $\frac{7}{8}$ -1
Tuesday	440- $\frac{1}{2}$ -1 BBnS-5 mins. 50- $\frac{3}{4}$ -2 100-S- $\frac{3}{4}$ -1	300-SS- $\frac{1}{2}$ -1 BBnS-5 mins. 40- $\frac{1}{2}$ -2 50- $\frac{7}{8}$ -1 120-RC-2	220- $\frac{1}{2}$ +20- $\frac{3}{4}$ -1 BBnS-5 mins. SP-30- $\frac{3}{4}$ -2 SP-30- $\frac{3}{4}$ -3 50- $\frac{7}{8}$ -1	220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{3}{4}$ -2 SP-30- $\frac{3}{8}$ -2 SP-30- $\frac{7}{8}$ -2
Wednesday	220- $\frac{1}{2}$ B- $\frac{3}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 40-T-1	220- $\frac{1}{2}$ B- $\frac{3}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -3 SP-30- $\frac{3}{4}$ -4 100- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-3 mins. 50- $\frac{1}{2}$ +40- $\frac{1}{2}$ +10- $\frac{3}{4}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3	2MW-4 $\frac{1}{2}$ m.p.h. or Rest
Thursday	300-SS- $\frac{1}{2}$ -1 BBnS-5 mins. 50- $\frac{3}{4}$ -2 120-RC- $\frac{1}{2}$ -2	350-SS- $\frac{1}{2}$ -1 BBnS-6 mins. 50- $\frac{3}{4}$ -1 50- $\frac{7}{8}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{7}{8}$ -2	Rest
Saturday	100-Tr-3 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 100-T-1 220-T-1	100-Tr-3 BBnS-2 mins SP-30- $\frac{1}{2}$ -2 100-T-1 220-T-1	300- $\frac{1}{2}$ -1 BBnS-5 mins. 120-RC- $\frac{3}{4}$ -2	Competition for which training

THE SPRINTS

BOYS' TABLES

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	220-BAS- $\frac{1}{2}$ -1 BBnS-5 mins. 440-Fast Walk 150-SS- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 BBnS-5 mins. 100-KL- $\frac{1}{2}$ -1 440 Fast Walk 220-BAS- $\frac{1}{2}$ -1	220-SS & BAS- $\frac{1}{2}$ -1 BBnS-5 mins. 25- $\frac{1}{2}$ +20- $\frac{1}{2}$ +15- $\frac{3}{4}$ -1 440 Medium Walk 150-SS- $\frac{1}{2}$ -1	220- $\frac{1}{2}$ -1 BBnS-5 mins. 150-KL & BAS- $\frac{1}{2}$ -2 150-SS- $\frac{1}{2}$ -1
Tuesday	100-Tr-2 P.C.P.-5 mins. BBnS-5 mins. SP-20- $\frac{1}{2}$ -4 220- $\frac{1}{2}$ SS & BAS-1	220- $\frac{1}{2}$ -1 P.C.P.-5 mins. SP-20- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 440 Fast Walk 150-SS- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 Mark & Set-5 mins. BBnS-3 mins. SP-20- $\frac{1}{2}$ -3 SPa-20- $\frac{3}{4}$ -3 150-SS- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +40- $\frac{1}{2}$ +10- $\frac{3}{4}$ -1
Thursday	100-Tr-2 BBnS-5 mins. 100-KL- $\frac{1}{2}$ -1 440 Fast Walk 220-SS- $\frac{1}{2}$ -1	100-Tr-2 Mark & Set-5 mins. BBnS-3 mins. SPa-20- $\frac{1}{2}$ -3 P.C.P.-5 mins. 50- $\frac{3}{4}$ -1	220- $\frac{1}{2}$ -1 BBnS-5 mins. 100-KL- $\frac{1}{2}$ -1 30-KL- $\frac{1}{2}$ -1 150-BAS-1	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{3}{4}$ -2 SPa-20- $\frac{3}{4}$ -1 150-SS-1
Saturday	100-Tr-2 P.C.P.-5 mins. BBnS-5 mins. SP-20- $\frac{1}{2}$ -4 SP-20- $\frac{3}{4}$ -2 440-Fast Walk 220-SS- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 P.C.P.-5 mins. BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -3 Mark & Set-5 mins. 100-KL- $\frac{1}{2}$ -1	P.C.P.-5 mins. Mark & Set-5 mins. 440- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -3 SPa-30- $\frac{3}{4}$ -2	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 150-KL & BAS-1 150-SS & BAS-1

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events each morning on rising.
SPECIAL REFERENCES. The technique of these events is explained in *Athletes in Action*, pages 10 to 29. Special exercises for these events will be found in *Exercises for Athletes*, Chapter V.

BOYS' TABLES
100 AND 220 YARDS—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +40- $\frac{1}{2}$ +10- $\frac{1}{2}$ -1 150-SS- $\frac{1}{2}$ -1	350- $\frac{1}{2}$ -1	BBnS-3 mins. 220- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -5	BBnS-3 mins. 220- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +30- $\frac{1}{2}$ +20- $\frac{1}{2}$ -2 150-SS- $\frac{1}{2}$ -1
Tuesday	440- $\frac{1}{2}$ -1	220- $\frac{1}{2}$ -1	BBnS-3 mins. 220- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -5	BBnS-3 mins. 300- $\frac{1}{2}$ -1 BBnS-3 mins. 220- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -4 50-F-2
Wednesday	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -3 50- $\frac{1}{2}$ +30- $\frac{1}{2}$ +20- $\frac{1}{2}$ -1 150-SS- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -4 SP-30- $\frac{1}{2}$ -2 75- $\frac{1}{2}$ -2	BBnS-3 mins. 150-SS- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +40- $\frac{1}{2}$ +10- $\frac{1}{2}$ -2
Thursday	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -4 SP-30- $\frac{1}{2}$ -2 50-F-1	300- $\frac{1}{2}$ -1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -5 SP-30- $\frac{1}{2}$ -1 100- $\frac{1}{2}$ -2	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -4 150-SS- $\frac{1}{2}$ -1
Saturday	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 110-T-1	800- $\frac{1}{2}$ -1	150-SS- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 220-T-1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 110-T-1

100 AND 220 YARDS—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -2 150- $\frac{1}{2}$ -1	150-SS- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -4 75-T-1	150-SS- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -2 50-T-1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -3 SP-30- $\frac{1}{2}$ -3 110- $\frac{1}{2}$ -1
Tuesday	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 SP-30-F-1 50-T-1	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -2 110- $\frac{1}{2}$ -1	150- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 SP-30-F-2	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -3 75- $\frac{1}{2}$ -1
Wednesday	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SPa-20- $\frac{1}{2}$ -2 100- $\frac{1}{2}$ -1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -4 SPa-20- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -1	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30-F-3	Rest
Thursday	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -2	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30-F-2 50- $\frac{1}{2}$ -2	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30-F-4 150- $\frac{1}{2}$ -1	Rest
Saturday	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 220-T-1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 100-T-1 Rest 220-T-1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 110-T-1 Rest 220- $\frac{1}{2}$ -1	Competition for which training

CHAPTER THREE

440 YARDS

THE Quarter Mile calls for exceptional strength and stamina. It is for that reason that a great deal of steady, slow-speed running, walking and light gymnastics have been introduced into the Training Table of the quarter-miler during the first and second months of his preparation.

The runs are set out as for example 660- $\frac{1}{4}$ -1, which means that you are to run 660 yards at $\frac{1}{4}$ effort, according to the Table of Effort (see page 30), which will be very little more than a jog-trot pace, once. The walking practise is indicated, as for example 2MW-4 $\frac{1}{2}$ m.p.h., which means that you are to go for a two-mile walk at four and a half miles per hour.

The one hour of light work in the gymnasium is to comprise body-building, suppling, bending and stretching and deep-breathing exercises, and the special exercises set out in Chapter Five of *Exercises for Athletes*.

When we come to the outdoor track work it will be necessary for the athlete to limber up, before training, with slow runs to increase the depth of tidal breathing and to clear CO₂ out of the lower parts of the lungs. Thus 440- $\frac{1}{4}$ -1 means that you will run a very easy quarter of a mile once to limber up. The initial warming-up spin is usually followed by body-bending and stretching exercises for 5 mins., set out in the tables as BBnS-5 mins.

The rest of the symbols will be explained later.

TABLE OF EFFORT. A Table of Effort is given on page 30. For explanation of use see page 17.

TRAINING TABLES—SYMBOLS EXPLAINED.

MW=Mile Walk.

Tr=Trotting. *Examples*: 3MW-Tr 50/880 means that you are to go for a three-mile walk in which you will trot 50 yards in each 880 yards. 100-Tr-3 means that you are to trot three times up and down the 100 yards path to limber up.

BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3 and 4.)

M=Mile or Miles. *Example*: $\frac{3}{4}$ M- $\frac{1}{4}$ -1 means that you will run three-quarters of a mile at $\frac{1}{4}$ effort, once.

SP=Starting Practise. *Example*: SP-30- $\frac{1}{2}$ -4 means sprinting 30 yards from the crouching start position at $\frac{1}{2}$ effort, four times. (See Figs. 5 to 9.)

PC=Pace Changing. Since the quarter-miler cannot run his race in a single burst of speed, it is very necessary for him to acquire the knack of changing his pace. He will learn to do this best by covering 100 yards with a long free stride and then bursting into a rapid sprint stride for 20 or 30 yards. He then reduces his speed and strides out again for a 100 yards before his next sprinting burst. *Example*: 375- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1. This means that you will run 375 yards in all, covering the first 100 yards at $\frac{1}{4}$ effort, the next 25 yards at $\frac{1}{2}$ effort, drop again to $\frac{1}{4}$ effort for the next 100 yards, increase again to $\frac{1}{2}$ effort for the next 25 yards and complete the final 125 yards in the same way. This practise will also give you the ability to produce a sudden burst of speed wherewith to pass a rival in a race.

LFS=Long Fast Striding. Apart from the necessity for the quarter-miler to learn pace changing, with the production of sudden sprints, he must learn to stride out so that he may finish the race without becoming tense. To this end he should run distances of 300 to 350 yards with a long fast stride, and at a pace that is really fast without imposing an undue

strain upon him, or causing him to break into sprint action. *Example*: 300-LFS- $\frac{3}{4}$ -1 means that you are to run 300 yards with a long fast stride at your $\frac{3}{4}$ effort, in accordance with the Table of Effort, once.

F=Finishing Burst. The quarter-miler must learn the proper way to finish out his race, in a final burst. *Examples*: 75- $\frac{3}{4}$ +F-25- $\frac{7}{8}$ -1 means that you are to run 100 yards in all, travelling the first 75 yards at $\frac{3}{4}$ effort and the next 25 yards at $\frac{7}{8}$ effort (i.e. a fraction under full speed) in a final dash for the winning-post, once. 350- $\frac{7}{8}$ +F-20-1 means that you will run 350 yards at $\frac{7}{8}$ effort and then continue on at full speed in a practise finish for a further 20 yards, once. (See Fig. 13.)

T=Time Trial. *Example*: 220-T-1 indicates that you must run 220 yards as a time trial, once.

TABLE OF EFFORT

440 YARDS

Average Best Performance.	$\frac{3}{4}$ Effort. Secs.	$\frac{1}{2}$ Effort. Secs.	$\frac{1}{4}$ Effort. Secs.
48	52.0	56.0	60.0
49	53.1	57.2	61.2
50	54.1	58.5	62.5
51	55.2	59.5	63.7
52	56.3	60.6	65.0
53	57.5	62.0	66.2
54	58.5	63.0	67.5
55	59.6	64.1	68.7
56	60.6	65.3	70.0
57	61.7	66.5	71.2
58	63.0	67.6	72.5
59	64.0	69.0	73.7
60	65.0	70.0	75.0

440 YARDS—FIVE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	660- $\frac{1}{4}$ -1 BBnS-5 mins.	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -6 220- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -3 50- $\frac{3}{4}$ -1 100- $\frac{1}{2}$ -1	660- $\frac{1}{4}$ -1 BBnS-5 mins. 30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -2
Tuesday	2MW-4 $\frac{1}{2}$ m.p.h.	3MW-Tr 100/1M	2MW-5m.p.h.	2MW-Tr 50/880
Wednesday	3M- $\frac{1}{4}$ -1	660- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -4 220- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. 50- $\frac{3}{4}$ -2 SP-30- $\frac{1}{2}$ -3 220- $\frac{1}{4}$ -1	300- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -3 220- $\frac{1}{4}$ -1
Thursday	Light work for 1 hour in Gymnasium	Light work for 1 hour in Gymnasium	Light work for 1 hour in Gymnasium	Light work for 1 hour in Gymnasium
Saturday	440- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -6	300- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -2	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -2

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 30 to 37. Special exercises for this event will be found in *Exercises for Athletes*, Chapter V.

440 YARDS—FIVE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	880- $\frac{1}{4}$ -1	660- $\frac{1}{2}$ -1	880- $\frac{1}{4}$ -1	660- $\frac{1}{2}$ -1
Tuesday	BBnS-5 mins. SP-30- $\frac{1}{2}$ -3 375- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1 150- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 SP-30- $\frac{3}{4}$ -3 BBnS-5 mins. 350-LFS- $\frac{3}{4}$ 50- $\frac{7}{8}$ -F-1	220- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -3 BBnS-5 mins. 375- $\frac{3}{4}$ & $\frac{5}{8}$ -PC-1 150- $\frac{1}{2}$ -1	220- $\frac{1}{4}$ -1 SP-30- $\frac{3}{4}$ -3 BBnS-5 mins. 300-LFS-1 220-RC- $\frac{1}{2}$ -1
Wednesday	2MW-5 m.p.h.	3MW-Tr 50/880	2MW-5 m.p.h.	3MW-Tr 50/880
Thursday	375- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1 BBnS-5 mins. 300-LFS- $\frac{3}{4}$ -1 220- $\frac{1}{2}$ -1	375- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1 BBnS-5 mins. 375- $\frac{1}{4}$ & $\frac{3}{4}$ -PC-1 150- $\frac{3}{4}$ -1	300- $\frac{1}{4}$ -1 BBnS-3 mins. 350-LFS- $\frac{3}{4}$ -1 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -3 220-RC- $\frac{3}{4}$ -1 375- $\frac{3}{4}$ & $\frac{5}{8}$ -PC-1
Saturday	300- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{3}{4}$ -3 75- $\frac{3}{4}$ +F-25- $\frac{7}{8}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{3}{4}$ -2 50- $\frac{3}{4}$ -1 75- $\frac{3}{4}$ +F-25- $\frac{7}{8}$ -1	300- $\frac{1}{4}$ -1 BBnS-5 mins. 50- $\frac{3}{4}$ -2 100- $\frac{3}{4}$ +F-10-1	440- $\frac{1}{4}$ -1 BBnS-5 mins. 220-RC- $\frac{3}{4}$ -1 220-RC- $\frac{3}{4}$ -1



7 First stride out of the holes showing fully abbreviated initial step.



8 Third stride out of the holes showing good body angle, fine arm action and correct pick up of knee of leading leg.



9 Fourth stride out of the holes showing preservation of forward body lean while getting into the running and balanced arm swing.

"SP, KL & BAS"—The late J. E. Holland, one of the fastest schoolboy sprinters the world has ever seen, doing "SP" (Starting Practise) and practising "KL" (Knee Lift) and "BAS" (Balanced Arm Swing) supervised by Captain Webster.



Left: "F"—Full effort. The late J. E. Holland is making a fine finishing effort under full pressure. Right: "KL & BAS"—Holland is seen travelling at full speed with excellent knee lift and balanced arm swing.



"F"—Full effort. Finish of Public Schools 100 yards championship. W. P. Heath (1st), G. R. A. Jamieson (2nd), and J. E. Holland (3rd) show good preservation of form under pressure.

440 YARDS—FIVE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	880- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -4 660- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 660- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-50- $\frac{1}{2}$ -1 660- $\frac{1}{2}$ -1
Tuesday	300- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. 220-RC- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ +F-10- $\frac{1}{2}$ -1 440- $\frac{1}{2}$ -1	BBnS-5 mins. SP-50- $\frac{1}{2}$ -2 375- $\frac{1}{2}$ & $\frac{2}{3}$ -PC-1 150- $\frac{1}{2}$ +F-50- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 BBnS-2 mins. 440- $\frac{1}{2}$ -1
Wednesday	440- $\frac{1}{2}$ -1	880- $\frac{1}{2}$ -1 BBnS-5 mins. 880- $\frac{1}{2}$ -1	880- $\frac{1}{2}$ -1 BBnS-5 mins. 880- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 BBnS-5 mins. 500- $\frac{1}{2}$ -1
Thursday	300- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -5 SP-30- $\frac{1}{2}$ -2 350- $\frac{1}{2}$ +F-20-1	BBnS-5 mins. SP- $\frac{1}{2}$ & $\frac{2}{3}$ -PC-1 300-LFS- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ +F-25- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ +F-25- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. 220-RC- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ +F-25- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ +F-25- $\frac{1}{2}$ -1
Saturday	440- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 220-T-1	440- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 BBnS-2 mins. 100-T-1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 440- $\frac{1}{2}$ -1

440 YARDS—FIVE MONTHS' TRAINING—FOURTH MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 220-RC- $\frac{1}{4}$ -1	300- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -3 50- $\frac{3}{4}$ -1 75-S- $\frac{1}{2}$ -1	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 150- $\frac{3}{4}$ +30- $\frac{7}{8}$ -1	300- $\frac{1}{4}$ -1 BBnS-2 mins. SP-25- $\frac{7}{8}$ -2 300-LFS- $\frac{1}{4}$ -1 100- $\frac{3}{4}$ +F-25- $\frac{7}{8}$ -1
Tuesday	375- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1 BBnS-2 mins. SP-30- $\frac{3}{4}$ -2 50-T-1	BBnS-5 mins 350-LFS- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ +F-25- $\frac{7}{8}$ -2 220- $\frac{1}{2}$ -1	220- $\frac{1}{4}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{7}{8}$ -2 75- $\frac{1}{2}$ +F-25-1	350- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-30-F-3 220- $\frac{1}{4}$ -1
Wednesday	440- $\frac{1}{4}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -3 SP-40- $\frac{1}{4}$ -2 100- $\frac{3}{4}$ +F-10- $\frac{7}{8}$ -1	300- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2	375- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 SP-40-F-2	350- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 SP-40-F-4 220- $\frac{1}{4}$ -1
Thursday	BBnS-5 mins. 300-LFS- $\frac{3}{4}$ -1 SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2	220- $\frac{1}{4}$ -1 BBnS-2 mins. 375- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1 220-RC- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30-F-3	300- $\frac{1}{4}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 375- $\frac{3}{4}$ & $\frac{7}{8}$ -PC-1
Saturday	300- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 BBnS-2 mins. 440 Race- $\frac{3}{4}$	440- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 BBnS-2 mins. 220-T-1	220- $\frac{1}{4}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 440-T-1	300- $\frac{1}{4}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -1 440 Race

440 YARDS—FIVE MONTHS' TRAINING—FIFTH MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50- $\frac{3}{8}$ +F-10-1 300- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 SP-40- $\frac{1}{2}$ -3 SP-30- $\frac{3}{4}$ -3 150- $\frac{1}{2}$ -1	BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 375- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1 220- $\frac{3}{4}$ -1	220- $\frac{1}{2}$ -1 BBnS-2 mins. SP-40- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50- $\frac{3}{8}$ -1
Tuesday	440- $\frac{1}{4}$ -1 BBnS-5 mins. 40- $\frac{1}{2}$ -2 30- $\frac{1}{4}$ -3 150- $\frac{3}{4}$ +F-20-1	BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 75-T-1 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50-T-1 150- $\frac{1}{2}$ -1	BBnS-2 mins. SP-40- $\frac{1}{2}$ -3 SP-40- $\frac{3}{4}$ -2 150- $\frac{3}{8}$ -1
Wednesday	100- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-40-F-3 220- $\frac{1}{4}$ -1	100- $\frac{1}{2}$ -1 SP-40- $\frac{1}{2}$ -2 50-F-2 300- $\frac{1}{2}$ -1	BBnS-2 mins. SP-30- $\frac{1}{2}$ -3 300-LFS- $\frac{3}{4}$ -1	2MW-4 $\frac{1}{2}$ m.p.h.
Thursday	BBnS-5 mins. 375- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1	BBnS-5 mins. 350-LFS- $\frac{3}{4}$ -1	BBnS-5 mins. SP-40- $\frac{3}{8}$ -2 40-T-1 220- $\frac{1}{4}$ -1	Rest
Saturday	220- $\frac{1}{2}$ -1 BBnS-2 mins. SP-40- $\frac{1}{2}$ -2 440- $\frac{3}{4}$ -T-1	300- $\frac{1}{2}$ -1 BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 440-T-1	220- $\frac{1}{4}$ -1 BBnS-2 mins. SP-40- $\frac{3}{8}$ -2 300-T- $\frac{7}{8}$ -1	Special Competition for which training

BOYS' TABLES

440 YARDS—THREE MONTHS' TRAINING—FIRST MONTH

36 ATHLETIC TRAINING FOR MEN AND BOYS

440 YARDS

37

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBnS-5 mins.	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -3 SP-30- $\frac{3}{4}$ -2 660- $\frac{1}{4}$ -1	880- $\frac{1}{4}$ -1 BBnS-5 mins.	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{4}$ -3 300-LFS-1
Tuesday	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{4}$ -4 100- $\frac{1}{2}$ -1 220- $\frac{1}{4}$ -1	880- $\frac{1}{4}$ -1 Rest 220-LFS-1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -4 220-LFS-1	100-Tr-2 BBnS-5 mins. 660- $\frac{1}{4}$ -1
Thursday	880- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -3 440- $\frac{1}{4}$ -1	660- $\frac{1}{4}$ -1 BBnS-5 mins. 220- $\frac{1}{2}$ -1	300- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -1 350- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1
Saturday	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -6 50- $\frac{3}{4}$ -1 300- $\frac{1}{4}$ -1	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50- $\frac{3}{4}$ -1 220-LFS-1	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 250- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1	100-Tr-2 BBnS-5 mins. 250- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1 300-LFS-1

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 30 to 37. Special exercises for this event will be found in *Exercises for Athletes*, Chapter V.

BOYS' TABLES

440 YARDS—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{4}$ -3 350-LFS	BBnS-5 mins. 300- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2	100-Tr-3 BBnS-5 mins. 300-LFS-1 250- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1
Tuesday	880- $\frac{1}{2}$ -1	BBnS-5 mins. 660- $\frac{1}{4}$ -1	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -6 220- $\frac{1}{2}$ -1	100-Tr-2 BBnS-5 mins. 350-LFS-1
Wednesday	100-Tr-1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 350- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1 220-LFS-1	BBnS-5 mins. 220- $\frac{1}{2}$ -1	100-Tr-3 BBnS-5 mins. SP-30- $\frac{1}{2}$ -4 SP-40- $\frac{1}{4}$ -2 220- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 50-F-2
Thursday	220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -2 300-LFS-1	BBnS-5 mins. 880- $\frac{1}{4}$ -1	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -6 SP-30- $\frac{3}{4}$ -3	100-Tr-2 BBnS-5 mins. 250- $\frac{3}{4}$ & F-PC-1 300- $\frac{1}{4}$ -1
Saturday	100-Tr-2 BBnS-5 mins. 350- $\frac{1}{4}$ & $\frac{1}{2}$ -PC-1 250- $\frac{1}{2}$ & $\frac{3}{4}$ -PC-1	BBnS-5 mins. 300- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 150- $\frac{3}{4}$ -1	100-Tr-3 BBnS-5 mins. 300-Tr-1

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -1 50-F-2 150- $\frac{1}{2}$ -1	100-Tr-2 BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -2 75-T-1 150- $\frac{1}{2}$ -1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 100-T-1 220- $\frac{1}{4}$ -1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -2 300- $\frac{1}{2}$ -1
Tuesday	100-Tr-2 BBnS-3 mins. 350-LFS-1	100-Tr-2 BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -4 220- $\frac{1}{2}$ -1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -2 150- $\frac{3}{4}$ -1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -4 SP-40- $\frac{3}{4}$ -2 150- $\frac{3}{4}$ -1
Wednesday	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 350- $\frac{3}{4}$ & F-PC-1	100-Tr-2 BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 SP-40-F-4 150- $\frac{1}{2}$ -1	880- $\frac{1}{4}$ -1 or Rest	2M-Easy Walk or Rest
Thursday	100-Tr-2 BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 SP-40-F-4 150- $\frac{1}{2}$ -1	2M-Fast Walk or Rest	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -3 220- $\frac{1}{4}$ -1	Rest
Saturday	100-Tr-3 BBnS-3 mins. SP-40- $\frac{1}{4}$ -2 440-T-1	100-Tr-3 BBnS-3 mins SP-40- $\frac{3}{4}$ -2 440-T-1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 220-T-1	Competition for which training

CHAPTER FOUR

SHORT MIDDLE DISTANCES AND THREE-QUARTER-MILE
STEEPLECHASE880 YARDS AND ONE-MILE FLAT AND THREE-QUARTER-MILE
STEEPLECHASE

HALF-MILERS, milers and schoolboy steeplechasers, for whom there is a three-quarter-mile Public Schools Steeplechase Championship, with four 3 ft. hurdles and one water-jump in each lap, require a fairly long conditioning period of steady work before actual track training for their events begins. This need is often met by cross-country work during the winter months, but an even better purpose will be served by following the tables of Two Months' Preliminary Training given on page 40.

The Preliminary Training Table will be easily explained by means of a few examples.

Examples: 2MW-J 220/880 means that you will walk two miles, jogging 220 yards in each 880 yards. $1\frac{1}{2}$ M- $\frac{1}{2}$ -1 means that you will run one and a half miles at $\frac{1}{2}$ effort, once. The question of effort will be explained presently. 2M- $\frac{1}{2}$ -VS means that you will run two miles, varying your stride from time to time, mainly, at this stage of training, for the sake of resting your leg muscles. 2MW- $\frac{1}{2}$ R 220/880 means that you will take a two-mile walk in which you will run, at $\frac{1}{2}$ effort, 220 yards in every 880 yards of the distance.

TWO MONTHS' PRELIMINARY TRAINING
880 YARDS, ONE MILE AND THREE-QUARTER-MILE STEEPLECHASE

	1st Week.	2nd Week.	3rd Week.	4th Week.
FIRST MONTH	Monday	2MW-J 220/880	1½M-½-1	2M-½-VS-1
	Wednesday	880-½-1	880-½-1	660-¾-1
	Thursday	3MW-J 220/880	4MW-J 220/IM	2MW-J 440/IM
	Saturday	1½M-½-1	1M-½-1	2M-½-VS
SECOND MONTH	Monday	1½M-½-1	1M-½-1	2M-½-1
	Wednesday	2MW-½ R 220/880	2MW-¾ R 120/880	3MW-½ R 220/IM
	Thursday	880-½-VS-1	880-¾-1	930-¾-1
	Saturday	2M-½-VS-1	3M-½-VS-1	1M-½-1
				3MW-J 440/IM
				660-¾-1
				2MW-J 440/880
				880-¾-1
				3M-½-1
				1MW-½ R 220/880
				660-¾-1
				1M-½-VS-1

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of these events is explained in *Athletes in Action*, pages 38 to 103. Special exercises for these events will be found in *Exercises for Athletes*, Chapters V and VI.

880 YARDS

There are certain circumstances connected with the setting up by T. Hampson, Great Britain, of a world's record of 1 min. 49½ secs. for 800 metres (874.89 yards) which indicate that the fashion in running the half-mile race is changing considerably. Quite recently such a great authority as D. G. A. Lowe, the Olympic Champion in 1924 and 1928, stated definitely "that among good performers the time taken over the second 440 yards is almost constant, whatever the time over the first 440 may have been." The deduction drawn from this discovery was that "the time for the first quarter should be anything up to 3 secs. faster than for the second." Hampson, however, whose full Training Table we have examined exhaustively, trained himself to concentrate on level-pace running, accustomed himself thoroughly to a 55 secs. quarter and knew to a tick what time he was doing. In this way he was able to point to figures which showed how level were his 440 yards times, there being in no case a divergence of more than ¾ secs., between the times of the first and second quarters, of a half-mile trial or race, except when, before fully trained, he ran a first 55 secs. quarter and consequently took 60 secs. over the second quarter. In making his world's record, however, his time was just inside 55 secs. for both laps. Hampson, moreover, trained more strenuously than any other Englishman to attain his Olympic victory in 1932, and the Training Tables given on pages 47, 48 and 49 are based upon the schedules he used.

So far as lesser luminaries of the track are concerned it may be well for a man to aim at running the first quarter anything up to 3 secs. faster than the second, but level pace is undoubtedly the thing to aim at, since pace judgment and the stamina which comes only from serious training are absolute essentials to the half-miler.

TABLE OF EFFORT. (See page 46 and for explanation of use see page 17.) Again, it may be said that, having

arrived at desirable average best performances, the $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{1}{4}$ efforts have been based upon the known training times of Hampson and other of the world's first-class half-milers. [*Note.*—Half and one-mile training for boys is comprised in one set of tables given in pages 56 to 58.]

TRAINING TABLES—SYMBOLS EXPLAINED.

M=Mile or Miles. *Example*: $1M-\frac{1}{4}-1$ means that you will run one mile jogging along at $\frac{1}{4}$ effort, once.

S=Striding. *Example*: $100-S-\frac{3}{4}-3$ means that you will run a 100 yards concentrating upon stride action at $\frac{3}{4}$ effort, three times.

Spec.Exs.—Special Exercises used by runners, such as knee raising and inverted pedalling when lying on the shoulders. (See *Exercises for Athletes*.)

T=Time Trial. *Example*: $80-T-\frac{3}{4}-1$ means a time trial of 80 yards at $\frac{3}{4}$ effort, once.

LP=Level Pace. *Examples*: $880\text{ Race}-\frac{3}{4}-LP$ means that you are to run in a half-mile race at $\frac{3}{4}$ effort, with full concentration upon maintaining a level pace in the first and second quarter miles. (See Fig. 15.) $660-\frac{3}{4}-LP/220-1$ means that you are to run 660 yards at $\frac{3}{4}$ effort, maintaining a level pace over each 220 yards of the distance.

It is also necessary for the half-miler to acquire pace-building ability in the way shown in the following example. $880-\frac{1}{4}+220-\frac{1}{2}-1$, which means that you run 1100 yards in all, covering the first 880 yards at $\frac{1}{4}$ effort and increasing your speed to $\frac{1}{2}$ effort over the next 220 yards.

Again, it is necessary to build up sprinting ability, especially for the purpose of passing rivals in a race. This is done by sudden bursts of speed, as in the following example: $50-\frac{3}{4}-3$, which means that you are to run 50 yards at $\frac{3}{4}$ effort three times, that is to say at a speed which is only a fraction short of your best pace.

KL=Knee Lift. It is very necessary for the half-miler to develop a good, but by no means an exaggerated, knee-lift action. The reason for this is that if a runner cultivates a good knee pick-up it will correct the natural tendency to run with a wasteful kick-up behind of the rear foot at the conclusion of a stride. (See Figs. 16 and 19.)

AP=Arm Punch. It is necessary for the half-miler to get used to producing some real punch with the arms and shoulders at the end of the race. *Example*: $50-\frac{3}{4}-KL \& AP-2$. This means that you are to run 50 yards at $\frac{3}{4}$ effort concentrating on the knee-lift and arm and shoulder punch co-ordination, twice. (See Figs. 11 and 16.)

F=Full speed, with finish. *Example*: $440-T-F-LP/220-1$ means that you are to run a 440 yards time trial at full speed with a level pace for each 220 yards, except that you will concentrate on a fast finish right through the tape, paying attention, of course, to knee-lift and arm and shoulder punch. (See Frontispiece and Figs. 19 and 21.)

(W)=Watch. That is to say the symbol (W) means that the work is to be done, and properly timed, with a stop-watch. *Examples*: $880-\frac{3}{4}-1 (W)$ means that you will run 880 yards at $\frac{3}{4}$ effort, once, timed by the stop-watch. $\frac{3}{4}M-\frac{3}{4}-LP/440-1 (W)$ means that you are to run three-quarters of a mile at $\frac{3}{4}$ effort, showing a level pace over each 440 yards; each of the three 440's and also the total three-quarter mile, being timed by the stop-watch.

VS=Varying Stride. (See Figs. 17 and 23.)

NOTE.—It should be pointed out that although the practises appear concurrently in the tables it is, of course, necessary to rest for a suitable period between the performance of one practise and the next. The usual period for one day's session of training is from 40 mins. to one hour.

Before getting down to the serious training practise of the day you should always warm up, slowly at first, but increasing speed towards the end over the two laps limbering-up run. *Example:* $880 - \frac{1}{4} + 220 - \frac{1}{2} - 1$ means that you will run 880 yards at $\frac{1}{4}$ effort and then carry on for a further 220 yards at $\frac{1}{2}$ effort. On other days you will limber up as shown in the training tables by the first practise for each day. The purpose of limbering up is to increase the depth of tidal breathing and to clear CO_2 from the lower parts of the lungs.

The following table shows the progressive stages of five of the world's greatest half-mile, or 800 metres, races, and the reader should note how runners have tended to decrease the divergence between the times taken for each of the two 440 yards stages of the race as the records have improved.

SPEED RATIOS IN RECORD 800 METRES AND
880 YARDS RACES

Name.	Year.	Record. Mins. Secs.	First 440. Secs.	Second 440. Secs.	First 440. Faster by Secs.
C. L. Kilpatrick	1895	1 53 $\frac{2}{5}$	54 $\frac{2}{5}$	59	4 $\frac{3}{5}$
*J. E. Meredith	1912	1 51 $\frac{2}{10}$	52 $\frac{8}{10}$	59 $\frac{1}{10}$	6 $\frac{3}{10}$
J. E. Meredith	1916	1 52 $\frac{1}{5}$	54 $\frac{4}{5}$	57 $\frac{2}{5}$	2 $\frac{3}{5}$
O. Peltzer	1926	1 51 $\frac{2}{5}$	55	56 $\frac{2}{5}$	1 $\frac{2}{5}$
*T. Hampson	1932	1 49 $\frac{8}{10}$	54 $\frac{8}{10}$	55	$\frac{2}{10}$

* Olympic 800 metres.

For the runner who is building up pace judgment the following table, in which the half-mile distance is divided into four stages for timing and calculation of effort, is suggested. A man should, however, strive first for the ability to run the first 440 yards about 3 secs. faster than the second; but should, all the while, fix his eyes

upon the ideal of finding his own optimum speed, with a view to running both quarters with a divergence of not more than 1 sec. between the two. Boys, on the other hand, should content themselves, for the time being, on always running the first lap of 440 yards 3 secs. faster than the second lap. This will tend to prevent them from running themselves to a standstill in the latter part of the race.

FURLONG SPEED RATIOS FOR PACE JUDGMENT AT
880 YARDS

	220	440	660	880
Progressive Furlong Times Time for each furlong	32 (32)	65 (33)	1 38 (33)	2 10 (32)
Progressive Furlong Times Time for each furlong	28 $\frac{2}{5}$ (28 $\frac{2}{5}$)	59 (30 $\frac{3}{5}$)	1 30 $\frac{1}{5}$ (31 $\frac{1}{5}$)	2 0 (29 $\frac{4}{5}$)
Progressive Furlong Times Time for each furlong	28 (28)	57 $\frac{2}{5}$ (29 $\frac{2}{5}$)	1 28 $\frac{2}{5}$ (31)	1 58 (29 $\frac{3}{5}$)

NOTE.—This table is offered merely as a guide to the building up of a scheme for pace-judging practise by the athlete himself.

TABLE OF EFFORT

880 YARDS

Average Best Performance. Mins. Secs.	$\frac{3}{4}$ Effort. Mins. Secs.		$\frac{1}{2}$ Effort. Mins. Secs.		$\frac{1}{4}$ Effort. Mins. Secs.	
	1 55	2 4	2 12	2 25	1 56	2 5
1 58	2 7	2 15	2 29	2 0	2 9	2 18
2 2	2 11	2 20	2 31	2 2	2 14	2 34
2 4	2 16	2 25	2 36	2 6	2 18	2 41
2 8	2 20	2 29	2 44	2 10	2 22	2 46
2 12	2 24	2 34	2 49	2 14	2 27	2 51
2 16	2 27	2 36	2 54	2 18	2 29	2 56
2 20	2 31	2 41				

880 YARDS—THREE MONTHS' FINAL TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	1M- $\frac{1}{4}$ -1 100-S- $\frac{3}{4}$ -3	1M- $\frac{1}{4}$ -1 250-S- $\frac{3}{4}$ -2	1M- $\frac{1}{4}$ -1 220-S- $\frac{3}{4}$ -3	1M- $\frac{1}{4}$ -1 100- $\frac{3}{4}$ -2
Tuesday	1M- $\frac{1}{4}$ -1 200-S- $\frac{3}{4}$ -3	1M- $\frac{1}{4}$ -1 100-S- $\frac{3}{4}$ -4	880- $\frac{1}{4}$ -LP-1 Spec.Exs.-5 mins. 100-S- $\frac{3}{4}$ -3	660- $\frac{3}{4}$ -LP 220-1 (W) Spec.Exs.-5 mins. 220- $\frac{1}{4}$ -2
Wednesday	1M- $\frac{1}{4}$ -1 100-S- $\frac{3}{4}$ -4	1M- $\frac{3}{4}$ -1 300-S- $\frac{3}{4}$ -2	1M- $\frac{1}{4}$ -1 150-S- $\frac{3}{4}$ -3	1M- $\frac{1}{4}$ -1 300-S- $\frac{3}{4}$ -2
Thursday	1M- $\frac{1}{4}$ -1 200-S- $\frac{3}{4}$ -3	1M- $\frac{1}{4}$ -1 200- $\frac{3}{4}$ -3	SP-30- $\frac{3}{4}$ -4 660- $\frac{3}{4}$ -1 (W) Spec.Exs.-5 mins. 300-S- $\frac{1}{4}$ -2	SP-30- $\frac{3}{4}$ -2 440- $\frac{3}{4}$ -1 (W) Spec.Exs.-5 mins.
Friday	Rest	Rest	1M- $\frac{1}{4}$ -1 100-S- $\frac{3}{4}$ -3	Rest
Saturday	1M- $\frac{1}{4}$ -1 100-S- $\frac{3}{4}$ -4	660- $\frac{3}{4}$ -1 (W)	440-S- $\frac{1}{4}$ -1 75- $\frac{3}{4}$ -1 800-Tr- $\frac{3}{4}$ -1 or 880 Race- $\frac{3}{4}$ -LP	Rest 300-S- $\frac{1}{4}$ -1 50- $\frac{3}{4}$ -1 880-Tr- $\frac{3}{4}$ -1 or 880 Race- $\frac{3}{4}$ -LP

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 38 to 49. Special exercises for this event will be found in *Exercises for Athletes*, Chapter V.

48 ATHLETIC TRAINING FOR MEN AND BOYS

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	880- $\frac{1}{4}$ +220- $\frac{1}{2}$ -1 SP-50- $\frac{3}{4}$ -3	$\frac{3}{4}$ M- $\frac{1}{4}$ +440- $\frac{1}{2}$ -1 220-S- $\frac{3}{4}$ -1 Spec.Exs.-5 mins.	$\frac{3}{4}$ M- $\frac{1}{4}$ +440- $\frac{1}{2}$ -1 Spec.Exs.-5 mins. 300-S- $\frac{1}{2}$ -1	$\frac{3}{4}$ M- $\frac{1}{2}$ -1 Spec.Exs.-5 mins. 100- $\frac{7}{8}$ -2 220- $\frac{3}{4}$ -2 300- $\frac{1}{2}$ -1
Tuesday	SP-30- $\frac{3}{4}$ -2 440- $\frac{3}{4}$ -LP/220-1 (W) Spec.Exs.-5 mins.	660-S- $\frac{1}{4}$ -1 880- $\frac{3}{4}$ -1 (W) 50- $\frac{3}{8}$ -3 300-S- $\frac{1}{2}$ -1	880- $\frac{1}{4}$ -1 $\frac{3}{4}$ M- $\frac{3}{4}$ -LP/440-1 (W) 50- $\frac{3}{8}$ -2 220-S- $\frac{1}{2}$ -2	880- $\frac{1}{4}$ -1 880- $\frac{3}{4}$ -LP/440-1 (W) 50- $\frac{3}{8}$ -3 300-S- $\frac{1}{2}$ -2
Wednesday	1M- $\frac{1}{4}$ -1 300-S-1	1M- $\frac{1}{4}$ -1 75- $\frac{3}{8}$ -KL & AP-3	660- $\frac{1}{4}$ -1 440- $\frac{1}{2}$ -LP/220-1 50- $\frac{3}{8}$ -KL & AP-2 300-S- $\frac{1}{2}$ -1	880- $\frac{1}{4}$ -1 660- $\frac{1}{2}$ -LP/220-1 80- $\frac{3}{8}$ -KL & AP-2 220-S- $\frac{1}{2}$ -1
Thursday	220-S- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ -LP/220-2 (W) Spec.Exs.-5 mins.	880- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ -LP/220-1 (W) Rest $\frac{1}{2}$ hr. 440- $\frac{3}{4}$ -LP/220-1 (W)	660- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ -LP/220-1 (W) Rest $\frac{1}{2}$ hr. 660- $\frac{3}{4}$ -LP/220-1 (W)	660- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ -LP/220-1 (W) Rest $\frac{1}{2}$ hr. 440- $\frac{3}{4}$ -LP/220-1 (W)
Friday	880- $\frac{1}{4}$ -1 220-S- $\frac{1}{2}$ -2	$\frac{3}{4}$ M- $\frac{1}{4}$ -1 Spec.Exs.-5 mins.	880- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 75- $\frac{3}{8}$ -KL & AP-2 220-S- $\frac{1}{2}$ -2	$\frac{3}{4}$ M- $\frac{1}{4}$ -1 Spec.Exs.-5 mins.
Saturday	300-S- $\frac{1}{4}$ -1 SP-30- $\frac{3}{4}$ -2 440-T- $\frac{7}{8}$ -LP-1 or 440 Race- $\frac{3}{4}$ -LP	440- $\frac{1}{4}$ -1 50- $\frac{3}{8}$ -2 880-T- $\frac{3}{4}$ -LP-1 or 880 Race- $\frac{1}{2}$ -LP	300- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 440-T-F-LP/220-1 or 440 Race- $\frac{7}{8}$ -LP	440- $\frac{1}{4}$ -1 40- $\frac{3}{4}$ +30- $\frac{1}{2}$ -1 880-T-F-LP/440-1 or 880 Race at best speed

Note.—During this month the athlete should concentrate on level-pace running, i.e. there should not be more than $\frac{1}{4}$ th second's divergence between the first and last 440 yards of a half-mile. Work on Fridays is to be for exercise, not exertion.

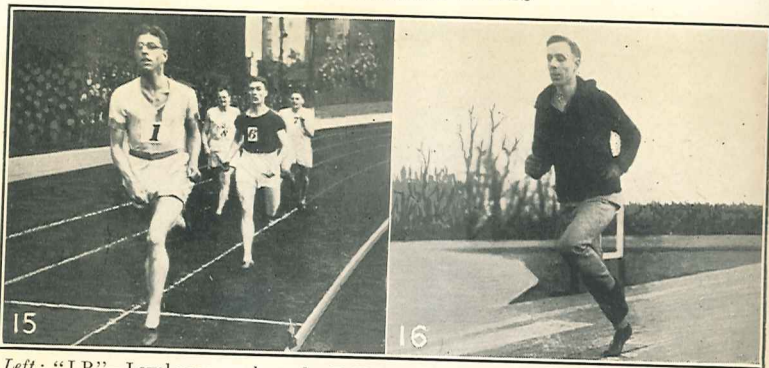
FINISHING EFFORTS



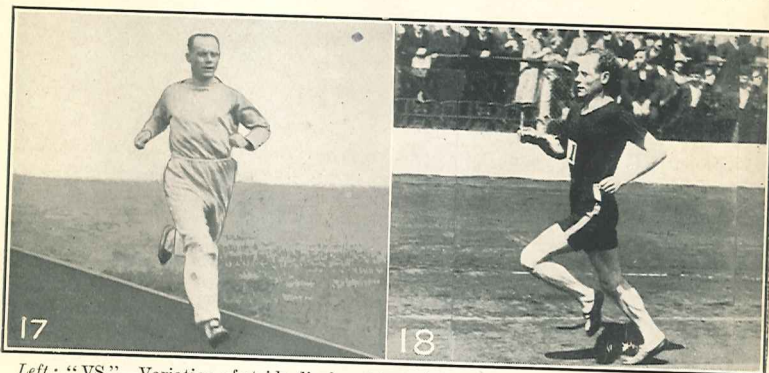
J. W. J. Rinkel, C.U.A.C., beating O. Peltzer, Germany and A. Paulen, Holland, for the A.A.A. 440 yards title (1926) in 49 $\frac{1}{2}$ secs. Good preservation of style is shown by the three runners.



A. G. Hill, Polytechnic Harriers, beating H. B. Stallard, C.U.A.C., and setting British Mile record mark of 4 mins. 13 $\frac{1}{2}$ secs., A.A.A. Championship 1921. Both runners are holding an easy swinging action.



Left: "LP"—Level pace as shown by T. Hampson. Right: "KL & AP"—Knee lift and arm punch of Lloyd Hahn, former U.S.A. 880 yards indoor Record Holder 1 min. 52½ secs.



Left: "VS"—Variation of stride displayed in training by Paavo Nurmi. Right: Paavo Nurmi showing longer distance action when breaking world's six mile record.



Left: R. H. Thomas, R.A.F., former British Mile Record Holder 4 mins. 13½ secs. "F"—Full speed with finish. Right: "S"—Striding as shown by Paavo Nurmi, holder of many world's records who is leading Lloyd Hahn, U.S.A.

880 YARDS—THREE MONTHS' FINAL TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	*880-½-1 Spec.Exs.-5 mins. 220-¾-3 ¼M-¼-1	880-½-1 Spec.Exs.-5 mins. 100-¾-2 1M-¼-1	880-½-1 Spec.Exs.-5 mins. 220-¾-2 ¾M-¼-1	880-½-1 Spec.Exs.-5 mins. 100-¾-2 1M-¼-1
Tuesday	880-½-1 ¾M-¼-LP/220-1 (W) 50-¾-4 220-S-½-2	880-½-1 880-¾-LP/440-1 (W) 50-¾-2 300-S-½-2	880-½-1 ¾M-¼-LP/220-1 (W) 50-F-2 440-S-½-1	660-½-1 880-¾-LP-1 (W) 30-¾-3 220-S-½-2
Wednesday	880-½-1 440-¾-LP/220-1 (W) 50 to 80-¾-KL & AP-2 440-¾-LP-1 (W)	880-½-1 440-¾-LP/220-1 (W) 50-¾-2 440-¾-LP/220-1 (W)	880-½-1 440-¾-LP/220-1 300-S-1 50-¾-1	440-½-1 Spec.Exs.-5 mins.
Thursday	880-½-1 440-¾-LP/220-1 (W) Rest ½ hr. 660-¾-LP/220-1 (W) 50-¾-3	880-½-1 440-¾-LP/220-1 (W) Rest ½ hr. 660-¾-LP/220-1 (W) 100-¾-2	880-½-1 440-¾-LP/220-1 (W) Rest ½ hr. 660-¾-LP/220-1 (W)	Rest
Friday	880-½-1 Spec.Exs.-5 mins. 220-¾-2 50-¾-2	880-½-1 Spec.Exs.-5 mins. 300-S-½-1 50-¾-2	880-½-1 Spec.Exs.-5 mins. 220-S-¾-2 50-¾-2	Rest
Saturday	440-½-1 40-¾+30-½-1 880-T-¾-LP-1 or 880 Race-¾-LP	440-½-1 SP-30-¾-2 880-T-F-LP-1	440-½-1 25-S-¾+10-F+ 660-T-¾-LP-1	Special Competition. (Objective of training.)

Note 1.—During this month the athlete should again concentrate on level-pace running, i.e. there should not be more than 3rd second's divergence between the first and last 440 yards of a half-mile. Work on Fridays is to be for exercise, not exertion.

* Note 2.—Warm up each day with a slow 880 yards, but increase speed over last 220 yards.

ONE MILE

The Table of Classical One-mile Record Times given on page 52 will suggest to the reader, especially by the performances of T. P. Conneff, E. Wide, P. Nurmi, R. H. Thomas and J. Ladoumegue, the desirability of learning level-pace running, so that each quarter-mile lap may be run as nearly as possible in exactly the same time, while the tables will show, further, that, whatever else happens, there should be as little divergence as possible between the times of the second and third quarters. It is a mistake, especially, to use the third quarter-mile as a rest period preparatory to the run home.

TABLE OF EFFORT. A Table of Effort appears on page 51, the use of which is explained on page 17.

TRAINING TABLES—SYMBOLS EXPLAINED.

M=Mile or Miles.

VS=Varying Stride. It is necessary for the miler in training to vary his stride, and his speed, both to strengthen his legs and to prepare himself for the tactics of racing. (See Figs. 17 and 23.)

LP=Level Pace. (See Fig. 15.)

(W)=Watch. That is to say the symbol (W) means that the practise against which it appears is to be timed with a stop-watch. Pace judgment must be acquired, and this is best done by endeavouring to run at level speed, timed by a stop-watch; especially as an athlete, tiring in the third and fourth quarters, usually thinks that he is running faster than is the case, and so needs the stop-watch to guide him. *Examples*: 2M- $\frac{1}{4}$ -VS-1 means that you are to run two miles varying your striding at $\frac{1}{4}$ effort, once. 880- $\frac{1}{2}$ -LP-1 (W) means that you are to run half a mile at $\frac{1}{2}$ effort and level pace, once, timed by the stop-watch.

F=Full speed with finish. *Example*: 100-F-2 means that you are to run 100 yards at full speed, finishing through the tape, twice. (See Figs. 14 and 19.)

S=Striding. It is necessary that the miler should build up stride length, fixing his eyes on a moving spot about 10 yards ahead of him, and endeavouring to place the foot down a few inches beyond his normal reach. (See Figs. 17 and 23.)

SP=Starting Practise. *Example*: SP-40-F-3 means that you are to run 40 yards from the crouching, or standing, start position at full speed, three times.

FW=Fast Walk. *Example*: 440-FW-1 means that you are to do a walk of 440 yards, at fast speed, once.

$\frac{7}{8}$ =Running at a fraction under your very best effort. *Example*: 1M Race- $\frac{7}{8}$ means that you are to compete in a mile race at just under your best speed, so that you are keeping just the merest trifle in hand.

TABLE OF EFFORT

ONE MILE

Average Best Performance.	$\frac{3}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{1}{4}$ Effort.	
	Mins.	Secs.	Mins.	Secs.	Mins.	Secs.
4 10	4	18	4	27	4	46
4 15	4	23	4	32	4	52
4 20	4	28	4	38	4	57
4 25	4	33	4	43	5	3
4 30	4	39	4	48	5	9
4 35	4	44	4	54	5	14
4 40	4	49	4	59	5	20
4 45	4	54	5	4	5	25
4 50	4	59	5	10	5	32
4 55	5	4	5	15	5	37
5 0	5	10	5	20	5	43
5 5	5	15	5	26	5	49
5 10	5	20	5	31	5	55
5 15	5	25	5	36	6	0

TABLE OF CLASSICAL ONE-MILE RECORD TIMES

Progressive Laps.	1886	1895	1902	1909	1913	1915
	W. G. George, Gt. Brit.	T. P. Conneff, U.S.A.	J. Binks, Gt. Brit.	W. C. Paull, U.S.A.	J. P. Jones, U.S.A.	N. S. Taber, U.S.A.
440 yds.	58 $\frac{1}{2}$	65	60 $\frac{1}{5}$	57	61 $\frac{4}{5}$	58
880 ,,	2 1 $\frac{3}{4}$	2 10	2 6 $\frac{3}{5}$	2 3	2 9 $\frac{2}{5}$	2 5
$\frac{3}{4}$ mile	3 7 $\frac{3}{4}$	3 14	3 14	3 10 $\frac{2}{5}$	3 16 $\frac{1}{5}$	3 13
One ,,	4 12 $\frac{3}{4}$	4 18	4 16 $\frac{4}{5}$	4 17 $\frac{4}{5}$	4 14 $\frac{2}{5}$	4 12 $\frac{3}{5}$
Per Lap.						
1st 440 yds.	58 $\frac{1}{2}$	65	60 $\frac{1}{5}$	57	61 $\frac{4}{5}$	58
2nd 440 ,,	63 $\frac{1}{4}$	65	66 $\frac{2}{5}$	66	67 $\frac{3}{5}$	67
3rd 440 ,,	66	64	67 $\frac{2}{5}$	67 $\frac{2}{5}$	66 $\frac{4}{5}$	68
4th 440 ,,	65	64	62 $\frac{4}{5}$	67 $\frac{2}{5}$	58 $\frac{1}{5}$	59 $\frac{2}{5}$
Total	4 12 $\frac{3}{4}$	4 18	4 16 $\frac{4}{5}$	4 17 $\frac{4}{5}$	4 14 $\frac{2}{5}$	4 12 $\frac{3}{5}$

TABLE OF CLASSICAL ONE-MILE RECORD TIMES

Progressive Laps.	1921	1923	1923	1931	1931	1932
	A. G. Hill, Gt. Brit.	E. Wide, Sweden.	P. Nurmi, Finland.	R. H. Thomas, Gt. Brit.	J. Ladoumégue, France.	J. E. Lovelock, N.Z.
440 yds.	59 $\frac{2}{5}$	58 $\frac{5}{10}$	58 $\frac{6}{10}$	61	60 $\frac{4}{5}$	57 $\frac{2}{5}$
880 ,,	2 4	2 1 $\frac{1}{10}$	2 1 $\frac{1}{10}$	2 4	2 4 $\frac{1}{5}$	2 2
$\frac{3}{4}$ mile	3 11 $\frac{1}{5}$	3 7 $\frac{3}{10}$	3 6 $\frac{7}{10}$	3 9	3 8	3 16
One ,,	4 13 $\frac{4}{5}$	4 13 $\frac{1}{10}$	4 10 $\frac{4}{10}$	4 13 $\frac{2}{5}$	4 9 $\frac{1}{5}$	4 12
Per Lap.						
1st 440 yds.	59 $\frac{2}{5}$	58 $\frac{5}{10}$	58 $\frac{6}{10}$	61	60 $\frac{4}{5}$	57 $\frac{2}{5}$
2nd 440 ,,	64 $\frac{2}{5}$	63 $\frac{3}{10}$	63 $\frac{2}{10}$	63	63 $\frac{2}{5}$	64 $\frac{3}{5}$
3rd 440 ,,	67 $\frac{1}{5}$	65 $\frac{5}{10}$	64 $\frac{1}{10}$	65	63 $\frac{4}{5}$	74
4th 440 ,,	62 $\frac{2}{5}$	65 $\frac{1}{10}$	63 $\frac{7}{10}$	64 $\frac{2}{5}$	61 $\frac{1}{5}$	56
Total	4 13 $\frac{4}{5}$	4 13 $\frac{1}{10}$	4 10 $\frac{4}{10}$	4 13 $\frac{2}{5}$	4 9 $\frac{1}{5}$	4 12

ONE MILE—THREE MONTHS' FINAL TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	2M- $\frac{1}{4}$ -VS-1	1 $\frac{1}{2}$ M- $\frac{1}{2}$ -LP-1 (W)	2M- $\frac{1}{4}$ -VS-1	1 $\frac{1}{2}$ M- $\frac{1}{2}$ -LP-1 (W)
Tuesday	Rest	$\frac{3}{4}$ M- $\frac{3}{4}$ -LP-1 (W)	1M- $\frac{3}{4}$ -LP-1 (W)	880- $\frac{3}{4}$ -LP-1 (W)
Wednesday	880- $\frac{1}{2}$ -LP-1 (W)	440- $\frac{1}{2}$ -LP-1 (W) 220- $\frac{1}{4}$ -2	880- $\frac{1}{4}$ -1 100-F-2 300-S-1	440- $\frac{1}{4}$ -1 SP-40-F-3 440-S-1
Thursday	1M- $\frac{1}{2}$ -LP-1 (W)	880- $\frac{1}{2}$ -LP-1 (W)	$\frac{3}{4}$ M- $\frac{1}{2}$ -LP-1 (W)	660- $\frac{1}{2}$ -LP-1 (W)
Saturday	$\frac{3}{4}$ M- $\frac{1}{2}$ -LP-1 (W)	440- $\frac{1}{2}$ -LP-1 (W)	660- $\frac{3}{4}$ -LP-1 (W)	880- $\frac{3}{4}$ -LP-1 (W) or 1M Race- $\frac{3}{4}$ effort

Note.—During this month the athlete should develop his pace judgment by running against a stop-watch and must endeavour to return the same time for each 220-yards stage, or 440-yards lap, of the total distance. Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 50 to 63. Special exercises for this event will be found in *Exercises for Athletes*, Chapter V.

ONE MILE—THREE MONTHS' FINAL TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	$\frac{3}{4}$ M- $\frac{1}{4}$ -1 880- $\frac{1}{4}$ -1	1M- $\frac{1}{2}$ -VS-1 880-FW-1 880- $\frac{1}{4}$ -1	2M-VS- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ -LP-1 (W) 440- $\frac{1}{2}$ -LP-1 (W) $\frac{3}{4}$ M- $\frac{1}{4}$ -1
Tuesday	440- $\frac{1}{4}$ -1 800-S- $\frac{1}{2}$ -1 200-S- $\frac{1}{4}$ -1 $\frac{3}{4}$ M- $\frac{1}{4}$ -1	2M- $\frac{1}{4}$ -1 880- $\frac{1}{2}$ -1	880- $\frac{3}{4}$ -LP-1 (W) $\frac{3}{4}$ M-S- $\frac{1}{4}$ -1	1 $\frac{1}{2}$ M-VS- $\frac{1}{4}$ -1
Wednesday	$\frac{3}{4}$ M- $\frac{1}{4}$ -1 SP-40- $\frac{3}{4}$ -2 880- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 300- $\frac{3}{4}$ -2 SP-50- $\frac{3}{4}$ -2 880- $\frac{3}{4}$ -LP-1 (W)	880- $\frac{1}{4}$ -1 440- $\frac{3}{8}$ -LP-1 (W) 80- $\frac{3}{4}$ -2	880- $\frac{1}{4}$ -1 880- $\frac{1}{2}$ -LP-1 (W)
Thursday	880- $\frac{1}{2}$ -1 440-FW-1 880- $\frac{3}{4}$ -1	1M- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 220- $\frac{3}{4}$ -2 SP-40- $\frac{3}{8}$ -2 $\frac{3}{4}$ M-VS- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 $\frac{3}{4}$ M-VS- $\frac{1}{2}$ -1
Saturday	$\frac{3}{4}$ M- $\frac{1}{4}$ -1 440-FW-1 880- $\frac{1}{2}$ -S-1	$\frac{3}{4}$ M-T- $\frac{1}{8}$ -1	1M-T- $\frac{1}{4}$ -1	880-T-F-1 1M Race- $\frac{7}{8}$

Note.—During this month the athlete should build up starting ability and the power to pass his rivals by sudden bursts of speed.

ONE MILE—THREE MONTHS' FINAL TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	2M- $\frac{1}{4}$ -1	880- $\frac{3}{4}$ -LP-1 (W) $\frac{3}{4}$ M- $\frac{1}{4}$ -1	1 $\frac{1}{2}$ M- $\frac{1}{4}$ -1	880- $\frac{3}{4}$ -LP-1 (W)
Tuesday	440- $\frac{1}{4}$ -1 SP-40- $\frac{3}{4}$ -2 SP-40-F-2 $\frac{3}{4}$ M- $\frac{1}{2}$ -LP-1 (W)	1 $\frac{1}{2}$ M- $\frac{1}{4}$ -1	440- $\frac{7}{8}$ -LP-1 (W) 880-FW 1M- $\frac{1}{4}$ -1	1M- $\frac{1}{2}$ -1
Wednesday	440- $\frac{1}{4}$ -1 880- $\frac{1}{2}$ -1 440- $\frac{1}{4}$ -1	660- $\frac{7}{8}$ -LP-1 (W) $\frac{3}{4}$ M- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 SP-40- $\frac{3}{4}$ -2 40-F-2 50- $\frac{7}{8}$ -1	440- $\frac{7}{8}$ -LP-1 (W)
Thursday	440- $\frac{1}{4}$ -1 $\frac{3}{4}$ M- $\frac{1}{4}$ -1	1M- $\frac{3}{8}$ -LP-1 (W)	1M- $\frac{3}{8}$ -LP-1 (W)	Rest
Saturday	$\frac{3}{4}$ M-T-F-1	1M-T- $\frac{1}{8}$ -LP-1 (W)	$\frac{3}{4}$ M-T- $\frac{1}{8}$ -LP-1	Special Competition. (Objective of training)

BOYS' TABLES

880 YARDS AND ONE MILE—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	2M-VS- $\frac{1}{4}$ -1	3MW-Tr 100/1M	2M-VS- $\frac{1}{4}$ -1 220-S- $\frac{1}{2}$ -2	1M-VS- $\frac{1}{4}$ -1
Tuesday	4MW-4 $\frac{1}{2}$ m.p.h.	440- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 250-S- $\frac{1}{2}$ -1	880- $\frac{1}{2}$ -1 (W) Spec.Exs.-5 mins. 100-S- $\frac{3}{4}$ -2	440- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 880- $\frac{1}{2}$ -1 (W)
Wednesday	1M-VS- $\frac{1}{4}$ -1 200-S- $\frac{1}{2}$ -1	3MW-Tr 50/880	440- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 220-S- $\frac{3}{4}$ -2	2M-VS- $\frac{1}{4}$ -1
Thursday	5MW-4 $\frac{1}{2}$ m.p.h.	660- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 440- $\frac{1}{2}$ -1	2M- $\frac{1}{4}$ -1	660- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 440- $\frac{1}{2}$ -1
Saturday	$\frac{3}{4}$ M-VS- $\frac{1}{4}$ -1 300-S- $\frac{1}{2}$ -1	220- $\frac{1}{4}$ -1 800- $\frac{1}{2}$ -1	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 440-S- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 880-S- $\frac{1}{4}$ -1

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

SPECIAL REFERENCES. The technique of these events is explained in *Athletes in Action*, pages 38 to 63.

Special exercises for these events will be found in *Exercises for Athletes*, Chapter V.

BOYS' TABLES

880 YARDS AND ONE MILE—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	2M- $\frac{1}{4}$ -1	1M- $\frac{1}{2}$ -LP-1 (W)	220-S- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 220-S- $\frac{3}{4}$ -2 (W)	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 440-S- $\frac{1}{4}$ -1 (W)
Tuesday	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 220-F-3	880- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 150-S- $\frac{3}{4}$ -2	880- $\frac{1}{2}$ -1 (W) Spec.Exs.-5 mins. 100-S- $\frac{3}{4}$ -2	100-Tr-3 Spec.Exs.-5 mins. 660-S- $\frac{1}{4}$ -1 (W)
Wednesday	880-S- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 Rest 440-S- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 1M- $\frac{1}{4}$ -LP-1 (W)	100-Tr-3 Spec.Exs.-5 mins. 220-S- $\frac{1}{4}$ -1 (W) 220-S- $\frac{3}{4}$ -2 (W)
Thursday	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 660-S- $\frac{1}{4}$ -1	2M-VS-1	880- $\frac{1}{4}$ -1 (W) 100-S-S- $\frac{3}{4}$ -3	880- $\frac{1}{4}$ -1 (W) 150- $\frac{1}{2}$ -KL & AP-1
Saturday	440- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 1M- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 660-T-1	100-Tr-2 880-T-1	440-Tr-1 1M-T-LP-1 (W)

BOYS' TABLES
880 YARDS AND ONE MILE—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	2M-VS- $\frac{1}{2}$ -1	880- $\frac{1}{2}$ -LP-1 (W) Spec.Exs.-5 mins. 100- $\frac{3}{4}$ -3 660- $\frac{1}{2}$ +220- $\frac{1}{4}$ -1 (W)	100-Tr-3 Spec.Exs.-5 mins. 440- $\frac{1}{2}$ -1 (W)	660- $\frac{3}{4}$ +220- $\frac{1}{2}$ -1 (W)
Tuesday	660- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ +220- $\frac{1}{4}$ -1 (W) 150- $\frac{1}{2}$ -KL-2	440- $\frac{1}{4}$ -1 440- $\frac{1}{2}$ +440- $\frac{1}{4}$ -1 (W) 150- $\frac{3}{4}$ -KL & AP-2	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 440- $\frac{3}{4}$ +440- $\frac{1}{2}$ -1 (W)	$\frac{3}{4}$ M- $\frac{1}{2}$ -LP-1 (W)
Wednesday	660- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 150- $\frac{3}{4}$ -KL & AP-2	100-Tr-3 Spec.Exs.-5 mins. 440- $\frac{3}{4}$ +440- $\frac{1}{2}$ -1 (W)	220- $\frac{1}{4}$ -1 Spec.Exs.-5 mins. 220- $\frac{1}{2}$ -1 220- $\frac{3}{4}$ -1	440- $\frac{1}{4}$ -1 or Rest
Thursday	660- $\frac{1}{4}$ -1 440- $\frac{1}{2}$ +440- $\frac{1}{4}$ -1 (W)	$\frac{3}{4}$ M- $\frac{1}{2}$ -LP-1 (W) Spec.Exs.-5 mins. 220-S- $\frac{3}{4}$ -1	$\frac{3}{4}$ M- $\frac{1}{2}$ -1	Rest
Saturday	100-Tr-2 880-T-1	100-Tr-2 1M-T-1	100-Tr-2 880-T-1	Competition for which training

THREE-QUARTER-MILE STEEPLECHASE

The Three-quarter-mile Steeplechase provides the most gruelling of all schoolboy contests, and no boy should compete except at the end of a long period of sensible training, nor should he go into training for this event unless he is exceptionally strong and has satisfied himself by a medical examination that he is fit to undertake the strain.

It is important for the boy to build up speed and stamina, together with pace judgment, and the ability to negotiate the obstacles economically.

TABLES OF EFFORT. A Table of Effort to guide you in your training is given on page 61. For explanation of use of tables see page 17.

TRAINING TABLES—SYMBOLS EXPLAINED.

MW=Mile Walk.

Tr=Trot. *Example*: 3MW-Tr 30/440 means that you are to walk three miles, breaking into a trot for 30 yards in each quarter mile.

M=Mile or Miles. *Example*: 2M- $\frac{1}{2}$ -1 means that you are to run two miles at $\frac{1}{2}$ effort, according to the Table of Effort corresponding to your average best performance, once.

BBnS=Body Bending and Stretching Exercises, usually performed for 5 mins. after the limbering-up run, with which each day's work begins. (See Figs. 2, 3 and 4.)

Spr=Sprinting. *Example*: Spr-30- $\frac{1}{2}$ -2 means that you must sprint 30 yards at $\frac{1}{2}$ effort, twice. (See Figs. 5 to 12.)

HE=Hurdling exercises, such as are given in Chapter VI of *Exercises for Athletes*.

H=Hurdle or Hurdles. *Examples*: 2 Laps-H- $\frac{1}{2}$ -1 means that you are to run two laps, in each of which is included four hurdles, at $\frac{1}{2}$ effort, once.

RV=Running from varying distances at an obstacle.
 WJ=Water Jump. There is a water-jump and there are four hurdles in each lap. (See Figs. 24 and 25.)

HWJ=Hurdles and Water Jump. *Examples*: RV-1H-3 means that you are to run at and clear one hurdle from varying distances, three times. RV-WJ-3 means that you are to run at and, of course, negotiate the water-jump from varying distances three times. This is to accustom you to taking obstacles, without hesitation, through the medium of stride adjustment. 1 Lap-HWJ- $\frac{1}{4}$ -1 means that you are to run one lap clearing the four hurdles and the water-jump at $\frac{1}{4}$ effort, once.

S=Striding, which is fully explained in the section dealing with One Mile Running. (See Figs. 17 and 23.)

SP=Starting Practise. *Example*: SP-30- $\frac{3}{4}$ -2 means that you are to sprint 30 yards from the crouching, or standing, start position at $\frac{3}{4}$ effort, three times. (See Figs. 5 to 9.)

LJ=Long Jump. It is necessary for steeplechasers to develop jumping ability. *Example*: 3 LJ- $\frac{1}{4}$ means that you are to practise three long jumps at $\frac{1}{4}$ effort. (See Figs. 60 to 63.)

LP=Level Pace. It is very necessary that the steeple-chaser should become a judge of pace and develop the ability to run each lap of his race as nearly as possible in the same time. (See Fig. 15.)

(W)=Watch. Where the symbol (W) appears it means that the practise is to be timed with a stop-watch. *Example*: 2M-LP- $\frac{1}{2}$ -1 (W) means that you are to run two miles at level pace and $\frac{1}{2}$ effort, once, with your time taken for each lap as well as for the total distance.

S'ch=Steeplechase.

T=Time Trial. *Example*: $\frac{3}{4}$ M-S'ch-T means that you are to run a Three-quarter-mile Steeplechase Trial, including the clearance of all obstacles, properly timed with a stop-watch.

TABLE OF EFFORT

THREE-QUARTER-MILE STEEPLECHASE

Average Best Performance.	$\frac{3}{4}$ Effort.	$\frac{1}{2}$ Effort.	$\frac{1}{4}$ Effort.
Mins. Secs.	Mins. Secs.	Mins. Secs.	Mins. Secs.
4 0	4 10	4 20	4 40
4 5	4 15	4 25	4 46
4 10	4 20	4 31	4 52
4 15	4 26	4 36	4 57
4 20	4 31	4 42	5 3
4 25	4 36	4 47	5 9
4 30	4 41	4 52	5 15
4 35	4 46	4 58	5 21
4 40	4 52	5 3	5 27
4 45	4 57	5 9	5 32
4 50	5 2	5 14	5 38
4 55	5 7	5 20	5 44
5 0	5 12	5 25	5 50

BOYS' TABLES

THREE-QUARTER-MILE STEEPLECHASE—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	3MW-Tr 30/440	880- $\frac{1}{4}$ -1 RV-1H- $\frac{1}{4}$ -6 440-S- $\frac{1}{4}$ -1	BBnS-5 mins. 2M- $\frac{1}{2}$ -1 HE-5 mins.	4MW-Tr 100/1M
Tuesday	1M-Tr-1	100-Tr-3 HE-5 mins. 1 Lap-HWJ- $\frac{1}{4}$ -1 BBnS-5 mins.	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{4}$ -2 SP-40- $\frac{1}{4}$ -2 RV-WJ- $\frac{1}{2}$ -3 RV-1H- $\frac{1}{2}$ -3	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-40- $\frac{1}{4}$ -2 SP-40- $\frac{1}{4}$ -2 RV-WJ- $\frac{1}{2}$ -3 RV-1H- $\frac{1}{2}$ -3
Thursday	440- $\frac{1}{4}$ -1 BBnS-5 mins. Spr-30- $\frac{1}{2}$ -2 HE-5 mins.	440- $\frac{1}{4}$ -1 HE-5 mins. RV-1H-3 1 Lap-HWJ-1	BBnS-5 mins. 220- $\frac{1}{4}$ +440- $\frac{1}{2}$ +100- $\frac{3}{4}$ -1 HE-5 mins.	BBnS-5 mins. 660- $\frac{1}{4}$ +440- $\frac{1}{2}$ +220- $\frac{3}{4}$ -1 HE-5 mins. RV-1H- $\frac{1}{2}$ -3 RV-1H- $\frac{1}{2}$ -2
Saturday	3MW-Tr 50/880	3MW-Tr 30/880	100-Tr-2 HE-5 mins. 3 Laps-HWJ- $\frac{1}{4}$ -1 BBnS-3 mins. 3LJ- $\frac{1}{4}$	100-Tr-2 HE-5 mins. 3 Laps-HWJ- $\frac{1}{4}$ -1 BBnS-3 mins. 220-S- $\frac{1}{4}$ -1

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

SPECIAL REFERENCES. The technique of Hurdling is explained in *Athletes in Action*, pages 64 to 101. Special exercises for Runners and Hurdlers will be found in *Exercises for Athletes*, Chapters V and VI.

BOYS' TABLES

THREE-QUARTER-MILE STEEPLECHASE—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 4 LJ- $\frac{1}{2}$ -1 220- $\frac{1}{2}$ -1	BBnS-5 mins. 2M-LP- $\frac{1}{2}$ -1 (W)	880-S- $\frac{1}{4}$ -1 2H- $\frac{1}{2}$ -2 RV-1H- $\frac{1}{2}$ -3 HE-3 mins. 2H- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{4}$ -4	BBnS-5 mins. 1M-LP- $\frac{1}{2}$ -1 (W) HE-5 mins.
Tuesday	BBnS-5 mins. RV-1H- $\frac{1}{2}$ -4 HE-3 mins. 4 Laps-HWJ- $\frac{1}{4}$ -1	100-Tr-2 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 4 LJ- $\frac{1}{2}$ -1 220- $\frac{1}{2}$ -1	BBnS-5 mins. 440- $\frac{1}{2}$ +220- $\frac{1}{4}$ + 100- $\frac{3}{4}$ -1 220- $\frac{1}{2}$ -1	100-Tr-2 BBnS-5 mins. 880-LP- $\frac{3}{4}$ -1 (W) RV-1H-6 HE-5 mins.
Thursday	100-Tr-2 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 WJ- $\frac{1}{2}$ -2 WJ- $\frac{1}{2}$ -2 440- $\frac{1}{4}$ -1	BBnS-5 mins. 1M-LP- $\frac{1}{2}$ -1 (W)	100-Tr-2 BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 4 LJ- $\frac{1}{2}$ -1 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -1 1M-LP- $\frac{1}{2}$ -1
Saturday	100-Tr-2 HE-5 mins. 1 Lap-HWJ-LP- $\frac{1}{4}$ -1 (W) BBnS-5 mins.	100-Tr-2 HE-5 mins. 2 Laps-HWJ-LP- $\frac{1}{4}$ -1 (W) BBnS-5 mins.	100-Tr-2 HE-5 mins. 2 Laps S'ch-T	100-Tr-2 HE-5 mins. 3 Laps S'ch-T

BOYS' TABLES

THREE-QUARTER-MILE STEEPCHASE—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 BBnS-5 mins. 1½M-LP-½-1 (W)	440-¼-1 BBnS-5 mins. SP-40-¼-2 SP-40-¾-1 2H-½-2 3H-¾-1	100-Tr-2 BBnS-5 mins. 660-¾+440-½+220-¾-1 220-¼-1	100-Tr-2 BBnS-5 mins. 1M-LP-¾-1 (W)
Tuesday	440-¼-1 BBnS-5 mins. SP-40-1H-¼-2 SP-40-1H-¾-2 2H-½-2 3H-¾-1	100-Tr-2 BBnS-5 mins. 660-¾+440-½+220-¾-1 220-¼-1	440-¼-1 BBnS-5 mins. SP-40-1H-¼-2 SP-40-1H-¾-2 RV-1H-6	880-LP-½-1 (W)
Thursday	100-Tr-2 HE-5 mins. 880-¾+220-¾-1 BBnS-5 mins.	880-¾-1 BBnS-5 mins. SP-40-¾-2 SP-40-¾-2	100-Tr-2 BBnS-5 mins. 880-LP-¾-1 (W)	3MW-Easy stroll or Rest
Saturday	100-Tr-2 BBnS-3 mins. HE-3 mins. 2H-½-1 ¾M-S'ch-T	100-Tr-2 BBnS-3 mins. HE-3 mins. 2H-½-1 ¾M-S'ch-T	100-Tr-2 BBnS-3 mins. HE-3 mins. 2H-½-1 ¾M-S'ch-T	Competition for which training



Finishing Form. *Left*: B. Jenkins, Bedfordshire, English Junior 880 yards Record Holder 2 mins. 2½ secs. *Right*: B. C. V. Oddie, Bedfordshire, former U.A.U. three miles champion.



“¾ Effort, S & VS”—Striding and variation of striding by famous U.S.A. middle distance runners in training.



R. D. Swan, Rossall, Public Schools Champion and Record Holder, showing correct style of landing and coming out of water jump.



The wrong way of landing in the water.

CHAPTER FIVE

DISTANCE RACES AND TWO-MILE STEEPLECHASE

THREE- AND SIX-MILE FLAT AND TWO-MILE STEEPLECHASE

THE athlete who has ambitions towards the three- and six-mile events, which are now the English Championship distances corresponding most nearly to the Olympic 5000 and 10,000 metres races, and also the two-mile steeplechaser, whose event corresponds in effort to the four-mile flat race, all need to go into training early.

The first need of the distance runner is endurance, but speed is also an asset, while pace judgment and the ability to run at a level pace are essentials to success. That a man may be speedy, enduring and a marvellous judge of pace will be seen from the schedule of Paavo Nurmi's lap and mile times when he made the present six-mile world's record. These are given on page 71, and it must be remembered that Nurmi, at the same time, held the world's records of 4 mins. 10 $\frac{1}{2}$ secs. for one mile and 50 mins. 15 secs. for ten miles. Nurmi trained almost entirely on running to the stop-watch, so that he might maintain a level pace.

Stop-watch running, however, calls for a great deal of determination, for if the man who runs to a time schedule allows himself to be jockeyed he is usually lost. It is well, therefore, not only to learn to run at a level speed for each lap, or each mile, but to plan a variation in one's lap or mile times which is likely to play havoc with the opposition by the production of a faster pace over certain stages of the race. One should also try to cultivate either a definite acceleration of speed over the last half mile, or an equally definite finishing burst over the last

furlong, in case you find yourself shut in at the penultimate bend of the track in the final lap.

If one is not a cross-country runner, then six months is not too long a period to train for the three events we have in consideration. Incidentally, it is not unusual for men to take part in all three of these contests, therefore the Two Months' Preliminary Training Schedule is applicable for all three distances. During that period it will be sufficient for a man to train only three days a week, walking and trotting one day and walking the next for the first month, while in the second month the work consists of easy running.

The symbols employed in the Preliminary Training Table are simple and few.

PRELIMINARY TRAINING TABLE—SYMBOLS EXPLAINED.

MW=Mile Walk.

Tr=Trot.

M=Mile or Miles. *Examples*: 2MW-Tr 220/1M means that you are to walk two miles, in the course of which you will break into a trot for 220 yards in each mile. 5MW-4 m.p.h. means that you walk five miles at four miles an hour. 2M- $\frac{1}{4}$ means that you run two miles at $\frac{1}{4}$ effort according to the Tables of Effort which are explained under the headings of the three events.

VS=Varying Stride. The distance runner must learn to vary his stride, partly from considerations of pace variation, but principally for the sake of resting his leg muscles. *Example*: 3M- $\frac{1}{2}$ -VS means that you are to run three miles at $\frac{1}{2}$ effort, varying your striding. (See Figs. 17, 18 and 23.)

TABLES OF EFFORT. Tables of Effort to guide you in your training are given on pages 69 and 70. For explanation and use of tables see page 17.

THREE AND SIX MILES AND TWO-MILE STEEPLECHASE—TWO MONTHS' PRELIMINARY TRAINING

		THREE AND SIX MILES AND TWO-MILE STEEPLECHASE—TWO MONTHS' PRELIMINARY TRAINING			
		1st Week.	2nd Week.	3rd Week.	4th Week.
FIRST MONTH	Monday	2MW-Tr 220/1M	3MW-Tr 220/880	5MW-Tr 220/880	3MW-Tr 220/880
	Wednesday	5MW-4 m.p.h.	7MW-4 $\frac{1}{2}$ m.p.h.	5MW-5 m.p.h.	10MW-4 $\frac{1}{2}$ to 5 m.p.h.
	Saturday	2MW-Tr 220/1M	3MW-Tr 220/880	2MW-Tr 220/440	5MW-Tr 220/440
SECOND MONTH	Monday	2M- $\frac{1}{4}$ -1	3M- $\frac{1}{2}$ -1	6M- $\frac{1}{2}$ -1	3M- $\frac{1}{2}$ -VS-1
	Wednesday	1M- $\frac{1}{2}$ -1	5M- $\frac{1}{2}$ -1	1 $\frac{1}{2}$ M- $\frac{1}{2}$ -VS-1	3M- $\frac{1}{2}$ -1
	Saturday	2M- $\frac{1}{2}$ -1	3M- $\frac{1}{2}$ -1	3M- $\frac{1}{2}$ -1	8M- $\frac{1}{2}$ -1

Note.—First Month. Training walks, interspersed with trotting, and long heel-and-toe walks. Second Month. Slow runs to build up stamina, culminating in variable stride running.

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

Special References. The technique of these events is explained in *Athletes in Action* pages 50 to 101. Special exercises for these events will be found in *Exercises for Athletes*, Chapter V and VI.

THREE AND SIX MILES

The four months' final training for three- and six-milers can very well be combined, as the work will give the three-miler added stamina and the six-miler additional speed. Some of the symbols have been explained already under the heading "Preliminary Training Table—Symbols Explained" on page 66.

Here are the rest.

TRAINING TABLE—SYMBOLS EXPLAINED.

LP (W)=Level Pace running timed with a stop-watch. The need for this kind of running has been explained fully on pages 65 and 66, but distance runners are again asked to make a careful study of the times returned by Paavo Nurmi, of Finland, in his record-breaking six-mile race, given on page 71. *Example*: $1M-\frac{1}{2}$ -LP/440 (W) means that you are to run one mile at $\frac{1}{2}$ effort and level pace, checking your time for each 440 yards, as well as for the whole distance, with a stop-watch.

It is very necessary that the distance runner should cultivate a fast finish over the last furlong, which will best be done by the sort of practise set out in the following example: $660-\frac{3}{4}+220-\frac{2}{3}$, which means that you are to run half a mile in all, covering the first 660 yards at $\frac{3}{4}$ effort and continuing on for a further 220 yards at $\frac{2}{3}$ effort, which will be a speed just a fraction less than your best pace. In these practises it will be well for you to finish out through the tape stretched between the winning-posts.

It is also advisable to cultivate, as an alternative, the ability to build up acceleration of speed over the last half mile of a race, especially if you have not much sprinting ability. The way to do this is shown by the following examples: $1\frac{3}{4}M-\frac{1}{2}+440-\frac{3}{4}$, which

means that you will run two miles in all, covering the first one and three-quarter miles at $\frac{1}{2}$ effort and the next 440 yards at $\frac{3}{4}$ effort. $1M-\frac{1}{2}+\frac{3}{4}M-\frac{3}{4}$ means that you will run one and three-quarter miles in all, covering the first mile at $\frac{1}{2}$ effort and the next three-quarter mile at $\frac{3}{4}$ effort, so that, in the first practise, you will be acquiring accelerated finishing ability at speed over 440 yards, and, in the second practise, sustained finishing acceleration over a longer distance than you will actually require for your accelerated finishing effort. (See Fig. 20.)

T=Time Trial.

F=Full speed. *Example*: 3M-T-F means that you will run a three-mile time trial at full effort.

TABLE OF EFFORT

THREE MILES

Average Best Performance. Mins. Secs.	$\frac{3}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{1}{4}$ Effort.	
	Mins.	Secs.	Mins.	Secs.	Mins.	Secs.
14 12	14	47	15	23	16	34
14 24	14	59	15	36	16	48
14 36	15	12	15	49	17	2
14 48	15	24	16	2	17	16
15 0	15	37	16	15	17	30
15 12	15	49	16	28	17	44
15 24	16	2	16	41	17	58
15 36	16	15	16	54	18	12
15 48	16	27	17	7	18	26
16 0	16	40	17	20	18	40

TABLE OF EFFORT

SIX MILES

Average Best Performance. Mins. Secs.	$\frac{1}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{3}{4}$ Effort.	
	Mins.	Secs.	Mins.	Secs.	Mins.	Secs.
30 0	31	15	32	30	35	0
30 30	31	46	33	2	35	35
31 0	32	17	33	35	36	10
31 30	32	49	34	7	36	45
32 0	33	20	34	40	37	20
32 30	33	51	35	12	37	55
33 0	34	22	35	45	38	30
33 30	34	54	36	17	39	5
34 0	35	25	36	50	39	40
34 30	35	56	37	22	40	15
35 0	36	27	37	55	40	50
35 30	36	59	38	27	41	25
36 0	37	30	39	0	42	0
36 30	38	1	39	32	42	35
37 0	38	32	40	5	43	10
37 30	39	4	40	37	43	45
38 0	39	35	41	10	44	20
38 30	40	6	41	42	44	55
39 0	40	37	42	15	45	30
39 30	41	9	42	47	46	5
40 0	41	40	43	20	46	40

PAAVO NURMI'S LAP AND MILE TIMES WHEN MAKING HIS SIX-MILE RECORD OF 29 MINS. 36 $\frac{4}{10}$ SECS. ON 9TH JUNE, 1930, AT STAMFORD BRIDGE, LONDON.

Lap.	Mins. Secs.	Mins. Secs.	
1	1 7 $\frac{3}{10}$		
2	1 12		
3	1 12 $\frac{1}{10}$		
4	1 14	4 45 $\frac{4}{10}$	— 1st Mile
5	1 13		
6	1 13 $\frac{4}{10}$		
7	1 15 $\frac{8}{10}$		
8	1 15 $\frac{2}{10}$	4 57 $\frac{4}{10}$	— 2nd Mile
9	1 16 $\frac{0}{10}$		
10	1 15 $\frac{0}{10}$		
11	1 15 $\frac{2}{10}$		
12	1 15 $\frac{4}{10}$	5 2	— 3rd Mile
13	1 15		
14	1 15 $\frac{4}{10}$		
15	1 15 $\frac{6}{10}$		
16	1 15 $\frac{8}{10}$	5 1 $\frac{8}{10}$	— 4th Mile
17	1 15		
18	1 14		
19	1 16		
20	1 14 $\frac{6}{10}$	4 59 $\frac{6}{10}$	— 5th Mile
21	1 15 $\frac{8}{10}$		
22	1 13 $\frac{4}{10}$		
23	1 13 $\frac{4}{10}$		
24	1 8 $\frac{6}{10}$	4 50 $\frac{2}{10}$	— 6th Mile
Total for Six Miles		29 36 $\frac{4}{10}$	

	Secs.
Divergence between first Lap and last Lap	1 $\frac{3}{10}$
„ „ first Mile and last Mile	4 $\frac{8}{10}$
„ „ fastest Mile and slowest Mile	16 $\frac{6}{10}$
„ „ fastest Lap and slowest Lap	8 $\frac{2}{10}$

THREE AND SIX MILES—FOUR MONTHS' FINAL TRAINING—FIRST AND SECOND MONTHS

	1st Week.	2nd Week.	3rd Week.	4th Week.	
FIRST MONTH	Monday	3M- $\frac{3}{4}$	12M- $\frac{1}{4}$	3M- $\frac{3}{4}$	
	Wednesday	5M- $\frac{1}{2}$	1 $\frac{3}{4}$ M- $\frac{1}{2}$	6M-VS	
	Saturday	3M-VS- $\frac{1}{4}$	1 $\frac{1}{2}$ M-VS- $\frac{1}{4}$	2M- $\frac{3}{4}$	
SECOND MONTH	Monday	1 $\frac{1}{2}$ M- $\frac{1}{4}$	3M- $\frac{1}{2}$	1M- $\frac{1}{2}$ + $\frac{3}{4}$ M- $\frac{3}{4}$	
	Tuesday	1M- $\frac{1}{2}$	660- $\frac{3}{4}$ +220- $\frac{7}{8}$	$\frac{3}{4}$ M- $\frac{1}{2}$ -VS	
	Wednesday	$\frac{3}{4}$ M- $\frac{1}{2}$ -LP (W)	6M- $\frac{1}{2}$ -LP (W)	1 $\frac{3}{4}$ M- $\frac{1}{2}$ +440- $\frac{3}{4}$	
	Thursday	1 $\frac{1}{4}$ M- $\frac{1}{2}$	1M- $\frac{3}{4}$ +220- $\frac{7}{8}$	1M- $\frac{3}{4}$ -LP/440 (W)	
	Saturday	2M- $\frac{1}{2}$ -LP (W)	3M- $\frac{1}{2}$ -LP (W)	6M- $\frac{1}{4}$ -LP (W)	880- $\frac{3}{4}$ -LP/440 (W)
					3M Race- $\frac{3}{4}$ -LP

Note.—The distance runner should always carry a stop-watch and should check his time as he runs. Athletes who have run cross country during the winter should commence First Month above and omit the two months' Preliminary Training on page 67.

THREE AND SIX MILES—FOUR MONTHS' FINAL TRAINING—THIRD AND FOURTH MONTHS

	1st Week.	2nd Week.	3rd Week.	4th Week.	
THIRD MONTH	Monday	2M- $\frac{1}{2}$ -LP (W)	660- $\frac{3}{4}$ -LP+220-F (W)	2M- $\frac{1}{2}$ -LP (W)	
	Tuesday	1M- $\frac{1}{2}$ -LP (W)	1M- $\frac{3}{4}$ -LP (W)	1M- $\frac{1}{2}$ -LP (W)	
	Wednesday	$\frac{3}{4}$ M- $\frac{1}{2}$ -LP (W)	1 $\frac{1}{2}$ M- $\frac{3}{4}$ -LP+440- $\frac{7}{8}$ (W)	1M- $\frac{3}{4}$ -LP (W)	
	Thursday	5MW-4 $\frac{1}{2}$ m.p.h.	3MW-5 m.p.h.	2MW-5 m.p.h.	
	Saturday	3M-T-LP	6M Race- $\frac{7}{8}$ -LP	3M-T-LP	6M-T-LP
					6M- $\frac{1}{4}$
FOURTH MONTH	Monday	880- $\frac{7}{8}$ -LP (W)	1 $\frac{3}{4}$ M- $\frac{7}{8}$ -LP (W)	1 $\frac{1}{4}$ M- $\frac{1}{2}$	
	Tuesday	2M- $\frac{1}{2}$ -LP (W)	1M- $\frac{3}{4}$ -LP (W)	5MW-4 m.p.h.	
	Wednesday	1M- $\frac{1}{2}$ -LP (W)	2M- $\frac{1}{2}$ -LP (W)	3MW-5 m.p.h.	
	Thursday	3MW-5 m.p.h.	2MW-4 $\frac{1}{2}$ m.p.h.	2MW-4 $\frac{1}{2}$ m.p.h.	
	Saturday	3M-T-F	6M-T-F	3M-T- $\frac{1}{2}$ -LP	Special competi- tion for which training

TWO-MILE STEEPLECHASE

The Two-mile Steeplechase provides a severe test, requiring of the athlete the full staying power of the four-mile runner, built up by two months' preliminary training, as set out in the table on page 67. Uniformity of pace, easy hurdling in the correct style without body-dip or a chopped stride on landing, together with the ability to negotiate the water-jump with the least waste of energy, are the three essentials. The event has been standardised in Great Britain at two miles; each lap includes a water-jump and four 3 ft. hurdles.

TABLES OF EFFORT. A Table of Efforts for Steeplechasers will be found on page 76 and the use of such table is explained on page 17.

TRAINING TABLES—SYMBOLS EXPLAINED.

Certain symbols are used in the Training Tables which are explained as follows:

M=Mile or Miles. *Example*: 2M- $\frac{1}{2}$ -1 means that you will run two miles at $\frac{1}{2}$ effort, once.

SP=Starting Practise from the crouching, or standing, start position, and may, or may not, include the taking of the first hurdle in the course, according to your own judgment. *Example*: SP-40- $\frac{1}{2}$ -3 means that you will sprint 40 yards at $\frac{1}{2}$ effort three times from the crouching, or standing, start position. (See Figs. 5 to 9.)

HWJ=Hurdles and Water Jump. *Example*: 1 Lap-HWJ- $\frac{1}{4}$ -1 means that you will run one lap, clearing the four hurdles and the water-jump at $\frac{1}{4}$ effort, once. (See Figs. 24 and 25.)

RV-1H=Running from varying distances at one Hurdle. This practise is to teach you to take each hurdle in your stride without faltering. The clearance should be made economically with a relaxed step-over action.

BBnS=Body Bending and Stretching Exercises. These are the sort of exercises the steeplechaser should do to make himself supple; they, together with the hurdling exercises which also form part of his training, will be found in *Exercises for Athletes*, published by J. F. Shaw & Co., Ltd., 3 Pilgrim Street, London, at 7s. 6d. (See Figs. 2, 3 and 4.)

It is necessary for the steeplechaser to learn pace variation by the sort of practise epitomised in the following example: 440- $\frac{1}{2}$ +1 $\frac{1}{2}$ M- $\frac{3}{4}$ +440- $\frac{1}{4}$, which means that you will run two miles in all, covering the first 440 yards at $\frac{1}{2}$ effort, the next one and a half miles at $\frac{3}{4}$ effort and the final 440 yards at $\frac{1}{4}$ effort, according to the Three Miles Table of Effort given on page 69.

LJ=Long Jump. It is necessary that the steeplechaser should build up a certain amount of jumping ability. *Example*: 6LJ- $\frac{1}{2}$ means that you are to practise the long jump six times at $\frac{1}{2}$ effort. (See Figs. 60 to 63.)

RV-WJ=Running from varying distances at the Water Jump. This, again, is to teach you to take the obstacle without faltering. When you are about 12 yards from the hedge you should increase your pace sufficiently to carry you over the jump, so that you land with one foot in advance of the other in the shallow water at the far edge of the ditch and can reach dry land with the next stride. (See Fig. 24.) *Example*: RV-WJ- $\frac{1}{2}$ -4 means that you are to run at, and negotiate, the water-jump at $\frac{1}{2}$ effort, four times, from varying distances.

HE=Hurdling Exercises, which are usually done for 5 mins. at a time for the inculcation of technique, and which are fully set out in *Exercises for Athletes*, Chapter VI; while the technique of hurdling, which, for the steeplechaser, is that of the 440 yards hurdler, is fully explained in *Athletes in Action*, published by John F. Shaw & Co., 3 Pilgrim Street, London, at 6s.

H=Hurdle or Hurdles. *Example*: 2H- $\frac{1}{2}$ -1 means that you are to run over two hurdles, spaced 75 yards apart, at $\frac{1}{2}$ effort, once, for the perfection of hurdle clearance and the building up of stride uniformity between obstacles.

LP (W)=Level Pace running timed with a stop-watch. *Example*: 4 Laps-HWJ- $\frac{1}{2}$ -1-LP (W) means that you will run four laps, clearing all obstacles, at $\frac{1}{2}$ effort, once, maintaining a level pace and checking your lap times with a stop-watch. (See Fig. 15.)

F=Full Speed. *Example*: 2M- $\frac{1}{2}$ +220-F means that you will run two miles at $\frac{1}{2}$ effort and continue on for a further 220 yards at full speed through the tape stretched between the winning-posts. This is to give you finishing ability. (See Fig. 19.)

T=Time Trial. *Example*: 2M-HWJ-T means that you are to run a proper two-mile steeplechase trial, clearing all obstacles and carefully recording your time.

Jog=Jogging. *Example*: 100-Jog-3 means that you will jog up and down the 100 yards path three times at something less than $\frac{1}{4}$ effort for the purpose of limbering up.

TABLE OF EFFORT
TWO-MILE STEEPLCHASE

Average Best Performance.		$\frac{3}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{1}{4}$ Effort.	
Mins.	Secs.	Mins.	Secs.	Mins.	Secs.	Mins.	Secs.
10	30	10	56	11	22	12	15
10	40	11	6	11	33	12	27
10	50	11	16	11	44	12	38
11	0	11	27	11	55	12	50
11	10	11	38	12	6	13	2
11	20	11	48	12	17	13	13
11	30	11	59	12	27	13	25
11	40	12	9	12	38	13	37
11	50	12	19	12	49	13	48
12	0	12	29	13	0	14	0

TWO-MILE STEEPLCHASE—THREE MONTHS' FINAL TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	2M- $\frac{1}{2}$ -1	1 Lap-HWJ- $\frac{1}{2}$ -1 440-Fast Walk RV-1H- $\frac{1}{4}$ -4 RV-WJ- $\frac{1}{2}$ -2	5M- $\frac{1}{2}$ -1	HE-5 mins. RV-1H- $\frac{3}{4}$ -6 4 Laps-HWJ- $\frac{1}{2}$ -1
Tuesday	880- $\frac{1}{4}$ -1 SP-40- $\frac{1}{2}$ -3 440 Fast Walk 1M- $\frac{1}{4}$ -1	SP-30- $\frac{1}{2}$ -4 440 Fast Walk 1 $\frac{1}{2}$ M- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 SP-40- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 2 Laps-HWJ- $\frac{1}{2}$ -1 RV-1H- $\frac{3}{4}$ -6	440- $\frac{1}{4}$ +880- $\frac{1}{2}$ +440- $\frac{1}{4}$ -1 BBnS-5 mins. 6 LJ- $\frac{1}{2}$
Wednesday	1M- $\frac{1}{4}$ -1 1 Lap-HWJ- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{4}$ -6 440 Fast Walk	880- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -4 2 Laps-HWJ- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ +1M- $\frac{1}{2}$ +440- $\frac{3}{4}$ -1	HE-5 mins. RV-1H- $\frac{3}{4}$ -2 6 Laps-HWJ- $\frac{1}{2}$ -1
Thursday	2 $\frac{1}{2}$ M- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ +1 $\frac{1}{2}$ M- $\frac{3}{4}$ +440- $\frac{1}{4}$ BBnS-3 mins. 6 LJ- $\frac{1}{2}$	HE-5 mins. 3 Laps-HWJ- $\frac{1}{2}$ -1 BBnS-5 mins. 6 LJ- $\frac{1}{2}$	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -2 440- $\frac{1}{4}$ -1
Saturday	1 $\frac{3}{4}$ M- $\frac{3}{4}$ -1	880- $\frac{1}{4}$ -1 SP-30- $\frac{3}{4}$ -2 RV-40- $\frac{1}{2}$ -2 RV-WJ- $\frac{1}{2}$ -4	3M- $\frac{1}{2}$ -1	HE-5 mins. 2H- $\frac{1}{2}$ -1 8 Laps-HWJ- $\frac{1}{2}$ -1

Note.—Men who have been running cross country during the winter, commence training this month as above. Others will find the Two Months' Preliminary Training Tables for Steeplechasing given on page 67. Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercise applicable to their own events, each morning on rising. Special Reference. The technique of hurdling and running is explained in *Athletes in Action*, pages 10 to 101. Special exercises for these events will be found in *Exercises for Athletes*, Chapters V and VI.

TWO-MILE STEEPLECHASE—THREE MONTHS' FINAL TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	3M- $\frac{3}{4}$ -LP-1 (W)	2 $\frac{1}{2}$ M- $\frac{1}{2}$ -LP-1 (W)	2M- $\frac{1}{2}$ -220-F-1	BBnS-5 mins. 300- $\frac{1}{4}$ -1 220- $\frac{3}{4}$ -2
Tuesday	HE-5 mins. 4 Laps-HWJ- $\frac{1}{2}$ -LP-1 (W) 6 L $\frac{1}{2}$ - $\frac{1}{4}$	440- $\frac{1}{4}$ -1 HE-5 mins. 2 Laps-HWJ- $\frac{3}{4}$ -LP-1 (W) 6 L $\frac{1}{2}$ - $\frac{1}{4}$	BBnS-5 mins. 220- $\frac{1}{4}$ -1 220- $\frac{3}{4}$ -1	1 $\frac{1}{2}$ M- $\frac{1}{2}$ -LP-1 (W) 6 L $\frac{1}{2}$ - $\frac{1}{4}$
Wednesday	1 $\frac{1}{2}$ M- $\frac{3}{4}$ -LP-1 (W)	4M- $\frac{1}{4}$ -LP-1 (W)	10 Laps-HWJ- $\frac{1}{4}$ -1	3M- $\frac{1}{2}$ -220-F-1
Thursday	HE-5 mins. 9 Laps-HWJ- $\frac{1}{4}$ -LP-1 (W)	440- $\frac{1}{4}$ -1 BBnS-5 mins. 660- $\frac{3}{4}$ +220- $\frac{1}{8}$ -1	440- $\frac{1}{4}$ -1 HE-5 mins. RV-1H- $\frac{1}{4}$ -3 RV-WJ- $\frac{1}{4}$ -2 RV-WJ- $\frac{1}{2}$ -2	440- $\frac{1}{4}$ -1 HE-5 mins. RV-1H- $\frac{1}{4}$ -2 RV-1H- $\frac{3}{4}$ -2 RV-WJ- $\frac{1}{4}$ -2
Saturday	440- $\frac{1}{4}$ -1 HE-5 mins. RV-1H- $\frac{1}{4}$ -2 RV-1H- $\frac{3}{4}$ -4	100-Jog-3 HE-3 mins. 1M-HWJ-T	100-Jog-3 HE-3 mins. 1 $\frac{1}{2}$ M-HWJ-T	100-Jog-3 HE-3 mins. 2M-HWJ-T

Note.—On the Sunday following a Saturday race, or Time Trial, the Steeplechaser should go for a walk of two or three miles to loosen the muscles.

TWO-MILE STEEPLECHASE—THREE MONTHS' FINAL TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	880- $\frac{3}{4}$ -LP-1 (W)	100-Jog-2 2M- $\frac{3}{4}$ -LP-1 (W)	9 Laps-HWJ- $\frac{1}{4}$ -1 SP-30- $\frac{1}{4}$ -2 SP-30- $\frac{3}{4}$ -2 50-F-1	3M- $\frac{1}{4}$ -1
Tuesday	5 Laps-HWJ- $\frac{1}{2}$ -LP-1 (W)	5 Laps-HWJ- $\frac{1}{2}$ -LP-1	1 $\frac{1}{2}$ M- $\frac{1}{2}$ +220-F-1	1 $\frac{1}{2}$ M- $\frac{1}{2}$ -LP-1 (W)
Wednesday	2 $\frac{1}{2}$ M- $\frac{3}{4}$ -LP-1 (W)	3M- $\frac{1}{4}$ -1	2M- $\frac{3}{4}$ -LP-1 (W)	5MW-4 m.p.h.
Thursday	4MW-5 m.p.h.	1 Lap-HWJ- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{4}$ -4 RV-WJ- $\frac{1}{2}$ -2 2 Laps-HWJ- $\frac{3}{4}$ -1	3MW-4 $\frac{1}{2}$ m.p.h.	2MW-4 $\frac{1}{2}$ m.p.h.
Saturday	100-Jog-3 HE-5 mins. 2H- $\frac{1}{4}$ -1 1H- $\frac{3}{4}$ -1 1M-HWJ-T-1	100-Jog-2 HE-5 mins. SP-30- $\frac{1}{4}$ -2 2M-HWJ-T-1	100-Jog-3 HE-3 mins. SP-30- $\frac{1}{2}$ -2 1M-HWJ-T-1	Competition for which training

Note.—Concentrate during this month upon perfecting your pace-judgment by recording and studying lap times. You must know to a tick the speed at which you are running.

CHAPTER SIX

120 YARDS HIGH HURDLES

THE 120 yards High Hurdles' race is essentially a speed-form affair; because, no matter how fast a sprinter one may be, there is no chance of succeeding as a high hurdler unless one has fully mastered the technique of hurdle clearance and the three-stride action between the obstacles. On the other hand, height of stature, length of leg and good style play more part in successful achievement than does speed. In other words, style in hurdle clearance is the chief factor for fast times. The Five Months' Schedule of Training for High Hurdlers has been carefully designed to develop every phase of technique.

TABLES OF EFFORT. Success in hurdling is best achieved by working to a definite training table of various practises, designed to perfect style; and at varying efforts, which will produce speed and stamina while, at the same time, allowing the technique to be learned easily. The Table of Effort for High Hurdlers is given on page 84, and the explanation of how these tables should be used, and what the various efforts represent, will be found on page 1'.

TRAINING TABLES—SYMBOLS EXPLAINED.

The Training Tables are made up of various symbols and efforts which will now be explained.

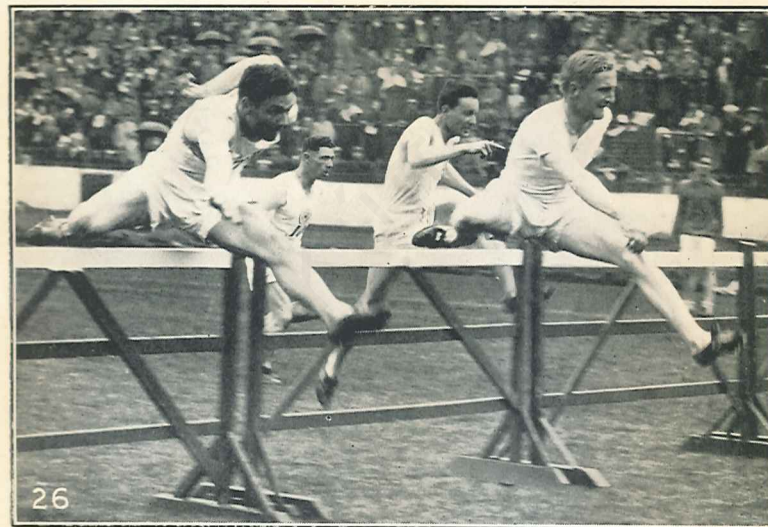
BBE=Body Building Exercises.

HE=Hurdling Exercises.

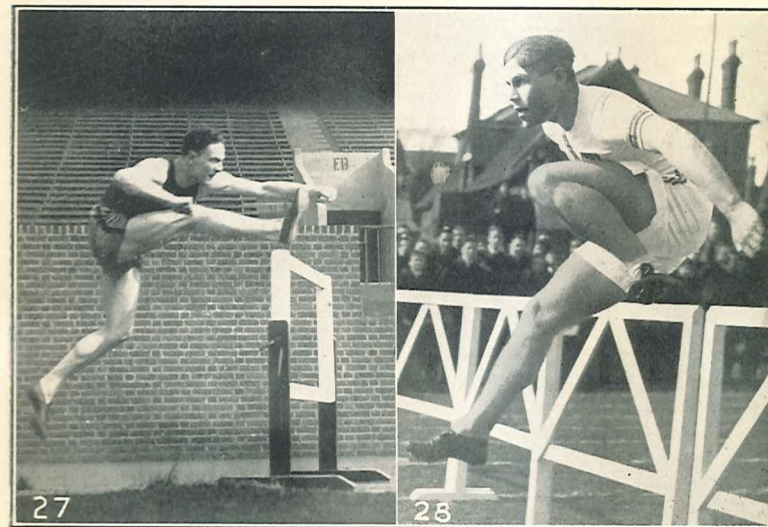
BBnS=Body Bending and Stretching Exercises.

It is necessary for the hurdler to strengthen his body, to build up technique by special hurdling exercises, and to become supple by the practise of

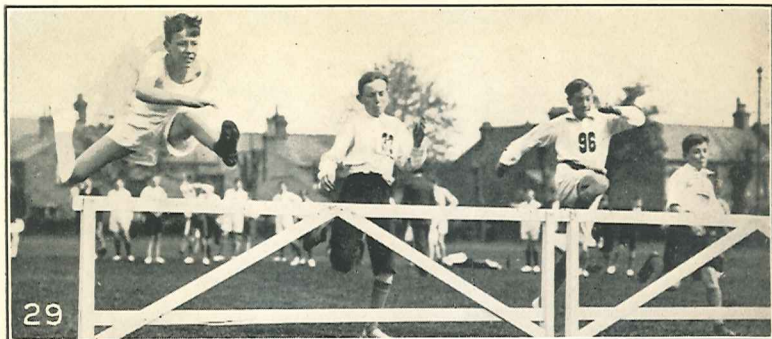
HIGH HURDLES ACTION



"KL, S, B & Fp"—Speed and balance together with form preservation shown by D. O. Finlay (left) and Lord Burghley, both English Champions. The knee lift of the back leg is well shown.



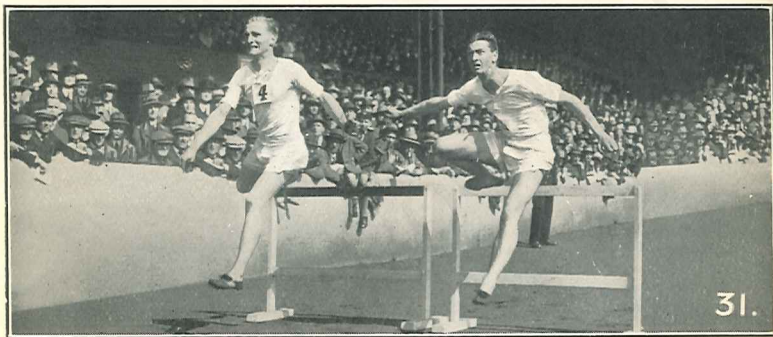
Left: "LK & BD"—Leg kick and body dip by Ray Wolf, Pennsylvania University.
Right: "KP"—Knee pick up by C. Pearson, Bedford School, second Public Schools Championships 1931.



"F"—Full effort, first hurdle. F. R. Webster, Bedfordshire Colts Champion, showing body dip used by boys.



J. Simpson, British Universities and International Universities Record Holder, showing full clearance action. "RV-1H"—Running from varying distances at one hurdle.



"F"—Full effort, last hurdle. Lord Burghley, Olympic Champion, 1928, beating T. C. Livingstone-Learmonth in English Championship.

bending and stretching. All the appropriate exercises will be found in *Exercises for Athletes*, while the technique of hurdling is fully explained in *Athletes in Action*. These two books are published by Messrs. John F. Shaw & Co., Ltd., 3 Pilgrim Street, London. (See Figs. 2, 3 and 4.)

SP=Starting Practise. *Example*: SP-30- $\frac{1}{2}$ -4 means that you must sprint 30 yards from the crouch start position at $\frac{1}{2}$ effort four times. (See Figs. 5 to 9.)

H=Hurdle or Hurdles.

LK=Leg Kick. It is necessary that hurdlers should develop a good, fast, stiff leg kick, which imposes a strain on the tendons at the back of the knee as the foot of the leading leg is thrown up to the hurdle. (See Fig. 27.)

BD=Body Dip. Half the secret of successful hurdling lies in the athlete dipping his body sharply forward from the hips, without curving the spine, as the leading leg goes up to the hurdle and the arm opposite to that leg is thrust forward. Try to get the hand out as far as the foot and to thrust the chin forward in advance of the knee. *Example*: 3H- $\frac{1}{2}$ -2-LK & BD. This means that you are to run over three hurdles at $\frac{1}{2}$ effort, twice, concentrating on the leading leg kick and the body-dip actions. After the first hurdle emphasise the forward body lean. (See Figs. 26, 27 and 29.)

KL=Knee Lift. The hurdler requires great hip mobility to enable him to raise the knee of the rear leg up and over the top of the hurdle in a circular action during clearance. (See Figs. 26 and 29.)

KP=Knee Pick-up. As the foot of the leading leg is snapped down to ground on the far side of the hurdle the knee of the rear leg must be picked right up to the shoulder, in order that the next stride after landing may be a full one. *Example*: 4H- $\frac{1}{2}$ -2-KL & KP means that you must run over four hurdles at $\frac{1}{2}$ effort, twice, concentrating upon

rear-leg action, i.e. the knee-lift in clearance (Fig. 26) and the knee pick-up on landing. (See Fig. 28.)

SP-1H=Starting Practise over one Hurdle. Constant starting practise over one hurdle is very necessary, since many races are lost by indifferent starting and lack of speed at the beginning of a race. The first hurdle is set up 15 yards from the starting line and should be reached in seven strides, if, when in the starting position, you have the same foot advanced as is thrown first over the hurdle. *Example*: SP-1H- $\frac{1}{2}$ -4 means that you are to practise starting from the crouch position, running over one hurdle at $\frac{1}{2}$ effort, four times. Be sure that you drive hard at the hurdle.

Co=Co-ordination. It is necessary for the hurdler to work at times to co-ordinate the various hurdle actions into a cohesive whole. *Example*: 6H- $\frac{1}{2}$ -1-Co means that you will run over six hurdles at $\frac{1}{2}$ effort, once, striving to co-ordinate running with the various hurdle movements.

S & B=Speed and Balance. Most young hurdlers find difficulty, when travelling at speed, in preserving such a degree of balance as will enable them to take the first stride after landing without diverging from a straight ahead course. (See Fig. 26.)

F=Full Effort. *Example*: SP-1H-F-3-S & B means that you are to practise starting over one hurdle at full speed three times to synchronise your speed with your balance. (See Figs. 26 and 29.)

FP=Form Preservation. One cannot run the whole 120 yards, including the clearance of ten flights of 3 ft. 6 in. hurdles, in one tense burst of speed, as the sprinter covers his 100 yards, and it is, therefore, necessary, if the hurdler is to maintain his form and balance, while keeping a little in hand for the drive of a proper finish, that he should relax slightly from the third to the seventh hurdle. He will learn to do this by the practise signified in the following

example: 3H $\frac{3}{4}$ -4H $\frac{1}{2}$ -3H $\frac{3}{4}$ -1-FP. This means that you are to run the whole 120 yards at $\frac{3}{4}$ effort up to the clearance of the third hurdle, clearing the next four hurdles at $\frac{1}{2}$ effort, and the final three hurdles, plus the sprint of 15 yards to the tape, at $\frac{3}{4}$ effort. (See Figs. 26, 29 and 31.)

Tr=Trot.

FHC=Fast Hurdle Clearance. *Example*: 10H-Tr-FHC-1 indicates a very special practise for the increase of balance and fast hurdle clearance, with the leading foot coming down very close to the hurdle. This practise is best done by two athletes training together and agreeing to keep level on the flat, but to endeavour to see which can get to ground the quicker over each flight of hurdles. Thus, in the example given, the two athletes will trot, using five or seven strides, instead of the regulation three strides, quite slowly between hurdles, but will effect the quickest possible clearance of each of the ten flights.

T=Time Trial. *Example*: 10H-T-1 means that you are to run a full 120 yards time trial over ten flights of hurdles at your best speed.

TABLE OF EFFORT
120 YARDS HIGH HURDLES

Average Best Performance. Secs.	$\frac{3}{4}$ Effort. Secs.	$\frac{1}{2}$ Effort. Secs.	$\frac{1}{4}$ Effort. Secs.
14.0	15.0	16.0	18.0
14.4	15.5	16.3	18.3
14.8	15.9	16.9	19.0
15.2	16.3	17.3	19.2
15.6	16.8	17.9	20.0
16.0	17.0	18.1	20.5
16.4	17.5	18.9	21.0
16.8	18.0	19.2	21.6
17.2	18.6	19.8	22.1
17.6	18.9	20.1	22.8
18.0	19.3	20.4	23.1
18.4	19.6	21.0	23.8
18.8	20.1	21.5	24.2
19.2	20.6	22.0	24.9
19.6	21.0	22.4	25.2
20.0	21.4	22.9	25.9

120 YARDS HIGH HURDLES TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	Jog a slow 440 yards on grass	440- $\frac{1}{4}$ -1 on grass SP-30- $\frac{1}{2}$ -4 BBnS-5 mins. 3H- $\frac{1}{2}$ -2-LK-BD	220- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP-1H- $\frac{1}{2}$ -4 3H- $\frac{1}{2}$ -2-BD & KL HE-5 mins. 4H- $\frac{1}{2}$ -4-KL & BD
Tuesday	BBE: HE: BBnS: 1 hr. in Gymnasium	BBE: HE: BBnS: 1 hr. in Gymnasium	BBE: HE: BBnS: 1 hr. in Gymnasium	BBE: HE: BBnS: 1 hr. in Gymnasium
Wednesday	Jog slowly through 100 yds. on grass 12 times at intervals during 1 hr.	220- $\frac{1}{2}$ -1 on grass SP-30- $\frac{1}{2}$ -6 BBnS-5 mins. 4H- $\frac{1}{2}$ -2-KL-KP	440- $\frac{1}{2}$ -1 on grass	SP-1H- $\frac{1}{2}$ -2 SP-1H- $\frac{1}{2}$ -3 6H- $\frac{1}{2}$ -1-Co HE-5 mins. 2H- $\frac{1}{2}$ -3-KL & KP 220- $\frac{1}{2}$ -1
Thursday	BBE: HE: BBnS: 1 hr. in Gymnasium	BBE: HE: BBnS: 1 hr. in Gymnasium	BBE: HE: BBnS: 1 hr. in Gymnasium	SP- $\frac{1}{2}$ -2 SP-F-1 BBnS-5 mins. 6 High Jumps 300- $\frac{1}{2}$ -1
Saturday	Jog a slow 440 yards on grass	440- $\frac{1}{4}$ -1 SP- $\frac{1}{2}$ -3 BBnS-5 mins. 2H- $\frac{1}{2}$ -4-KL-BD 5H- $\frac{1}{2}$ -2-KL-KP	440- $\frac{1}{2}$ -1	440- $\frac{1}{4}$ -1 BBnS-5 mins. SP- $\frac{1}{2}$ -2 7H- $\frac{1}{2}$ -1-Co

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 64 to 79.
Special exercises for this event will be found in *Exercises for Athletes*, Chapter VI.

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-2H- $\frac{3}{4}$ -3-LK & BD HE-5 mins. 3H- $\frac{3}{4}$ -1-KL & KP	440- $\frac{1}{2}$ -1 120- $\frac{3}{4}$ -1	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-1H-F-3-S & B HE-5 mins. 3H- $\frac{3}{4}$ -3-S & B	220- $\frac{1}{2}$ -1 SP-1H- $\frac{1}{2}$ -1-LK & BD SP-1H- $\frac{1}{2}$ -1-KL & KP SP-1H-F-2-S & B HE-2 mins. 4H- $\frac{3}{4}$ -2-S & B
Tuesday	Body Building, Body Bending and Stretching Exercises and Hurdling Exercises, 1 hour each Tuesday at track if fine and warm, otherwise in the Gymnasium. Do high jumping and long jumping, also, when out of doors.			
Wednesday	220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-24- $\frac{3}{4}$ -2-BD & KL HE-5 mins. 7H- $\frac{3}{4}$ -1-Co	440- $\frac{1}{2}$ -1	220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-2H- $\frac{3}{4}$ -4-S & B HE-5 mins. 4H- $\frac{3}{4}$ -2-S & B	BBnS-5 mins. SP-2H- $\frac{3}{4}$ -2-Co SP-1H-F-1-S & B HE-3 mins. 3H-F-2-S & B 220- $\frac{1}{2}$ -1
Thursday	Body Building, Body Bending and Stretching Exercises and Hurdling Exercises, 1 hour each Thursday at track if fine and warm, otherwise in the Gymnasium. Do some high jumping and long jumping, also, when out of doors.			
Saturday	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-2H- $\frac{3}{4}$ -4-BD HE-5 mins. 5H- $\frac{3}{4}$ -1-Co	300- $\frac{3}{4}$ -1	440- $\frac{1}{2}$ -1 SP-1H-F-2-S & B BBnS-3 mins. 8H- $\frac{1}{2}$ -2-Co HE-5 mins. 6H- $\frac{3}{4}$ -1-S & B	SP-1H- $\frac{1}{2}$ -2-Co BBnS-2 mins. 3H $\frac{3}{4}$ -4H $\frac{3}{4}$ -3H $\frac{3}{4}$ -1-FP 220- $\frac{1}{2}$ -1

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-5 mins. 440- $\frac{1}{2}$ -1 HE-5 mins.	440- $\frac{1}{2}$ -1 BBnS-2 mins. Briskly SP-2H- $\frac{3}{4}$ -3-KL & BD HE-3 mins. 3H $\frac{3}{4}$ -4H $\frac{3}{4}$ -3H $\frac{3}{4}$ -1-FP	150- $\frac{1}{2}$ -1 BBnS-5 mins. Briskly SP-1H- $\frac{3}{4}$ -2 HE-3 mins. 5H- $\frac{3}{4}$ -1 220- $\frac{1}{2}$ -1	220- $\frac{1}{2}$ -1 SP-2H- $\frac{3}{4}$ -3-LK & BD SP-1H-F-3-S & B HE-3 mins. 3H- $\frac{3}{4}$ -3-BD & KL 5H- $\frac{3}{4}$ -2-Co
Tuesday	BBE-5 mins. SP- $\frac{3}{4}$ -4 150- $\frac{3}{4}$ -1 HE-5 mins.	BBnS-3 mins. Briskly 220- $\frac{3}{4}$ -1	BBnS-3 mins. Briskly SP-4 120-F-1	120- $\frac{1}{2}$ -1 300- $\frac{1}{2}$ -1
Wednesday	440- $\frac{1}{2}$ -1	5 Months' Schedule BBnS-2 mins. Briskly SP-1H-F-2-S & B 5H-T 3 Months' Schedule BBnS-5 mins. SP-2H- $\frac{3}{4}$ -2-KL & KP 6H- $\frac{3}{4}$ -2-LK & BD	120- $\frac{1}{2}$ -1 BBnS-2 mins. BBnS-2 mins. Briskly SP-2H- $\frac{3}{4}$ -2-S & B SP-1H-F-2-S & B HE-5 mins. 3H $\frac{3}{4}$ -4H $\frac{3}{4}$ -3H $\frac{3}{4}$ -1-FP 300- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 BBnS-2 mins. Briskly 3HF-4H $\frac{3}{4}$ -1 HE-3 mins. 4H $\frac{3}{4}$ -3HF-1
Thursday	BBnS-5 mins. SP- $\frac{3}{4}$ -4 200- $\frac{3}{4}$ -1 HE-5 mins.	220- $\frac{1}{2}$ -1 220- $\frac{3}{4}$ -1	220- $\frac{1}{2}$ -1 220- $\frac{3}{4}$ -1	120- $\frac{1}{2}$ -1 BBnS-3 mins. 440- $\frac{1}{2}$ -1
Saturday	BBE-5 mins. 220- $\frac{1}{2}$ -1 150- $\frac{3}{4}$ -1	5 Months' Schedule SP-1H- $\frac{3}{4}$ -2-LK & BD SP-2H- $\frac{3}{4}$ -2-BD & KL HE-3 mins. 7H-T 3 Months' Schedule 440- $\frac{1}{2}$ -1 SP- $\frac{3}{4}$ -4-KL & KP SP-1H-4-LK & BD 7H- $\frac{1}{2}$ -1-Co	440- $\frac{1}{2}$ -1 BBnS-2 mins. Briskly SP-1H- $\frac{3}{4}$ -1-S & B SP-1H-F-1-S & B HE-2 mins. 3HF-4H $\frac{3}{4}$ -3HF-1-FP	220- $\frac{1}{2}$ -1 HE-3 mins. SP-1H- $\frac{3}{4}$ -2-Co 3HF-4H $\frac{3}{4}$ -3HF-FP

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{2}$ -1 BBnS-5 mins. SP-2H- $\frac{1}{2}$ -2-LK, BD, KL, SP-1H-F-2-S & B HE-3 mins. 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -3H $\frac{1}{2}$ -2-FP	440- $\frac{1}{2}$ -1 HE-5 mins. 10H-Tr-FHC-2 BBnS-3 mins. SP-1H-F-2 SP-3H-F-2	380- $\frac{1}{2}$ -1 BBnS-2 mins. Briskly 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -1 HE-3 mins. 4H $\frac{1}{2}$ -3H $\frac{1}{2}$ -1 5H-Tr-FHC-2	220- $\frac{1}{2}$ -1 4H- $\frac{1}{2}$ -3 BBnS-3 mins. 3HF-4H $\frac{1}{2}$ -1 HE-5 mins. 7H-Tr-FHC-1
Tuesday	BBnS-5 mins. SP- $\frac{3}{4}$ -4 120-F-1	BBnS-3 mins. SP- $\frac{3}{4}$ -4 150-F-1	BBnS-3 mins. 300- $\frac{1}{2}$ -1	BBnS-5 mins. 440- $\frac{1}{2}$ -1
Wednesday	440- $\frac{1}{2}$ -1 BBnS-3 mins. Briskly 10H-Tr-FHC-2	BBnS-3 mins. 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -3H $\frac{1}{2}$ -1-FP HE-3 mins. 10H-Tr-FHC-1	200- $\frac{1}{2}$ -1 SP-2H- $\frac{1}{2}$ -2-Co HE-5 mins. SP-1H-F-3-S & B	200- $\frac{1}{2}$ -1 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -1 HE-3 mins. 3HF-4H $\frac{1}{2}$ -1
Thursday	220- $\frac{1}{2}$ -1 BBnS-3 mins. 220- $\frac{1}{2}$ -1	BBnS-5 mins. 380- $\frac{1}{2}$ -1	BBnS-5 mins. 300- $\frac{1}{2}$ -1	BBnS-5 mins. 380- $\frac{1}{2}$ -1
Saturday	220- $\frac{1}{2}$ -1 BBnS-3 mins. Briskly SP-1H- $\frac{1}{2}$ -2-S & B HE-3 mins. 10H-T-1	300- $\frac{1}{2}$ -1 BBnS-3 mins. Briskly SP-1H- $\frac{1}{2}$ -2-Co HE-3 mins. 10H-T-1	220- $\frac{1}{2}$ -1 5H-Tr-FHC-1 BBnS-3 mins. 10H-T-1 Rest $\frac{1}{2}$ hour HE-3 mins. 10H-T-1	380- $\frac{1}{2}$ -1 5H-Tr-FHC-1 BBnS-2 mins. SP-1H- $\frac{1}{2}$ -1-Co HE-3 mins. 10H-T-1

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-2H- $\frac{1}{2}$ -1-LK & KL, 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -1 3HF-4H $\frac{1}{2}$ -1	380- $\frac{1}{2}$ -1 BBnS-2 mins. Briskly SP-3H- $\frac{1}{2}$ -2-Co SP-3H-F-2-S & B	220- $\frac{1}{2}$ -1 BBnS-3 mins. 3H- $\frac{1}{2}$ -BD, KL, KP HE-3 mins. 5H-Tr-FHC-2	220- $\frac{1}{2}$ -1 BBnS-3 mins. 5H-Tr-FHC-1 HE-3 mins. 5H-Tr-FHC-1
Tuesday	380- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1	120- $\frac{3}{4}$ -1	220- $\frac{1}{2}$ -1 BBnS-2 mins. SP-3H- $\frac{1}{2}$ -2-Co HE-3 mins. 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -2
Wednesday	440- $\frac{1}{2}$ -1 BBnS-3 mins. 7H-Tr-FHC-1 HE-3 mins. 10H-Tr-FHC-1	BBnS-3 mins. Briskly 10H-Tr-FHC-1 HE-3 mins. 3HF-4H $\frac{1}{2}$ -3HF-1	220- $\frac{1}{2}$ -1 BBnS-3 mins. 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -3H $\frac{1}{2}$ -1 HE-3 mins. 3H $\frac{1}{2}$ -4H $\frac{1}{2}$ -1	1 mile Brisk Walk
Thursday	BBnS-5 mins. 150- $\frac{3}{4}$ -1	2 miles Brisk Walk	1 $\frac{1}{2}$ miles Brisk Walk	Rest
Saturday	220- $\frac{1}{2}$ -1 4H-Tr-FHC-1 BBnS-2 mins. Briskly SP-1H- $\frac{1}{2}$ -1-S & B HE-3 mins. 10H-T-1	220- $\frac{1}{2}$ -1 SP-2H- $\frac{1}{2}$ -2-S & B BBnS-2 mins. Briskly 10H-T-1 Rest $\frac{1}{2}$ hr. HE-3 mins. 10H-T-1	220- $\frac{1}{2}$ -1 SP-1H- $\frac{1}{2}$ -1-S & B BBnS-2 mins. Briskly 3H-Tr-FHC-1 HE-3 mins. 10H-T-1	220- $\frac{1}{2}$ -1 BBnS-2 mins. SP-1H- $\frac{1}{2}$ -1 3H-Tr-FHC-1 HE-3 mins. Rest 15 mins. Competition

BOYS' TABLES

120 YARDS HURDLES—THREE MONTHS' TRAINING—FIRST MONTH

90 ATHLETIC TRAINING FOR MEN AND BOYS

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-5 mins. 220- $\frac{1}{2}$ -1 HE-5 mins.	300- $\frac{1}{2}$ -1 BBnS-3 mins. SP-1H- $\frac{1}{4}$ -2-LK & BD SP-1H- $\frac{1}{4}$ -3-BD & KL HE-3 mins. 4H-Tr-FHC-1	220- $\frac{1}{2}$ -1 BBnS-3 mins. SP-20- $\frac{1}{2}$ -2 SP-20- $\frac{3}{4}$ -3 150- $\frac{3}{4}$ -1 BBE-5 mins.	300- $\frac{1}{2}$ -1 BBnS-5 mins. 4H- $\frac{1}{2}$ -3-KL & KP 6H- $\frac{1}{2}$ -2-S & B
Tuesday or Wednesday	BBE-5 mins. SP-20- $\frac{1}{2}$ -4 150- $\frac{3}{4}$ -1 50- $\frac{3}{4}$ -1 HE-5 mins.	50- $\frac{1}{2}$ -1 BBnS-3 mins. SP-2H- $\frac{1}{2}$ -2-LK & BD HE-3 mins. 4H-Tr-FHC-1 2H- $\frac{1}{2}$ -3H-2H-1-FP	75- $\frac{1}{2}$ -1 HE-5 mins. 2H- $\frac{1}{2}$ -1-Co 5H-Tr-FHC-2 220- $\frac{1}{2}$ -1	50- $\frac{1}{2}$ -1 HE-5 mins. SP-1H- $\frac{1}{4}$ -2-LK & BD SP-1H- $\frac{1}{4}$ -2-BD & KL SP-1H-F-1-S & B 10H-Tr-FHC-1 150- $\frac{1}{2}$ -1
Thursday	BBnS-5 mins. 220- $\frac{1}{2}$ -1 HE-5 mins.	BBnS-5 mins. 300- $\frac{1}{2}$ -1 BBE-5 mins.	BBnS-5 mins. 440- $\frac{1}{2}$ -1 BBE-5 mins.	BBnS-5 mins. 220- $\frac{1}{2}$ -1
Saturday	BBE-5 mins. 440- $\frac{1}{4}$ -1	50- $\frac{1}{2}$ -1 BBnS-3 mins. SP-1H- $\frac{1}{4}$ -2-LK & BD SP-1H- $\frac{1}{4}$ -2-S & B HE-5 mins. 7H-Tr-FHC-1 1H- $\frac{1}{2}$ -3H- $\frac{1}{2}$ -1-FP	100- $\frac{1}{2}$ -1 BBnS-3 mins. 10H-Tr-FHC-1 HE-5 mins. 3H- $\frac{1}{2}$ -4H- $\frac{1}{2}$ -3H- $\frac{1}{2}$ -1-FP	100-Tr-2 HE-3 mins. BBnS-2 mins. 7H-Tr-FHC-1 SP-2H- $\frac{3}{4}$ -1 5H-T

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

Special References. The technique of this event is explained in *Athletes in Action*, pages 64 to 79. Special exercises for this event will be found in *Exercises for Athletes*, Chapter VI.

120 YARDS HIGH HURDLES

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BOYS' TABLES

120 YARDS HURDLES—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	220- $\frac{1}{2}$ -1 BBnS-5 mins. 5H-Tr-FHC-2 HE-5 mins. 3H- $\frac{1}{2}$ -4H- $\frac{1}{2}$ -3H- $\frac{1}{2}$ -1-FP 3H- $\frac{1}{2}$ -4H- $\frac{1}{2}$ -3H- $\frac{1}{2}$ -1-FP	100-Tr-2 BBnS-5 mins. 2H- $\frac{1}{2}$ -2-BD, KL, KP 10H- $\frac{1}{2}$ -1-Co HE-5 mins.	220- $\frac{1}{2}$ -1 BBnS-5 mins. 10H-Tr-FHC-2 HE-5 mins. SP-1H- $\frac{1}{4}$ -2-KL, BD SP-1H- $\frac{1}{4}$ -2-BD, KL SP-1H-Tr-2-S & B 3H- $\frac{1}{2}$ -1-Co	100-Tr-2 BBnS-5 mins. 5H-Tr-FHC-1 HE-5 mins. 4H- $\frac{1}{2}$ -2-Co 6H- $\frac{1}{2}$ -2-S & B 150- $\frac{1}{2}$ -1
Tuesday or Wednesday	100-Tr-2 BBnS-5 mins. 150- $\frac{3}{4}$ -1	440- $\frac{1}{2}$ -1 BBnS-3 mins. 5H-Tr-FHC 2H- $\frac{3}{4}$ -1-S & B 8H-T	100-Tr-3 BBnS-5 mins. 150- $\frac{3}{4}$ -1	BBnS-5 mins. 300- $\frac{1}{2}$ -1
Thursday	300- $\frac{1}{2}$ -1 HE-5 mins. 10H-Tr-FHC-1	BBnS-5 mins. 220- $\frac{1}{2}$ -1	300- $\frac{1}{2}$ -1 HE-5 mins. 3H- $\frac{1}{2}$ -4H- $\frac{1}{2}$ -3H- $\frac{1}{2}$ -1-FP 3H- $\frac{1}{2}$ -4H- $\frac{1}{2}$ -3H- $\frac{1}{2}$ -1-FP	5H-Tr-FHC-1 BBnS-5 mins. SP-2H- $\frac{1}{2}$ -2-Co HE-3 mins. 5H- $\frac{1}{2}$ -2-S & B 150- $\frac{1}{2}$ -1
Saturday	220- $\frac{1}{2}$ -1 HE-3 mins. SP-1H- $\frac{1}{4}$ -2-LK & BD BBnS-3 mins. 7H-T-1	100-Tr-3 BBnS-3 mins. SP-1H- $\frac{1}{4}$ -2-Co 3H- $\frac{1}{2}$ -1-S & B 10H-T	100-Tr-3 BBnS-3 mins. 5H-Tr-FHC-1 SP-1H- $\frac{1}{4}$ -2-LK, BD, KL 10H-T Rest	5H-Tr-FHC-1 BBnS-3 mins. 2H- $\frac{1}{2}$ -1-Co 5H-T Rest SP-1H- $\frac{1}{4}$ -1-LK, BD, KL SP-1H- $\frac{1}{4}$ -1-S & B 10H-T

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	5H-Tr-FHC-1 BBnS-3 mins. 2H- $\frac{1}{2}$ -2-LK & BD 8H- $\frac{1}{4}$ -2-Co 100- $\frac{3}{4}$ -1 HE-5 mins.	5H-Tr-FHC-1 BBnS-5 mins. 3H- $\frac{3}{4}$ -4H- $\frac{3}{4}$ -3H- $\frac{3}{4}$ -1-FP 220- $\frac{3}{4}$ -1 HE-5 mins.	100-Tr-2 HE-5 mins. 2H- $\frac{1}{2}$ -2-Co SP-1H- $\frac{3}{4}$ -2-Co 3H- $\frac{3}{4}$ -4H- $\frac{3}{4}$ -3H- $\frac{3}{4}$ -1-FP 150- $\frac{3}{4}$ -1	100-Tr-2 BBnS-3 mins. 5H- $\frac{1}{2}$ -1-Co 220- $\frac{3}{4}$ -1
Tuesday or Wednesday	BBnS-5 mins. 220- $\frac{1}{2}$ -1 HE-5 mins.	BBnS-5 mins. 2H- $\frac{1}{2}$ -2-Co 5H- $\frac{3}{4}$ -2-Co 150- $\frac{1}{2}$ -1	BBnS-5 mins. 150- $\frac{3}{4}$ -1	100-Tr-2 BBnS-5 mins. 3H- $\frac{1}{2}$ -2-Co 3H- $\frac{3}{4}$ -2-Co 150- $\frac{3}{4}$ -1
Thursday	100-Tr-2 BBnS-3 mins. SP-2H- $\frac{1}{2}$ -1-BD, KL, KP SP-1H- $\frac{3}{4}$ -2-KL, KP SP-2H-F-1-S & B 3H-F-4H- $\frac{3}{4}$ -3HF-FP	BBnS-5 mins. 220- $\frac{1}{2}$ -1 HE-5 mins.	BBnS-5 mins. 5H-Tr-FHC-2 3H- $\frac{1}{2}$ -2-LK, BD 3H- $\frac{3}{4}$ -2-KL, KP 220- $\frac{3}{4}$ -1	Rest
Saturday	220- $\frac{1}{2}$ -1 BBnS-5 mins. 2H- $\frac{1}{2}$ -1-LK, KP 10H-T	5H-Tr-FHC-1 BBnS-3 mins. 2H- $\frac{1}{2}$ -1-LK & BD 10H-T Rest HE-3 mins. SP-1H- $\frac{3}{4}$ -2-BD, KL 10H-T	5H-Tr-FHC-1 BBnS-3 mins. SP-1H- $\frac{1}{2}$ -2-Co SP-1H- $\frac{3}{4}$ -1-S & B HE-3 mins. 10H-T	Competition for which training

Note.—If there are heats on Friday, rest Tuesday, Wednesday and Thursday. In any case, training should be done only on Monday and Tuesday in the week of an important competition for which long training has been undertaken.

CHAPTER SEVEN

440 YARDS LOW HURDLES

THE quarter mile is generally regarded as the most punishing track race, but when ten, 3 ft. hurdles are placed in the course the event becomes a supreme test of all-round mental and physical efficiency, calling for the speed of the sprinter, the agile skill of the high hurdler and the stamina of the middle-distance runner. Those who will not face, or cannot endure, such a gruelling schedule of training as is set out in this chapter should leave this event alone. The tables, incidentally, are based upon those prepared by F. A. M. Webster in 1930 for the training of J. Simpson, University of Manchester, which enabled him, in one month, to reduce his time from 56 $\frac{1}{2}$ secs. to 53 $\frac{9}{10}$ secs. and to win the World's Inter-Universities Championship.

Early training calls for body-building and stretching exercises, light gymnastics and distance running for the generation of staying power. Starting practise is included as, although there should be no fast sprint for the first hurdle, a fairly fast start, developing into mechanical striding action, is necessary to enable the athlete to find out the correct number of strides which will carry him from the starting-line to the take-off for the first hurdle. Later on, speed and stamina must be combined by running 300 to 440 yards on the flat and then racing on a further 160 yards over three hurdles spaced 40 yards apart, because it is the eighth, ninth and tenth hurdles that beat most men in competition. Pace judgment must be acquired, because the race is run from staggered starts, and the man who draws the outside berth has no one out in front as a guide to his own position in the race. A man can hold a fifteen or seventeen strides-

between-hurdles gait for five or six hurdles, but drops then to a natural stride. He must, therefore, build up the ability to stride out, so that he may finish the race without tying up. For this purpose he should develop an unvarying, mechanical stride by running 150 to 350 yards with a long fast stride and at a pace that is really fast without actually involving sprinting. He must also practise running at one hurdle from varying distances, so that when he drops to a natural, long fast stride he will learn to regulate the four or five strides immediately before each hurdle, so that he neither hesitates nor changes speed before taking off.

A man should not train for High and Low Hurdles concurrently. The former is a speed-form event; the latter is an endurance test with form more or less a minor factor.

A Table of Effort for the Low Hurdler is given on page 96. What the efforts represent and how this table is to be employed is explained on page 17.

TRAINING TABLES—SYMBOLS EXPLAINED.

BB & S=Body Building and Stretching Exercises.

HE=Hurdle Exercises.

BBnS=Body Bending and Stretching Exercises.

These exercises, which the hurdler must perform faithfully, are fully set out in *Exercises for Athletes*, while full instructions in the technique of hurdling are given in *Athletes in Action*. Both books are published by J. F. Shaw & Co., Ltd., 3 Pilgrim Street, London. (See Figs. 2, 3 and 4.)

S=Striding.

M=Mile or Miles. *Example*: 1M-S- $\frac{1}{4}$ -1 means that you are to run one mile, practising striding, at $\frac{1}{4}$ effort, once. (See Figs. 17, 20 and 23.)

LFS=Long Fast Stride. *Example*: 220-LFS-1 means that you are to run 220 yards with a long fast stride and at a pace which, while really fast, does not

impose an undue strain upon you, or cause you to break into sprint action.

SP=Starting Practise on the flat from the crouch start position. *Example*: SP-40- $\frac{1}{2}$ -4 means that you are to sprint 40 yards (the distance from the starting-line to the first hurdle) four times at $\frac{1}{2}$ effort. (See Figs. 5 to 9.)

SP-1H=Starting Practise over one Hurdle, set up the correct distance from the starting-line.

RV-1H=Running from varying distances at one Hurdle. *Example*: RV-1H-4 means that you will run at, and clear, one hurdle from varying distances four times. (See Fig. 30.)

H=Hurdle or Hurdles. *Example*: 280-6H- $\frac{1}{2}$ -2 means that you will start from the scratch line and run 280 yards, clearing six hurdles at $\frac{1}{2}$ effort, twice. 440+2H- $\frac{3}{4}$ -1 means that you will run 440 yards on the flat and then continue on over two hurdles spaced 40 yards apart, running at $\frac{3}{4}$ effort, once.

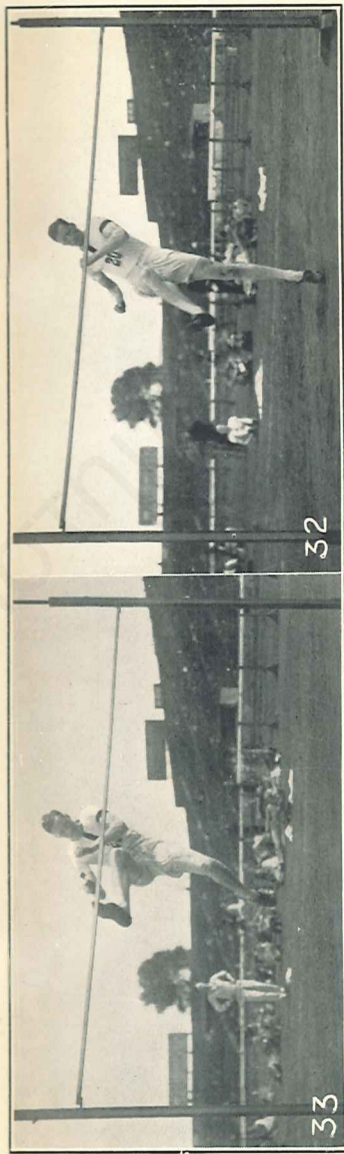
RC=Practise in running over the hurdles set up on the curve of the track, which is always a difficult part of the low hurdler's technique to master. *Example*: RV-1H- $\frac{1}{2}$ -6-RC means that you will run from varying distances over one hurdle at $\frac{1}{2}$ effort, six times, the hurdle being set up on the curve of the track.

T=Time Trial. *Example*: 440-10H-T-1 means that you are to run a full 440 yards hurdles trial over ten flights with the time taken by a stop-watch and recorded.

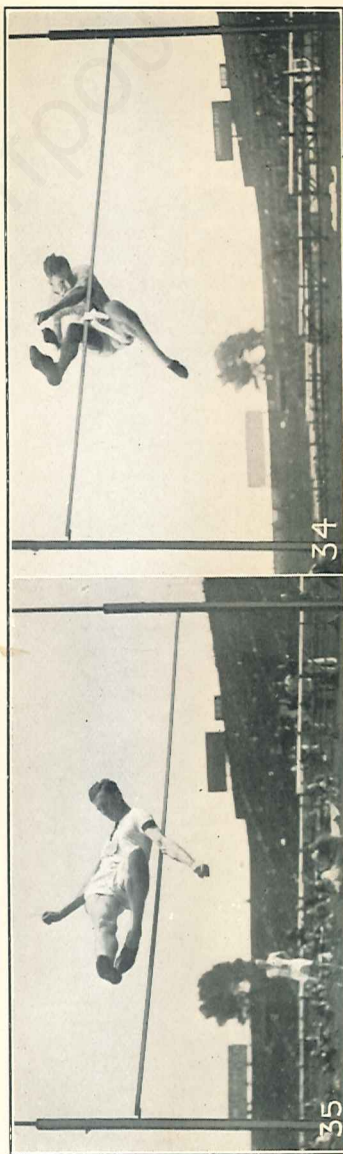
F=Full Effort. *Examples*: 50-F-1 means that you are to run 50 yards on the flat at full effort, once. 160-3H-F-2 means that you are to run 160 yards, clearing three hurdles spaced 40 yards apart, at full effort, twice. 440+2H-F-1 means that you are to run 440 yards on the flat, and continue on over two hurdles spaced 40 yards apart, at full effort, once. (See Figs. 29 and 31.)

TABLE OF EFFORT
440 YARDS LOW HURDLES

Average Best Performance. Secs.	$\frac{3}{4}$ Effort. Secs.	$\frac{1}{2}$ Effort. Secs.	$\frac{1}{4}$ Effort. Secs.
52	56.3	60.6	69.3
53	57.4	61.8	70.6
54	58.5	63.0	72.0
55	59.6	64.1	73.3
56	60.7	65.3	74.6
57	61.7	66.5	76.0
58	62.8	67.6	77.3
59	63.9	68.8	78.6
60	65.0	70.0	80.0
61	66.1	71.1	81.3
62	67.1	72.3	82.6
63	68.2	73.5	84.0
64	69.3	74.6	85.3
65	70.4	75.8	86.6



Right: "TO & Fls"—Take-off and beginning of free leg swing. Left: "Fls & Tlh"—Free leg swing and take-off leg hang.



Right: "Fe"—Foot elevation. Left: "LO & Deg"—Lay out and down to centre of gravity



“Ldg”—Landing action, in the Western Roll style.

35A



“LO & Deg”—Perfect lay-out action shown by J. S. Moll, Bedford School, with everything down to the centre of gravity.

440 YARDS HURDLES—FIVE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BB & S-10 mins. IM-S- $\frac{1}{4}$ -1	2M Steady Walk BB & S-10 mins.	880-S- $\frac{1}{4}$ -1 HE-10 mins.	IM-S- $\frac{1}{4}$ -1 BB & S-10 mins. 440-S- $\frac{1}{4}$ -1
Tuesday	Light Gymnastics HE-10 mins.	Light Gymnastics HE-15 mins.	440- $\frac{1}{4}$ -2 HE-15 mins.	BB & S-10 mins. 220-LFS-1 HE-15 mins.
Wednesday	BB & S-10 mins. 880-S- $\frac{1}{4}$ -1	BB & S-10 mins. IM-S- $\frac{1}{4}$ -1	BB & S-10 mins. 150-LFS-1 HE-15 mins.	BB & S-5 mins. 2M Fast Walk HE-15 mins.
Thursday	2M-Fast Walk HE-15 mins.	IM Fast Walk BB & S-15 mins.	880- $\frac{1}{4}$ -2 BB & S-10 mins.	HE-10 mins. 350-LFS-1 BB & S-15 mins.
Saturday	BB & S-10 mins. 440- $\frac{1}{4}$ -2 HE-10 mins.	IM-S- $\frac{1}{4}$ -1 HE-15 mins.	2M Fast Walk BB & S-10 mins. HE-10 mins.	880-S- $\frac{1}{4}$ BB & S-10 mins. 880- $\frac{1}{4}$ -1

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.

SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 80 to 101. Special exercises for this event will be found in *Exercises for Athletes*, Chapter VI.

440 YARDS HURDLES—FIVE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BB&S-5 mins. SP-40- $\frac{1}{2}$ -4 880-S- $\frac{1}{2}$ -1	BB & S-5 mins. 440-S- $\frac{1}{2}$ -1 880- $\frac{3}{4}$ -1 HE-5 mins.	BB & S-5 mins. SP-6 440- $\frac{3}{4}$ -1 RV-1H-4	HE-5 mins. SP-1H- $\frac{3}{4}$ -3 440-10H- $\frac{1}{4}$ -1
Tuesday	BB & S-10 mins. 600-S- $\frac{1}{2}$ -1 HE-15 mins.	BB & S-5 mins. SP-6 220- $\frac{3}{4}$ -1 150-LFS-1	BB & S-5 mins. SP-1H-4 880-S- $\frac{1}{2}$ -1	BB & S-5 mins. SP-6 880-S- $\frac{1}{2}$ -2 HE-5 mins.
Wednesday	BB & S-10 mins. SP-6 440- $\frac{3}{4}$ -1	BB & S-5 mins. SP-6 380-S- $\frac{1}{2}$ -2 HE-5 mins.	BB & S-10 mins. 220-2H- $\frac{1}{2}$ -1 350-LFS-1 HE-15 mins.	HE-5 mins. SP-1H- $\frac{1}{2}$ -3 SP-1H- $\frac{3}{4}$ -3 240-5H- $\frac{1}{2}$ -1
Thursday	BB & S-10 mins. 220-LFS-1 HE-15 mins.	BB & S-5 mins. SP-1H-2 220- $\frac{3}{4}$ -1 220-LFS-1	BB & S-5 mins. SP-1H-3 880- $\frac{3}{4}$ -1 HE-10 mins.	BB & S-10 mins. SP-4 660- $\frac{3}{4}$ -1 HE-5 mins. 880-S- $\frac{1}{4}$ -1
Saturday	BB & S-10 mins. SP-6 880-S- $\frac{1}{2}$ -1 HE-10 mins.	BB & S-10 mins. 220- $\frac{3}{4}$ -2 HE-15 mins. 880-S- $\frac{1}{2}$ -1 150- $\frac{3}{4}$ -1	BB & S-5 mins. SP-1H-2 300-1H- $\frac{1}{2}$ -1 RV-1H- $\frac{3}{4}$ -2 HE-15 mins.	HE-5 mins. SP-1H- $\frac{1}{2}$ -2 SP-1H- $\frac{3}{4}$ -2 280-6H- $\frac{1}{2}$ -2 RV-1H- $\frac{1}{2}$ -6-RC

440 YARDS HURDLES—FIVE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BB&S-5 mins. 880-S- $\frac{1}{2}$ -1	HE-5 mins. SP-1H- $\frac{1}{2}$ -2-RC SP-1H- $\frac{3}{4}$ -2-RC 200-4H- $\frac{1}{2}$ -2 300-3H- $\frac{1}{2}$ -1	HE-5 mins. RV-1H- $\frac{3}{4}$ -4 120-2H- $\frac{1}{2}$ -2-RC 240-5H-T-2 350-LFS-1	HE-5 mins. 160-3H- $\frac{1}{2}$ -3-RC 240-5H- $\frac{3}{4}$ -2 RV-1H- $\frac{1}{2}$ -6 880-S- $\frac{1}{2}$ -1
Tuesday	BB & S-5 mins. SP-6 600- $\frac{3}{4}$ -1 HE-5 mins.	BB & S-5 mins. 880-S- $\frac{1}{2}$ -1	BB & S-5 mins. 500- $\frac{3}{4}$ -1 HE-5 mins.	BB & S-5 mins. 440- $\frac{3}{4}$ -1
Wednesday	BB & S-5 mins. 880-S- $\frac{1}{2}$ -1	HE-5 mins. SP-1H- $\frac{1}{2}$ -2 RV-1H- $\frac{1}{2}$ -4-RC 240-5H- $\frac{3}{4}$ -2 300- $\frac{3}{4}$ -1	HE-5 mins. RV-1H- $\frac{3}{4}$ -4 SP-1H-4 400-3H- $\frac{3}{4}$ -1 660- $\frac{3}{2}$ -1	HE-5 mins. 440-10H- $\frac{1}{4}$ -1 150-LFS-1 440-1H- $\frac{1}{2}$ -1
Thursday	BB & S-5 mins. 660- $\frac{3}{4}$ -1	BB & S-5 mins. SP-6 350-LFS-1	BB & S-5 mins. SP-6 880-S- $\frac{3}{4}$ -1	BB & S-10 mins. 880-S- $\frac{3}{4}$ -1
Saturday	BB & S-5 mins. SP-6 440- $\frac{3}{4}$ -1 220-LFS-1	HE-5 mins. SP-1H- $\frac{1}{2}$ -3 RV-1H- $\frac{3}{4}$ -4 120-2H- $\frac{1}{2}$ -3 240-5H- $\frac{3}{4}$ -1 440- $\frac{3}{4}$ -1	HE-5 mins. 120-2H- $\frac{1}{2}$ -3 RV-1H- $\frac{1}{2}$ -6 280-6H- $\frac{1}{2}$ -2 500-S- $\frac{1}{2}$ -1	HE-5 mins. 440-10H- $\frac{1}{4}$ -1

440 YARDS HURDLES—FIVE MONTHS' TRAINING—FOURTH MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	HE-5 mins. 120-2H- $\frac{1}{2}$ -4-RC 440-10H- $\frac{1}{2}$ -2 RV-1H- $\frac{1}{2}$ -6	HE-5 mins. 120-2H- $\frac{1}{2}$ -3-RC 440-10H- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{2}$ -6 300- $\frac{1}{2}$ -1 150-LFS-1	HE-3 mins. 120-2H- $\frac{1}{2}$ -2 240-5H-T-2 240- $\frac{1}{2}$ -1	HE-2 mins. 200-4H- $\frac{1}{2}$ -3 280-6H- $\frac{1}{2}$ -2 RV-1H- $\frac{1}{2}$ -6-RO 500-S- $\frac{1}{2}$ -1
Tuesday	BB & S-5 mins. SP-4 440- $\frac{1}{2}$ -1	BB & S-5 mins. 660- $\frac{1}{2}$ -1	BB & S-5 mins. SP-4 350-LFS-1	BB & S-5 mins. 660- $\frac{1}{2}$ -1
Wednesday	HE-5 mins. 400-2H- $\frac{1}{2}$ -1 120-2H- $\frac{1}{2}$ -3-RC 300-LFS-1	HE-5 mins. SP-1H- $\frac{1}{2}$ -3 440-2H- $\frac{1}{2}$ -1 280-6H- $\frac{1}{2}$ -1 220-LFS-1	HE-5 mins. 280-6H- $\frac{1}{2}$ -1 440-2H- $\frac{1}{2}$ -1 660- $\frac{1}{2}$ -1	HE-5 mins. SP-1H- $\frac{1}{2}$ -3 280-6H- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{2}$ -6 150-LFS-1
Thursday	BB & S-5 mins. 660- $\frac{1}{2}$ -1	BB & S-5 mins. 600- $\frac{1}{2}$ -1	BB & S-5 mins. SP-6 660- $\frac{1}{2}$ -1	BB & S-5 mins. 500-S- $\frac{1}{2}$ -1
Saturday	HE-2 mins. BB & S-2 mins. 440-10H-T-1	HE-2 mins. BB & S-2 mins. 440-10H-T-1	HE-2 mins. BB & S-2 mins. 440-10H-T-1	HE-2 mins. BB & S-2 mins. 440-10H-T-2

440 YARDS HURDLES—FIVE MONTHS' TRAINING—FIFTH MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BB & S-5 mins. 38- $\frac{1}{2}$ -2 38- $\frac{1}{2}$ -3 50-F-1 220-LFS-1	HE-5 mins. 160-3H- $\frac{1}{2}$ -2 360-8H- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{2}$ -6	HE-5 mins. 120-2H- $\frac{1}{2}$ -3-RC 240-5H- $\frac{1}{2}$ -2 350-LFS-1	HE-5 mins. 280-6H- $\frac{1}{2}$ -2 660- $\frac{1}{2}$ -1
Tuesday	HE-5 mins. 120-2H- $\frac{1}{2}$ -3-RC 360-8H- $\frac{1}{2}$ -2 150- $\frac{1}{2}$ -1	BB & S-5 mins. SP-6 500-T-1	BB & S-5 mins. 660-S- $\frac{1}{2}$ -1	HE-5 mins. 160-3H- $\frac{1}{2}$ -3 240-5H- $\frac{1}{2}$ -2 440-S- $\frac{1}{2}$ -1
Wednesday	220- $\frac{1}{2}$ -1 SP-1H-5 160-3H- $\frac{1}{2}$ -1 RV-1H- $\frac{1}{2}$ -4 440-F-1	HE-5 mins. 160-3H-F-2 120-2H- $\frac{1}{2}$ -3-RC	HE-5 mins. 160-3H- $\frac{1}{2}$ -1 240-5H- $\frac{1}{2}$ -1 440-F-2H-1	Rest
Thursday	BB & S-5 mins. 660- $\frac{1}{2}$ -1	HE-5 mins. 440-2H-F-1	BB & S-5 mins. 350-LFS-1	Rest
Saturday	HE-2 mins. BB & S-2 mins. 440-10H-T-1	HE-2 mins. BB & S-2 mins. 440-10H-T-1	HE-2 mins. BB & S-2 mins. 440-10H-T-1	Competition.

PART III

FIELD EVENTS

CHAPTER EIGHT

PRELIMINARY TRAINING AND TABLES OF EFFORT EXPLAINED

THE fundamental of success in field events is infinite patience. Other attributes of success are suppleness, speed, spring and, in some cases, exceptional strength, combined with a certain degree of physical cleverness. In addition, there must be elasticity of muscle and the development of rhythm and perfect co-ordination of muscular movement. Effort, moreover, must be counter-balanced by complete relaxation, even between one series of movements and the next, if proper muscle control is to be achieved; and, again, the sense of timing must be completely cultivated.

The athlete who wishes to succeed as an exponent of the field events should join a gymnastic club for the purpose of winter training. He should go to the gymnasium twice or three times a week for general body-building, bending, stretching and suppling exercises, and for the practise of the special exercises applicable to his own event, which are set out in *Exercises for Athletes*, published by John F. Shaw & Co., Ltd., 3 Pilgrim Street, London, at 7s. 6d.

Shot putting, alternately with the right hand and the left, and hurdling and high jumping can, of course, be practised in most well-equipped gymnasia during the winter months, but it is the special Form Exercises, given in *Exercises for Athletes*, which are so important, since the practise of them not only builds up the special muscles required, but will also create in the athlete's

subconscious mind a memory of the sequence of movements he should perform in the carrying out of his event.

It is even more necessary for the field-events man to join a club, or society, that practises the rhythmic exercises which form the basis of classical dancing. A man needs to be a minor Mordkin, a girl an emulator of Pavlova, to attain the highest form of field events success in these days. Rhythmic exercises are made up entirely of free, flowing movements, interspersed by periods of muscle relaxation. There is no form of exercise better calculated for the creation of rhythm and perfect timing.

Apart from indoor work, walking and running should play a big part in the field-events man's preliminary training. Dick Landon, U.S.A., who made an Olympic record mark of 6 ft. 4½ ins. in 1920, trained almost entirely on walking, once he had acquired the technique of high jumping. J. Dalrymple, former English and present Scottish javelin-throwing record holder (Figs. 90-92), was demobilised at the end of the War as an 80 per cent disability, but rebuilt his physique and trained himself into record-breaking form by running eight miles in the morning and another eight miles at night, almost daily, over a long period.

How long the preliminary conditioning period should last is a matter for the individual athlete to decide. We give, therefore, on page 107 a table of preliminary winter training for one month, which may be used by all classes of field-events men for any period up to or exceeding one month.

Training Tables for the various field events are given after the introductory notes to the chapters dealing with such events, and each of the Training Schedules is preceded by a Table of Effort. To use these Tables of Effort, the athlete must assess his own average best performance. This is done by taking the results of your last six performances in competition, or field events trials, and adding them together. If you then divide

the total of the addition by six this will give you your present average best performance. You will then find in the Table of Effort for your event a list of best average performances, from which you must choose the figures corresponding most nearly to your own average best performance. On the same line as the average best performance you select will be found the corresponding $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{1}{4}$ efforts you are to use in training.

JUMPERS AND POLE VAULTERS. For jumpers and pole vaulters the $\frac{1}{4}$ effort, corresponding to their average best performance, represents the height, or length, of their limbering-up jumps, which is also the height or length at which they should work to add new features to their technique.

Half-effort represents the approximate height, or length, at which the bulk of training will be done for the production of speed and/or spring, and for the perfection of form.

Three-quarter effort represents a jump, or vault, of just a little less than your average best performance, and $\frac{3}{4}$ effort is therefore designed not only to accustom you to working for height, or distance, but is also meant to test your ability to preserve your form when jumping, or vaulting, at almost your best effort.

THROWERS AND SHOT PUTTERS. Alternative $\frac{1}{4}$ efforts are given in the Tables of Effort for Throwers and Shot Putters, who will do far more of their training at $\frac{1}{4}$ effort, than will the running man or the jumper, because it is the very light work at $\frac{1}{4}$ effort which enables the thrower, or shot putter, to grind in the foundations of complete technique which are so essential to success. The lesser of the two $\frac{1}{4}$ efforts given represents, usually, a light standing throw, or put, for style, while the greater of the two $\frac{1}{4}$ efforts represents either a full-powered delivery action from the standing position, a fairly hard throw at the conclusion of a slow turn, glide or run, or a light delivery action at the end of a medium pace turn, glide or run.

Half-effort gives the approximate length of throwing, or putting, at which the body of your training will be done for the building up of speed and strength and the gradual production of perfection in technique. Again, it should be pointed out that in $\frac{1}{2}$ effort work the correlation of effort should be varied. Sometimes the power will go into the preliminary action of turning, gliding or running, and the ultimate delivery action will be comparatively light; at other times the preliminary turn, glide or run will be light and the power will be concentrated in the ultimate delivery action, according to whether you are working to perfect the preliminary, or the final, action. In other cases, for example when you are working to build up a long steady flight with the discus or the javelin, the whole evolution of the preliminary turn, glide or run, and the delivery action, must be co-ordinated at $\frac{1}{2}$ effort throughout.

Three-quarter effort represents a throw, or put, of a few feet, or inches, short of your average best performance. Three-quarter effort work is designed, firstly, to teach you to throw, or put, with steadiness at almost full effort; and, secondly, and perhaps principally, provides a crucial test of your ability to retain the form you have built up in training, when throwing, or putting, with co-ordinated action and balanced effort, at almost the limit of your ability.

Field-events men are warned that each day's training should be preceded by a proper warming-up process. The limbering-up work of running is designed to increase the depth of tidal breathing, thus clearing CO_2 from the lower parts of the lungs, while the various body-bending and stretching, shoulder-loosening, rhythmic and other exercises, which usually follow the limbering-up run, are designed to warm and supple the muscles to be used in training, which are very liable to go if the precautionary warming-up process is neglected. On cold days, except at $\frac{3}{4}$ or full effort, the field-events man should always wear a loose track sweater and trousers when training.

FIELD EVENTS—PRELIMINARY WINTER TRAINING TABLE
—SYMBOLS EXPLAINED.

S & L=Suppling and Loosening Exercises. (See Figs. 2, 3, 4, 37 and 39.)

ERF=Event Resistive Form Exercises. The resistive form exercises for one's own event, as set out in *Exercises for Athletes*. (Figs. 110, 111 and 112.)

App Practise=Exercises on the gymnastic apparatus.

BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3, 4, 37 and 39.)

BB=Body Building Exercises. (See Figs. 2, 3 and 4.)

EFF=Event Free Form Exercises. That is to say, the free Form Exercises for one's own particular event, as set out in *Exercises for Athletes*. (See Fig. 39.)

SShP=Standing Shot Putting. (See Figs. 70, 71 and 75.)

L=Left Hand. R=Right Hand. *Example*: SShP- $\frac{1}{4}$ -6R & 6L means practising the standing shot put at $\frac{1}{4}$ effort, six puts with the right hand and six with the left.

MW=Mile Walk.

Tr=Trot. *Example*: 5MW-4 m.p.h.-Tr 50/880 means that you are to walk five miles at four miles an hour, trotting 50 yards in each half-mile.

HJ=High Jump. *Example*: 6HJ- $\frac{1}{4}$ -Style means that you are to take six high jumps at $\frac{1}{4}$ effort height, working solely for style. (See Figs. 33 to 42.)

M=Mile or Miles. *Example*: 1M- $\frac{1}{4}$ -1 means that you will run one mile at $\frac{1}{4}$ effort, once.

H=Hurdle or Hurdles. *Example*: 1H- $\frac{1}{4}$ -3 means that you will run over one hurdle at $\frac{1}{4}$ effort, three times. (See Figs. 26 to 31.)

FW=Fast Walk. *Example*: 2M- $\frac{1}{4}$ -FW-50/880 means that you will run two miles at $\frac{1}{4}$ effort, breaking into a fast walk for 50 yards in each half-mile.

FIELD EVENTS—ONE TO THREE MONTHS' PRELIMINARY WINTER TRAINING

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	<i>In Gymnasium</i> S & L ERF App Practise	1M- $\frac{1}{4}$ -1	<i>In Gymnasium</i> EFF SP-15- $\frac{1}{2}$ -4 App Practise 2H- $\frac{1}{4}$ -4 SShP- $\frac{1}{4}$ -4R & 4L ERF	1 $\frac{1}{2}$ M- $\frac{1}{4}$ -FW 50/880
Tuesday	<i>In Gymnasium</i> BBnS BB EFF SShP- $\frac{1}{4}$ -6R & 6L	<i>In Gymnasium</i> BBnS SP-15- $\frac{1}{2}$ -3 BB 6HJ- $\frac{1}{4}$ -Style App Practise EFF	<i>In Gymnasium</i> BBnS App Practise 6HJ- $\frac{1}{2}$ -Style ERF S & L	<i>In Gymnasium</i> BBnS ERF SP-15- $\frac{1}{2}$ -3 SShP-4R & 4L 1H- $\frac{1}{4}$ -3 App Practise
Wednesday	5MW-4 m.p.h.-Tr 50/880	5MW-4 $\frac{1}{2}$ m.p.h.-Tr 220/1M	5MW-4 $\frac{1}{2}$ m.p.h.-Tr 50/880	5MW-4 $\frac{1}{2}$ m.p.h.-Tr 50/1M
Thursday	<i>In Gymnasium</i> S & L 6HJ- $\frac{1}{4}$ -Style ERF App Practise SShP- $\frac{1}{4}$ -4R & 4L	<i>In Gymnasium</i> S & L SP-15- $\frac{1}{2}$ -4 ERF 1H- $\frac{1}{4}$ -3 SShP- $\frac{1}{4}$ -4R-4L	<i>In Gymnasium</i> S & L SP-15- $\frac{1}{2}$ -4 EFF 2H- $\frac{1}{4}$ -2 2H- $\frac{1}{2}$ -3 BB SShP-6R & 6L	<i>In Gymnasium</i> S & L SP-15- $\frac{1}{2}$ -3 EFF 3HJ- $\frac{1}{4}$ -Style 6HJ- $\frac{1}{2}$ -Style SShP-6R-6L
Saturday	5MW-4 $\frac{1}{2}$ m.p.h.-Tr 100/880	2M- $\frac{1}{4}$ -FW-50/880	5MW-5 m.p.h.-Tr 220/1M	1M- $\frac{1}{4}$ -FW-50/880

Note.—During Indoor Training, Shot Putters should perfect the Glide, Hammer and Discus Throwers the Turn, and Javelin Throwers and Jumpers the Approach Run. Athletes should do 15 minutes' deep breathing and body bending and stretching exercises, or the exercises applicable to their own events, each morning on rising. Special References. The technique of the Field Events is explained in *Athletes in Action*, pages 104 to 299. Special exercises for the field events will be found in *Exercises for Athletes*, Chapters VII to XIII.

CHAPTER NINE

THE HIGH JUMP

It is for the high jumper himself to decide which of the various styles that are in vogue it will pay him best to adopt; but, whichever he chooses, the Three Months' Training Schedule given in this chapter should enable him to produce the best that in him lies. A Table of Effort for High Jumpers will be found on page 114, the use and purpose of which is fully explained on pages 102-105.

TRAINING TABLES—SYMBOLS EXPLAINED.

The explanation of the symbols employed in the Training Tables, which is given hereunder, will reveal to the athlete the reason for the various exercises and practises he is asked to undertake.

Tr=Trotting. *Examples*: 440-Tr-1 means that you are to trot 440 yards at a steady pace. 100-Tr-2 means that you are to jog twice up and down the 100 yards path for the purpose of limbering up.

BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3, 4 and 39.)

LS=Leg Stretching Exercises. It is most necessary that the jumper should learn to separate his legs as widely as possible. *Example*: BBnS & LS-10 mins. means that you are to do body-bending and stretching and leg-stretching exercises for 10 mins. (See Figs. 37 and 39.)

SHK to B=Standing High Kick to Bar. The bar should be set a little above the height one can kick. The athlete should then swing up each leg in turn, in a straight-limb high kick, so that the toes will miss the bar by about 4 ins. (See Fig. 40.)

Ap to To=Approach run to Take-off. *Example*: 6Ap to To-Tr means that you are to practise the approach to the take-off, six times, at a trot.

J=Jump or Jumps.

Fls=Free leg swing. That is to say, the swing-up of the leg from which you do not take off. *Example*: 6J- $\frac{1}{4}$ -Fls means that you are to take six jumps at the height represented by $\frac{1}{4}$ effort, according to the Table of Effort, concentrating upon a strong swing of the free leg. Do not bother about the swing-up of the take-off leg, or actual springing power, until you have learned the trick of swinging up the free leg. (See Figs. 33 and 40.)

HJ Exs=High Jump Exercises, which are given in *Exercises for Athletes* (John F. Shaw & Co., Ltd., London). (See Figs. 37, 38 and 39.)

M=Mile or Miles.

MW=Mile Walk. *Example*: 3MW-Tr 100/1M means that you are to walk three miles, in the course of which you will trot 100 yards in each mile.

Con=Concentration. *Example*: 6J- $\frac{1}{4}$ -Con Ap & Fls means that you are to take six jumps at $\frac{1}{4}$ effort, concentrating upon the approach and the swing-up of the free leg.

JK to HB=Jumping Kick to High Bar. This is a special practise, in which the cross-bar is set at a height of 7 to 8 ft., and the jumper, either at a walk or a slow trot of a few steps, springs from the ground and, with the take-off leg hanging, strives to kick off the bar with the toes of his free leg. (See Fig. 38.)

Reg=Raising the centre of gravity. It is most important that the high jumper should strive constantly to accustom himself to raising his centre of gravity as high as possible when jumping. *Example*: 6JK to HB-Fls & Reg means that you are to make six jumping kicks towards the high bar set at 7 or 8 ft. above the ground, for the development of the

swing-up of the free leg and to get the habit of raising your centre of gravity. (See Fig. 38.)

HK=High Kicking. This is to be practised with alternate legs. The limb is to be kept perfectly straight, locked at the knee, with toes fully extended. (See Fig. 37.)

J-T=Jumping Trial. *Examples*: J-T (Style) means that you are to raise the bar progressively until you feel that, after three jumps, no matter whether you clear the bar or not, you have failed to retain your style at the height at which you are jumping. J-T means that you are to raise the bar progressively until you fail three times at the height you are attempting. In both cases, after failure, the bar is to be lowered and two clearances effected in good style at $\frac{1}{2}$ effort

Co=Co-ordination.

Spg=Spring. *Example*: 4J- $\frac{1}{4}$ -Co Spg & Fls means that you are to take four jumps at $\frac{1}{4}$ effort, co-ordinating the take-off spring with the swing-up of the free leg.

Light Work=It is advisable for the high jumper to have one day a week for the practise of other events, such as shot putting, discus or javelin throwing, or hurdling, which will give him strength, speed and spring, and, above all, will create balance, rhythm and a just sense of timing.

L3S=Last three Strides. The approach run of the high jumper is seldom more than a trot, but there must be full concentration on getting power into three fairly long strides immediately before the heel of the jumping foot is stamped down for the take-off. *Example*: 6Ap to To-Con L3S means that you will practise the approach run to the take-off six times, concentrating on getting power into the last three strides of the approach run, and stamping the heel of the jumping foot down hard for the take-off.

Tls=Take-off leg swing. After you have learned to combine the take-off spring with a good swing-up of the free leg, you must add the swing-up of the leg from which the spring is made to your technique. It is this swing-up of the take-off leg which raises your centre of gravity to a height at which it is possible to institute a proper lay-out. Aim at a full swing with the take-off leg to carry the foot above the level of the free leg in clearance. *Example*: 3J- $\frac{1}{2}$ -Tls means that you are to take three jumps at $\frac{1}{2}$ effort, concentrating upon full swing-up action of the take-off leg. (See Fig. 42.)

Es=Even striding. During the approach run the jumper must learn to stride evenly up to the beginning of the last three strides. *Example*: 4Ap to To-Con Es & L3S means that you will make four approach runs to the take-off, concentrating on even striding, up to the last three strides, and putting power into the last three strides.

Tlh=Take-off leg hang. While the free leg is swinging up, the take-off leg must be allowed to hang, because the swing-up of the take-off leg is, of necessity, a delayed action, which must be carefully cultivated. *Note*.—Both leg swings are made pendulum fashion from the hips, with the knees, virtually, unflexed. *Example*: 3JK to HB-Con Fls, Tlh & Rcg means that you will practise three jumping kicks to the high bar, concentrating upon the swing-up of the free leg, the hang of the take-off leg and the raising of the centre of gravity. (See Figs. 33, 38 and 41.)

LO=Lay-out. The lay-out can be performed properly only when one is jumping at good height, owing to the time factor between take-off and landing, but must be practised at low heights for the first inculcation of technique. (See Figs. 35 and 35a.)

Fe=Foot elevation. It is essential that the jumper in the Western style should throw the foot of the free leg well above the centre of the bar, before laying

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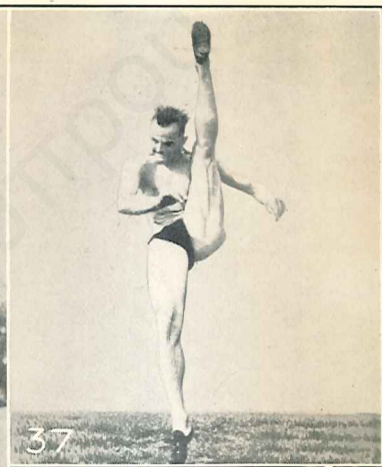
out for the roll ; but, in the case of the jumper in the Eastern style, it is the foot of the take-off leg which must be carried to an elevation above the level of his down-turned body in the lay-out. *Example* : 6J- $\frac{1}{2}$ -Tls, Fe & LO means that you are to take six jumps at $\frac{1}{2}$ effort, concentrating upon the swing-up of the take-off leg and the attainment of elevation by the take-off foot in the process of the lay-out. (See Figs. 34 and 42.)

Ldg=Landing. The landing should always be made upon the same foot as that from which the spring is made. (See Figs. 36 and 43.)

Ac=Arm Clearance. *Example* : 4J- $\frac{1}{2}$ -Co-LO, Ac & Ldg means that you are to take four jumps at $\frac{1}{2}$ effort, co-ordinating a full lay-out with the raising of the arms to clear the chest away from the bar and the landing on the take-off foot. (See Fig. 43.)

Dcg=Down to centre of gravity. It is necessary, if good heights are to be cleared, for the jumper to decrease the weight above his legs, by getting the heavy shoulders and head down to the centre of gravity in a good lay-out. *Example* : 3J- $\frac{1}{2}$ -LO & Dcg means that you must jump three times at $\frac{1}{2}$ effort, concentrating upon the lay-out and paying particular attention to getting the head and shoulders down to the centre of gravity. (See Figs. 35 and 35a.)

QT, To & Ldg=Quick Turn between Take-off and Landing. This applies to jumpers in the Eastern style. The accompanying diagram shows the take-off position, and the landing position of a left-footed jumper. The quicker he turns above the bar, in the process of the lay-out, the closer will the parallel perpendiculars GK and FE be brought together. This the jumper may study from his footwork at take-off and landing, and he should strive always, by quick turning above the bar, to decrease the distance between the parallel perpendiculars. *Example* : 3J- $\frac{1}{2}$ -Con QT, To & Ldg means that



Right: "HK"—High kicking by R. Betz, German Champion. Left: "JK to HB"—Jumping kick to high bar, H. A. Simmons, Public Schools Record Holder 5 ft. 10 $\frac{1}{2}$ ins.



"BnS & LS Exs"—Body bending and stretching, leg stretching and event form exercises.

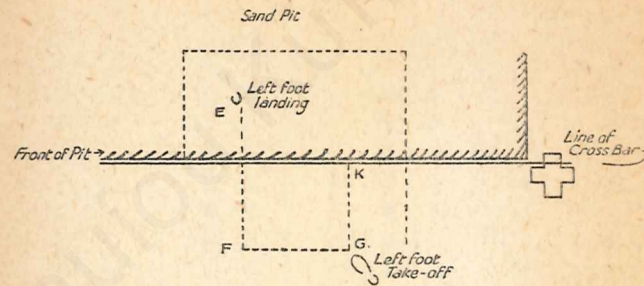


Right: "TO & Fls"—Take-off and free leg swing. H. A. Simmons, Public Schools Record Holder. Left: "Th"—B. H. Baker, British Record Holder, 6 ft. 5 ins.



Right: "Tls & Fe"—Take-off leg swing and foot elevation. F. R. Webster, Bedfordshire Champion. Left: "AC & Ldg"—Arm clearance and landing. P. Lewden, French Record Holder.

you are to jump three times at $\frac{1}{2}$ effort, concentrating upon a quick turn above the bar between take-off and landing.



JCF=Jumping to Correct Faults shown in last jumping trial, either for co-ordination, or with concentration on some particular part of your technique which needs strengthening.

B+3"=Bar plus 3 ins. That is to say, the bar is set 3 ins. higher than your best previous performance, and you will jump at it, when so placed, to accustom yourself to the appearance of the bar at a big elevation, in preparation for future attempts to eclipse your personal record. *Example*: 3J-B+3" means that you will take three jumps, attempting to clear the bar placed 3 ins. higher than you have succeeded in jumping in your previous best performance.

TABLE OF EFFORT

HIGH JUMP

Average Best Performance.

Ft. Ins.	
6	8
6	6
6	4
6	2
6	0
5	10
5	8
5	6
5	4
5	2
5	0
4	10
4	8
4	8

$\frac{3}{4}$ Effort.	
Ft.	Ins.
6	5
6	3
6	1
5	11
5	9
5	7
5	6
5	4
5	2
5	0
4	10
4	8
4	6

$\frac{1}{2}$ Effort.	
Ft.	Ins.
6	1
5	11
5	9
5	7
5	6
5	4
5	2
5	0
4	10
4	8
4	7
4	5
4	3

$\frac{1}{4}$ Effort.	
Ft.	Ins.
5	8
5	7
5	5
5	4
5	2
5	0
4	10
4	8
4	7
4	5
4	3
4	2
4	0

THE HIGH JUMP—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440-Tr-1 BBnS & LS-10 mins. 12 SHK to B 6Ap to 10-Tr 6J-4-Fis HJ Exs-10 mins.	440-Tr-1 BBnS-5 mins. 4 SHK to B 2JK HB-Fis & Reg 2J-1-Co Spg & Fis 4J-1-Fis HJ Exs-5 mins.	440-Tr-1 BBnS-5 mins. 3 SHK to B 6Ap to 10-Tr 3J-1-Co Spg, Fis 3J-1-Fis HK-2 mins.	440-Tr-1 BBnS-5 mins. 3 SHK to B 4Ap to 10-Tr 3J-1-Co Spg & Fis 3J-1-Fis HK-2 mins.
Tuesday	440-Tr-1 BBnS & LS-5 mins. 6JK to HB-Fis & Reg 6J-4-Fis HJ Exs-10 mins.	Rhythmic Exs-10 mins. 3MW-Tr 100/1M	100-Tr-3 BBnS & LS-5 mins. 3Ap to 10-Tr 3J-1-Co Spg & Reg 3J-1-Fis 2J-1-Fis 2J-1-Fis	Rhythmic Exs-5 mins. 3MW-Tr 100/1M HJ Exs-5 mins.
Wednesday	Rhythmic Exs-10 mins. 3MW-Tr 100/1M	440-Tr-1 BBnS-3 mins. LS Exs-2 mins. 2J-1-Co Spg & Fis 2J-1-Fis 2J-1-Fis HK-2 mins.	Rhythmic Exs-10 mins. 3MW-Tr 100/1M HJ Exs-5 mins.	440-Tr-1 BBnS & LS-5 mins. 2J-1-Co Spg, Fis 2J-1-Fis 2J-1-Fis HJ Exs-5 mins.
Thursday	440-Tr-1 HJ Exs-10 mins. 12SHK to B 6J-1-Con, Ap, & Fis 3JK to HB-Fis & Reg. HK-2 mins.	400-Tr-1 HJ Exs-5 mins. Light Work (Shot, Discus, Javelin or Hurdles) Rhythmic Exs-10 mins.	440-Tr-1 BBnS & LS-5 mins. 3Ap to 10-Tr 3JK-HB-Con, Fis, Tlh, Reg 3J-1-Fis delay, Fis 3J-1-Co Spg, Fis & Tls	440-Tr-1 BBnS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles) Rhythmic Exs-5 mins.
Saturday	100-Tr-2 BBnS & LS-5 mins. HJ Exs-5 mins. 3SHK to B 3J-1-Fis J-T (Style)	100-Tr-2 BBnS & LS-5 mins. 2JK to HB-Fis 3J-1-Co Spg & Fis 3J-1-Fis J-T (Style)	100-Tr-2 HJ Exs-5 mins. 2JK to HB-Fis, Tlh, Reg 3J-1-Fis 3J-1-Fis J-T (Style)	100-Tr-2 HJ Exs-5 mins. 2JK to HB-Fis, Tlh, Reg 3J-1-Fis 3J-1-Fis 3J-1-Fis J-T (Style)

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 104 to 131. Special exercises for this event will be found in *Exercises for Athletes*, Chapter VII.

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	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440-Tr-1 BBnS & LS-10 mins. 6SHK to B 6Ap to To-Tr 6J- $\frac{1}{4}$ -Fls & Tls HJ Exs-10 mins.	440- $\frac{1}{4}$ -1 BBnS-5 mins. 3J- $\frac{1}{4}$ -Fls & Tls 6J- $\frac{1}{4}$ -Fls, Fe & LO HJ Exs-5 mins. HK-2 mins.	440-Tr-1 BBnS-5 mins. 3J- $\frac{1}{4}$ -Fls, Tls & Fe 3J- $\frac{1}{4}$ -LO & Ldg Rhythmic Exs-5 mins. HK-2 mins.	440-Tr-1 BBnS-5 mins. 3J- $\frac{1}{4}$ -LO & Deg 3J- $\frac{1}{4}$ -Fls, Tls & Fe 3J- $\frac{1}{4}$ -To & Ldg
Tuesday	440-Tr-1 BBnS & LS-5 mins. 6JK to HB-Tls, Reg 6Ap to To-Tr 6J- $\frac{1}{4}$ -Tls HJ Exs-10 mins.	3MW-Tr 100/IM	440-Tr-1 HJ Exs-3 mins. Rhythmic Exs-2 mins. 2J- $\frac{1}{4}$ -Co 4J- $\frac{1}{4}$ -Co, LO, Ac & Ldg BBnS-5 mins.	4MW-Tr 100/IM
Wednesday	Rhythmic Exs-10 mins. 3MW-Tr 100/IM	100-Tr-2 Rhythmic Exs-5 mins. 2J- $\frac{1}{4}$ -Fls 2J- $\frac{1}{4}$ -Tls 4J- $\frac{1}{4}$ -Tls & Fe 2J- $\frac{1}{2}$ -LO HJ Exs-5 mins.	4MW-Tr 100/IM	100-Tr-2 Rhythmic Exs-5 mins. 3J- $\frac{1}{2}$ -Con, QT, To & Ldg 3J- $\frac{1}{2}$ -LO & Deg
Thursday	440-Tr-1 HJ Exs-10 mins. 6SHK to B 6J- $\frac{1}{4}$ -LO Rhythmic Exs-10 mins. HK-2 mins.	440-Tr-1 BBnS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles) Rhythmic Exs-5 mins.	440-Tr-1 4Ap-Con, Es & L3S 3JK to HB-Fls, Tlh & Reg 2J- $\frac{1}{4}$ -Co 2J- $\frac{1}{2}$ -Co, LO-Ac & Ldg 3J-B+3" HK-2 mins.	440- $\frac{1}{4}$ -1 BBnS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles)
Saturday	100-Tr-2 BBnS & LS-5 mins. 2 SHK to B 3J- $\frac{1}{4}$ -LO 3J- $\frac{1}{4}$ -LO	100-Tr-2 BBnS & LS-5 mins. 2SHK to B 2J- $\frac{1}{4}$ -Co J-T	100-Tr-2 BBnS & LS-5 mins. 3 SHK to B 3J- $\frac{1}{4}$ -Co, Tls, Fe & LO J-T	100-Tr-2 BBnS & LS-5 mins. 3SHK to B 3J- $\frac{1}{4}$ -Co, LO, Ac & Ldg J-T

THE HIGH JUMP

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	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBnS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles)	100-Tr-2 BBnS-LS-5 mins. 1J- $\frac{1}{4}$ -Fls 1J- $\frac{1}{4}$ -Tls 1J- $\frac{1}{4}$ -Fe & LO 3J-B+3" 1J- $\frac{1}{4}$ -Con, QT, To, Ldg	100-Tr-2 BBnS & LS-3 mins. 3SHK to B 1J- $\frac{1}{4}$ -Con, QT, To & Ldg 2J- $\frac{1}{2}$ -Con, Fe, QT, LO, Deg 2J- $\frac{1}{2}$ -Co	Rhythmic Exs-5 mins. 4Ap to To-Es & L3S 100-Tr-3 BBnS-5 mins.
Tuesday	100-Tr-2 BBnS & LS-5 mins. 3JCF- $\frac{1}{2}$ -Co 3Ap-Tr-Con, Es 3Ap- $\frac{1}{2}$ -Con, L3S	440- $\frac{1}{4}$ -1 BBnS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles)	440- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. Light Work (Shot, Discus, Javelin or Hurdles)	100-Tr-2 Rhythmic Exs-3 mins. BBnS-3 mins. 3Ap to To-Es & L3S 2J- $\frac{1}{4}$ -Co 2J- $\frac{1}{2}$ -Co
Wednesday	3MW-4 $\frac{1}{2}$ m.p.h.	100-Tr-2 BBnS-3 mins. 3SHK to B 1J- $\frac{1}{4}$ -Co 2J- $\frac{1}{2}$ -Con, QT, To, Ldg 3J-B+3" 2J- $\frac{1}{2}$ -Co	100-Tr-2 BBnS-3 mins. 3SHK to B 1J- $\frac{1}{4}$ -Co 2J- $\frac{1}{2}$ -Fls & Tlh 2J- $\frac{1}{2}$ -Tls & Fe 2J- $\frac{1}{2}$ -LO, Deg	BBnS-10 mins.
Thursday	440- $\frac{1}{4}$ -1 BBnS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles)	2MW-5 m.p.h.	2MW-Tr 50/880	Rhythmic Exs-10 mins.
Saturday	100-Tr-2 BBnS & LS-5 mins. 2J- $\frac{1}{4}$ -Co 2J- $\frac{1}{4}$ -Co 3SHK to B J-T	100-Tr-2 BBnS & LS-5 mins. 1J- $\frac{1}{4}$ -Co 2J- $\frac{1}{4}$ -Con, Fe, LO & QT J-T	100-Tr-2 BBnS-3 mins. 2SHK to B 3J- $\frac{1}{4}$ -Co BBnS-5 mins.	Competition for which training

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440-Tr-1 BBns-LS-10 mins. 4SHK to B 6Ap to To-Tr 4J- $\frac{1}{2}$ -Tls 4J- $\frac{1}{2}$ -Tls	BBns & LS-5 mins. 220- $\frac{1}{2}$ -2 HJ Exs-5 mins. 4SHK to B 3J- $\frac{1}{2}$ -Tls 3J- $\frac{1}{2}$ -AD, L3S & Fls 6J- $\frac{1}{2}$ -Tls 2JK to HB-Fls & Reg	6Ap to To-Es BBns & LS-5 mins. 3J- $\frac{1}{2}$ -Tls 3J- $\frac{1}{2}$ -Fls & Tlh HJ Exs-5 mins. 3JK to HB-Tlh	440- $\frac{1}{2}$ -1 BBns & LS-5 mins. 4JK to HB-Fls & Tlh 4J- $\frac{1}{2}$ -Fls & Tlh 4J- $\frac{1}{2}$ -Tls HK-3 mins.
Tuesday	BBns & LS-5 mins. Light Work (Shot, Discus, Javelin or Hurdles) HJ Exs-5 mins.	3MW-Tr 100/1M	BBns-5 mins. Light Work (Javelin or Hurdles) HJ Exs-5 mins.	440- $\frac{1}{2}$ -1 BBns & LS-5 mins. 50- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -2 HK-3 mins. 6Ap to To-Es
Wednesday	220- $\frac{1}{2}$ -1 HJ Exs-5 mins. 6J- $\frac{1}{2}$ -AD & Fls 3JK to HB, Fls & Reg 440- $\frac{1}{2}$ -1	BBns-5 mins. Light Work (Shot or Discus) HJ Exs-10 mins.	6Ap to To-Es BBns & LS-5 mins. 2J- $\frac{1}{2}$ -AD, L3S & Fls 3J- $\frac{1}{2}$ -Tls HK-3 mins. 3J- $\frac{1}{2}$ -Tls 220- $\frac{1}{2}$ -1	Ap to To-Es BBns & LS-5 mins. 3J- $\frac{1}{2}$ -Co, AD, L3S & Fls 3SHK to B 3J- $\frac{1}{2}$ -Fls & Tlh 3J- $\frac{1}{2}$ -Tls 3J- $\frac{1}{2}$ -Tls
Thursday	3MW-Tr 100/1M	3MW-Tr 50/880	BBns & LS-5 mins. Light Work (Shot or Discus) 50- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -1	BBns-LS-5 mins. Light Work (Javelin or Hurdles) HJ Exs-10 mins.
Saturday	440-Tr-1 BBns-5 mins. 3SHK to B 3JK to HB-Tlh HJ Exs-5 mins. 2J- $\frac{1}{2}$ -AD & Tls 2J- $\frac{1}{2}$ -AD & Fls 2J- $\frac{1}{2}$ -Tls	HJ Exs-5 mins. 100-Tr-2 3SHK to B BBns-3 mins. 4J- $\frac{1}{2}$ -AD, L3S & Fls 4J- $\frac{1}{2}$ -Fls 3J- $\frac{1}{2}$ -Tls	6Ap to To-Es HJ Exs-5 mins. 3SHK to B BBns-2 mins. 2J- $\frac{1}{2}$ -Co 2J- $\frac{1}{2}$ -Fls & Tlh 3J- $\frac{1}{2}$ -Tls 3J- $\frac{1}{2}$ -Co, Fls & Tls	100-Tr-3 HK-3 mins. HJ Exs-3 mins. 30- $\frac{1}{2}$ -1 30- $\frac{1}{2}$ -1 28HK to B J-T

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 104 to 131. Special exercises for this event will be found in *Exercises for Athletes*, Chapter VII.

BOYS' TABLES

THE HIGH JUMP—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440-Fast Walk BBns & LS-3 mins. 3SHK to B 3J- $\frac{1}{2}$ -LO 3J- $\frac{1}{2}$ -Fe & LO 3J- $\frac{1}{2}$ -Tls, Fe & LO	220- $\frac{1}{2}$ -1 HK-5 mins. 3J- $\frac{1}{2}$ -QT, To & Ldg 3J- $\frac{1}{2}$ -Ac & Ldg 3J- $\frac{1}{2}$ -QT & LO 3J- $\frac{1}{2}$ -QT-Fe & LO	220- $\frac{1}{2}$ -1 BBns & LS-5 mins. 3JCF- $\frac{1}{2}$ 4JCF- $\frac{1}{2}$ HE-5 mins. 2J- $\frac{1}{2}$ -QT, To & Ldg 3J- $\frac{1}{2}$ -Tls, QT & LO	100-Tr-2 BBns-LS-3 mins. 2SHK to B 2J- $\frac{1}{2}$ -Co 2J- $\frac{1}{2}$ -QT, Fe, Ac & Ldg 4J- $\frac{1}{2}$ -LO, Deg
Tuesday	3MW-Tr 50/880	4MW-4 $\frac{1}{2}$ m.p.h.	3MW-Tr 50/880	5MW-4 $\frac{1}{2}$ m.p.h.
Wednesday	440-Fast Walk HJ Exs-5 mins. 3SHK to B 2J- $\frac{1}{2}$ -LO 2J- $\frac{1}{2}$ -Fls & Tls 2J- $\frac{1}{2}$ -Tls & Fe 2J- $\frac{1}{2}$ -Tls, Fe & LO	100-Tr-2 BBns & LS-5 mins. 3SHK to B 3J- $\frac{1}{2}$ -Fls & Tlh 2J- $\frac{1}{2}$ -AD, Es, L3S & Fls 2J- $\frac{1}{2}$ -Tls 2J- $\frac{1}{2}$ -Tls-Fe & QT 2J- $\frac{1}{2}$ -Fls & Tls	BBns & LS-5 mins. Light Work (Shot or Hurdles) HJ Exs-5 mins.	100-Tr-2 HK-3 mins. BBns-2 mins. 6JCF- $\frac{1}{2}$ 3JCF- $\frac{1}{2}$ HJ Exs-5 mins.
Thursday	440- $\frac{1}{2}$ -1 BBns-5 mins. Light Work (Shot or Discus) 30- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -2	BBns & LS-5 mins. Light Work (Javelin or Hurdles) HJ Exs-5 mins.	BBns-5 mins. Light Work (Shot or Discus) HJ Exs-5 mins.	BBns & LS-5 mins. Light Work (Javelin or Hurdles) HJ Exs-5 mins.
Saturday	6Ap to To-Es 2J- $\frac{1}{2}$ -QT, To & Ldg 2J- $\frac{1}{2}$ -QT, To & Ldg 2J- $\frac{1}{2}$ -LO BBns & LS-2 mins. J-T	100-Tr-2 BBns & LS-5 mins. 3SHK to B 3SHK to B 3J- $\frac{1}{2}$ -Co 2J- $\frac{1}{2}$ -Co	220- $\frac{1}{2}$ -1 BBns-3 mins. HK-3 mins. J-T	100-Tr-2 BBns & LS-5 mins. 3SHK to B 3J- $\frac{1}{2}$ -Co 3J- $\frac{1}{2}$ -QT, Fe, Ac & Ldg 3J- $\frac{1}{2}$ -LO, Deg

BOYS' TABLES
HIGH JUMP—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-3 3SHK to HB BBns-LS-3 mins. 3J-B + 3'-Fls & Th 3J-Fls & Ths 2J-1-QT-Fls & LO 2J-1	100-Tr-2 BBns-LS-5 mins. 2JCF-1 4JCF-1 100 Exs-5 mins. 220-1-1	100-Tr-2 BBns & LS-5 mins. 3JCF-1 3J-1-Co 220-1-1	HJ Exs-5 mins. 220-1-1 2J-1-Co 3J-1-Co 3J-1-Co
Tuesday	BBns-5 mins. Light Work (Shot or Discus) HJ Exs-5 mins.	100-Tr-2 BBns-LS-5 mins. 3SHK to B 2JCF-1 2J-1-Co 3J-1-Co	3MW-4½ m.p.h.	2MW-4½ m.p.h.
Wednesday	100-Tr-2 BBns-5 mins. HK-5 mins. 2J-1-AP, Es, LSS, Fls 2J-1-QT, To & Ldg 2J-B + 3'-Fls & Th 2J-1-Fls	3MW-4½ m.p.h.	100-Tr-2 BBns & LS-5 mins. 4JCF-1 2J-1-Co 3J-1-Co 220-1-1	2MW-4½ m.p.h. or Rest
Thursday	4MW-4½ m.p.h.	100-Tr-2 3SHK to B BBns-2 mins. 1J-1-AP, Es & Fls 4J-1-QT, To & Ldg 2J-1-LO, Fe, Deg 2J-1-Fls, Ths & LO	3MW-4½ m.p.h.	Rest
Saturday	100-Tr-2 3SHK to B BBns-2 mins. 2J-1-Co J-T	100-Tr-2 3SHK to B BBns-3 mins. 3J-1-Co 3J-1-Co 3J-1-Co 220-1-1	100-Tr-2 3SHK to B BBns-3 mins. 2J-1-Co 3JCF-1 3J-1-Co 220-1-1	Competition for which training

CHAPTER TEN

THE POLE VAULT

WITH the exception of Hammer Throwing, the Pole Vault is probably the most difficult of all athletic events to master, owing to the complicated nature of the technique and the rapidity with which the evolution is carried out. For this reason the Table of Effort (page 125) and the Five Months' Training Table (pp. 126-130) are to be used by both men and boys. The technique is fully explained in *Athletes in Action*, while the exercises, which the pole vaulter must perform for the building up of the necessary strength and suppleness, combined with skill, are given in *Exercises for Athletes*, both of which books are published by Messrs. John F. Shaw & Co., Ltd., London.

None the less, any athlete of fair physique, even though he be not blessed with great natural aptitude, can become a really good pole vaulter, provided he will give enough time to the technique and practise of the event. Success is the result of such hard work and intensive application as will establish correct form and mechanical habit.

The pole vaulter should undertake the Table of General Preliminary Training for Field Events Men which is given on page 107. This preliminary preparation should be followed by the Five Months' Schedule of Training contained in this chapter.

A Table of Effort to guide you in your training is given on page 125, and the use and purpose of such Tables of Effort is fully explained on pages 102-105.

Every pole vaulter must, first and foremost, be a fine gymnast. Apart from that, sprinting ability is a fundamental factor of success in this event.

TRAINING TABLES—SYMBOLS EXPLAINED.

- FE=Form Exercises. These are the special exercises, modelled on the actual evolutions of the event, which it is necessary for the athlete to practise. They are given in detail in Chapter VIII of *Exercises for Athletes*. (See Fig. 44.)
- 880- $\frac{1}{4}$ -1=Running 880 yards at $\frac{1}{4}$ effort, once.
- BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3 and 4.)
- H_z & P_l=Horizontal and Parallel Bars. *Example*: H_z & P_l-Bal Exs means that you are to practise balance exercises on the horizontal and parallel bars.
- RC=Rope Climbing.
- SP=Sprinting Practise. *Example*: SP-50- $\frac{1}{2}$ -3 means that you are to sprint 50 yards at $\frac{1}{2}$ effort, three times. (See Figs. 5 to 12.)
- Ap Run=Approach Run.
- ES=Even Striding. *Example*: Ap Run- $\frac{1}{2}$ -ES-4 means that you are to practise the approach run to the take-off mark at $\frac{1}{2}$ effort, with concentration on even striding, four times.
- HS=Hand Stands, a form of gymnastics of particular importance to the pole vaulter.
- P & Pu Exs=Press-up and Pull-up Exercises. The press-ups are done from the ground and the pull-ups can be done either on the horizontal bar or the hanging rope. (See Fig. 44.)
- SPP=Sprinting with the Pole. *Example*: SPP-27- $\frac{1}{4}$ -ES-5 means that you are to sprint 27 yards, carrying the pole in the proper parallel-to-the-ground position, at $\frac{1}{4}$ effort, with concentration on even striding, five times. (See Fig. 45.)
- PP & S=Pole Planting and Hand Shifting.
- W=Work done at a Walk. *Example*: PP & S-W-12 means that you are to practise planting the point of the pole in the slideway and shifting the grip of the lower hand, at a walk, twelve times.

- HS & SB=Hand Stand and Snap Back. That is to say, the athlete balances himself on his hands and then snaps himself quickly back on to his feet.
- Tr=Work done at a Trot.
- V=Vault or Vaults.
- TO=Take-off. *Example*: 6V- $\frac{1}{4}$ -PP & S & TO means that you are to practise six vaults at $\frac{1}{4}$ effort, concentrating on correct form in pole planting and shifting and in taking off. (See Fig. 46.)
- FEL=Foot Elevation. *Example*: 3V- $\frac{1}{4}$ -FEL means that you are to practise three vaults at $\frac{1}{4}$ effort for foot elevation. (See Figs. 47, 51 and 54.)
- Pu=Pull-up. *Example*: 3V- $\frac{1}{4}$ -Pu means three vaults at $\frac{1}{4}$ effort for the pull-up action. (See Fig. 47.)
- LS=Leg Swing. *Example*: 2V- $\frac{1}{4}$ -LS & FEL means two vaults at $\frac{1}{4}$ effort for leg swing and foot elevation.
- BT=Body Turn. *Example*: 2V- $\frac{1}{4}$ -BT means two vaults at $\frac{1}{4}$ effort for body turn. (See Figs. 48, 53 and 54.)
- Co=Co-ordination. *Example*: 2V- $\frac{1}{2}$ -Co means two vaults at $\frac{1}{2}$ effort for co-ordination of the whole action.
- PO=Push-off. *Example*: 2V- $\frac{1}{4}$ -BT & PO means two vaults at $\frac{1}{4}$ effort, practising the body turn and the push-off from the pole whereby the body is finally raised over the bar. (See Figs. 51 to 56 and 59.)
- R=Run. *Example*: PP & S-Tr & $\frac{1}{2}$ R-4 each means that you are to practise pole planting and shifting, four times at a trot and four times at $\frac{1}{2}$ effort run.
- VCF=Vaulting to Correct Faults. *Example*: 4VCF- $\frac{1}{2}$ means four vaults to correct faults at $\frac{1}{2}$ effort.
- F=Full effort. *Example*: Ap Run-F-ES-3 means that you will practise the approach run at full effort, concentrating on even striding, to the take-off mark, three times.
- SO=Swing Over. *Example*: 2V- $\frac{1}{4}$ -SO means that you will take two vaults at $\frac{1}{4}$ effort, swinging easily over the bar to limber up.
- VT=Vaulting Trial. *Examples*: VT means a full

vaulting trial until you have failed three times at any one height. VT- $\frac{1}{4}$ up to $\frac{3}{4}$ -Co means a vaulting trial for style, starting at $\frac{1}{4}$ effort height and going up to $\frac{3}{4}$ effort height, but not beyond, if possible, for co-ordination of the whole action.

QPu=Quick Pull-up. After the vaulter has learned to pull up steadily he must accustom himself to a quick pull-up action, which will shoot his feet high above the bar. (See Fig. 47.)

$\frac{5}{8}$ =Vaulting at a height which is 3 ins. lower than $\frac{3}{4}$ effort height.

Light Work=Light Work with Discus, Javelin and Shot is introduced into the training for the co-ordination of muscular action, and all throwing and putting should be done an equal number of times with both the right hand and the left.

WFS=Working for Style. *Example*: 8V- $\frac{1}{2}$ to $\frac{5}{8}$ -WFS means eight vaults commencing at $\frac{1}{2}$ effort height and going up to 3 ins. less than $\frac{3}{4}$ effort height, working for perfect style in each vault.

SB=Speed Building. It is essential that the pole vaulter should be able to run fast. *Example*: 100-SB-3 means that you are to run 100 yards three times, endeavouring to build up your speed each time.

CW Exs=Exercises with the Chest Weights for the strengthening of the pectoral muscles.

VS=Varying Speeds. *Example*: PP & S-VS-6 means that you are to practise pole planting and shifting at varying speeds of approach, six times.

TABLE OF EFFORT

POLE VAULT

Average Best Performance.	$\frac{3}{4}$		$\frac{1}{2}$		$\frac{1}{4}$		
	Ft.	Ins.	Ft.	Ins.	Ft.	Ins.	
14	0	13	5	12	7	11	2
13	9	13	2	12	4	11	0
13	6	12	11	12	2	10	9
13	3	12	8	11	11	10	7
13	0	12	5	11	8	10	5
12	9	12	2	11	6	10	2
12	6	11	11	11	3	10	0
12	3	11	8	11	0	9	10
12	0	11	6	10	10	9	7
11	9	11	3	10	7	9	5
11	6	11	0	10	4	9	2
11	3	10	9	10	2	9	0
11	0	10	6	9	11	8	10
10	9	10	3	9	8	8	7
10	6	10	0	9	5	8	5
10	3	9	10	9	3	8	2
10	0	9	7	9	0	8	0
9	6	9	1	8	7	7	7
9	0	8	7	8	1	7	2
8	6	8	1	7	8	6	10
8	0	7	8	7	2	6	6

THE POLE VAULT—FIVE MONTHS' TRAINING TABLE—FIRST MONTH (MEN AND BOYS)

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	FE-10 mins. 880-1-1 BBns-10 mins. P & Pu Exs	BBns-5 mins. 100-1-1 SP-30-1-2 SPP-27-1-ES-5 PP & S-W-12 FE-10 mins.	BBns-5 mins. 880-1-1 SP-30-1-2 SPP-27-1-ES-6 PP & S-W-12 FE-10 mins. P & Pu Exs	FE-5 mins. 100-1-2 BBns-3 mins. PP & S-Tr-6 SP-75-1-3 3V-1-Pu 440-1-1
Tuesday	In Gymnasium FE RC Hz & Pl-Bal Exs	In Gymnasium FE RC Hz & Pl-Free Exs HS P & Pu Exs	In Gymnasium FE RC HS & SB Hz & Pl-Free Exs P & Pu Exs	In Gymnasium FE HS & SB Hz & Pl-Free Exs
Wednesday	BBns-5 mins. SP-30-1-3 Ap Run-1-ES-4 440-1-1 FE-10 mins.	BBns-5 mins. 440-1-1 SP-30-1-2 SPP-27-1-ES-6 PP & S-W-12 FE-10 mins.	BBns-5 mins. 100-1-2 SPP-30-1-2 SPP-27-1-ES-2 Ap Run-1-ES-2 PP & S-1-ES-4 P & Pu	FE-5 mins. 100-1-2 BBns-3 mins. 3V-1-ES-PP & S-TO 2V-1-LS & FEI 2V-1-CO HS & SB
Thursday	In Gymnasium FE HS RC BBns Hz & Pl-Bal Exs P & Pu Exs	In Gymnasium FE RC HS & SB BBns Hz & Pl-Bal & Free Exs P & Pu Exs	In Gymnasium FE HS & SB RC BBns Hz & Pl-Bal & Free Exs	In Gymnasium FE RC BBns Hz & Pl-Bal Exs
Saturday	BBns 100-1-1 SP-30-1-3 Ap Run-1-ES-4 880-1-1 FE-10 mins.	BBns 110-1-2 SPP-27-1-3 PP & S-W-12 440-1-1 FE-5 mins.	BBns 100-1-2 Ap Run-PP & S-1-ES-3 6V-1-PP & S & TO FE-5 mins.	PP & S-1-ES-2 SPP-27-1-3 BBns-5 mins. 2V-1-ES-PP & S-TO 2V-1-LS & FEI 2V-1-BT 2V-1-CO

Note.—Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES.—The technique of this event is explained in *Athletes in Action*, pages 132 to 153. Special exercises for this event will be found in *Exercises for Athletes*, Chapter VIII.

THE POLE VAULT—FIVE MONTHS' TRAINING—SECOND MONTH

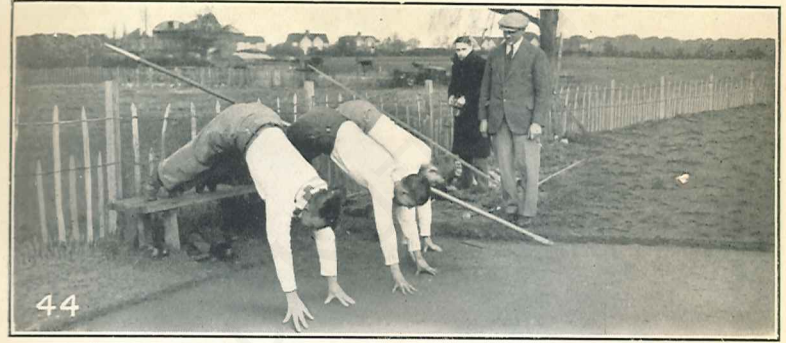
	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 SPP-30-1-3 BBns-3 mins. 2V-1-ES-PP & S & TO 3V-1-LS-FEI-Pu 2V-1-BT & PO 3V-1-CO 440-1-1 P & Pu Exs	220-1-1 SPP-30-1-3 Light Work with Discus, Javelin or Shot HS & SB P & Pu Exs	440-1-1 SPP-30-1-2 BBns-3 mins. P & Pu Exs 3VCF-1 3V-1-TO-LS & QPu 100-1-2 P & Pu Exs	220-1-1 BBns-5 mins. Easy High Jumping HS & SB P & Pu Exs
Tuesday	FE-5 mins. 440-1-1 HS & SB PP & S-Tr & IR-4 each P & Pu Exs	FE-5 mins. 220-1-1 4VCF-1 2V-1-LS-FEI & BT 2V-1-Pu-BT & PO 100-1-2 P & Pu Exs	FE-5 mins. 220-1-1 SPP-30-1-LS-3 HS & SB P & Pu Exs	FE-5 mins. 440-1-1 HS & SB PP & S-W, Tr-IR-4 each SPP-30-1-4 P & Pu Exs
Wednesday	100-1-2 FE 4VCF-1 3V-1-LS-FEI-BT & PO 3V-1-LS-FEI & Pu 100-1-2 P & Pu Exs	100-Tr-2 HS & SB SPP-30-1-3 Ap Run-1-ES-3 PP & S-1-3 P & Pu Exs	100-1-2 FE-5 mins. 2V-1-SO 2V-1-ES-PP & S-TO 2V-1-LS-FEI & QPu 3V-1-LS-FEI & PO 2V-1-LS-FEI & PO	100-Tr-2 FE-5 mins. 2V-1-SO 2V-1-LS-FEI & QPu 2V-1-LS-FEI & QPu 2V-1-CO 220-1-1
Thursday	FE-5 mins. 440-1-1 HS & SB PP & S-W-Tr & IR-4 each Ap Run-1-ES-3 P & Pu Exs	FE-5 mins. 100-1-2 BBns 2V-1-SO 3VCF-1 3VCF-1 2V-1-Pu-BT & PO	FE-5 mins. 220-1-1 BBns-3 mins. Light Work with Javelin, Javelin or Shot HS & SB P & Pu Exs	FE-5 mins. 440-1-1 SPP-30-1-4 HS & SB P & Pu Exs
Saturday	50-1-2 BBns-3 mins. Ap Run-1-ES-2 & Pu Exs 2V-1-SO 2V-1-CO 2V-1-Co VT	50-1-2 BBns-3 mins. Ap Run-1-ES-2 & Pu Exs 2V-1-SO 2V-1-Co VT	50-1-2 BBns-3 mins. Ap Run-1-ES-2 & Pu Exs 2V-1-SO 2V-1-Co VT	50-1-2 BBns-3 mins. Ap Run-1-ES-2 & Pu Exs 2V-1-SO 2V-1-Co Competition or VT

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	1st Week.	2nd Week.	3rd Week.	4th Week.*
Monday	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-75- $\frac{1}{2}$ -2 2V-1-SO 2V-1-ES-pp & S-TO 2V-1-QPu & BT 2V-1-BT & PO FE-10 mins.	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-60-F-2 HS-SB 2V-1-SO 4VCF- $\frac{1}{2}$ 4VCF- $\frac{1}{2}$ 100- $\frac{1}{4}$ -2 FE-10 mins.	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-75- $\frac{1}{2}$ -2 HS & SB 1V-1-SO 4VCF- $\frac{1}{2}$ 4VCF- $\frac{1}{2}$ SP-50- $\frac{1}{4}$ -2 FE-10 mins.	440- $\frac{1}{4}$ -1 BBns-5 mins. FE-10 mins. 50- $\frac{1}{4}$ -2
Tuesday	220- $\frac{1}{4}$ -1 BBns-5 mins. SPP-27- $\frac{1}{2}$ -ES-4 Ap Run-F-ES-4 HS & SB 440- $\frac{1}{4}$ -1	100-Tr-2 100- $\frac{1}{4}$ -1 BBns-5 mins. P & Pu Exs PP & S-R-4 HS & SB Ap Run-F-ES-2 SPP-27- $\frac{1}{2}$ -ES-4 100- $\frac{1}{4}$ -2 FE-5 mins.	220- $\frac{1}{4}$ -1 BBns-5 mins. SPP-27- $\frac{1}{2}$ -ES-2 SPP-27- $\frac{1}{2}$ -ES-3 PP & S-R-4 Ap Run-F-ES-2 SPP-27- $\frac{1}{2}$ -ES-4 FE-5 mins.	100-Tr-2 75-F-2 BBns PP & S-R-4 HS & SB Ap Run-F-ES-4 SPP-27- $\frac{1}{2}$ -ES-3 60- $\frac{1}{4}$ -2 FE-5 mins.
Wednesday	100-Tr-2 100- $\frac{1}{4}$ -1 SP-75- $\frac{1}{2}$ -1 BBns HS & SB 2V-1-SO 3V-1-VCF 2V-1-TO-LS & FEI 3V-1-FE-QPu & PO 220- $\frac{1}{4}$ -1 FE-5 mins.	100-Tr-2 SP-50- $\frac{1}{4}$ -2 BBns-3 mins. HS & SB 2V-1-SO 2VCF- $\frac{1}{2}$ 3V- $\frac{1}{2}$ -QPu & PO FE-10 mins.	100-Tr-2 SP-75- $\frac{1}{2}$ -2 BBns-3 mins. HS & SB 1V-1-SO 2V-1-FE-TO & LS 3V-1-FE-QPu-PO 3V-1-FE-BT & PO FE-10 mins.	100-Tr-2 BBns PP & S-R-4 HS & SB Ap Run-F-ES-4 SPP-27- $\frac{1}{2}$ -ES-3 60- $\frac{1}{4}$ -2 FE-5 mins.
Thursday	Easy High Jumping	Light Work with Discus, Javelin or Shot	Easy High Jumping	Light Work with Discus, Javelin or Shot
Saturday	50- $\frac{1}{4}$ -2 BBns-3 mins. Ap Run-F-ES-2 2V-1-SO 2V-1-CO VT	50- $\frac{1}{4}$ -2 FE-5 mins. Ap Run-F-ES-2 2V-1-SO Competition or VT	50- $\frac{1}{4}$ -2 FE-5 mins. Ap Run-F-ES-3 2V-1-SO VT	50- $\frac{1}{4}$ -2 50- $\frac{1}{4}$ -1 FE-5 mins. Ap Run-F-ES-3

* The fourth week of the third month may be left entirely blank if the athlete so desires. This will give him a good mental rest and will also allow the spring to return to his muscles.

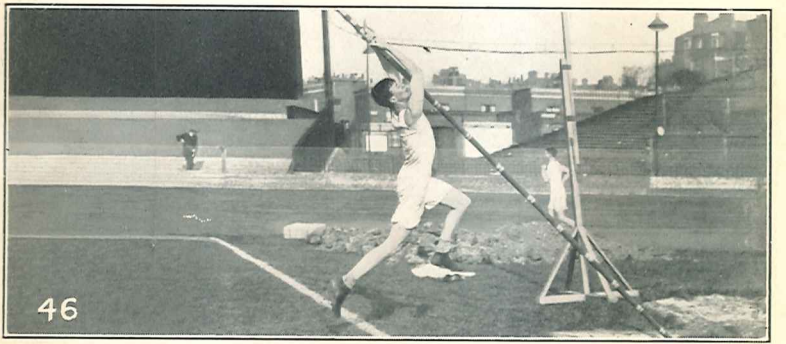
POLE VAULT TRAINING



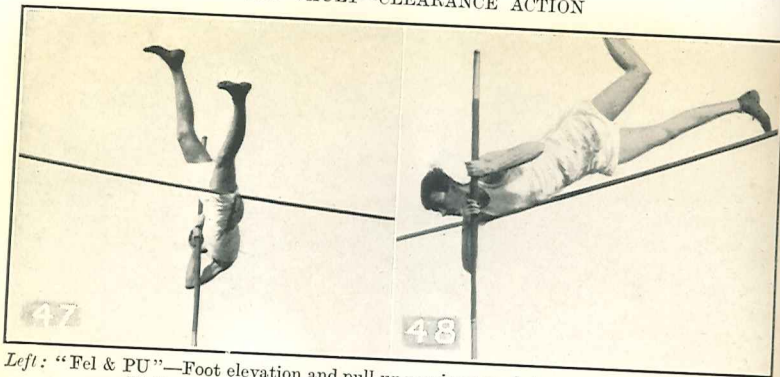
"Fe"—Form exercises, performed by Bedford Schoolboys under Captain Webster.



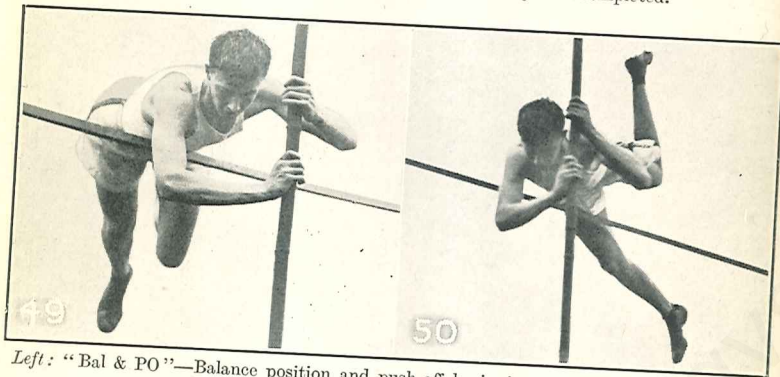
"SPP"—Sprinting with pole, F. R. Webster, Public Schools and English Junior Champion, showing starting position.



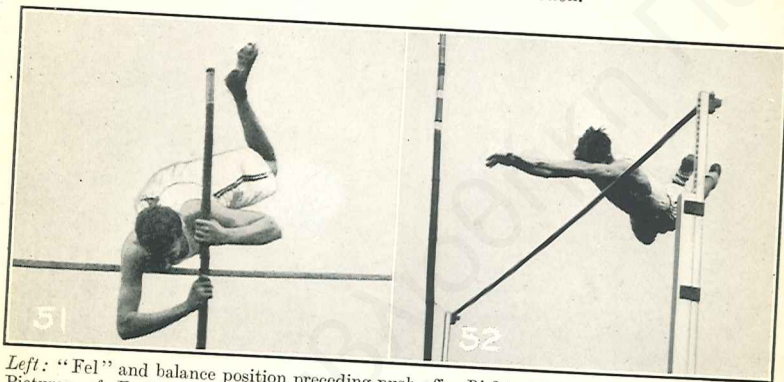
"TO"—F. R. Webster showing take-off action. Direct pole planting, full arm extension and vaulter hanging in pendulum swing preceding pull-up.



Left: "Fel & PU"—Foot elevation and pull-up nearing completion, scissors kick for balance.
Right: "Fel & BT"—Foot elevation and body turn completed.



Left: "Bal & PO"—Balance position and push-off beginning. Right: Kicking slightly back under bar in partial jack-knife action.



Left: "Fel" and balance position preceding push-off. Right: "PO"—Push-off completed.
Pictures of F. R. Webster, Public Schools, English Junior and Midland Counties Record Holder.

THE POLE VAULT—FIVE MONTHS' TRAINING—FOURTH MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.	
Monday	100-Tr-2 75- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -ES-PP & S & TO 2V- $\frac{1}{2}$ -LS & FEL 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -QPu & PO FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs VCF- $\frac{1}{2}$ up to $\frac{1}{2}$ 100- $\frac{1}{2}$ -1 50- $\frac{3}{4}$ -2 FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs SPP-27- $\frac{1}{2}$ -ES-4 PP & S- $\frac{1}{2}$ -R-ES-3 Ad Run-F-ES-3 220- $\frac{1}{2}$ -1 FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -2 BBns & HS & SB Exs SPP-27- $\frac{1}{2}$ -ES-2 PP & S- $\frac{1}{2}$ -R-3 Ad Run-F-ES-2 220- $\frac{1}{2}$ -1 FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & HS & SB Exs SPP-27- $\frac{1}{2}$ -ES-2 PP & S- $\frac{1}{2}$ -R-3 Ad Run-F-ES-2 220- $\frac{1}{2}$ -1 FE-10 mins.
Tuesday	100-Tr-3 BBns 5 mins. Light Work with Discus or Javelin	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs SPP-27- $\frac{1}{2}$ -ES-4 PP & S- $\frac{1}{2}$ -R-ES-3 Ad Run-F-ES-3 220- $\frac{1}{2}$ -1 FE-10 mins.	100-Tr-3 BBns 6 mins. Light Work with Discus or Javelin	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -2 BBns & HS & SB Exs SPP-27- $\frac{1}{2}$ -ES-2 PP & S- $\frac{1}{2}$ -R-3 Ad Run-F-ES-2 220- $\frac{1}{2}$ -1 FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs 10V- $\frac{1}{2}$ up to $\frac{1}{2}$ -Co 100- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ -1 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -BT & PO 2V- $\frac{1}{2}$ -Co FE-10 mins.
Wednesday	100-Tr-2 75- $\frac{3}{4}$ -1 HS & SB BBns & P & Pu Exs Ad Run-F-ES-3 2V- $\frac{1}{2}$ -ES-PP & S & TO 2V- $\frac{1}{2}$ -QPu 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -PO 3V- $\frac{1}{2}$ -FEL-QPu-PO FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & HS & SB Exs 10VCF- $\frac{1}{2}$ up to $\frac{1}{2}$ 100- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ -1 FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & HS & SB Exs Ad Run-F-ES-3 PP & S- $\frac{1}{2}$ -R-ES-3 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -BT & PO FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs 10V- $\frac{1}{2}$ up to $\frac{1}{2}$ -Co 100- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ -1 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -BT & PO 2V- $\frac{1}{2}$ -Co FE-10 mins.	100-Tr-2 75- $\frac{3}{4}$ -1 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs 10V- $\frac{1}{2}$ up to $\frac{1}{2}$ -Co 100- $\frac{1}{2}$ -1 50- $\frac{1}{2}$ -1 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -BT & PO 2V- $\frac{1}{2}$ -Co FE-10 mins.
Thursday	3MW 60- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs Ad Run-F-ES-2 2V- $\frac{1}{2}$ -Co Competition or VT	2MW 75- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs Ad Run-F-ES-3 2V- $\frac{1}{2}$ -Co Competition or VT	3MW 50- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs Ad Run-F-ES-2 2V- $\frac{1}{2}$ -Co Competition or VT	2MW 75- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & HS & SB Exs Ad Run-F-ES-3 PP & S- $\frac{1}{2}$ -R-ES-3 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -BT & PO 2V- $\frac{1}{2}$ -Co FE-10 mins.	2MW 50- $\frac{3}{4}$ -2 75- $\frac{3}{4}$ -1 BBns & HS & SB Exs Ad Run-F-ES-3 PP & S- $\frac{1}{2}$ -R-ES-3 2V- $\frac{1}{2}$ -Co Competition or VT
Saturday	3MW 60- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs Ad Run-F-ES-2 2V- $\frac{1}{2}$ -Co Competition or VT	2MW 75- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs Ad Run-F-ES-3 2V- $\frac{1}{2}$ -Co Competition or VT	3MW 50- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & P & Pu Exs Ad Run-F-ES-2 2V- $\frac{1}{2}$ -Co Competition or VT	2MW 75- $\frac{3}{4}$ -2 50- $\frac{1}{2}$ -1 BBns & HS & SB Exs Ad Run-F-ES-3 PP & S- $\frac{1}{2}$ -R-ES-3 2V- $\frac{1}{2}$ -BT 2V- $\frac{1}{2}$ -QPu & BT 2V- $\frac{1}{2}$ -BT & PO 2V- $\frac{1}{2}$ -Co FE-10 mins.	2MW 50- $\frac{3}{4}$ -2 75- $\frac{3}{4}$ -1 BBns & HS & SB Exs Ad Run-F-ES-3 PP & S- $\frac{1}{2}$ -R-ES-3 2V- $\frac{1}{2}$ -Co Competition or VT

CHAPTER ELEVEN

LONG JUMP

LONG JUMPING is essentially a speed-form event. The 10 secs. sprinter should certainly be able to reach 22 ft. in the Long Jump, with but very little form; but it is the ability to combine great speed in the approach run with perfect jumping action which produces the 25 ft. and the 26 ft. type of long jumper. The Americans, E. Gourdin, H. de Hart Hubbard, E. B. Hamm and E. Gordon, all of whom cleared 25 ft., the Haitian, S. Cator, and C. Nambu, of Japan, both of whom have beaten 26 ft., have also beaten even time for the sprint and, in addition, have possessed perfect jumping form. Hamm has stated that the hitch kick was worth at least an extra half foot to him, while de Hart Hubbard placed an even greater value upon this mid-air action.

The Long Jump resolves itself into four phases, (a) the Approach Run, (b) the Take-off, (c) Mid-air Action and (d) the Landing.

Sprinting provides the body of the long jumper's training. This is combined with run formation, and the full length of your proper approach run, and it must be remembered that all the speed in the world will not help you, except to a lucky jump occasionally, unless you can perfect such mechanical precision, throughout the whole length of your run, as will enable you to hit the take-off board every time. All work on the take-off should be at full speed, otherwise the stride variation will disorganise your take-off. There are numerous methods of executing the approach run, but the best is that in which the run up is taken at full speed, except for the last three strides, during which there is a slight slowing down and a gathering together of the body for the spring. As to the last

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100- $\frac{1}{2}$ -3 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO SV- $\frac{1}{2}$ to $\frac{3}{4}$ -WFS HS & SB 100-SB-3 P & Pu Exs CW Exs	100- $\frac{1}{2}$ -1 100- $\frac{1}{2}$ -1 100- $\frac{1}{2}$ -1 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO AP Run-F-ES-2 8V- $\frac{1}{2}$ to $\frac{3}{4}$ -WFS 75-SB-3 P & Pu Exs CW Exs	100- $\frac{1}{2}$ -1 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO 6V- $\frac{1}{2}$ to $\frac{3}{4}$ -WFS 75-SB-3 P & Pu Exs CW Exs	100- $\frac{1}{2}$ -1 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO 6V- $\frac{1}{2}$ to $\frac{3}{4}$ -WFS 75-SB-3 P & Pu Exs CW Exs
Tuesday	100- $\frac{1}{2}$ -2 100- $\frac{1}{2}$ -2 BBns PP & S-VS-6 AP Run-F-ES-3 HS & SB 100-SB-3 FE-10 mins. CW Exs	100- $\frac{1}{2}$ -1 100- $\frac{1}{2}$ -1 BBns & HS & SB PP & S-VS-6 AP Run-F-ES-3 75-SB-3 FE-10 mins. CW Exs	100- $\frac{1}{2}$ -1 75- $\frac{1}{2}$ -2 BBns & HS & SB PP & S-VS-6 AP Run-F-ES-2 FE-10 mins. CW Exs	100- $\frac{1}{2}$ -1 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs PP & S-VS-6 AP Run-F-ES-3 75-SB-2 FE-10 mins. CW Exs
Wednesday	100- $\frac{1}{2}$ -1 100- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO 10VCF- $\frac{1}{2}$ to $\frac{3}{4}$ 100-SB-4 P & Pu Exs CW Exs	100- $\frac{1}{2}$ -1 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO 10VCF- $\frac{1}{2}$ to $\frac{3}{4}$ 100-SB-3 P & Pu Exs CW Exs	100- $\frac{1}{2}$ -1 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO 8VCF- $\frac{1}{2}$ to $\frac{3}{4}$ 100-SB-3 P & Pu Exs CW Exs	100- $\frac{1}{2}$ -2 75- $\frac{1}{2}$ -1 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO 8VCF- $\frac{1}{2}$ to $\frac{3}{4}$ 75-SB-2 HS & SB & P & Pu Exs
Thursday and Friday	Rest	Rest	Rest	Rest
Saturday	50- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO AP Run-F-ES-2 2V- $\frac{1}{2}$ -Co Competition or VT	50- $\frac{1}{2}$ -2 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO AP Run-F-ES-2 2V- $\frac{1}{2}$ -Co Competition or VT	50- $\frac{1}{2}$ -2 75- $\frac{1}{2}$ -2 BBns & P & Pu Exs 2V- $\frac{1}{2}$ -SO AP Run-F-ES-2 2V- $\frac{1}{2}$ -Co VT	Competition for which training

three strides, the first of these should be normal, the second should be abnormal in length, and the third should be abbreviated, so that there is a slight crouch, with the jumping foot placed well in under the body.

There can be no argument as to the value of the hitch-kick action. It is not suggested that the action adds speed to the flight after one has left the ground, but the keeping back of the weight of the body from above the thighs preserves a better balance and thus prolongs the flight. A jumper who knows how to land properly will gain anything from 6 ins. to a foot. The hitch kick is completed at the top of the flight and is converted into a leg shoot. The knees are flexed as the heels touch the sand and the arms are swung from rear to front, to help to lift the body forward.

In jumping at various efforts always work to the Table of Effort and place a white mark in the sand-pit, indicating the distance you wish to jump. For example, if your average best performance is 21 ft. and you are training at $\frac{1}{2}$ effort, that means to say, according to the Table of Effort, that your $\frac{1}{2}$ effort jump should be 17 ft. 6 ins. Measure off this distance from the take-off board and mark it, with a piece of paper or a handkerchief placed in the sand-pit. Try to land right on this mark.

TABLE OF EFFORT. A Table of Effort for the guidance of the long jumper in training will be found on page 135, the use and purpose of such tables being fully explained in pages 102-105.

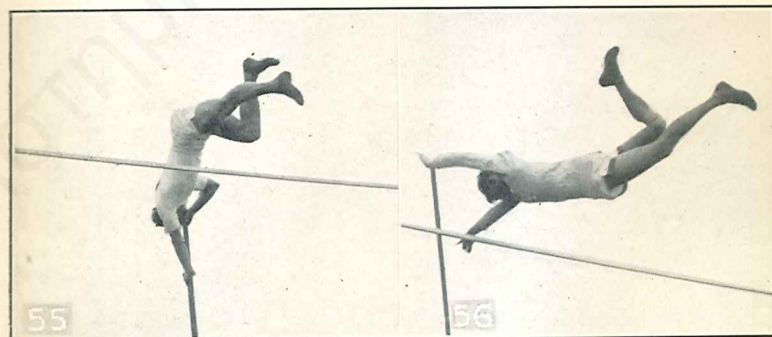
TRAINING TABLES—SYMBOLS EXPLAINED.

BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3 and 4.)

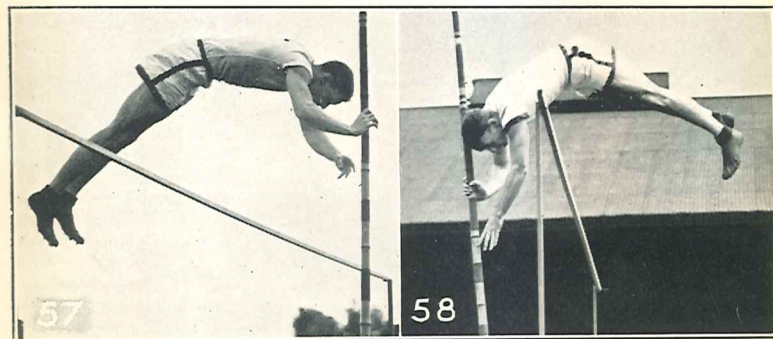
L Exs=Leg Exercises. *Examples:* BBnS-10 mins. means that you must do body-bending and stretching exercises for 10 mins.; 440- $\frac{1}{4}$ -1 that you are to run 440 yards at $\frac{1}{4}$ effort, once; and L Exs-5 mins. that you are to do leg-strengthening exercises



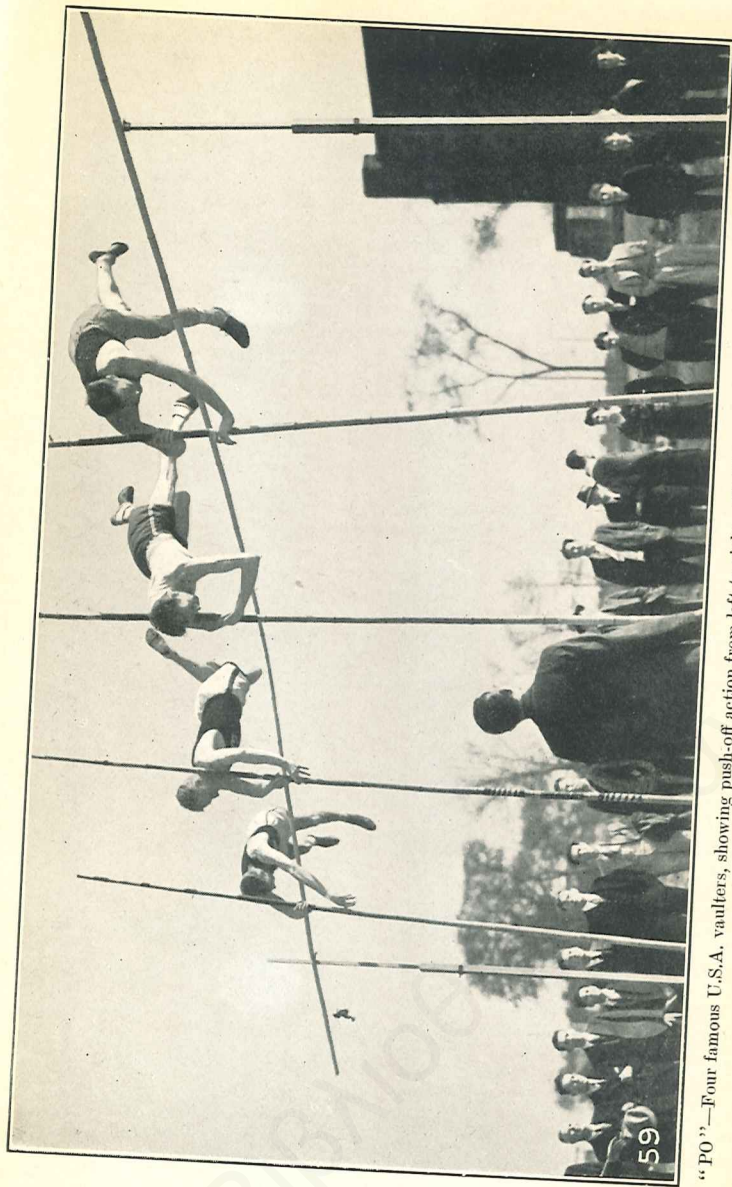
Left: "BT & PO"—V. Pickard, Canadian Record Holder, showing body turn and push-off form. Right: Wegener, German Record Holder, "FE, BT & PO."



Left: P. B. B. Ogilvie, English Champion, "PO" with full jack-knife. Right: L. T. Bond, English Record Holder, arm clearance after "PO."



Sabin Carr, U.S.A., former World's Record Holder, 14 ft., vaulting at $\frac{1}{4}$ effort (left) and $\frac{1}{2}$ effort (right), and showing partial jack-knife form.



"TO"—Four famous U.S.A. vaulters, showing push-off action from left to right: W. Thompson, C. Williamson, F. Sturdy and F. Pierce,

for 5 mins. These three practises comprise the limbering-up, stamina-building and strengthening processes.

HK=Hitch Kick. (See Figs. 61 and 62.)

R or PB=Rings or Parallel Bars. *Examples*: HK-R or PB-20 mins. means that you are to practise the hitch-kick action on the rings or parallel bars for 20 mins., at suitable intervals. HK-5SR- $\frac{1}{4}$ -6 means that you are to practise the hitch kick at the end of a five-stride run, at $\frac{1}{4}$ effort, six times.

SR=Stride Run. The figure that precedes the symbol indicates the number of strides composing the run.

LJ Exs=Long Jump Exercises, full particulars of which are given in *Exercises for Athletes*.

HAF=Hopping on Alternate Feet, which is a most necessary form of training for long jumpers.

RFS=Run Formation Sprints, at the full distance of the proper approach run.

Ch.Std=Check Striding. *Example*: RFS- $\frac{1}{2}$ -8-Ch.Std.

This means that you are to practise the run-forming sprint at $\frac{1}{2}$ effort eight times, checking the striding by tape measurements on each occasion.

Tr=Trot. *Example*: 100-Tr-3 means that you will trot three times up and down the 100 yards sprint path.

J=Jump or Jumps.

TO=Take-off. *Example*: 4J- $\frac{1}{4}$ -TO & HK means that you will practise four jumps at $\frac{1}{4}$ effort, concentrating on the take-off and the hitch kick. (See Figs. 60-62.)

FS=Foot Stamp.

EB=Erect Body position. (See Figs. 61 and 62.)

E=Elevation. *Example*: HK-5SR- $\frac{1}{4}$ -4-FS, EB & E means that you will practise the hitch kick from a five-stride run at $\frac{1}{4}$ effort, four times, concentrating on taking off with a good foot stamp, rising into the air with the body erect, while jumping for elevation. The take-off must be made with a hard stamp, in which the heel goes down first; if the body is held upright when rising it will be easier to perform the

hitch kick; one cannot, of course, hope for distance without getting plenty of height into the jump.

T=Trials. *Example*: 40-T-1 means that you are to run a 40 yards time trial, once. 6J-T means that you are to make six long jumps at full effort as a trial.

L3S=Last three Strides.

BA=Body Angle. *Example*: 3J- $\frac{1}{2}$ -L3S, FS & BA.

This means that you will make three jumps at $\frac{1}{2}$ effort, giving attention to the last three strides of the approach run, the foot stamp and the body angle at the take-off. The body angle should be exactly that of the sprinter which has been maintained throughout the approach run. (See Fig. 60.)

Ldg=Landing. (See Fig. 63.)

LS=Leg Shoot. *Example*: 3J-5SR-Ldg & LS means making three jumps from a five-stride run, with concentration upon landing and leg shoot.

HTO=Hitting Take-off. *Example*: RFS- $\frac{3}{4}$ -2-L3S & HTO-Ch.Std means that you will practise the run-forming sprint at $\frac{3}{4}$ effort, twice, concentrating upon the last three strides and hitting the take-off board. Striding checked by measurements. (See Fig. 60.)

AR=Approach Run. *Example*: 2J- $\frac{3}{4}$ -AR, FS & EB means that you will take two jumps at $\frac{3}{4}$ effort, concentrating upon the approach run, the foot stamp and the erect body position in rising.

F=Full.

KL=Knee Lift. *Example*: RFS-F-3-KL & L3S means practising the run-forming sprint at full effort three times, concentrating on knee-lift during the run and the proportioning of the last three strides.

Co=Co-ordination. 2J- $\frac{1}{2}$ -Co means that you will take two jumps at $\frac{1}{2}$ effort for the co-ordination of the run, take-off, mid-air and landing actions.

KFL=Knee Flexion on Landing. (See Fig. 63.)

AL=Arm Lift on Landing. *Example*: 2J-5SR- $\frac{1}{2}$ -KFL & AL means making two jumps from a five-stride run at $\frac{1}{2}$ effort, for the practise of flexing the knees

as you land and lifting the body forward and up by the swing of the arms from rear to front.

VE=Varying Effort.

JCF=Jumping to Correct Faults. *Example*: 4JCF-VE means that you will take four jumps, to correct faults shown in your last trial, at varying efforts.

SP=Starting Practise. *Example*: SP-30- $\frac{1}{2}$ -4 means that you will sprint 30 yards from the crouching start position at $\frac{1}{2}$ effort four times. (See Figs. 5 to 9.)

TABLE OF EFFORT

LONG JUMP

Average Best Performance.	$\frac{3}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{1}{4}$ Effort.		
	Ft.	Ins.	Ft.	Ins.	Ft.	Ins.	
26	0	23	10	21	8	19	6
25	6	23	4	21	3	19	1
25	0	22	11	20	10	18	9
24	6	22	5	20	5	18	4
24	0	22	0	20	0	18	0
23	6	21	6	19	7	17	7
23	0	21	1	19	2	17	3
22	6	20	7	18	9	16	10
22	0	20	2	18	4	16	6
21	6	19	8	17	11	16	1
21	0	19	3	17	6	15	9
20	6	18	9	17	1	15	4
20	0	18	4	16	8	15	0
19	6	17	10	16	3	14	7
19	0	17	5	15	10	14	3
18	6	16	11	15	5	13	10
18	0	16	6	15	0	13	6
17	6	16	0	14	7	13	1
17	0	15	7	14	2	12	9

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-10 mins. 440- $\frac{1}{2}$ -1 L Exs-5 mins.	220- $\frac{1}{2}$ -1 BBnS-5 mins. HK-5SR- $\frac{1}{2}$ -6 SP-30- $\frac{1}{2}$ -4 HAF	HAF-2 mins. BBnS-3 mins. SP-40- $\frac{1}{2}$ -2 RFS- $\frac{1}{2}$ -2-L&S HK-5SR- $\frac{1}{2}$ -4-EB & E L Exs-5 mins.	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS- $\frac{1}{2}$ -2-L&S, HTO, Ch.Std. RFS-F-6-HTO HAF
Tuesday	BBnS-10 mins. 300- $\frac{1}{2}$ -1 L Exs-5 mins.	220- $\frac{1}{2}$ -1 BBnS-5 mins. RFS- $\frac{1}{2}$ -6-Ch.Std. L Exs-5 mins.	100-Tr-2 BBnS-5 mins. HAF-F-2-Ch.Std. L Exs-5 mins. 220- $\frac{1}{2}$ -1	At Track 100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-3-Ch.Std. RFS-F-3-L&S & HTO In Gymnasium HK-R or PB-10 mins. LJ Exs-15 mins.
Wednesday	At Track BBnS-5 mins. 220- $\frac{1}{2}$ -1 In Gymnasium HK-R or PB-20 mins. LJ Exs-10 mins.	100-Tr-3 BBnS-6 mins. RFS- $\frac{1}{2}$ -4-Ch.Std. HK-5SR-3 4J- $\frac{1}{2}$ -TO & HK 300- $\frac{1}{2}$ -1	100-Tr-2 BBnS-5 mins. RFS- $\frac{1}{2}$ -2-L&S RFS-F-4-L&S-Ch.Std. In Gymnasium HK-R or PB-10 mins. LJ Exs-15 mins.	220- $\frac{1}{2}$ -1 BBnS-5 mins. RFS-F-2-HTO HK-5SR- $\frac{1}{2}$ -EB 2J- $\frac{1}{2}$ -BA 2J- $\frac{1}{2}$ -FS 2J- $\frac{1}{2}$ -AR, FS & EB
Thursday	BBnS-10 mins. 440- $\frac{1}{2}$ -1 L Exs-5 mins.	At Track 220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-40- $\frac{1}{2}$ -4 SP-40- $\frac{1}{2}$ -3 In Gymnasium HK-R or PB-10 mins. LJ Exs-10 mins.	BBnS-5 mins. L Exs-5 mins. SP-30- $\frac{1}{2}$ -2 40-Tr-1 300- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 L Exs-5 mins. RFS-F-2-L&S & HTO RFS-F-3-KL & L&S In Gymnasium HK-R or PB-10 mins. LJ Exs-15 mins.
Saturday	At Track BBnS-5 mins. 300- $\frac{1}{2}$ -1 At Gymnasium HK-R or PB-20 mins. LJ Exs-10 mins.	100-Tr-3 BBnS-5 mins. RFS- $\frac{1}{2}$ -5-L&S HK-5SR- $\frac{1}{2}$ -4-FS, EB & E SP-40- $\frac{1}{2}$ -3 4J- $\frac{1}{2}$ -FS & E HAF	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -3 40-Tr-1 300- $\frac{1}{2}$ -1	BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 HK-5SR-Co 2J- $\frac{1}{2}$ -Co 3J- $\frac{1}{2}$ -EB & E 220- $\frac{1}{2}$ -1

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 154 to 173. Special exercises for this event will be found in *Exercises for Athletes*, Chapter IX.

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-Co HK-5SR- $\frac{1}{2}$ -4-Co 2J-5SR- $\frac{1}{2}$ -Ldg-LS 2J-5SR- $\frac{1}{2}$ -KFL & AL 2J-5SR- $\frac{1}{2}$ -KL & AL	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-L&S & HTO HK-5SR- $\frac{1}{2}$ -3-EB HK-5SR- $\frac{1}{2}$ -2-FS & EB 4J-5SR- $\frac{1}{2}$ -Co, Ldg	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-Co 3JCF- $\frac{1}{2}$ 3JCF- $\frac{1}{2}$ 3JCF- $\frac{1}{2}$ 220- $\frac{1}{2}$ -1	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-Co 3JCF- $\frac{1}{2}$ 3JCF- $\frac{1}{2}$ 3JCF- $\frac{1}{2}$ 220- $\frac{1}{2}$ -1
Tuesday	220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -3 HAF 100- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-20- $\frac{1}{2}$ -4 2J- $\frac{1}{2}$ -F & LS 2J- $\frac{1}{2}$ -KFL & AL 2J- $\frac{1}{2}$ -Co, Ldg	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -KL-4 100- $\frac{1}{2}$ -1 HAF 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -KL-3 50-T-1 HAF 220- $\frac{1}{2}$ -1
Wednesday	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-Co HK-5SR- $\frac{1}{2}$ -4-Co 4LJ- $\frac{1}{2}$ -HK 150- $\frac{1}{2}$ -1 4LJ- $\frac{1}{2}$ -HK & Ldg	BBnS-5 mins. 220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -KL-1 RFS-F-4-Co 100- $\frac{1}{2}$ -1	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-Co 2JCF- $\frac{1}{2}$ -Ldg, E & HK 2JCF- $\frac{1}{2}$ -Ldg 2JCF- $\frac{1}{2}$ -AR, FS & BA	BBnS-5 mins. 30- $\frac{1}{2}$ -2 RFS-F-4-Co HK-5SR- $\frac{1}{2}$ -4-EB & E 4J- $\frac{1}{2}$ -Co, E & Ldg 150- $\frac{1}{2}$ -1
Thursday	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -4 HAF 100- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -1 AR & TO 2J- $\frac{1}{2}$ -Co, TO, EB & E 2J- $\frac{1}{2}$ -Co, Ldg 2J- $\frac{1}{2}$ -EB & HK	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -KL-3 HAF-2 mins. 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -3 HAF 220- $\frac{1}{2}$ -1
Saturday	BBnS-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-2-Co 2J- $\frac{1}{2}$ -FS & BA 2J- $\frac{1}{2}$ -EB & E 4J- $\frac{1}{2}$ -HK & EB	BBnS-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-2-Co 2J- $\frac{1}{2}$ -Co 6J-T	BBnS-3 mins. RFS-F-2-L&S 2J- $\frac{1}{2}$ -EB & E 6J-T	BBnS-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-3-Co 2J- $\frac{1}{2}$ -Co 6J-T

THE LONG JUMP—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBns-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-3 2J- $\frac{1}{2}$ -Co 2J- $\frac{1}{2}$ -Co 440- $\frac{1}{2}$ -1	BBns-3 mins. 30- $\frac{1}{2}$ -2 2J- $\frac{1}{2}$ -E 440- $\frac{1}{2}$ -1	100-Tr-2 BBns-3 mins. SP-30- $\frac{1}{2}$ -2 50-F-2 HAF RFS-F-3-Co, L3S & HTO	100-Tr-2 BBns-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 100- $\frac{1}{2}$ -2
Tuesday	BBns-3 mins 100-Tr-2 50- $\frac{1}{2}$ -2 RFS-F-4 HAF	BBns-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -3 HAF-3 mins.	100-Tr-2 BBns-3 mins. 30- $\frac{1}{2}$ -2 40- $\frac{1}{2}$ -3 RFS-F-2 6J- $\frac{1}{2}$ -BA, FS, EB & E 440- $\frac{1}{2}$ -1	100-Tr-2 BBns-3 mins. RFS-F-3-Co, L3S & HTO 2J- $\frac{1}{2}$ -E-Co, Ldg 2J- $\frac{1}{2}$ -Co
Wednesday	BBns-3 mins. 50- $\frac{1}{2}$ -2 RFS-F-4 2J- $\frac{1}{2}$ -Co 6J- $\frac{1}{2}$ -Co 220- $\frac{1}{2}$ -1	100-Tr-2 BBns-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-4 6J- $\frac{1}{2}$ 150- $\frac{1}{2}$ -1	Rest	Rest
Thursday	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 300- $\frac{1}{2}$ -1	100-Tr-2 BBns-3 mins. RFS-F-4 HAF-3 mins.	220-Tr-1 BBns-3 mins. SP-30- $\frac{1}{2}$ -3 50- $\frac{1}{2}$ -2 RFS-F-2-Co, L3S & HTO 440- $\frac{1}{2}$ -1	100-Tr-2 BBns-2 mins. 50- $\frac{1}{2}$ -2 RFS-F-4, Co, L3S & HTO or Rest
Saturday	BBns-3 mins. SP-30- $\frac{1}{2}$ -2 1J- $\frac{1}{2}$ -TO, EB & E 6J- $\frac{1}{2}$	BBns-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-2 1J- $\frac{1}{2}$ -TO, EB & E 6J- $\frac{1}{2}$	BBns-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-2 6J- $\frac{1}{2}$ or Competition	Special Competition for which training

BOYS' TABLES

THE LONG JUMP—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -2 100- $\frac{1}{2}$ -1 LJ Exs-10 mins.	100-Tr-3 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 RFS-F-3-L3S & HTO 3J- $\frac{1}{2}$ -FS, EB & HK 3J- $\frac{1}{2}$ -Co, LS, KFL & AL 2J- $\frac{1}{2}$ -Ldg, AL	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-3-L3S & HTO 3J- $\frac{1}{2}$ -FS, EB & HK 3J- $\frac{1}{2}$ -Co, LS, KFL & AL 3J- $\frac{1}{2}$ -FS, EB & E	100-Tr-3 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 2J-(AR-F+J- $\frac{1}{2}$) Co, L3S, FS & E 2J-(AR-F+J- $\frac{1}{2}$) BA, EB & HK 1J- $\frac{1}{2}$ -E
Tuesday	220- $\frac{1}{2}$ -1 BBns-5 mins. HK-5SR- $\frac{1}{2}$ -3 RFS-F-2-Ch.Std. HAF-3 mins.	220- $\frac{1}{2}$ -1 BBns-5 mins. 50- $\frac{1}{2}$ -KL-1 SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -3 HAF-2 mins.	Light Work (Sprints or Hurdles) HAF-2 mins. LJ Exs-10 mins.	220- $\frac{1}{2}$ -1 BBns-5 mins. 50- $\frac{1}{2}$ -KL-2 SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 HAF-2 mins.
Wednesday	At Track 440- $\frac{1}{2}$ -1 In Gymnasium HK-R or PB-10 mins. LJ Exs-15 mins.	Light Work (Sprints or High Jump) LJ Exs-15 mins.	220- $\frac{1}{2}$ -1 BBns-3 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 HAF-2 mins.	Light Work (Sprints or High Jump) LJ Exs-15 mins.
Thursday	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 75- $\frac{1}{2}$ -1 HAF-3 mins.	220- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 RFS-F-4-L3S & HTO	Light Work (Sprints or Hurdles) LJ Exs-15 mins.	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-4-KL, L3S & HTO
Saturday	At Track BBns-5 mins. HK-5SR- $\frac{1}{2}$ -4 RFS-F-2-Ch.Std. At Gymnasium HK-R or PB-10 mins. LJ Exs-15 mins.	100-Tr-3 BBns-3 mins. HK-5SR- $\frac{1}{2}$ -3-EB & E 2J- $\frac{1}{2}$ -LS & KFL 2J- $\frac{1}{2}$ -Co, LS, KFL & AL 2J- $\frac{1}{2}$ -BA, FS & EB	100-Tr-3 BBns-3 mins. 2J- $\frac{1}{2}$ -E, Co, LS, KFL & AL 2J- $\frac{1}{2}$ -E, EB & HK 3J- $\frac{1}{2}$ -BA, FS & EB 220- $\frac{1}{2}$ -1	100-Tr-3 BBns-3 mins. 1J- $\frac{1}{2}$ -Co RFS-F-2-Co 6J- $\frac{1}{2}$

Athletes should do 10 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 154 to 173. Special exercises for this event will be found in *Exercises for Athletes*, Chapter IX.

BOYS' TABLES
THE LONG JUMP—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	220- $\frac{1}{2}$ -1 BBns-5 mins. 2JCF- $\frac{1}{2}$ RFS-F-3-Co, Ch.Std. 2JCF- $\frac{1}{2}$ 3JCF- $\frac{1}{2}$ LJ Exs-5 mins.	440- $\frac{1}{2}$ -1 BBns-5 mins. 2JCF- $\frac{1}{2}$ RFS-F-3-Co, Ch.Std. 2JCF- $\frac{1}{2}$ 100- $\frac{1}{2}$ -1	220- $\frac{1}{2}$ -1 BBns-5 mins. 2JCF- $\frac{1}{2}$ RFS-F-4-Co 2JCF- $\frac{1}{2}$ 2JCF- $\frac{1}{2}$	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -3 100- $\frac{1}{2}$ -2
Tuesday	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-4-Co-Ch.Std. HAF-2 mins.	Light Work (Sprints or Hurdles) LJ Exs-15 mins.	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 50-1-1 HAF-2 mins.	BBns-5 mins. 4J(AR-F+J- $\frac{1}{2}$) LSS, HTO & E 220- $\frac{1}{2}$ -1
Wednesday	Light Work (Sprints or High Jump) LJ Exs-15 mins.	220- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-4-Co, AR, LSS & HTO 150- $\frac{1}{2}$ -1	Light Work (Sprints or High Jump) LJ Exs-15 mins.	Light Work (Sprints or High Jump) LJ Exs-15 mins.
Thursday	220- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 HK-5SR-4-Co 3LJ- $\frac{1}{2}$ -Co, LS, KFL & AL	Light Work (Sprints or High Jump) LJ Exs-15 mins.	440- $\frac{1}{2}$ -1 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{1}{2}$ -2 100- $\frac{1}{2}$ -1 HAF-2 mins.	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 6J(AR-F+J- $\frac{1}{2}$) LSS, HTO, FS, EB 440- $\frac{1}{2}$ -1
Saturday	100-Tr-2 BBns-3 mins. LJ- $\frac{1}{2}$ -Co RFS-F-2-Co 3J-F-BA, FS & E 3J-F-HK & Ldg	100-Tr-2 BBns-3 mins. LJ- $\frac{1}{2}$ -EB & E RFS-F-2-Co 6J-T	100-Tr-2 BBns-3 mins. 2J(AR-F+J- $\frac{1}{2}$) EB & E 2J(AR-F+J- $\frac{1}{2}$) LSS, E, KFL, AL 2J(AR-F+J- $\frac{1}{2}$) FS, E & HK 220- $\frac{1}{2}$ -1	100-Tr-2 BBns-3 mins. 2J(AR-F+J- $\frac{1}{2}$) LSS, BA & EB 2J(AR-F+J- $\frac{1}{2}$) FS, E & HK 2J(AR-F+J- $\frac{1}{2}$) EB, E & HK

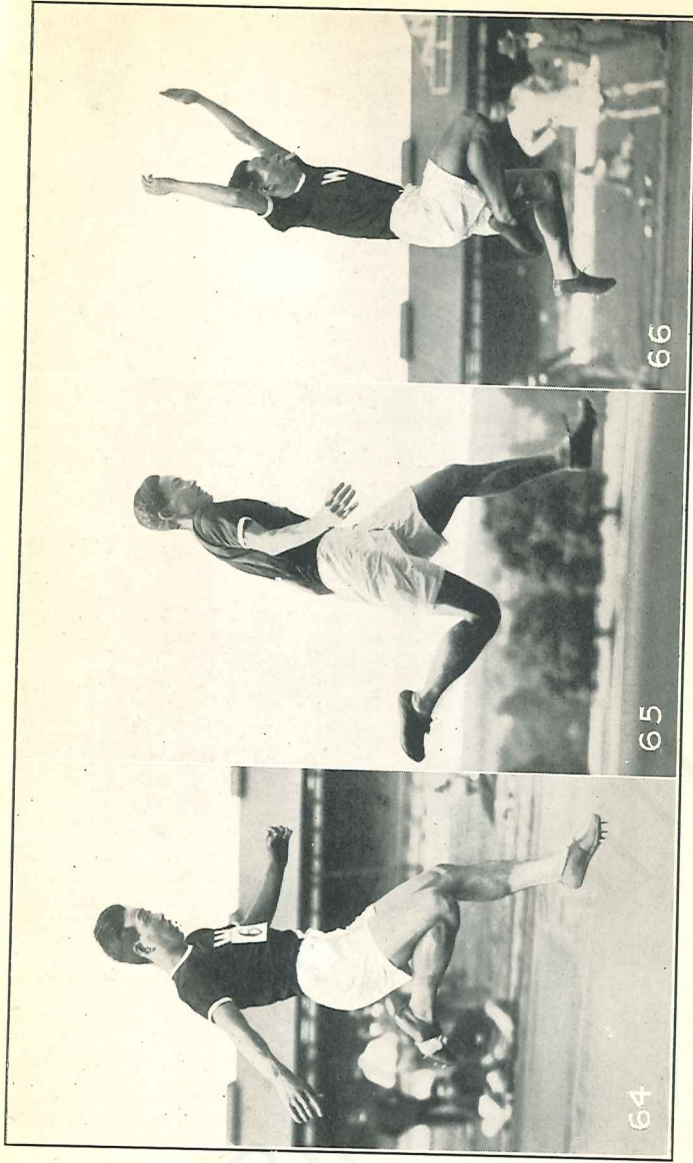
LONG JUMP ACTION



Right: "HTO & BA"—Hitting take-off and showing correct body angle. Left: "EB"—Erect body position shown by R. Dobermann, German Record Holder.



Left: "HK & EB"—Hitch-kick and erect body position shown by V. B. V. Powell, C.U.A.C.
Right: "KFL"—Knee flexion on landing shown by H. de H. Hubbard, U.S.A., former World's Record Holder, 25 ft. 10 $\frac{1}{2}$ ins.



Left: "H"—The hop. Centre: "S"—The step. Right: "J"—The jump. No. 64 shows completion of hop by C. Nambu, Japan, World's Record Holder, Hop, Step and Jump, 51 ft. 7 ins., and long jump, 26 ft. 2 $\frac{3}{4}$ ins.; Nos. 65 and 66 are of M. Oda, Japan, former Hop, Step and Jump Record Holder, 51 ft. 1 $\frac{3}{8}$ ins.

BOYS' TABLES

THE LONG JUMP—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 2J-10 SR- $\frac{1}{2}$ FS, EB & HK 2J- $\frac{1}{2}$ -E, LS, KFL & AL 220- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 4J- $\frac{1}{2}$ -E HAF-2 mins. 300- $\frac{1}{4}$ -1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2-Ch.Std 100- $\frac{1}{4}$ -1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 3JCF- $\frac{1}{2}$ -E RFS-F-2-Co 3JCF- $\frac{1}{2}$ -E
Tuesday	220- $\frac{1}{4}$ -1 BBnS-3 mins. 50- $\frac{1}{2}$ -3 RFS-F-3-Ch.Std LJ Exs-5 mins.	Light Work Sprints or High Jump LJ Exs-10 mins.	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2-L3S & HTO 6J- $\frac{1}{2}$ -HTO, FS & E 220- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 BBnS-3 mins. 50- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -1
Wednesday	100-Tr-3 BBnS-3 mins. RFS-F-4-Ch.Std LJ- $\frac{1}{2}$ -Co 4J- $\frac{1}{2}$ -Co 220- $\frac{1}{4}$ -1	100-Tr-3 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -2 RFS-F-4-Co, L3S, HTO 4J- $\frac{1}{2}$ -E, HK & Ldg	Rest	Rest
Thursday	Light Work Sprints or High Jump LJ Exs-15 mins.	Light Work Sprints or High Jump LJ Exs-10 mins.	Light Work Sprints or High Jump LJ Exs-10 mins.	Rest
Saturday	100-Tr-2 BBnS-3 mins. LJ- $\frac{1}{2}$ -FS, EB & E 6J-T	100-Tr-3 BBnS-3 mins. RFS-F-2-Co LJ- $\frac{1}{2}$ -Co 6J- $\frac{1}{2}$ -Co	100-Tr-3 BBnS-3 mins. RFS-F-2-Co LJ- $\frac{1}{2}$ -Co 6J-T	Competition for which training

CHAPTER TWELVE

HOP, STEP AND JUMP

THE Hop, Step and Jump is closely allied to the Long Jump in principle, but there are points of difference which the athlete should observe closely. The first is in relation to the approach run, which, of course, must be standardised at its full length by each individual athlete. The long jumper was recommended to decrease his speed a little for the last three strides, which are variable. The Hop, Step and Jumper must keep his striding even throughout and should be at top speed when his jumping foot hits the take-off board. This will tend to keep the Hop properly low. The Hop should be fairly low, the Step should be of good length, and the greatest possible elevation should be put into the Jump. Rhythm is everything in this event. The triple effort should be proportioned in accordance with the Table of Proportion between Hop, Step and Jump given on page 146. The take-off for the Hop commences with the placing down of the heel, and the same applies to the take-off for the Step and for the Jump. Great care must be taken to trail the rear leg in passing from the Hop to the Step and the Step to the commencement of the Jump.

Practising at $\frac{1}{2}$ effort, and with a half-length run, is the best training for this event, but training to form the approach run should be carried out at full effort and full length, so that an even, mechanical stride may be established, in order that one may hit the take-off board every time. Rhythm is everything in this event, and continuous progression between the Hop, the Step and the Jump must be preserved.

TABLE OF EFFORT. A Table of Effort to guide the Hop, Step and Jumper in his training is given on

page 146, the use and purpose of such tables being fully explained in pages 102-105. Beneath the Table of Effort is published a Table of Proportion between the Hop, Step and Jump, showing the way in which the total effort should be split up into its component parts.

TRAINING TABLES—SYMBOLS EXPLAINED.

BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3 and 4.)

L Exs=Leg Exercises.

HAF=Hopping on Alternate Feet. *Examples*: BBnS-10 mins. means that you are to practise body-bending and stretching exercises for 10 mins. $440-\frac{1}{4}-1$ means that you are to run 440 yards at $\frac{1}{4}$ effort, once. L Exs-10 mins. means that you are to practise leg-stretching exercises for 10 mins. HAF means that you are to practise hopping on alternate feet for the improvement of your springing power. No time factor is given, as one must stop hopping as one begins to tire.

H=Hop. (See Fig. 64.)

S=Step. (See Fig. 65.)

J=Jump. (See Fig. 66.)

HL=Heel Landing.

HSJ=Hop, Step and Jump.

R=Rhythm. *Examples*: $3H-\frac{1}{4}-HL$ means that you are to practise three Hops at $\frac{1}{4}$ effort, landing each time on the heel. $3S-\frac{1}{4}-HL$ means that you are to practise three Steps at $\frac{1}{4}$ effort, landing each time on the heel. $4HSJ-\frac{1}{4}-HL$ & R means that you are to practise the whole Hop, Step and Jump four times at $\frac{1}{4}$ effort, landing each time on the heel and taking care to preserve the rhythm of the Hop, the Step and the Jump.

SP=Starting Practise. *Example*: $SP-30-\frac{1}{2}-2$ means that you will sprint 30 yards from the crouching start position at $\frac{1}{2}$ effort, twice.

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RFS=Run Forming Sprint, which should always be of the full length of your proper approach run.

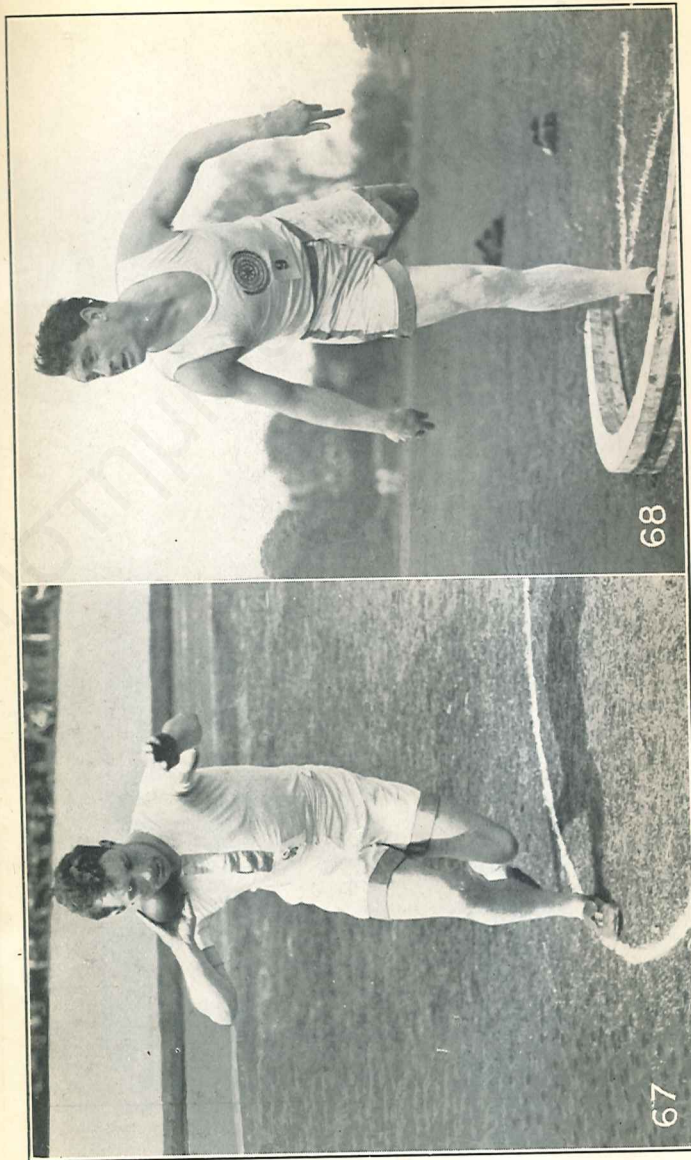
ES=Even Striding.

Ch.Std=Check Striding, which should be done with a measuring tape. *Example*: RFS- $\frac{1}{2}$ -4-ES-Ch.Std means that you will practise the run-forming sprint at $\frac{1}{2}$ effort, four times, for the cultivation of even striding, checking the strides by measurement.

B=Balance.

PL=Proportionate Length between Hop, Step and Jump, in accordance with the Table of Proportion given on page 146. *Example*: 4HSJ- $\frac{1}{4}$ -R, B & PL means that you will practise the Hop, Step and Jump four times at $\frac{1}{4}$ effort for rhythm and balance, making sure that you maintain the correct proportionate length in each of the efforts. When training, look up in the Table of Effort the efforts you require to use according to your average best performance, then find, from the Table of Proportion, the lengths that your Hop, your Step and your Jump should be, and mark them on the ground. For example, if your average best performance is 40 ft. and your training requires you to practise the Hop, Step and Jump at $\frac{1}{2}$ effort, that would be 32 ft. If you now look in the Table of Proportion you will find that a total Hop, Step and Jump of 32 ft. is divided into a Hop of 11 ft. 2 ins., a Step of 7 ft. 6 ins. and a Jump of 13 ft. 4 ins. These are the distances you should mark on the ground by squares of paper, on which your heels should land, progressively.

LJ=Long Jump. The Hop, Step and Jumper must do quite a lot of long jumping, to accustom himself to get height into the final effort, and if he can add the hitch kick to his technique (see Chapter Eleven, Long Jump) it will certainly improve his performances. *Example*: 3LJ- $\frac{1}{4}$ -FS & E means that you will make three long jumps at $\frac{1}{4}$ effort, emphasising



R. L. Howland, C.U.A.C., English Native Record Holder, 47 ft. 8 $\frac{1}{2}$ ins. *Left*: Beginning of the glide. *Right*: Finish of the reverse, following the delivery action.



Dr. R. S. Woods, C.U.A.C., former English Record Holder, 44 ft. 11 ins. "FT, FWF and Reverse."

the foot stamp in the take-off, and aiming at good elevation in the jump.

FS=Foot Stamp.

E=Elevation.

LH=Leg Hang. As already explained, it is necessary to trail the rear leg behind during the Hop and the Step. *Example*: 2HS & J- $\frac{1}{2}$ -LH (FS & E in J) means that you will practise the whole Hop, Step and Jump twice at $\frac{1}{2}$ effort, principally for the leg hang, but working, also, for foot stamp and elevation in the jump.

AR=Approach Run, which should always be at full length and, usually, at full effort, to which the effort employed in the actual jumping may not correspond. *Example*: 3HSJ-(AR-F+HSJ- $\frac{1}{2}$)-ES, HTO & TO means that you will practise the Hop, Step and Jump three times, with the approach run at full effort, and the subsequent Hop, Step and Jump at $\frac{1}{2}$ effort, concentrating on even striding, hitting the take-off board and getting proportionate length into the Hop, the Step and the Jump.

HTO=Hitting Take-off Board at end of approach run.

F=Full effort.

Ldg=Landing. *Example*: 3LJ- $\frac{1}{2}$ -Ldg means that you will take three long jumps at $\frac{1}{2}$ effort, concentrating upon the landing process, as given in Chapter Eleven, Long Jump.

T=Trials. *Examples*: 50-T-1 means that you will run 50 yards as a time trial, once. 4HSJ-T means that you will make four Hop, Step and Jumps at full effort as a trial.

CF=Correction of Faults.

VE=Varying effort. *Example*: 6HSJ-VE-CF means that you will make six Hop, Step and Jumps at varying efforts, to correct faults shown in your last trial.

TABLE OF EFFORT
HOP, STEP AND JUMP

Average Best Performance.	$\frac{1}{4}$ Effort.	$\frac{1}{2}$ Effort.	$\frac{3}{4}$ Effort.
Ft. Ins.	Ft. Ins.	Ft. Ins.	Ft. Ins.
50	47 0	40 0	30 0
48	45 1	38 5	28 9
46	43 3	36 9	27 7
44	41 4	35 2	26 5
42	39 6	33 7	25 2
40	37 7	32 0	24 0

TABLE OF PROPORTION BETWEEN HOP, STEP AND JUMP

Total of Hop, Step and Jump.	Proportionate lengths of		
	Hop	Step	Jump
Ft.	Ft. Ins.	Ft. Ins.	Ft. Ins.
50	17 6	11 8	20 10
48	16 10	11 2	20 0
46	16 1	10 9	19 2
44	15 5	10 3	18 4
42	14 8	9 10	17 6
40	14 0	9 4	16 8
38	13 4	8 10	15 10
36	12 7	8 5	15 0
34	11 10	8 0	14 2
32	11 2	7 6	13 4
30	10 6	7 0	12 6
28	9 10	6 6	11 8
26	9 1	6 1	10 10
24	8 5	5 7	10 0

THE HOP, STEP AND JUMP—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBns-10 mins. 440- $\frac{1}{4}$ -1 L Exs-10 mins.	220- $\frac{1}{4}$ -1 BBns-5 mins. 3H- $\frac{1}{4}$ -HL 3S- $\frac{1}{4}$ -HL 4HSJ- $\frac{1}{4}$ -HL & R	440- $\frac{1}{4}$ -1 BBns-5 mins. RFS- $\frac{1}{4}$ -3-ES, Ch.Std. 3H, S & J- $\frac{1}{4}$ -R & PL 3H, S & J- $\frac{1}{4}$ -R & B 3LJ- $\frac{1}{4}$ -Ldg	220- $\frac{1}{4}$ -1 BBns-5 mins. 2H, S & J- $\frac{1}{4}$ -PL 2H, S & J- $\frac{1}{4}$ -PL RFS-F-2, ES, HTO 150- $\frac{1}{4}$ -1
Tuesday	BBns-10 mins. 300- $\frac{1}{4}$ -1 HAF	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 RFS- $\frac{1}{4}$ -4-ES, Ch.Std. HAF	220- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 RFS- $\frac{1}{4}$ -4-ES & HTO HAF	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 SP-30- $\frac{1}{4}$ -3 100- $\frac{1}{4}$ -1 HAF
Wednesday	BBns-10 mins. 220- $\frac{1}{4}$ -1 L Exs-10 mins.	220- $\frac{1}{4}$ -1 BBns-5 mins. 4H & S- $\frac{1}{4}$ -R, Bal & HL 4H, S & J- $\frac{1}{4}$ -R, B & PL L Exs-5 mins.	300- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 2H, S & J- $\frac{1}{4}$ -HL & B 2H, S & J- $\frac{1}{4}$ -R, HL & B 2H, S & J- $\frac{1}{4}$ -PL	220- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 L Exs-10 mins.
Thursday	BBns-10 mins. 440- $\frac{1}{4}$ -1 HAF	300- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 RFS- $\frac{1}{4}$ -4-ES-Ch.Std. 50- $\frac{1}{4}$ -1 HAF	220- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 RFS- $\frac{1}{4}$ -2-ES, HTO 100- $\frac{1}{4}$ -1 HAF	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 SP-30- $\frac{1}{4}$ -4 RFS, F-2-ES, HTO HAF
Saturday	BBns-10 mins. 300- $\frac{1}{4}$ -1 L Exs-10 mins.	220- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 3H- $\frac{1}{4}$ -HL 3S- $\frac{1}{4}$ -HL 3LJ- $\frac{1}{4}$ -R, E & Ldg L Exs-5 mins.	440- $\frac{1}{4}$ -1 BBns-5 mins. 2H & S- $\frac{1}{4}$ -HL 2H & S- $\frac{1}{4}$ -B & PL 4H, S & J- $\frac{1}{4}$ -R & PL	220- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -2 2H, S & J- $\frac{1}{4}$ -PL 2H, S & J- $\frac{1}{4}$ -LH (FS & E in S) 2H, S & J- $\frac{1}{4}$ -B & PL

Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 174 to 211. Special exercises for Long Jumpers which are suitable for Hop, Step and Jumpers will be found in *Exercises for Athletes*, Chapter 1X.

148 ATHLETIC TRAINING FOR MEN AND BOYS

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -4 50-F-1 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 3HSJ-(AR-F + HSJ- $\frac{1}{2}$)-LH 3HSJ-(AR-F +HSJ - $\frac{1}{2}$)-ES, HTO, PL 150- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 2HSJ- $\frac{1}{2}$ -CF 2HSJ- $\frac{3}{4}$ -CF 2LJ- $\frac{1}{2}$ -Ldg 220- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 3HSJ- $\frac{1}{2}$ -CF 2HSJ- $\frac{3}{4}$ -CF 2LJ- $\frac{1}{2}$ -Ldg L Exs-5 mins.
Tuesday	BBnS-5 mins. 440- $\frac{1}{4}$ -1 L Exs-10 mins.	Light Work (Sprints or High Jump) L Exs-10 mins.	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-3-CF L Exs-10 mins.	Light Work (Sprints or Hurdles) HAF
Wednesday	BBnS-5 mins. SP-30- $\frac{3}{4}$ -2 RFS-F-3-ES-HTO 300- $\frac{1}{2}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-3-ES, HTO 3HSJ- $\frac{1}{2}$ -HL & LH 220- $\frac{1}{2}$ -1	Light Work (Sprints or High Jump)	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-3-CF L Exs-10 mins.
Thursday	BBnS-5 mins. 300- $\frac{1}{2}$ -1 L Exs-10 mins.	Light Work (Sprints or Hurdles) L Exs-10 mins. 220- $\frac{3}{4}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 3HSJ- $\frac{1}{2}$ -PL 2HSJ- $\frac{3}{4}$ -PL RFS-F-1-Co	Light Work (Sprints or High Jump)
Saturday	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-40- $\frac{3}{4}$ -3 100- $\frac{3}{4}$ -1	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 IHSJ- $\frac{1}{2}$ -Co 4HSJ-T	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 3HSJ- $\frac{1}{2}$ -PL 2HSJ- $\frac{3}{4}$ -PL RFS-F-1-Co (FS & E in J)	BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 IHSJ- $\frac{1}{2}$ -Co 6HSJ-T

HOP, STEP AND JUMP

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2-CF 2HSJ- $\frac{1}{2}$ -CF 2HSJ- $\frac{3}{4}$ -CF 2LJ- $\frac{1}{2}$ -Ldg	100-Tr-2 BBnS-3 mins 3HSJ- $\frac{1}{2}$ -CF 3HSJ- $\frac{3}{4}$ -CF 2LJ- $\frac{1}{2}$ -E & Ldg 220- $\frac{1}{2}$ -1	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -4 RFS-F-2 IHSJ- $\frac{1}{2}$ -Co IHSJ- $\frac{3}{4}$ -Co 2HSJ- $\frac{3}{4}$ -Co	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 100- $\frac{3}{4}$ -1
Tuesday	BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2-ES & HTO HAF	BBnS-3 mins. 30- $\frac{1}{2}$ -2 RFS-F-3-ES & HTO HAF	BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 40- $\frac{3}{4}$ -2 RFS-F-2 IHSJ- $\frac{1}{2}$ -Co IHSJ- $\frac{3}{4}$ -Co 2HSJ- $\frac{3}{4}$ -Co	Rest
Wednesday	BBnS-3 mins. 50- $\frac{1}{2}$ -2 RFS-F-3-Co 2HSJ- $\frac{1}{2}$ -HL & LH 2HSJ- $\frac{3}{4}$ -PL & Co	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 RFS-F-4-ES & HTO 6HSJ-VE-CF	Rest	Rest
Thursday	BBnS-3 mins. 40- $\frac{1}{2}$ -2 40- $\frac{3}{4}$ -3 220- $\frac{1}{2}$ -1	100-Tr-2 BBnS-3 mins. RFS-F-4-ES & HTO HAF	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2 220- $\frac{1}{2}$ -1	Rest
Saturday	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-1-Co IHSJ- $\frac{1}{2}$ -PL 4HSJ-T	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2-ES & HTO IHSJ- $\frac{1}{2}$ -Co 6HSJ-T	100-Tr-2 BBnS-3 mins. SP-30- $\frac{1}{2}$ -2 RFS-F-2 220- $\frac{1}{2}$ -1	Competition for which training

CHAPTER THIRTEEN

SHOT PUT

SHOT PUTTING is mainly a matter of form plus speed in the glide across the circle; but form, and the contingent co-ordination of muscular effort, can only be built up after a long period of intensive preparation, such as is set out in the Schedule of Training given in this chapter, which, again, is to follow upon the general field events Training Table given on page 107.

The shot used in men's competitions is 16 lbs.; that used by boys should be standardised at 12 lbs. In which case the same Training Table for Shot Putting may be used by men and boys.

A Table of Effort to guide the shot putter in his training will be found on page 154. The use and purpose of such tables is fully explained in pages 102-105.

TRAINING TABLES—SYMBOLS EXPLAINED.

- BBnS=Body Bending and Stretching Exercises. (See Figs. 2, 3 and 4.)
 STP=Standing Put or Puts. The shot putter must do a lot of this sort of work when mastering the technique of his event.
 GMS=Glide minus Shot, i.e. gliding across the circle without the shot in hand.
 L & AS=Leg and Arm Swinging practise in the action which precedes the glide across the circle. (See Fig. 72.)
 BS=Body Swing. The body swing forms an important part of the action, both in the standing put and in the put with the glide. (See Fig. 74.)

SHOT PUT

EL=Elbow Lift. The elbow lift will add feet to the athlete's performance, if he will remember to raise the elbow of the putting arm to shoulder height, just as the shoulders are coming square to the front in the delivery action. (See Fig. 71.)

LD=Leg Drive, an important factor in the delivery action.

H=Putting for Height. *Example*: 6STP- $\frac{1}{4}$ -BS, EL, LD & H means that you are to do six standing puts at $\frac{1}{4}$ effort, concentrating upon body swing, elbow lift, leg drive and, finally, height in the delivery action. (See Fig. 75.)

SLJ=Standing Long Jump.

SHJ=Standing High Jump. *Example*: 3SLJ-3SHJ means that you are to practise three standing long jumps and three standing high jumps, for the purpose of improving the springiness of your legs.

M=Mile or Miles.

MW=Mile Walk. *Example*: 3MW-Tr 100/1M means that you are to walk three miles, breaking into a trot for 100 yards in each mile.

RF Exs=Resistive Form Exercises for shot putters, as set out in *Exercises for Athletes* (John F. Shaw & Co., Ltd., London).

WT=Weight Transference. This is the practise, so necessary to shot putters, of pushing the weight of the body forward from the right foot to the left, or vice versa if a man is left-handed. *Example*: WT-5 mins. means that you are to practise weight transference from the right foot to the left for 5 mins. (See Figs. 70, 74, and 71 in that sequence.)

KT=Knee Turn. It is important for the shot putter to turn in the knee of the rear leg, as he begins the delivery action with the placing down of the left foot. (See Fig. 71.)

Co=Co-ordination. *Example*: 2STP- $\frac{1}{2}$ -BS, KT, EL-Co means that you are to do two standing puts at $\frac{1}{2}$ effort, co-ordinating the swing of the body, the

turning in of the knee and the lifting of the elbow of the putting arm.

F=Full Effort. *Example*: 4STP-F means that you are to make four standing puts at full effort.

GMP=Glide minus Put. That is to say, you will practise gliding across the circle with the shot in hand without putting. (See Figs. 72, 73, 74 and 71 in this order.)

Fw=Footwork. *Example*: 6GMP- $\frac{1}{4}$ -Fw means that you are to practise six glides across the circle with the shot in hand, but without putting, at $\frac{1}{4}$ effort, for the building up of correct footwork. The glide should be made from the right foot on to the right foot, which should land at the centre of the circle. The landing of the right foot is accompanied by the swinging back of the shoulders from left to right (see Fig. 74), so that one may get under or behind the shot, the left foot is then placed down close to the edge of the circle and off to the left of a line from back to front of the circle, at an angle of approximately 20 degrees. It should be carefully noted that in making the glide the right foot lands a fraction of a second before the left foot is placed down.

FT=Follow Through. This is a most important phase of the action. The putting hand, and the eyes, should follow the shot in flight, and the shoulder of the putting arm should complete the movement by pressing well up in the direction of flight. (See Figs. 68, 69 and 75.)

PWG=Putting with Glide. *Example*: 3PWG- $\frac{1}{2}$ -FT means that you will put three times with the glide at $\frac{1}{2}$ effort, concentrating on the follow through. (See Figs. 67 and 68; and 70, 72, 73, 74, 71 and 75 in the order 70 to 75 as given.)

SP=Starting Practise. It is advisable for the shot putter to do a lot of starting practise with the sprinters; the drive out of the holes from the crouch

position will strengthen his leg muscles for the glide. *Example*: SP-30- $\frac{1}{2}$ -3 means that you will sprint 30 yards from a crouch start at $\frac{1}{2}$ effort three times. (See Figs. 5 to 9.)

T=Trial. *Example*: 6STP-T means that you will make six standing puts for distance as a trial. 3PWG-T means that you will put three times with the glide at full effort for distance as a shot-putting trial.

PCF=Putting to Correct Faults shown in last trial. *Example*: 4STP- $\frac{1}{2}$ -PCF means that you will make four standing puts at $\frac{1}{2}$ effort for the correction of faults revealed by your last trial.

Special Practise=There is one special practise, designed to give the shot putter speed and stamina, which is represented in the following example: 150- $\frac{1}{2}$ +20- $\frac{3}{4}$ +30- $\frac{1}{2}$ -1. This means that you are to run 200 yards in all, covering the first 150 yards at $\frac{1}{2}$ effort, the next 20 yards at $\frac{3}{4}$ effort and the final 30 yards at $\frac{1}{2}$ effort.

VE=Varying Effort. *Example*: 6STP-VE $\frac{1}{4}$ to $\frac{1}{2}$ -PCF. This means that you are to make six standing puts at varying effort from $\frac{1}{4}$ to $\frac{1}{2}$ effort, putting to correct faults shown in your last trial.

FWF=Finger and Wrist Flick. If the shot putter can finish off the delivery action by despatching the missile with a strong flick of the wrist and fingers, good direction will be ensured and some distance added to the length of flight. *Example*: 3STP- $\frac{1}{2}$ -FWF, H & FT means that you are to make three standing puts at $\frac{1}{2}$ effort, concentrating upon, and co-ordinating, the finger and wrist flick in a put for height with good follow-through action. (See Figs. 69 and 75.)

SF=Shot Flicking. This is the practise which enables the athlete to build up the necessary strength in wrist and fingers for the very last phase of the delivery action. The shot is placed in the putting hand and is then flicked from one hand to the other

solely by the use of the wrists and fingers. *Example*: SF-5 mins. means that you will stand with your arms bent and elbows close to the sides and continue flicking the shot from one hand to the other for 5 mins.

TABLE OF EFFORT

SHOT PUT

Average Best Performance. Ft.	$\frac{3}{4}$ Effort. Ft. Ins.		$\frac{1}{2}$ Effort. Ft. Ins.		$\frac{1}{4}$ Effort. Ft. Ins.	
	Ft.	Ins.	Ft.	Ins.	Ft.	Ins.
50	47	6	45	0	30	0 to 35 0
49	46	6	44	1	29	5 — 34 3
48	45	7	43	2	28	9 — 33 7
47	44	8	42	3	28	2 — 32 10
46	43	8	41	5	27	7 — 32 2
45	42	9	40	6	27	0 — 31 6
44	41	9	39	7	26	5 — 30 9
43	40	10	38	8	25	9 — 30 1
42	39	10	37	9	25	2 — 29 5
41	38	11	36	10	24	7 — 28 8
40	38	0	36	0	24	0 — 28 0
39	37	0	35	1	23	5 — 27 3
38	36	1	34	2	22	9 — 26 7
37	35	2	33	3	22	2 — 26 0
36	34	2	32	5	21	7 — 25 2
35	33	3	31	6	21	0 — 24 6
34	32	5	30	7	20	5 — 23 9
33	31	4	29	8	19	9 — 23 1
32	30	5	28	9	19	2 — 22 6
31	29	5	27	10	18	7 — 21 8
30	28	6	27	0	18	0 — 21 0

MEN AND BOYS
SHOT PUT—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBns-5 mins. STP- $\frac{1}{4}$ -6-BS, EL, LD, H 3SLJ & 3SHJ Preliminary L & AS-5 mins. 6GMS	440- $\frac{1}{4}$ -1 BBns-5 mins. STP- $\frac{1}{4}$ -6-BS-EL-LD-H PWG- $\frac{1}{4}$ -6 GMP- $\frac{1}{4}$ -6-FW 3SLJ & 3SHJ WT-5 mins.	SP-30- $\frac{1}{4}$ -2 SP-30- $\frac{1}{4}$ -3 RF Exs-5 mins. STP- $\frac{1}{4}$ -4-BS, KT, LD & EL STP- $\frac{1}{4}$ -2-H & FT WT-5 mins. Rhythmic Exs-10 mins.	440- $\frac{1}{4}$ -1 L & AS-3 mins. GMS- $\frac{1}{4}$ -2 RF Exs-5 mins. SLJ- $\frac{1}{4}$ -3 SHJ- $\frac{1}{4}$ -3
Tuesday	BBns-5 mins. 1M-10g RF & Rhythmic Exs-10 mins. WT-5 mins.	RF & Rhythmic Exs SSO- $\frac{1}{4}$ -1 Form Exercises WT-5 mins.	RF & Rhythmic Exs SP-30- $\frac{1}{4}$ -2 SP-30- $\frac{1}{4}$ -3 SSO- $\frac{1}{4}$ -1 Form Exs-5 mins. WT-3 mins. L & AS-3 mins.	Rhythmic Exs-10 mins. GMP- $\frac{1}{4}$ -2-BS & WT GMP- $\frac{1}{4}$ -3-BS & WT WT-5 mins. PWG- $\frac{1}{4}$ -Co-3 PWG- $\frac{1}{4}$ -Co-2 PWG- $\frac{1}{4}$ -H & FT-2
Wednesday	440- $\frac{1}{4}$ -1 BBns-5 mins. SP-30- $\frac{1}{4}$ -3 STP- $\frac{1}{4}$ -BS & LD STP- $\frac{1}{4}$ -3-EL & H Preliminary L & AS-5 mins. GMS-5 mins. 220- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 SP-30- $\frac{1}{4}$ -3 STP- $\frac{1}{4}$ -LD, Co, EL-4 STP- $\frac{1}{4}$ -BS, KT, EL, Co-4 GMP- $\frac{1}{4}$ -4 WT-5 mins.	220- $\frac{1}{4}$ -1 SLJ- $\frac{1}{4}$ -3 RF Exs-5 mins. SHJ- $\frac{1}{4}$ -3 Rhythmic Exs-5 mins. GMP- $\frac{1}{4}$ -2-BS & FV GMP- $\frac{1}{4}$ -2-BS & FV PWG- $\frac{1}{4}$ -H & FT-4	SLJ- $\frac{1}{4}$ -3 WT-3 mins. BS & KT-3 mins. STP- $\frac{1}{4}$ -6-Co STP- $\frac{1}{4}$ -3-Co 220- $\frac{1}{4}$ -1
Thursday	3MW-Tr 100/1M	3MW-Tr 100/SSO	4MW-Tr 100/1M	4MW-Tr 100/SSO
Saturday	440- $\frac{1}{4}$ -1 BBns-5 mins. STP- $\frac{1}{4}$ -BS, KT, Co-2 STP- $\frac{1}{4}$ -BS-KT-EL, Co-2 STP- $\frac{1}{4}$ -4 WT-5 mins. 120- $\frac{1}{4}$ -1	440- $\frac{1}{4}$ -1 BBns-5 mins. STP- $\frac{1}{4}$ -Co-3 STP- $\frac{1}{4}$ -FT-3 GMP- $\frac{1}{4}$ -2-FV GMP- $\frac{1}{4}$ -3-FV PWG- $\frac{1}{4}$ -2-FT	100- $\frac{1}{4}$ +20- $\frac{1}{4}$ +50- $\frac{1}{4}$ -1 BBns-5 mins. STP- $\frac{1}{4}$ & $\frac{1}{2}$ -Co-4 STP-T-6	100- $\frac{1}{4}$ +20- $\frac{1}{4}$ +100- $\frac{1}{4}$ -1 RF Exs-5 mins. PWG- $\frac{1}{4}$ -3-Co Rhythmic Exs-3 mins. PWG-3-T

Note.—The Shot Put must do from 6 to 26 Press-ups from the finger-tips daily. Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 212 to 237. Special exercises for this event will be found in *Exercises for Athletes*, Chapter X.

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 RF Exs-5 mins. STP- $\frac{1}{4}$ -4-PCF STP- $\frac{1}{2}$ -4-PCF GMP- $\frac{1}{4}$ -4-PCF PWG- $\frac{1}{4}$ -3-PCF	440- $\frac{1}{4}$ -1 RF Exs-5 mins. STP-VE $\frac{1}{4}$ to $\frac{1}{2}$ -6-PCF GMP-VE $\frac{1}{4}$ to $\frac{1}{2}$ -4 PWG-VE $\frac{1}{4}$ to $\frac{1}{2}$ -3 PWG- $\frac{1}{4}$ -H & FT-2	440- $\frac{1}{4}$ -1 RF Exs-5 mins. STP-VE $\frac{1}{4}$ & $\frac{3}{4}$ -4-PCF PWG- $\frac{1}{4}$ -3 PWG- $\frac{1}{2}$ -H & FT-3	440- $\frac{1}{4}$ -1 RF Exs-5 mins. STP- $\frac{1}{4}$ -4-PCF PWG- $\frac{1}{4}$ -4-PCF Rhythmic Exs-5 mins. STP- $\frac{1}{4}$ -4-FWF STP- $\frac{1}{2}$ -3-FWF-H & FT
Tuesday	Rhythmic Exs-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -4 880- $\frac{1}{4}$ -1	Rhythmic Exs-5 mins. SHJ- $\frac{1}{2}$ -6 880- $\frac{1}{4}$ -1	Rhythmic Exs-5 mins. BBnS-2 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50- $\frac{3}{4}$ -2	220- $\frac{1}{2}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 100- $\frac{3}{4}$ -1
Wednesday	100- $\frac{1}{4}$ +20- $\frac{1}{2}$ +50- $\frac{3}{4}$ -1 RF Exs-5 mins. STP- $\frac{1}{4}$ -4-Co STP- $\frac{1}{2}$ -3-Co STP- $\frac{3}{4}$ -3-H & FT PWG- $\frac{1}{4}$ -2-Co PWG- $\frac{1}{2}$ -2-H & FT	440- $\frac{1}{4}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 SLJ- $\frac{1}{2}$ -3 50- $\frac{3}{4}$ -2	220- $\frac{1}{2}$ -1 STP- $\frac{1}{4}$ -2-H & FT PWG- $\frac{1}{4}$ -3-PCF PWG- $\frac{1}{2}$ -2-H & FT SP-30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -1	440- $\frac{1}{4}$ -1 RF Exs-5 mins. SF-5 mins. STP- $\frac{1}{4}$ -6-Co PWG- $\frac{1}{4}$ -3-Co Rhythmic Exs-5 mins.
Thursday	5MW-Tr 150/1M 50- $\frac{1}{2}$ +20- $\frac{3}{4}$ +30- $\frac{1}{2}$ -1 STP- $\frac{1}{2}$ -2-Co STP- $\frac{1}{2}$ -2-Co STP-3-T Rhythmic Exs-5 mins. PWG- $\frac{1}{4}$ -1-Co PWG- $\frac{1}{2}$ -1-Co PWG- $\frac{3}{4}$ -T	4MW-Tr 100/1M 100- $\frac{1}{4}$ +20- $\frac{1}{2}$ +30- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. STP- $\frac{1}{4}$ -2-Co STP- $\frac{1}{2}$ -3-Co STP-6-T PWG- $\frac{1}{2}$ -2-Co PWG- $\frac{3}{4}$ -1-Co	2MW-Fast	2MW-Fast
Saturday				RF Exs-5 mins. SP-30- $\frac{1}{2}$ -2 STP- $\frac{1}{4}$ -3-Co STP- $\frac{1}{2}$ -3-Co STP-6-T 220- $\frac{1}{2}$ -1

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 STP-VE $\frac{1}{4}$ & $\frac{1}{2}$ -3-PCF PWG-VE $\frac{1}{4}$ & $\frac{1}{2}$ -3-PCF RF Exs-5 mins. SF-5 mins. PWG- $\frac{1}{4}$ -3-Co (Pronounce KT)	440- $\frac{1}{4}$ -1 STP- $\frac{1}{4}$ -3-PCF STP- $\frac{1}{2}$ -3-PCF SF-2 mins. PWG- $\frac{3}{4}$ -H & FT FT+FWF-2 (Pronounce EL)	440- $\frac{1}{4}$ -1 STP- $\frac{1}{4}$ -3-PCF GMP- $\frac{1}{4}$ -3-PCF PWG- $\frac{1}{2}$ -3-PCF PWG-H & FT FT+FWF-2 (Pronounce EL)	220- $\frac{1}{2}$ -1 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2
Tuesday	100-Tr-3 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50-F-1	100-Tr-3 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 50-F-1	100-Tr-3 SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -4	100-Tr-3 STP- $\frac{1}{4}$ -2-Co GMP- $\frac{1}{4}$ -2-Co PWG- $\frac{1}{4}$ -2-Co PWG- $\frac{3}{4}$ -H & FT FT+FWF-1
Wednesday	50- $\frac{1}{4}$ +20- $\frac{1}{2}$ +30- $\frac{1}{4}$ -1 SF-3 mins. STP- $\frac{1}{2}$ -2-Co PWG- $\frac{1}{4}$ -H & FT FT+FWF-3 220- $\frac{1}{4}$ -1	RF Exs-5 mins. SF-3 mins. STP- $\frac{1}{4}$ -2-Co STP- $\frac{1}{2}$ -2-Co STP- $\frac{3}{4}$ -2-Co Rhythmic Exs-5 mins.	RF Exs-5 mins. SF-3 mins. STP- $\frac{1}{4}$ -2-Co STP- $\frac{1}{2}$ -2-Co STP-F-2-Co	2MW-Easy or Rest
Thursday	1MW-Very Fast	$\frac{1}{2}$ MW-Very Fast	1MW-Easy	Rest
Saturday	RF Exs-5 mins. BBnS-2 mins. SP-20- $\frac{1}{2}$ -2 SF-2 mins. GMP- $\frac{1}{4}$ -2 STP- $\frac{1}{4}$ -2-Co PWG-6-T	50- $\frac{1}{4}$ +20- $\frac{1}{2}$ +30- $\frac{1}{4}$ -1 BBnS-2 mins. STP- $\frac{1}{4}$ -2-Co PWG- $\frac{1}{4}$ -2-Co PWG- $\frac{3}{4}$ -2-Co PWG-3-T	440- $\frac{1}{4}$ -1 RF Exs-5 mins. STP- $\frac{1}{4}$ -2-Co STP- $\frac{1}{2}$ -2-Co PWG- $\frac{1}{4}$ -2-Co PWG- $\frac{1}{2}$ -2-Co Rhythmic Exs-5 mins.	Competition for which training

CHAPTER FOURTEEN

THROWING THE HAMMER

HAMMER THROWING is not only one of the most difficult of the athletic events to learn, but it is also an event at which one cannot retain one's form without constant practise. The difficulty of learning the event lies in the tremendous force one has to resist in executing the turn and throw. For example, in the case of a man throwing a 16-lb. hammer a distance of 150 ft., for instance, the centrifugal force exerted, or, in other words, the pull on the arms, is 366 lbs., while the velocity of the hammer at the instant of release from the hands is 69 ft. per second.

With such forces involved it is obvious that training must be a slow and precise business, spread over a long period.

The hammer used in men's competitions weighs 16 lbs.; boys, however, should not be allowed to use hammers exceeding 8, 10 or 12 lbs., according to age, and if this advice is followed the same Training Table may be used by men and boys.

A Table of Preliminary Training for all Field Events Men will be found on page 107. During the preliminary training the athlete must perform faithfully the Hammer Thrower's Exercises, given in *Exercises for Athletes*, and, particularly, the Resistive Form Exercises, which, while building up the muscles, will give him a sense of the evolutions to be performed, and will create the necessary balance for resisting the pull of the hammer. The preliminary training should be followed by three months' final, intensive training, as set out in the Training Tables given in this chapter.

A Table of Effort to guide the hammer thrower in his training will be found on page 164. The use and purpose of such tables is fully explained in pages 102-105.

TRAINING TABLES—SYMBOLS EXPLAINED.

Tr=Trot. *Examples*: 440-Tr-1 means that you are to trot 440 yards, once. 100-Tr-3 means that you are to jog up and down the 100 yards sprint path, three times. Both are limbering-up practises. The longer distance is run early on in the training period to increase the depth of tidal breathing and to clear CO₂ from the lower parts of the lungs. The short jogging comes later in the training period as a process to set your blood flowing and to loosen your muscles, preparatory to serious training work.

BS & ShL Exs=Body Stretching and Shoulder Loosening Exercises. These exercises are a further part of the limbering-up process.

RF Exs=Resistive Form Exercises. These are the all-important exercises for the building up of strength, resistive power and technique. (See Fig. 111.)

HS=Hammer Swinging. The first thing the athlete must do is to learn the trick of swinging the hammer smoothly round his head. Such swinging precedes the turning movement, and the efficiency of the first turn depends largely upon the smooth rhythm of the preliminary swinging. (See Figs. 76 to 79.)

Ssw=Smooth swing.

R=Rhythm.

WT=Weight Transference. During hammer swinging the weight of the body should be transferred from the right foot to the left, and vice versa; the weight passing on to the right foot when the hammer-head is travelling round the left of the body, and to the left foot when the hammer-head is travelling round to the right of the body. Similarly, the weight is disposed forward on to the balls of the feet when the

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hammer-head is to the rear, and the weight passes back on to the heels when the hammer-head is out in front of the body. *Example*: HS-Ssw, R & WT-10 mins. means that you are to practise hammer swinging for 10 mins., with concentration on a smooth swing, perfect rhythm and weight transference, to resist the pull of the rotating hammer-head. (See Figs. 77-79.)

ST=Standing Throw.

L'y=Loosely.

E=Elevation. The hammer is thrown at a departure angle of 45 degrees and will reach a greatest vertical height of 37 ft. 6 ins. in a throw of 150 ft. *Example*: 7ST-L'y-E means that you are to make seven standing throws, loosely, for elevation.

HT=Hammer Throw with a Turn. (See Figs. 80 and 81.)

Tu=Turn or Turns. *Example*: 7HT-1Tu-L'y-E means that you will make seven hammer throws with one turn, loosely, for elevation.

Tic=Turning in the circle. (See Figs. 80 and 81.)

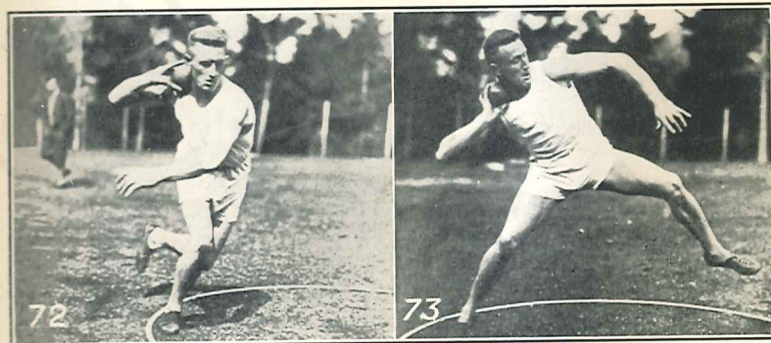
LFw=Line Footwork. Hammer Throwing should always be practised from a 7-ft. circle, marked vertically by a line bisecting the circle from rear to front. During the turns the feet should be placed directly in rear of their former position, i.e. one foot should fall on either side of the line. If the feet show to the left of the line at the conclusion of the turn, this will tell you that you have not resisted the pull of the hammer-head sufficiently. *Example*: 6Tic-2Tu-LFw. This means that you are to practise turning in the circle six times, with two turns in each practise, for the correction of footwork in relation to the line drawn across the circle.

EP=Even Pull. All actions in throwing must be smooth and well balanced, and an even pull on the hammer, both in swinging and turning, is essential. (See Fig. 81.)

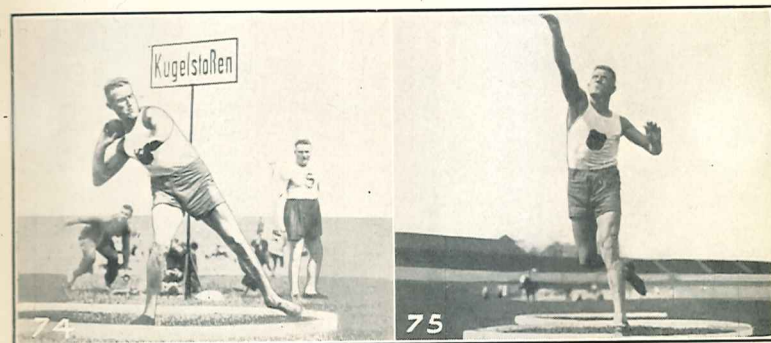
SHOT PUTTING ACTION



Left: "WT"—First position for weight transference. Right: "WT, EL & KT"—Second stage of weight transference, with elbow lift and knee turn of rear leg.



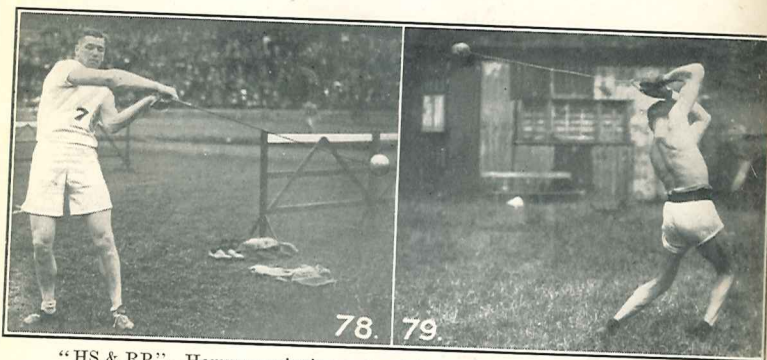
"GMP or PWG"—Glide minus put, or putting with the glide. Left: Also "L & AS"—Leg and arm swing. Right: Beginning of glide.



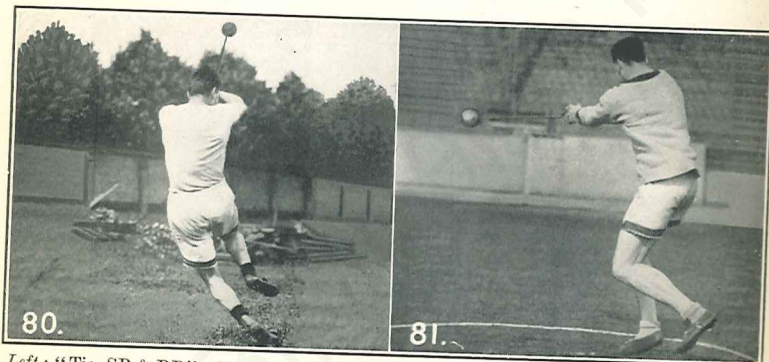
Left: "BS"—Body swing. Right: "FT, H & FWF"—Follow-through, putting for height with finger and wrist flick. Pictures of E. Hirschfeld, Germany, former World's Record Holder, 51 ft. 0 ins.



"HS" Hammer swinging. *Left:* The starting position. *Right:* "EfWD"—Eyes following weight displacement.



"HS & RP"—Hammer swinging and resisting pull. *Left:* Cross-body action. *Right:* Overhead form.



Left: "Tic, SB & RP"—Turning in circle, speed building and resisting pull. *Right:* "Tic & FP"—Turning in circle with even pull. Pictures 79 & 80, the late A. E. Flaxman, Northern Record Holder, others of M. C. Nokes, O.U.A.C., English Record Holder, 172 ft. 0½ ins.

Spr=Sprinting. *Example:* Spr-30-½-3 means that you will sprint 30 yards at ½ effort, three times. (See Figs. 10 to 12.)

WH=Without Hammer. *Example:* 10Tic-2Tu-WH-LFw means that you will ten times practise turning in the circle with two turns, without the hammer, for the building up of line footwork.

D=Direction. As the rules require that the hammer should fall within a 90 degree sector marked upon the ground it is necessary to get good direction, as well as good elevation, with the throw. *Example:* 7ST-L'ly-E & D means that you are to make seven standing throws, loosely, for elevation and direction.

EfWD=Eyes following Weight Displacement. When the hammer-head is visible during swinging, and throughout the turning action, the eyes should follow the displacement of the weight, so that the movements of the body become free and well synchronised, conforming to the swing of the hammer-head. (See Figs. 77 and 81.)

Am Pu=Arm Pull.

BT=Body Turn. *Example:* 7ST-BT & Am Pu-L'ly means that you are to make seven standing throws, emphasising a quick turn of the body from right to left to start the throw and a steady, even arm pull to despatch the hammer in a loose throw. It should be remembered that the quick body turn should be made to contribute considerably to the throwing action.

FT=Follow Through. The hammer should be despatched with a high, lifting action, the whole figure being stretched up in the follow through and the eyes and hands following out on the path of the hammer flight. Elevation and direction are, of course, involved in this action. *Example:* 7HT-1Tu-L'ly-E, D & FT means that you are to make seven hammer throws with one turn loosely, concentrating upon elevation, direction and follow through.

Inc Spd=Increasing Speed. Once the hammer thrower has mastered the rudiments of technique he should make every effort to build up speed and yet more speed. *Example*: 3Tic-2Tu-Inc Spd-LFw means that you are to practise turning in the circle three times, with two turns in each practise, increasing the speed from the first turn to the second, both for the building up of speed and for line footwork.

Co=Co-ordination. *Example*: 3HT-1Tu- $\frac{1}{2}$ -Co means that you are to make three hammer throws with one turn at $\frac{1}{2}$ effort, co-ordinating the whole action of turning and throwing.

RP=Resisting Pull. *Example*: 3HT-2Tu-Inc Spd-RP & LFw means that you are to make three hammer throws with two turns at increasing speed, while concentrating on resisting the pull of the hammer and good line footwork. (See Figs. 78, 79 and 80.)

T=Trials. *Example*: 3HT-2Tu-T means that you will make three hammer throws with two turns as a trial for both skill and distance.

SB=Speed Building. *Example*: 3Tic-3Tu-SB means that you will practise turning in the circle three times, with three turns each time, and will strive to build up speed progressively throughout the three turns. (See Figs. 80 and 81.)

Th=Throw.

Bal=Balance. It is important that the athlete should strive after good balance, both in throwing and turning. He must also endeavour to regulate his power by balancing his turning and his throwing at different efforts. *Example*: 3HT-2Tu (Tic- $\frac{1}{2}$ & $\frac{3}{4}$ -Th- $\frac{1}{2}$)-FT & Bal means that you will make three hammer throws with two turns, the first turn at $\frac{1}{2}$ effort, the second turn at $\frac{3}{4}$ effort and the throw at $\frac{1}{2}$ effort, for follow through and balance.

F=Full effort. *Example*: 3Tic-3Tu-Inc Spd- $\frac{1}{2}$, $\frac{3}{4}$ & F means that you will practise turning in the circle three times, with three turns each time at increasing

speed, the first turn at $\frac{1}{2}$ effort, building up to $\frac{3}{4}$ effort in the second turn and full effort in the third turn.

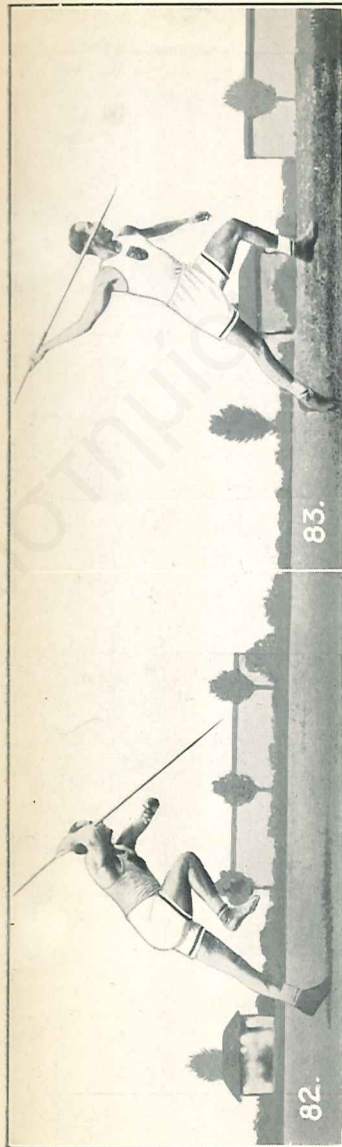
MW=Mile Walk. *Example*: 3MW-4 $\frac{1}{2}$ m.p.h. means that you are to go for a three-mile walk at four and a half miles an hour.

TCF=Throwing to Correct Faults. *Examples*: 3HT-3Tu- $\frac{3}{4}$ -TCF means that you will make three hammer throws with three turns each at $\frac{3}{4}$ effort to correct faults shown in your last trial. 3Tic-3Tu (Tic $\frac{1}{4}$, $\frac{1}{2}$ & $\frac{3}{4}$)-TCF means that you will practise turning in the circle three times, with three turns each time, the first turn at $\frac{1}{4}$ effort, the second at $\frac{1}{2}$ effort and the third at $\frac{3}{4}$ effort, to correct faults in turning shown in your last trial.

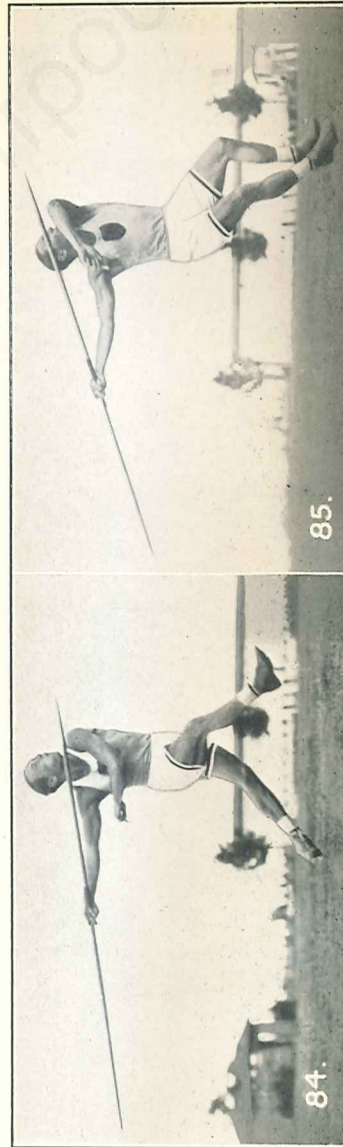
TABLE OF EFFORT

HAMMER

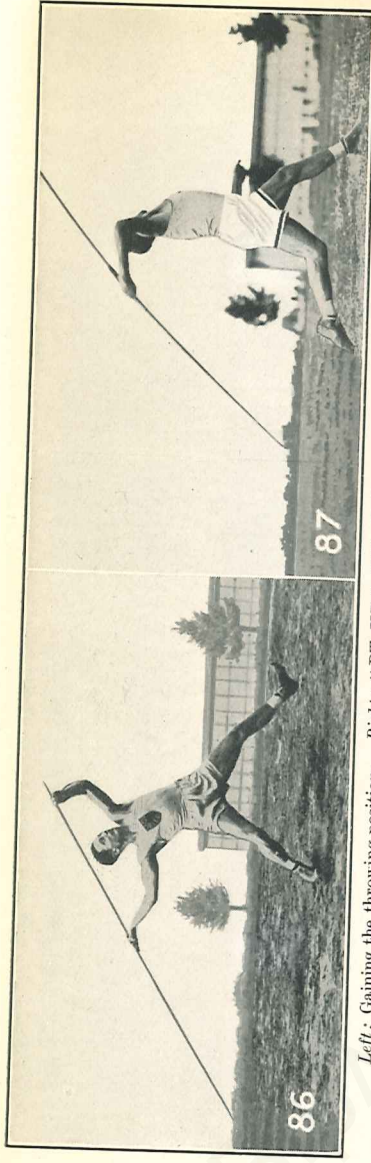
Average Best Performance.	$\frac{3}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{1}{4}$ Effort.		
	Ft.	Ft. Ins.	Ft.	Ft.	Ft.	Ins.	
190	171	0	152	114	to 133	0	
185	166	6	148	111	— 129	6	
180	162	0	144	108	— 126	0	
175	157	6	140	105	— 122	6	
170	153	0	136	102	— 119	0	
165	148	6	132	99	— 115	6	
160	144	0	128	96	— 112	0	
155	139	6	124	93	— 108	6	
150	135	0	120	90	— 105	0	
145	130	6	116	87	— 101	6	
140	126	0	112	84	— 98	0	
135	121	6	108	81	— 94	6	
130	117	0	104	78	— 91	0	
125	112	6	100	75	— 87	6	
120	108	0	96	72	— 84	0	
115	103	6	92	69	— 80	6	
110	99	0	88	66	— 77	0	
105	94	6	84	63	— 73	6	
100	90	0	80	60	— 70	0	
95	85	6	76	57	— 66	6	
90	81	0	72	54	— 63	0	



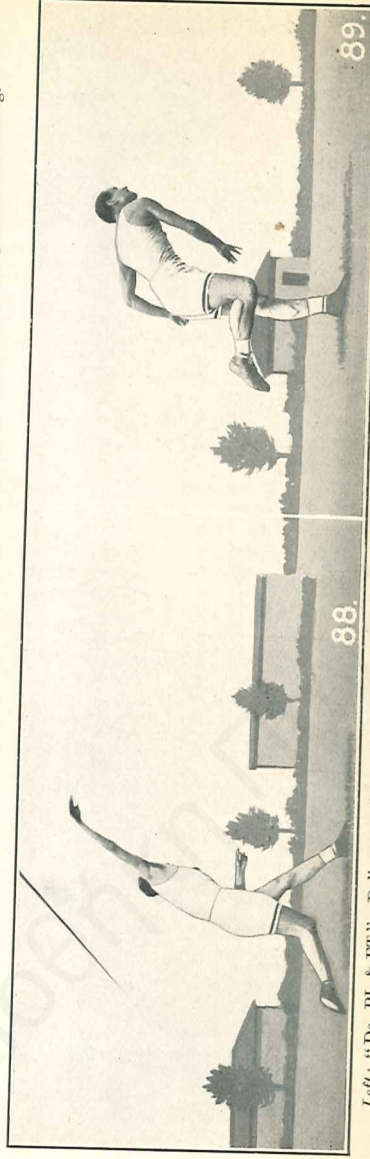
Left: "SPJ, KL & BAS"—Sprinting with javelin, showing knee lift and balanced arm-swing. Right: "Ap"—Approach to throwing position, last stride.



Left: "Soa"—Step over action, commencing. Right: "Soa"—Step over action, approaching completion. Pictures of B. Szepes, Hungarian Record Holder. Sequence series from "Athletes in Action."



Left: Gaining the throwing position Right: "BT, KT & El" —Body turn, knee turn of rear leg and elbow leading.



Left: "Da, PL & FT" —Delivery action, palm lift and follow through. Right: "FT" —Follow through. Pictures of B. Szepes, Hungarian Record Holder. Sequence series from "Athletes in Action."

HAMMER THROWING—THREE MONTHS' FINAL TRAINING—FIRST MONTH (MEN AND BOYS)

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	<p>Note.—Men work this week with 12-lb. Hammer only</p> <p>440-Tr-1 BS & SHL Exs-5 mins. HS-Ssw & R & WT-10 mins. 7ST-L'y-E RF Exs-10 mins. 7HT-1Tu-L'y-E 6Tic-2Tu-LFw</p>	<p>Note.—Men work this week with 12-lb. Hammer only</p> <p>440-Tr-1 HS-EfWD, WT, Ssw & R-10 mins. 7ST-BT & Am Pu-L'y 6Tic-2Tu-EfWD-LFw Spr-30-1-2 Spr-30-1-2</p>	<p>Note.—Men work this week with 14-lb. Hammer only</p> <p>440-1-1 HS-Am Pu-Inc Spd-LFw 7HT-1Tu-L'y-E-D & FT RF Exs-10 mins.</p>	<p>Note.—Men work this week with 14-lb. Hammer only</p> <p>440-Tr-1 6Tic-2Tu-L'y 6Tic-2Tu-Inc Spd-LFw 3HT-2Tu-1-BT & Am Pu 3HT-2Tu-Inc Spd-E & FT</p>
Tuesday	<p>440-Tr-1 BS & SHL Exs-5 mins. HS-Ssw-R & WT-5 mins. 7ST-L'y-EP & E RF Exs-5 mins. 7HT-1Tu-L'y-EP & E 6Tic-Tu-LFw</p>	<p>3MW-Tr 60/880</p>	<p>440-1-1 BS & SHL Exs-5 mins. 3ST-1-BT, Am Pu & FT 3ST-1-ED & FT 6Tic-2Tu-Inc Spd 3HT-1Tu-1-BT, Am Pu & FT 3HT-2Tu-L'y-LFw</p>	<p>4MW-Tr 100/1M</p>
Wednesday	<p>RF Exs-5 mins. Light Work (Discus or Jumps) Spr-30-1-2 10Tic-2Tu-VH-LFw</p>	<p>440-Tr-1 RF Exs-5 mins. 3ST-1-BT & Am Pu 3ST-1-E & D 4Tic-2Tu-EfWD-LFw 3FT-1Tu-EfWD-FT 3HT-L'y-1Tu-E & D 3HT-1-BT & Am Pu</p>	<p>RF Exs-5 mins. Light Work (Discus or Jumps) Spr-30-1-2 Spr-30-1-2 Spr-30-1-2 220-1-1</p>	<p>440-Tr-1 BS & SHL-5 mins. 2HT-1Tu-L'y-E & D 3Tic-2Tu-1-EfWD & LFw 3HT-2Tu-1-E-D & FT 2HT-2Tu-1-Co RF Exs-5 mins.</p>
Thursday	<p>440-Tr-1 BS & SHL Exs-5 mins. HS & WT-10 mins. 7ST-L'y-E & D RF Exs-5 mins. 6Tic-2Tu-LFw</p>	<p>440-Tr-1 HS-EfWD & WT-5 mins. 3ST-Am Pu & R-L'y 3ST-1-BT & Am Pu 3ST-1-E & D 3HT-1Tu-1-Co 3HT-2Tu-1-D & LFw 3HT-2Tu-Inc Spd-LFw</p>	<p>440-Tr-1 BS & SHL-5 mins. 3ST-1-Co 3ST-1-Co RF Exs-5 mins. 3HT-1Tu-1-Co 3HT-2Tu-1-D & LFw 3HT-2Tu-Inc Spd-LFw</p>	<p>Light Work (Discus or Jumps) Spr-30-1-2 Spr-30-1-2 Spr-50-1-1 220-1-1</p>
Saturday	<p>440-Tr-1 BS & SHL Exs-5 mins. HS-EfWD & WT-10 mins. RF Exs-5 mins. 7HT-1Tu-E & D 6Tic-2 Tu-LFw</p>	<p>Light Work (Discus or Jumps) Spr-30-1-2 Spr-30-1-3 220-Tr-1</p>	<p>HS-Co-5 mins. 3HT-1Tu-L'y 3HT-2Tu-1-EfWD-LFw 3HT-2Tu-1-E-D & FT 3HT-2Tu-Inc Spd-PP-LFw RF Exs-5 mins.</p>	<p>440-1-1 BS & SHL Exs-5 mins. 3HT-1Tu-L'y RF Exs-5 mins. 3HT-2Tu-1</p>

Note.—Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising. SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 238 to 250. Special exercises for this event will be found in *Exercises for Athletes*, Chapter XI.

HAMMER THROWING—THREE MONTHS' FINAL TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	<i>Note.</i> —Henceforth men use 16-lb. Hammer except as shown thus (14) 220- $\frac{1}{2}$ -1 6Tic-(14)-2Tu-SB 3HT-1Tu-Ly 3HT-2Tu- $\frac{1}{2}$ E & D 3HT-2Tu- $\frac{1}{2}$ E & D 6Tic-2Tu-RP-LFW 440- $\frac{1}{2}$ -1 BS & ShL Exs-5 mins. 6Tic-(14)-3Tu-LFW 6Tic-EIWD & WT-10 mins. 6Tic-2Tu-SB 2HT-1Tu- $\frac{1}{2}$ E & D 2HT-2Tu- $\frac{1}{2}$ E & D 2HT-2Tu- $\frac{1}{2}$ Am Pu, FT & LFW	440- $\frac{1}{2}$ -1 HS-RP & WT-5 mins. 2HT-1Tu-Ly & D HS-EP, Ssw & R-5 mins. 3HT-2Tu- $\frac{1}{2}$ Co 3HT-2Tu- $\frac{1}{2}$ EP-E & D 3HT-3Tu- $\frac{1}{2}$ E & LFW 4MW-Tr 100/IM	220- $\frac{1}{2}$ -1 HS-EP, Ssw & WT-5 mins. 2HT-1Tu-Ly-EP-FT 3HT-3Tu-SB 3HT-2Tu- $\frac{1}{2}$ Co 3HT-3Tu- $\frac{1}{2}$ E & D 3HT-3Tu- $\frac{1}{2}$ E & LFW 440- $\frac{1}{2}$ -1 BS & ShL-5 mins. Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 2HT-1Tu-Ly-EP-E-D 3HT-2Tu- $\frac{1}{2}$ Co 3HT-3Tu- $\frac{1}{2}$ Co 3HT-3Tu- $\frac{1}{2}$ E-LFW	220- $\frac{1}{2}$ -1 BS & ShL-5 mins. 2HT-1Tu-Ly-Co 2HT-2Tu-Ly-Co 3HT-2Tu- $\frac{1}{2}$ Co 3HT-3Tu- $\frac{1}{2}$ Co 3HT-3Tu- $\frac{1}{2}$ Co 2HT-3Tu- $\frac{1}{2}$ E & D 440- $\frac{1}{2}$ -1 BS & ShL-5 mins. Light Work (Discus or jumps) RF Exs-10 mins.
Tuesday		4MW-Tr 100/IM		4MW-5 m.p.h.
Wednesday		220- $\frac{1}{2}$ -1 BS & ShL-5 mins. Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 6Tic-(14)-3Tu-Inc Spd-LFW RF Exs-5 mins. 3HT-3Tu- $\frac{1}{2}$ RP-LFW 3HT-3Tu-Inc Spd-E & D		220- $\frac{1}{2}$ -1 BS & ShL-5 mins. 2HT-1Tu-Ly-Co 2HT-2Tu-Ly-Co 3HT-2Tu- $\frac{1}{2}$ Co 3HT-3Tu- $\frac{1}{2}$ Co 2HT-3Tu- $\frac{1}{2}$ E & D
Thursday		440- $\frac{1}{2}$ -1 RF Exs-5 mins. BS & ShL-5 mins. Light Work (Discus or jumps) RF Exs-10 mins.		440- $\frac{1}{2}$ -1 RF Exs-5 mins. HS-Co-5 mins. 6Tic-3Tu-(14)-SB-LFW 6Tic-3Tu-Co-RP & LFW 3HT-3Tu-Ly-E-D 3HT-3Tu- $\frac{1}{2}$ Co-LFW-FT 3HT-3Tu- $\frac{1}{2}$ Co
Saturday		220- $\frac{1}{2}$ -1 RF Exs-5 mins. 2HT-1Tu- $\frac{1}{2}$ Co BS & ShL Exs-5 mins. Spr- $\frac{1}{2}$ -2 6HT-2Tu-T		220- $\frac{1}{2}$ -1 RF Exs-5 mins. BS & ShL-5 mins. 2HT-1Tu-Ly-E & D 3HT-2Tu-T RF Exs-5 mins. 3HT-2Tu-T

HAMMER THROWING—THREE MONTHS' FINAL TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BS & ShL-3 mins. Spr-30- $\frac{1}{2}$ -2 3HT-2Tu (Tic- $\frac{1}{2}$ -Th $\frac{1}{2}$)E-D 3HT-2Tu (Tic- $\frac{1}{2}$ -Th $\frac{1}{2}$)E-D 3HT-3Tu-Inc Spd- $\frac{1}{2}$ E & D 3HT-3Tu-Inc Spd- $\frac{1}{2}$ E & D 3HT-3Tu-SB-Th $\frac{1}{2}$ E & D	100-Tr-3 BS & ShL-3 mins. 2HT-1Tu-Ly 3HT-3Tu- $\frac{1}{2}$ TCF 3HT-3Tu- $\frac{1}{2}$ TCF 3HT-3Tu- $\frac{1}{2}$ TCF 3Tic-3Tu-Inc Spd-FT-Bal 2HT-3Tu-Inc Spd-FT-Bal 3Tic-3Tu-SB-EIWD-LFW	100-Tr-3 BS & ShL-3 mins. Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 4HT-3Tu- $\frac{1}{2}$ Co 2HT-3Tu- $\frac{1}{2}$ Co 2HT-3Tu- $\frac{1}{2}$ FT-Bal-LFW	100-Tr-3 BS & ShL-5 mins. 2HT-1Tu-Ly 3HT-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) E-FT 3HT-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) FT 220- $\frac{1}{2}$ -1
Tuesday	BS-5 mins. 3MW- $\frac{1}{2}$ m.p.h. RF Exs-10 mins.	100-Tr-1 BS-5 mins. Light Work (Discus or jumps) RF Exs-10 mins.	100-Tr-3 BS & ShL-3 mins. Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 4HT-3Tu- $\frac{1}{2}$ Co 2HT-3Tu- $\frac{1}{2}$ Co	100-Tr-2 BS & ShL-5 mins. 2HT-1Tu-Ly-E-D 3Tic-SB-LFW 3HT-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) FT 3Tic-SB-LFW 3HT-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) Co
Wednesday	440- $\frac{1}{2}$ -1 Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 2HT-1Tu-Ly-E-D & FT 3HT-3Tu (Tic- $\frac{1}{2}$ & $\frac{1}{2}$ Th $\frac{1}{2}$) LFW 3HT-3Tu (Tic- $\frac{1}{2}$ & $\frac{1}{2}$ Th $\frac{1}{2}$) E-D & FT 3HT-3Tu (Tic- $\frac{1}{2}$ & $\frac{1}{2}$ Th $\frac{1}{2}$) Co 3HT-3Tu-Ly-EP-E-BT-D-FT	100-Tr-3 BS & ShL-3 mins. Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 3HT-3Tu-SB-Th $\frac{1}{2}$ -FT 3HT-3Tu-SB-Th $\frac{1}{2}$ -FT 3HT-3Tu-SB-Th $\frac{1}{2}$ -FT 3HT-3Tu-SB-Th $\frac{1}{2}$ -FT 6Tic-SB-EIWD-LFW 220- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 Spr-30- $\frac{1}{2}$ -2 Spr-30- $\frac{1}{2}$ -3 2HT-1Tu-Ly-E & D 2HT-2Tu- $\frac{1}{2}$ Co 6Tic-3Tu-SB-LFW	BS-5 mins. 3MW- $\frac{1}{2}$ m.p.h. or Rest
Thursday	440- $\frac{1}{2}$ -1 HS-EP, Ssw, WT & R-10 mins. 6Tic-3Tu-Ly 3Tic-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) E-D & FT 3Tic-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) E-D & FT 3Tic-3Tu (Tic $\frac{1}{2}$, $\frac{1}{2}$ Th $\frac{1}{2}$) E-D & FT	BS-5 mins. 4MW- $\frac{1}{2}$ m.p.h. RF Exs-10 mins.	BS-5 mins. 4MW- $\frac{1}{2}$ m.p.h. RF Exs-10 mins.	Rest
Saturday	100-Tr-3 BS & ShL-3 mins. 2HT-1Tu-Ly 2HT-3Tu- $\frac{1}{2}$ Co 4HT-3Tu-T	100-Tr-3 BS & ShL-3 mins. 2HT-1Tu-Ly 2HT-3Tu- $\frac{1}{2}$ Co 6HT-3Tu-T	100-Tr-3 BS & ShL-3 mins. 1HT-1Tu-Ly 2HT-3Tu-Inc Spd- $\frac{1}{2}$ 6HT-3Tu-T	Competition for which training

CHAPTER FIFTEEN

JAVELIN THROWING

THE first difficulty of the javelin thrower is that of manipulating a weapon to which he will become accustomed only by constant use and light throwing. One should throw three times a week to begin with, aiming at the acquisition of skill, rather than the attainment of distance. Each day's training starts with some running to increase the depth of tidal breathing and to clear the lower parts of the lungs of CO_2 . This practise is set out in the Training Tables in the following example: $100-\frac{1}{4}+30-\frac{3}{4}+20-\frac{1}{2}-1$, which means that you will run 150 yards in all, covering the first 100 yards at $\frac{1}{4}$ effort, the next 30 yards at $\frac{3}{4}$ effort and the final 20 yards at $\frac{1}{2}$ effort. The Resistive Form Exercises, which follow the limbering-up run, are part of the javelin thrower's education, since these exercises are designed for the development of the muscles he will use, in addition to which the carrying out of the exercises will cause him to remember the sequence of movements to be performed in action. The javelin thrower's exercises are fully explained in Chapter XII of *Exercises for Athletes*, while the full technique of his event will be found in *Athletes in Action*. Both books are published by Messrs. John F. Shaw & Co., Ltd., 3 Pilgrim Street, London.

One of the best practises is that of walking about the ground and throwing the javelin into the earth about 20 ft. ahead of you, after pulling the throwing arm back to a full arm extension. The practise is called "Tig" in the tables.

The javelin thrown in men's competitions is 8 ft. $6\frac{1}{8}$ ins. in length and 1 lb. $12\frac{1}{4}$ ozs. in weight; that used in boys' competitions is 7 ft. $6\frac{1}{2}$ ins. in length and 1 lb. 5.6 ozs.

in weight. Owing to this difference in the weight of the two types of javelin the same Training Table may be followed by both men and boys.

TABLE OF EFFORT. A Table of Effort for the guidance of javelin throwers in their training is given on page 173, the use and purpose of such tables being fully explained in pages 102-105.

You should always put down a mark to denote the distance of the throw you wish to make. For example, supposing that your average best performance is 140 ft. and your Training Table requires you to throw at $\frac{1}{2}$ effort, that would be 121 ft., which is the distance you should measure and mark with a flag before commencing the particular training practise in question.

TRAINING TABLES—SYMBOLS EXPLAINED.

RF Exs=Resistive Form Exercises. (See *Exercises for Athletes*.) *Example*: RF Exs-5 mins. means that you must practise the Resistive Form Exercises, specially designed for javelin throwers, for 5 mins. (See Fig. 110.)

Tig=Throwing into ground. *Example*: Tig-10 mins. means that you will walk about the field for 10 mins., constantly throwing the javelin down into the ground about 20 ft. ahead of you. (For full descriptions see *Athletes in Action*.)

Da=Delivery action. (See Figs. 88 and 92.)

Ap=Approach to throwing position. (See Figs. 82 and 83.)

W=Walk. *Note*.—There is no standing throw in this event; the corresponding practise to the discus thrower's standing throw is to deliver the javelin throw at the end of three or four walking steps. *Example*: Ap Da-W-3 means that you will practise the approach to the throwing position, finishing with the delivery action, at a walk, three times.

Tr=Trot.

JT=Javelin Throw.

El=Elbow leading. (See Fig. 87.)

Pl=Palm lift. (See Fig. 88.)

Soa=Step-over action. (See Figs. 84 and 85.) *Examples* :

JT-W-El & Pl-6 means that you will practise javelin throwing at a walk, for the elbow-leading and palm-lift actions, six times. Two essential features of the javelin thrower's technique are that the elbow should lead the throw and that the weapon should be lifted off the palm. Soa-W & Tr-5 ea. means that you are to practise the step-over action five times at a walk and five times at a trot. The thrower passes from the approach to the throwing position by the step-over action illustrated and described in pages 264-5 of *Athletes in Action*. (See also Figs. 84 and 85 herein.)

WT=Weight Transference. Right-handed throwers should spend some time when in the throwing position in transferring the weight of the body from the right foot to the left, at the same time turning the shoulders from right to left and turning in the right knee as the weight of the body goes forward on to the left foot. (See Figs. 86, 87 and 93.)

SR=Short Run. *Example* : JT- $\frac{1}{4}$ -SR-3 means that you are to practise javelin throwing at $\frac{1}{4}$ effort, with a short run, three times.

MW=Mile Walk.

M=Mile or Miles. *Example* : 3MW-Tr 100/1M means that you will walk three miles, trotting 100 yards in every mile.

SPJ=Sprinting with Javelin. Speed plays almost as much a part in the success of the javelin thrower as of the long jumper or pole vaulter; but, like the latter, the javelin thrower is handicapped by having something to carry, and must, therefore, acquire the ability of running fast while carrying his spear. (See Fig. 82.) *Example* : SPJ-20- $\frac{1}{2}$ -2 means that you must sprint 20 yards at $\frac{1}{2}$ effort, twice, starting

from the proper position for the approach run and carrying the javelin in the correct manner. Be sure to start with a good forward lean and a high pick-up of the right knee as shown in Fig. 82.

FR=Full Run.

T=Trial. *Example* : JT- $\frac{1}{2}$ -FR-T-6 means that you will practise javelin throwing at $\frac{1}{2}$ effort, but with a full run, as a trial, six times.

TCF=Throwing to Correct Faults. *Example* : TCF- $\frac{1}{2}$ -SR-3 means that you will throw to correct faults at $\frac{1}{2}$ effort, after a short run, three times. (See Fig. 108.)

KL=Knee Lift. *Examples* : Ap Soa, El & Da- $\frac{3}{4}$ -2 means that you will practise the approach run, finishing with the step-over action and the elbow leading in the delivery action at $\frac{3}{4}$ effort, twice. It is the approach run, of course, that is at $\frac{3}{4}$ effort, while the delivery action is practised without a throw being made. SPJ-KL-20- $\frac{1}{2}$ -3. This means that you will practise sprinting with the javelin, emphasising the knee lift for 20 yards at $\frac{1}{2}$ effort, three times. (See Fig. 82.)

FT=Follow Through. (See Figs. 89 and 108.)

H=Height.

Co=Co-ordination. *Example* : JT- $\frac{3}{4}$ -Co, H & FT-2 means that you will practise javelin throwing at $\frac{3}{4}$ effort, co-ordinating height in the throw with a good follow through, twice.

Bas=Balanced Arm Swing. *Example* : SPJ-20-KL & Bas- $\frac{3}{4}$ -3 means that you will sprint with the javelin 20 yards, emphasising the knee lift and a balanced swing of the arm that does not carry the javelin, at $\frac{3}{4}$ effort, three times. (See Fig. 82.)

W & L Exs=Warming and Loosening Exercises. It is particularly necessary for the javelin thrower to loosen his shoulders and warm up his throwing arm by free movements before commencing throwing.

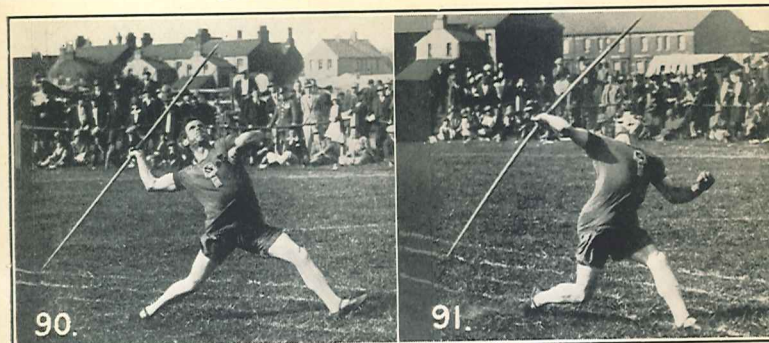
LSF=Long Steady Flight.

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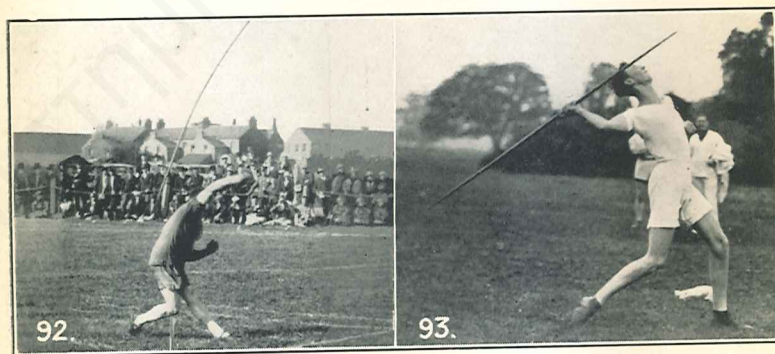
D=Direction. *Example*: JT- $\frac{1}{2}$ -LSF & D-6 means that you will practise javelin throwing at $\frac{1}{2}$ effort, concentrating on getting a long steady flight and good direction, six times. The javelin will travel further if it flies steadily; while direction is most important, since all throws are measured perpendicularly to the scratch line, or the scratch line produced.

Sprinting=Sprinting without the javelin must be practised to build up sheer sprinting ability. *Example*: 30- $\frac{7}{8}$ -1 means that you are to run 30 yards at just a fraction under your top speed, once.

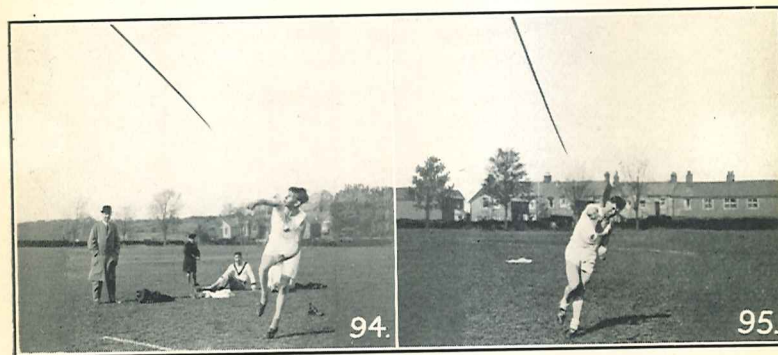
THE JAVELIN—DELIVERY ACTION



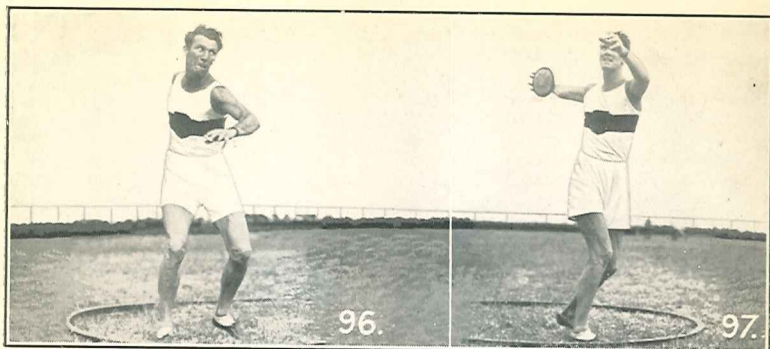
J. Dalrymple, Scottish Record Holder. *Left*: Perfect position before throw. *Right*: Good throwing position.



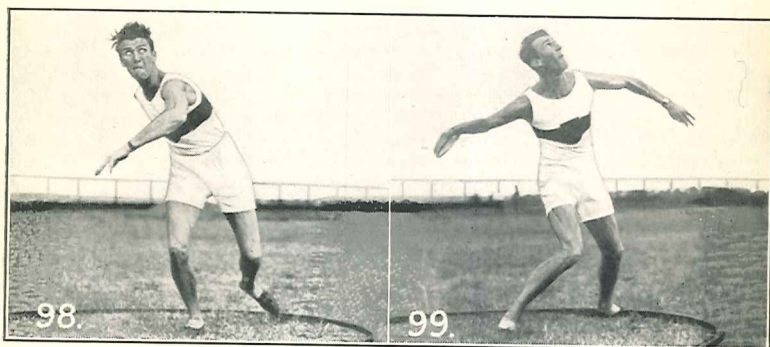
Left: Dalrymple. "Da & FT." *Right*: F. R. Webster. Co-ordination of back muscles with arm action.



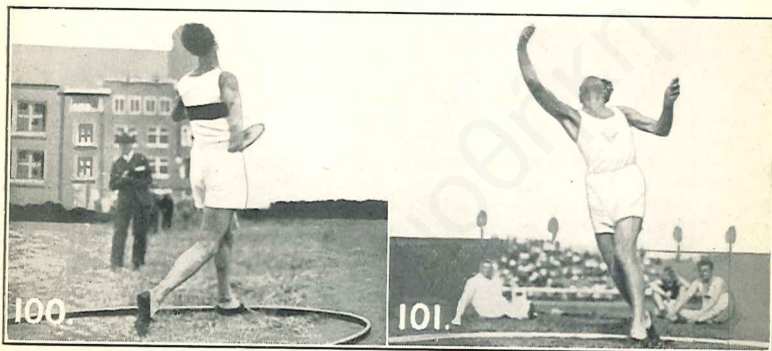
"FT." *Left*: H. A. MacKillop, Junior World's Record Holder, 193 ft. 0 $\frac{1}{2}$ ins. *Right*: E. R. Turner, English Record Holder, 188 ft.



Left: "B & AS"—Body and arm swing. Right: "B & AS & Tic"—Body and arm swing, beginning of turn.



Left: "BT"—Body turn to start throw. Right: "TP & AS"—Throwing position and arm sweep.



Left: "KT"—Knee turn of rear leg. Right: "DA, FT & Fp"—Delivery action, follow through and finger pull. Pictures of E. Paulus, Germany, British Record Holder, 147 ft. 0 ins.

TABLE OF EFFORT

JAVELIN

Average Best Performance. Ft.	$\frac{3}{4}$ Effort. Ft.	$\frac{1}{2}$ Effort. Ft.	$\frac{1}{4}$ Effort. Ft.	Ft.
240	224	208	168	to 192
235	219	203	164	— 188
230	214	199	161	— 184
225	210	195	157	— 180
220	205	190	154	— 176
215	200	186	150	— 172
210	196	182	147	— 168
205	191	177	143	— 164
200	186	173	140	— 160
195	182	169	136	— 156
190	177	164	133	— 152
185	172	160	129	— 148
180	168	156	126	— 144
175	163	151	122	— 140
170	158	147	119	— 136
165	154	143	115	— 132
160	149	138	112	— 128
155	144	134	108	— 124
150	140	130	105	— 120
145	135	125	101	— 116
140	130	121	98	— 112
135	126	117	94	— 108
130	121	112	91	— 104

MEN AND BOYS
JAVELIN THROWING—THREE MONTHS' TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100- $\frac{1}{4}$ - $\frac{1}{2}$ +30- $\frac{1}{4}$ +20- $\frac{1}{4}$ -1 RF Exs-5 mins. Tig-10 mins. Da-5 mins. Ap-Da-W-3 Ap-Da-Tr-3 JT-W-El-Pl-6	SPJ-20- $\frac{1}{4}$ -2 SPJ-20- $\frac{1}{4}$ -2 Rhythmic Exs-5 mins. TCF-W-6 TCF- $\frac{1}{2}$ -SR-3 Tig-5 mins. JT- $\frac{1}{2}$ -FR-Soa-FT-4	100-Tr-3 Rhythmic Exs-5 mins. Tig-5 mins. TCF-Tr-6 TCF- $\frac{1}{2}$ -3 TCF- $\frac{1}{2}$ -3 RF Exs-5 mins.	100-Tr-3 RF Exs-5 mins. Tig-5 mins. TCF- $\frac{1}{2}$ -3 TCF- $\frac{1}{2}$ -3 RF Exs-5 mins.
Tuesday	440- $\frac{1}{4}$ -1 Soa-W & Tr-5 each Ap-Soa-W-6 Ap-Soa-Tr-6 50- $\frac{1}{4}$ -2	440- $\frac{1}{4}$ -1 RF Exs-5 mins. Ap-Soa & Da- $\frac{1}{2}$ Ap-Soa, El & Da- $\frac{1}{2}$ -2 SPJ-KL-20- $\frac{1}{4}$ -3 SPJ-20- $\frac{1}{4}$ -2 WT-5 mins.	SPJ-20- $\frac{1}{4}$ -2 Rhythmic Exs-5 mins. Ap-Soa-El-Da- $\frac{1}{2}$ -2 50- $\frac{1}{4}$ -1	SPJ-20- $\frac{1}{4}$ -2 Rhythmic Exs-5 mins. Ap-Soa-El-Da- $\frac{1}{2}$ -2 50- $\frac{1}{4}$ -1
Wednesday	50- $\frac{1}{4}$ +20- $\frac{1}{4}$ +50- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. Tig-5 mins. JT-W-El & Pl-3 JT-Tr-El & Pl-3 JT- $\frac{1}{2}$ -SR-3 Tig-10 mins.	SPJ-20- $\frac{1}{4}$ -2 SPJ-KL-20- $\frac{1}{4}$ -3 JT- $\frac{1}{2}$ -H & FT-2 JT-Co-H & FT-2 Da-El-3 mins. Tig-10 mins.	SPJ-KL- $\frac{1}{2}$ -3 JT- $\frac{1}{2}$ -Pl-3 JT- $\frac{1}{2}$ -El-3 JT- $\frac{1}{2}$ -Co-6 Tig-5 mins.	SPJ-20- $\frac{1}{4}$ -2 RF Exs-5 mins. Tig-5 mins. TCF- $\frac{1}{2}$ -3 TCF- $\frac{1}{2}$ -3 RF Exs-5 mins.
Thursday	3MW-Tr 100/IM	3MW-Tr 100/880	4MW-Tr 100/IM	4MW-Tr 100/880
Saturday	100- $\frac{1}{4}$ +30- $\frac{1}{4}$ +20- $\frac{1}{4}$ -1 SPJ-20- $\frac{1}{4}$ -2 SPJ-20- $\frac{1}{4}$ -3 RF Exs-5 mins. Tig-5 mins. Ap & Soa-W-3 Ap & Soa-Tr-3 JT- $\frac{1}{2}$ -FR-F-6	100- $\frac{1}{4}$ +30- $\frac{1}{4}$ +20- $\frac{1}{4}$ -1 JT-Co- $\frac{1}{2}$ -2 JT-Co- $\frac{1}{2}$ -2 Tig-5 mins. JT-Tr-4 RF Exs-5 mins.	50- $\frac{1}{4}$ +20- $\frac{1}{4}$ +20- $\frac{1}{4}$ -1 Tig-3 mins. JT- $\frac{1}{2}$ -Pl-2 JT- $\frac{1}{2}$ -El-2 JT- $\frac{1}{2}$ -H & FT-2 JT- $\frac{1}{2}$ -6 RF Exs-5 mins.	50- $\frac{1}{4}$ +20- $\frac{1}{4}$ +20- $\frac{1}{4}$ -1 Tig-3 mins. JT- $\frac{1}{2}$ -Pl-2 JT- $\frac{1}{2}$ -El-2 JT- $\frac{1}{2}$ -H & FT-2 JT- $\frac{1}{2}$ -6 RF Exs-5 mins.

Note.—Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
SPECIAL REFERENCES. The technique of this event is explained in *Athletes in Action*, pages 260-281. Special exercises for this event will be found in *Exercises for Athletes*, Chapter XII.

JAVELIN THROWING—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-2 50- $\frac{1}{4}$ -1 W & L Exs-3 mins. Tig-5 mins. JT- $\frac{1}{2}$ -Co-3 JT- $\frac{1}{2}$ -LSF-6 TCF- $\frac{1}{2}$ -3	100-Tr-2 80- $\frac{1}{4}$ -2 80- $\frac{1}{4}$ -1 W & L Exs-5 mins. JT- $\frac{1}{2}$ -El & Pl-2 JT- $\frac{1}{2}$ -H & FT-2 JT- $\frac{1}{2}$ -LSF & D-6 TCF- $\frac{1}{2}$ -3	100-Tr-2 W & L Exs-5 mins. TCF- $\frac{1}{2}$ -3 Rhythmic Exs-5 mins. JT- $\frac{1}{2}$ -LSF-H-6 RF Exs-5 mins.	100-Tr-2 W & L Exs-5 mins. JT- $\frac{1}{2}$ -El & Pl-2 JT- $\frac{1}{2}$ -Co-3 JT- $\frac{1}{2}$ -Co-3 JT- $\frac{1}{2}$ -LSF-D-3 JT- $\frac{1}{2}$ -LSF-D-H-3 JT- $\frac{1}{2}$ -FT-3
Tuesday	RF Exs-5 mins. Rhythmic Exs-5 mins. SPJ-20-Soa- $\frac{1}{4}$ -2 SPJ-20-Soa- $\frac{1}{4}$ -3 50- $\frac{1}{4}$ -1 Ap-Soa-El-Da- $\frac{1}{2}$ -2	RF Exs-5 mins. Ap-Co-R & Soa- $\frac{1}{2}$ -2 Ap-Co-R & Soa- $\frac{1}{2}$ -2 Ap-Co-all items- $\frac{1}{2}$ -2 Rhythmic Exs-5 mins.	SPJ- $\frac{1}{2}$ -Co-R-Bas-2 SPJ- $\frac{1}{2}$ -Co-R-Bas-2 SPJ-Co-R-Bas-F-2 Rhythmic Exs-5 mins. 220- $\frac{1}{4}$ -1	Rhythmic Exs-5 mins. Ap-Co-R-Bas- $\frac{1}{2}$ -2 Ap-Co-R-Bas- $\frac{1}{2}$ -2 Ap-Co-R-Bas-F-2 RF Exs-5 mins. 440- $\frac{1}{4}$ -1
Wednesday	100-Tr-2 50- $\frac{1}{4}$ -1 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{2}$ -Pl-2 JT- $\frac{1}{2}$ -H & FT-2 JT- $\frac{1}{2}$ -LSF-6 TCF- $\frac{1}{2}$ -3	100-Tr-2 80- $\frac{1}{4}$ -2 80- $\frac{1}{4}$ -1 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{2}$ -Co-2 JT- $\frac{1}{2}$ -Co-2 JT- $\frac{1}{2}$ -LSF-D- $\frac{1}{2}$ -4 TCF- $\frac{1}{2}$ -3	100-Tr-2 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{2}$ -El-2 JT- $\frac{1}{2}$ -H & FT-2 JT- $\frac{1}{2}$ -LSF-D-H-6 RF Exs-5 mins.	100-Tr-2 Tig-5 mins. JT- $\frac{1}{2}$ -Co-3 JT- $\frac{1}{2}$ -Co-3 JT- $\frac{1}{2}$ -LSF-D-3 JT- $\frac{1}{2}$ -LSF-D-H-3 JT- $\frac{1}{2}$ -FT-3
Thursday	3MW-Tr 150/IM	3MW-Tr 150/IM	2MW-Fast	2MW-Fast
Saturday	100-Tr-3 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{2}$ -Co-4 JT- $\frac{1}{2}$ -LSF- $\frac{1}{2}$ -4 TCF- $\frac{1}{2}$ -4 RF Exs-5 mins.	220- $\frac{1}{4}$ -1 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{2}$ -Co-4 JT- $\frac{1}{2}$ -LSF-D- $\frac{1}{2}$ -2 JT- $\frac{1}{2}$ -LSF-D- $\frac{1}{2}$ -3 JT-Tr-3	100-Tr-3 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{2}$ -LSF-D-H & FT-3 JT- $\frac{1}{2}$ -LSF-D-H-FT-3 TCF- $\frac{1}{2}$ -3 RF Exs-5 mins.	100-Tr-3 W & L Exs-5 mins. JT- $\frac{1}{2}$ -Co-2 JT- $\frac{1}{2}$ -Co-2 JT- $\frac{1}{2}$ -6

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	220- $\frac{1}{4}$ -1 RF Exs-5 mins. 220- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins.	100-Tr-3 W & L Exs-5 mins. JT- $\frac{1}{4}$ -Co-3 JT- $\frac{1}{4}$ -LSF-D-3 JT- $\frac{1}{4}$ -PI & H-3 Rhythmic Exs-5 mins.	100-Tr-3 W & L Exs-5 mins. TCF- $\frac{1}{4}$ -2 TCF- $\frac{1}{4}$ -3 TCF- $\frac{1}{4}$ -6 RF Exs-5 mins.	100-Tr-3 W & L Exs-5 mins. TCF- $\frac{1}{4}$ -4 TCF- $\frac{1}{4}$ -6 Rhythmic Exs-5 mins.
Tuesday	220- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. 30- $\frac{1}{4}$ -2 30- $\frac{1}{4}$ -4 440- $\frac{1}{4}$ -1	220- $\frac{1}{4}$ -1 SPJ- $\frac{1}{4}$ -Co-KL-R-Bas-2 SPJ- $\frac{1}{4}$ -Co-KL-R-Bas-3 RF Exs-5 mins.	2MW-Fast	220- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. SPJ-30- $\frac{1}{4}$ -2 SPJ-30- $\frac{1}{4}$ -2 JT- $\frac{1}{4}$ -Co-2 JT- $\frac{1}{4}$ -LSF-H-D-3
Wednesday	220- $\frac{1}{4}$ -1 Rhythmic Exs-10 mins. LMW-Tr 60/440	100-Tr-3 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{4}$ -FT-3 JT- $\frac{1}{4}$ -FT-3 220- $\frac{1}{4}$ -1	100-Tr-3 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{4}$ -El-2 JT- $\frac{1}{4}$ -H & FT-2 JT- $\frac{1}{4}$ -LSF-D-2 JT- $\frac{1}{4}$ -LSF-H-2 JT- $\frac{1}{4}$ -Co-2	3MW-Easy Stroll or Rest
Thursday	220- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. 30- $\frac{1}{4}$ -2 30- $\frac{1}{4}$ -3 440- $\frac{1}{4}$ -1	100-Tr-3 Ap- $\frac{1}{4}$ -Co-R-Sea & Da-2 Ap- $\frac{1}{4}$ -Co-R-Sea-2 SPJ- $\frac{1}{4}$ -Co-R-Bas-2 SPJ- $\frac{1}{4}$ -Co-R-Bas-2 RF Exs-5 mins.	3MW-Easy	Rest
Saturday	6MW-Easy	100-Tr-2 W & L Exs-5 mins. JT- $\frac{1}{4}$ -Co-2 JT- $\frac{1}{4}$ -Co-2 Rhythmic Exs-5 mins. JT-T-6	100-Tr-2 W & L Exs-5 mins. Tig-5 mins. JT- $\frac{1}{4}$ -LSF-D-2 JT- $\frac{1}{4}$ -LSF-H-2 JT- $\frac{1}{4}$ -Co-2	Competition for which training

DEMONSTRATION AND STYLE



"B & AS"—Another type of body and arm swing demonstrated by F. R. Webster, English Junior Champion.



"BT & AS"—How to practise body turn and arm sweep demonstrated by Capt. Webster, former Midlands Champion.



"FT"—Follow through from full effort, preceding reverse. J. S. Moll, Public Schools and Bedfordshire Record Holder.

CHAPTER SIXTEEN

DISCUS THROWING

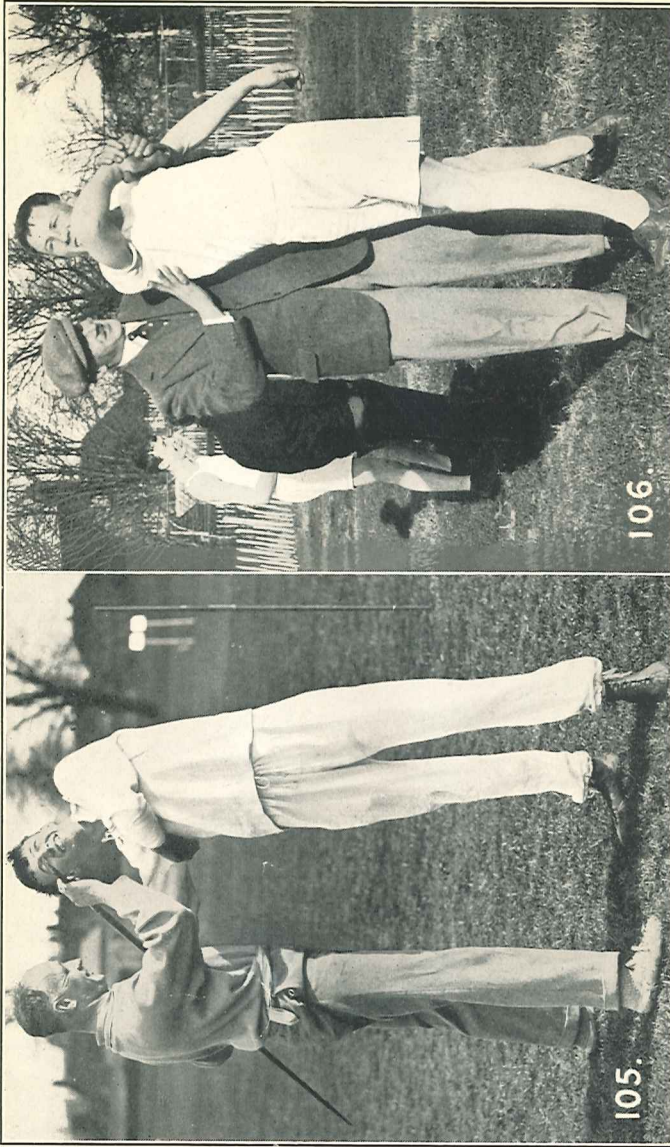
DISCUS THROWING is one of the most pleasant, as also one of the best, body-building and health-creating of all the athletic pastimes. Rhythm, perfect balance and good co-ordination of muscular effort are essential. A further advantage lies in the fact that the discus is, comparatively speaking, so light that one can do quite a lot of throwing without any fear of overstrain.

One set of Training Tables will do for both men and boys, since the boys' discus, measuring 8 ins. in diameter, weighs only 3 lbs. 4.8 ozs., as against the men's discus, 8½ ins. in diameter, which weighs 4 lbs. 6.4 ozs. The only difference is that where a man is directed to swing the 16-lb. hammer the boy should content himself with a 10-lb. hammer, and where a man is told to use a 12-lb. hammer the boy should content himself with swinging an 8-lb. hammer.

A great deal of the discus thrower's work must be done by means of light standing throws, light throws after a fast turn and strong throws after a fairly slow turn. In turning, remember to start the turn comparatively slowly upon the left foot (see Fig. 97), and to increase the speed in the second half of the spin which is made on the right foot (see Fig. 98).

TABLES OF EFFORT. A Table of Effort for the guidance of throwers in training will be found on page 182, the use and purpose of such tables being fully explained in pages 102-105. When throwing, put out a flag to mark the distance you wish to reach. For example, if your average best performance is 120 ft., and your training exercise requires you to throw at $\frac{1}{2}$ effort, then put down your flag at 104 ft., which is the $\frac{1}{2}$ effort distance given for a

M



Hand setting for correct positions.

Left: Javelin alignment. Right: Discus finishing position.
Discus and Shot Champion set by F. A. M. Webster.

R. F. Walker, Bedfordshire Junior

thrower with an average best performance of 120 ft. in the Table of Effort.

PRELIMINARY TRAINING. A Schedule of Preliminary Training for discus throwers will be found on page 107.

TRAINING TABLES—SYMBOLS EXPLAINED.

Limbering Up. Running increases the depth of tidal breathing and clears the lower parts of the lungs of CO₂. *Example*: 440- $\frac{1}{4}$ -1 means that you are to run 440 yards at $\frac{1}{4}$ effort, once.

RF Exs=Resistive Form Exercises. (For an example see Fig. 112.) These are a part of the Form Exercises for discus throwers, given in *Exercises for Athletes*, which develop the necessary muscles and teach the thrower the sequence of movement. The technique of the event is fully explained in *Athletes in Action*. Both books are published by John F. Shaw & Co., Ltd., 3 Pilgrim Street, London, E.C.4.

HS=Hammer Swinging. (See Figs. 76 to 79.)

BH=Both Hands.

16=16-lb. Hammer. (Read 10 lbs. for boys.)

AH=Alternate Hands.

12=12-lb. Hammer. (Read 8 lbs. for boys.) *Example*: HS-BH16 & AH12-10 mins. means that you are to practise hammer swinging, using both hands with the heavier hammer and alternate hands with the lighter hammer for 10 mins.

ST=Standing Throw. (See Fig. 107.) *Example*: 6ST- $\frac{1}{4}$ means that you are to make six standing throws at $\frac{1}{4}$ effort.

B & AS=Body and Arm Swing. *Example*: B & AS-5 mins. means that you are to practise the loose body and arm swing used to precede the throw or the turn, for 5 mins. (See Figs. 96, 97 and 102.)

Tic=Turning in circle. (See Figs. 96 to 100.)

WD=Without Discus.

Fw=Footwork. *Example*: Tic-WD-Fw-6 means that

you are to practise turning in the circle, without the discus, to perfect footwork, six times.

M=Mile or Miles. *Example*: 1M- $\frac{1}{4}$ -1 means that you are to run one mile at $\frac{1}{4}$ effort, once.

WT=Weight Transference. It is necessary that the discus thrower, having assumed the throwing position, should learn to transfer his weight from the right foot to the left with a loose swing of the shoulders, a turn in of the right knee and a thrust with the right leg to push his weight forward on to his left foot. (See Figs. 98 to 101.)

ASW=Arm Sweep. (See Fig. 99.)

D=Direction. *Example*: 6ST- $\frac{1}{4}$ -ASW & D means that you are to make six standing throws at $\frac{1}{4}$ effort, concentrating on arm sweep in the delivery and direction in flight. In making the throw the arm should travel wide of the body. Always throw for good direction, as the discus must fall within a 90-degree sector marked upon the ground. (See Fig. 104.)

Fp=Finger pull. (See Fig. 101.)

Sc=Scaling Flight. 6ST- $\frac{1}{4}$ -Fp & Sc means that you are to make six standing throws at $\frac{1}{4}$ effort, emphasising the finger pull in the delivery and the scaling of the missile in flight. (See Fig. 104.)

TP=Throwing Position. *Example*: Tic to TP- $\frac{1}{4}$ -6 means that you will practise turning in the circle, as far as the throwing position, at $\frac{1}{4}$ effort, six times. (See Fig. 99.)

BT=Body Turn. 6ST- $\frac{1}{4}$ -BT, ASW & D means that you will make six standing throws at $\frac{1}{4}$ effort, working for body-turn, arm sweep and direction. The body-turning action is the sharp twist of the shoulders from right to left with which the throw should be started before the arm comes into action. (See Figs. 98, 99, 100 and 103.)

DT=Discus Throw with turn.

Th=Throw.

H=Height. *Example*: 3DT- $\frac{1}{4}$ Tic- $\frac{1}{2}$ Th-H & D means that you will make three discus throws with a turn ($\frac{1}{4}$ effort turn in circle and $\frac{1}{2}$ effort throw), for height and direction. (See Fig. 104.)

TCF=Throwing and/or Turning to Correct Faults.

Examples: 4ST-TCF means that you will make four standing throws to correct faults shown in your last trial, or practise. 6Tic to TP-TCF means that you will practise turning in the circle to the throwing position to correct faults, six times.

Co=Co-ordination. *Example*: 3ST- $\frac{1}{4}$ -Co means that you will make three standing throws at $\frac{1}{4}$ effort to co-ordinate the throwing action.

MW=Mile Walk. *Example*: 3MW-Tr 100/1M means that you are to walk three miles, trotting 100 yards in every mile.

FT=Follow Through. *Example*: 6ST-BT, ASW, D & FT means that you are to make six standing throws, emphasising body turn, arm sweep, direction of flight and follow through. In the follow through the hand and the eyes should follow out on the discus flight and the shoulder of the throwing arm should be pressed well up to support the throw. (See Figs. 101, 104 and 107.)

Da=Delivery action. *Example*: 6DT-Tic & Th- $\frac{1}{4}$ -Da means that you will make six discus throws with the turn, turning and throwing at $\frac{1}{4}$ effort and emphasising the delivery action. (See Figs. 98 to 101, 104 and 107.)

KT=Knee Turn. *Example*: BT, KT & ASW-5 mins. means that you are to practise the body turn, the turning in of the right knee and the arm sweep round the body for 5 mins. carefully co-ordinating the actions. (See Figs. 98, 99 and 100.)

SS=Shoulder Snap. *Example*: 6ST-BT & SS only. This means you are to make six standing throws in a special manner. The arm is allowed to hang perfectly loosely with the fingers supporting the

discus. The shoulders are turned to the right with the arm hanging loosely, and the throw is then carried out by the body turn, or sharp twist of the trunk and the snap of the shoulders from right to left. This action is accompanied by some right-leg drive. The thrower must make no conscious effort with the arm, which flies out loosely with the twist of the trunk and the snap of the shoulders, so that the discus follows its own path upon leaving the hand. The ability to make the body and shoulders, working independently, precede the arm effort is invaluable.

VE=Varying Effort from $\frac{1}{4}$ to full effort. *Example*: 8ST-VE-TCF means that you will make eight standing throws at varying efforts to correct faults.

SMWD=Slow Motion without Discus. *Example*: Tic & Da-SMWD-10 mins. means turning in the circle and practising the delivery action in slow motion without the discus for 10 mins.

LSF=Long Steady Flight. *Example*: 3DT- $\frac{1}{2}$ -LSF & D means that you are to practise three discus throws with a turn at $\frac{1}{2}$ effort for long steady flight and direction. If the discus flies steadily and scales properly with a fast spin the longest possible flight is bound to be obtained. (See Fig. 104.)

TABLE OF EFFORT

DISCUS

Average Best Performance.	$\frac{3}{4}$ Effort.		$\frac{1}{2}$ Effort.		$\frac{1}{4}$ Effort.	
	Ft.	Ins.	Ft.	Ins.	Ft.	Ft.
170	158	8	147	4	102	to 136
165	154	0	143	0	99	— 132
160	149	4	138	8	96	— 128
155	144	8	134	4	93	— 124
150	140	0	130	0	90	— 120
145	135	4	125	8	87	— 116
140	130	8	121	4	84	— 112
135	126	0	117	0	81	— 108
130	121	4	112	8	78	— 104
125	116	8	108	4	75	— 100
120	112	0	104	0	72	— 96
115	107	4	99	8	69	— 92
110	102	8	95	4	66	— 88
105	98	0	91	0	63	— 84
100	93	4	86	8	60	— 80
95	88	8	82	4	57	— 76
90	84	0	78	0	54	— 72
85	79	4	73	8	51	— 68
80	74	8	69	4	48	— 64
75	70	0	65	0	45	— 60
70	65	4	60	8	42	— 56

DISCUS THROWING—THREE MONTHS' TRAINING—FIRST MONTH (MEN AND BOYS)

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 RF Exs-5 mins. HS-BH 16 & AH 12-10 mins. 6ST- $\frac{1}{4}$ -Fw & D B & AS-5 mins. Tic-WD-6	RF Exs-5 mins. B & AS-3 mins. Tic to TP-2 mins. 3ST- $\frac{1}{4}$ -Co 3DT- $\frac{1}{4}$ -Tic & Th-H 3DT- $\frac{1}{4}$ -Tic- $\frac{1}{4}$ -Th-H-D 3DT- $\frac{1}{4}$ -Tic- $\frac{1}{4}$ -Th-D	440- $\frac{1}{4}$ -1 HS-BH 16-5 mins. 3ST- $\frac{1}{4}$ -TCF 3DT- $\frac{1}{4}$ -Co 3DT- $\frac{1}{4}$ -Fw	220- $\frac{1}{4}$ -1 HS-BH 16-3 mins. 3ST- $\frac{1}{4}$ -TCF 3DT- $\frac{1}{4}$ -TCF 3DT- $\frac{1}{4}$ -Tic- $\frac{1}{4}$ -Th-TCF 3DT- $\frac{1}{4}$ -Tic- $\frac{1}{4}$ -Th-TCF 3DT- $\frac{1}{4}$ -Co
Tuesday	Rhythmic Exs-5 mins. IM- $\frac{1}{4}$ -1 RF Exs-5 mins. WT-5 mins.	440- $\frac{1}{4}$ -1 HS-BH 16-AH 12-10 mins. RF Exs-5 mins. 4ST-TCF 6Tic to TP-TCF 3DT- $\frac{1}{4}$ -Tic & Th-TCF WT-5 mins.	RF Exs-5 mins. IM- $\frac{1}{4}$ -1 WT-5 mins. BT & KT-5 mins.	RF Exs-5 mins. HS-BH 16-3 mins. 3ST- $\frac{1}{4}$ -Fp & Sc 3ST- $\frac{1}{4}$ -Fp & Sc 3Tic to TP- $\frac{1}{4}$ -Fw 3DT- $\frac{1}{4}$ -Da- $\frac{1}{4}$ -Fp & Sc 3DT- $\frac{1}{4}$ -Tic- $\frac{1}{4}$ -Da- $\frac{1}{4}$ -Fp & Sc
Wednesday	440- $\frac{1}{4}$ -1 HS-BH 16-AH 12-10 mins. 6ST- $\frac{1}{4}$ -ASW & D 6ST- $\frac{1}{4}$ -Fp & Sc Tic-WD-Fw-6	3MW-Tr 100/IM	RF Exs-5 mins. 6Tic to TP- $\frac{1}{4}$ -Fw 6DT-Tic & Th- $\frac{1}{4}$ -Fw 6DT-Tic & Th- $\frac{1}{4}$ -Da WT-3 mins. BT-KT-ASW-5 mins.	3MW-Tr 100/IM
Thursday	440- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. Tic to TP- $\frac{1}{4}$ -6 B & AS-5 mins. 6ST- $\frac{1}{4}$ -BT-ASW & D 6ST- $\frac{1}{4}$ -Fp-Sc & D Tic to TP- $\frac{1}{4}$ -Fw-6	Rhythmic Exs-5 mins. B & AS-3 mins. BT-2 mins. 6Tic to TP- $\frac{1}{4}$ -Fw 6ST-BT, ASW-D & FT 2ST- $\frac{1}{4}$ -BT 2ST- $\frac{1}{4}$ -ASW 2ST- $\frac{1}{4}$ -Fp & Sc & D	3MW-Tr 100/IM	RF Exs-5 mins. Rhythmic Exs-5 mins. 3ST- $\frac{1}{4}$ -Fp & Sc 3ST- $\frac{1}{4}$ -Fp-Sc & FT 3ST- $\frac{1}{4}$ -BT-KT-ASW
Saturday	440- $\frac{1}{4}$ -1 HS-BH 16 & AH 12-10 mins. B & AS-5 mins. Tic to TP- $\frac{1}{4}$ -2 Tic to TP- $\frac{1}{4}$ -4 6ST- $\frac{1}{4}$ -BT-ASW & D 6ST- $\frac{1}{4}$ -Fp & Sc 3ST- $\frac{1}{4}$ -Co	RF Exs-5 mins. HS-BH 16-AH 12-5 mins. 3DT- $\frac{1}{4}$ -Fw 3DT- $\frac{1}{4}$ -Da 2DT- $\frac{1}{4}$ -Co 3DT- $\frac{1}{4}$ -T	RF Exs-5 mins. HS-BH 16-5 mins. 3ST- $\frac{1}{4}$ -Fp & Sc 3ST- $\frac{1}{4}$ -Fp & Sc 3DT- $\frac{1}{4}$ -Co 4DT- $\frac{1}{4}$ -Fp & Sc	440- $\frac{1}{4}$ -1 Rhythmic Exs-5 mins. 2ST- $\frac{1}{4}$ -Co 2Tic to TP- $\frac{1}{4}$ -Fw 2DT- $\frac{1}{4}$ -Co 3DT- $\frac{1}{4}$ -Fp-Sc & D

Note.—Athletes should do 15 minutes' deep breathing and body bending and stretching, or the exercises applicable to their own events, each morning on rising.
Special References.—The technique of this event is explained in *Athletes in Action*, pages 282 to 299. Special exercises for this event will be found in *Exercises for Athletes*, Chapter XIII.

DISCUS THROWING—THREE MONTHS' TRAINING—SECOND MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	150- $\frac{1}{2}$ - $\frac{1}{2}$ +20- $\frac{3}{4}$ +150- $\frac{1}{2}$ -1 RF Exs-5 mins. KT-BT & ASW-WD-5 mins. 6ST-BT & SS only 6Tic to TP-FW 6DT- $\frac{1}{2}$ -BT & SS only	RF Exs-10 mins. 3MW-Tr 100/IM ST action-SMWD-10 mins. Tic & Da-SMWD-5 mins.	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 3ST-KT-BT-SS only 3ST- $\frac{1}{2}$ -Fp & Sc 3ST- $\frac{1}{2}$ -Fp & FT 3DT-Tic- $\frac{1}{2}$ -Th- $\frac{1}{2}$ -SS-Fp-Sc 3DT- $\frac{1}{2}$ -FT	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 3ST- $\frac{1}{2}$ -TicF 3ST- $\frac{1}{2}$ -TicF 3DT- $\frac{1}{2}$ -TicF 3DT- $\frac{1}{2}$ -TicF 2DT- $\frac{1}{2}$ -TicF
Tuesday	440- $\frac{1}{2}$ -1 RF Exs-5 mins. 3ST-KT-BT & SS only 3DT-Tic $\frac{1}{2}$ -BT & SS only 3DT-Tic $\frac{1}{2}$ -BT & SS only 3DT- $\frac{1}{2}$ -Co-BT-SS & FT	Rhythmic Exs 50- $\frac{1}{2}$ -2 50- $\frac{1}{2}$ -1 3Tic to TP-WD- $\frac{1}{2}$ -FW 3Tic to TP-WD- $\frac{1}{2}$ -FW	440- $\frac{1}{2}$ -1 RF Exs-5 mins. 3Tic to TP- $\frac{1}{2}$ -FW 30- $\frac{1}{2}$ -2 30- $\frac{1}{2}$ -2	440- $\frac{1}{2}$ -1 RF Exs-5 mins. 1MW-Fast Rhythmic Exs-5 mins.
Wednesday	150- $\frac{1}{2}$ +20- $\frac{3}{4}$ +150- $\frac{1}{2}$ -1 Rhythmic Exs-5 mins. 3ST-VE-TicF 3DT- $\frac{1}{2}$ -Co 2DT- $\frac{1}{2}$ -Co	RF Exs-5 mins. ST action-SMWD-10 mins. Tic & Da-SMWD-10 mins. 880- $\frac{1}{2}$ -1	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 3ST- $\frac{1}{2}$ -SS & Fp 3ST- $\frac{1}{2}$ -Sc & FT 3DT- $\frac{1}{2}$ -Co 3D- $\frac{1}{2}$ -Co	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 Rhythmic Exs-5 mins. 58T- $\frac{1}{2}$ -Fp & Sc & FT 5DT- $\frac{1}{2}$ -FT & D 5DT- $\frac{1}{2}$ -LSF & D
Thursday	440- $\frac{1}{2}$ -1 RF Exs-5 mins. 3ST-KT-BT & SS only 3DT- $\frac{1}{2}$ -Tic & Th-KT-BT-SS 3DT-Tic $\frac{1}{2}$ -Th- $\frac{1}{2}$ -KT-BT-SS 3DT-Tic $\frac{1}{2}$ -Th- $\frac{1}{2}$ -KT-BT-SS	440- $\frac{1}{2}$ -1 RF Exs-5 mins. 80- $\frac{1}{2}$ -2 80- $\frac{1}{2}$ -2 80- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 RF Exs-5 mins. Rhythmic Exs-5 mins. 100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1	440- $\frac{1}{2}$ -1 RF Exs-5 mins. 3Tic to TP- $\frac{1}{2}$ -FW 3Tic to TP- $\frac{1}{2}$ -FW Rhythmic Exs-5 mins.
Saturday	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 B & AS-3 mins. 3Tic to TP- $\frac{1}{2}$ 3ST- $\frac{1}{2}$ -Co 3DT- $\frac{1}{2}$ -Co 6DT-T	5MW-Easy Stroll ST action-SMWD-10 mins. Tic & Da-SMWD-5 mins.	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 Rhythmic Exs-5 mins. 3ST- $\frac{1}{2}$ -Sc & D 3DT- $\frac{1}{2}$ -Sc & D	100- $\frac{1}{2}$ +20- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -JSSF 2DT- $\frac{1}{2}$ -LSF & D 6DT-T

DISCUS THROWING—THREE MONTHS' TRAINING—THIRD MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	100-Tr-3 Rhythmic Exs-5 mins 6ST-VE-TicF 6DT- $\frac{1}{2}$ -TicF 3DT- $\frac{1}{2}$ -JSSF-D	100-Tr-3 Rhythmic Exs-5 mins. KT-BT & SS-WD-5 mins. 3ST- $\frac{1}{2}$ -Fp & D 3ST- $\frac{1}{2}$ -Fp & D 3ST- $\frac{1}{2}$ -LSF & D 6DT- $\frac{1}{2}$ -LSF & D 10Tic to TP-VE-FW	100-Tr-3 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -KT-BT-SS only 28T- $\frac{1}{2}$ -Fp-FT & D 2DT- $\frac{1}{2}$ -LSF & D 3DT- $\frac{1}{2}$ -Co 3DT- $\frac{1}{2}$ -LSF & D	100-Tr-3 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -TicF or Co 28T- $\frac{1}{2}$ -TicF or Co 2DT- $\frac{1}{2}$ -LSF & D 6Tic to TP- $\frac{1}{2}$ -Fw
Tuesday	440- $\frac{1}{2}$ -1 Light Work (Shot, Hammer, or Jumps) 80- $\frac{1}{2}$ -2 80- $\frac{1}{2}$ -1 RF Exs-10 mins.	440- $\frac{1}{2}$ -1 Light Work (Shot, Hammer, or Jumps) 80- $\frac{1}{2}$ -3 80- $\frac{1}{2}$ -2 RF Exs-10 Mins.	440- $\frac{1}{2}$ -1 Light Work (Jumps) RF Exs-5 mins. 100- $\frac{1}{2}$ +40- $\frac{3}{4}$ +100- $\frac{1}{2}$ -1	100-Tr-3 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -Loosely 28T- $\frac{1}{2}$ -Free Action 2DT- $\frac{1}{2}$ -LSF-D
Wednesday	100-Tr-3 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -Fp-Sc & FT 28T- $\frac{1}{2}$ -LSF & D 3DT-Tic $\frac{1}{2}$ -Th- $\frac{1}{2}$ -Co 6DT- $\frac{1}{2}$ -LSF-D	100-Tr-3 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -Fp-Sc & FT 28T- $\frac{1}{2}$ -KT-BT & SS only 4DT- $\frac{1}{2}$ -JSSF & D 3DT- $\frac{1}{2}$ -JSSF & D 10Tic to TP-VE-FW	100-Tr-3 Rhythmic Exs-5 mins. 2DT- $\frac{1}{2}$ -Co 3DT- $\frac{1}{2}$ -Co 3DT- $\frac{1}{2}$ -LSF & D	100-Tr-3 Rhythmic Exs-5 mins. 3MW-Easy Stroll or Rest.
Thursday	440- $\frac{1}{2}$ -1 Light Work (Hammer, Shot, or Jumps) 80- $\frac{1}{2}$ -2 80- $\frac{1}{2}$ -1 RF Exs-10 mins.	440- $\frac{1}{2}$ -1 Light Work (Shot, Hammer, or Jumps) 80- $\frac{1}{2}$ -3 80- $\frac{1}{2}$ -2 RF Exs-5 mins.	3MW-Easy Stroll	Rest
Saturday	100-Tr-3 Rhythmic Exs-5 mins. 48T-VE-Co 4DT-VE-Co 6DT-T Rest 3DT- $\frac{1}{2}$ -TicF	100-Tr-3 Rhythmic Exs-5 mins. 28T-KT-BT-SS only 28T- $\frac{1}{2}$ -Fp-FT-D 2DT- $\frac{1}{2}$ -Fp-FT & D 2DT- $\frac{1}{2}$ -JSSF & D 6DT- $\frac{1}{2}$ -Co	100-Tr-3 Rhythmic Exs-5 mins. 28T- $\frac{1}{2}$ -Co 2DT- $\frac{1}{2}$ -Co 6DT-T	Competition for which training

CHAPTER SEVENTEEN

DECATHLON

THERE is a puerile and bigoted excuse, often put forward by the more insular of Englishmen, to the effect that our inability to secure a place in the sun, in international contests generally and at the Olympic Games in particular, is explained by our magnificent (but purely mythical) preference for "all-round sporting efficiency, instead of specialisation."

Such statements make the *cognoscenti* smile.

In 1928, the only year in which an A.A.A. Decathlon Olympic Trial has been held, H. Ford, the finest all-round athlete we have ever had, was placed second with a score of 5807.79 points, which should be recognised as the English Native Record. In 1932, J. Bausch, U.S.A., won the Olympic Decathlon with a new world's record score of 8462.23 points. The accusation of undue specialisation having been most frequently levelled against America, it is interesting to note that H. M. Osborn, U.S.A., who won the Olympic title with an earlier world's record score of 7710.77 points in 1924, is also the holder of world's individual High Jump record of 6 ft. 8 $\frac{1}{4}$ ins.

Every credit was due to Howard Ford for putting up the best all-round achievement ever done by an athlete of the British Isles; but, meanwhile, the fact remains that our much-vaunted all-round efficiency has yet to find for us a man with the slightest claim to the World's All-Round Championship at the Olympic Games, nor is there in existence an English All-Round Championship Contest to inspire our men to strive after the very highest kind of honour an athlete can attain. Nor, to the best of our knowledge, has any book been written by a British author giving any advice upon this subject.

The performances of Ford, Osborn and Bausch are given below:—

DECATHLON RECORDS

Event.	Best British Performance, 1928. H. Ford.	World's Record, 1924. H. M. Osborn.	World's Record, 1932. J. Bausch.
	Mins. Secs.	Mins. Secs.	Mins. Secs.
100 metres	12 $\frac{4}{5}$	11 $\frac{1}{5}$	11 $\frac{7}{10}$
110 metres Hurdles	20	16	16 $\frac{1}{2}$
400 metres	58 $\frac{7}{10}$	53 $\frac{7}{10}$	54 $\frac{1}{10}$
1500 metres	5 16 $\frac{6}{10}$	4 50	5 17
	Ft. Ins.	Ft. Ins.	Ft. Ins.
High Jump	5 3	6 5 $\frac{3}{4}$	5 7
Long Jump	20 6 $\frac{3}{4}$	22 8 $\frac{1}{2}$	22 10
Pole Vault	11 3	11 5 $\frac{1}{2}$	13 1 $\frac{1}{4}$
Discus	109 6 $\frac{1}{2}$	113 7	146 3 $\frac{1}{10}$
Javelin	143 2	153 2 $\frac{1}{4}$	203 0 $\frac{7}{10}$
Shot Put	34 11 $\frac{1}{2}$	37 6	50 3 $\frac{1}{10}$
Points	5807.79	7710.77	8462.23

Training for the Decathlon calls not only for a rigorous regimen, but, also, for Spartan self-discipline. For at least two months the aspirant to Decathlon honours should follow the Table of Preliminary Field Events Training given in Chapter Eight, page 107. He should then devote a further month to the first month of Preliminary Training for Sprinters, given in Chapter Two, page 21, utilising Tuesdays and Thursdays for the commencement of the inculcation, or polishing up, of his field events technique.

His primary objective must be the building up of speed and stamina. The Preliminary Training will certainly endow him with the necessary powers of endurance and, in its later stages, will lay the foundations of speed. From that point onwards it is, however, hard to suggest a training schedule, since the ability of individuals varies

considerably in relation to the ten events comprising the Decathlon Contest. We have endeavoured, therefore, to suggest on pages 191 and 192 a well-balanced schedule for Two Months' Final Training, which the individual must vary to meet his own requirements, according to his proportionate strength, or weakness, in the ten events.

Training for endurance should finish about a fortnight before the actual contest, all jumping practise should cease a week ahead of the event and all training should be tapered off during the last three weeks.

The competition is decided during two days in the following order: First day—100 metres and Long Jump, Shot Put, High Jump and 400 metres. Second day—110 metres Hurdles and Discus, Pole Vault, Javelin and 1500 metres. Three trials only are allowed in both jumping and throwing.

TABLES OF EFFORT. Tables of Effort are used throughout this book for the guidance of men in training for various events. The use and purpose of these tables is fully explained on page 17, Racing Events, and page 107, Field Events. To ascertain the corresponding $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{1}{4}$ efforts, in relation to his average best performance in each of the ten events of the Decathlon programme, the Decathlon man must turn to the Table of Effort given in the Chapter dealing, separately, with each one of the ten events.

DECATHLON TRAINING TABLES—SYMBOLS EXPLAINED.

BBnS=Body Bending and Stretching Exercises.
SP=Starting Practise. *Example*: SP-30- $\frac{1}{2}$ -2 means that you will sprint 30 yards from the crouching start position at $\frac{1}{2}$ effort, twice.
Sh=Shot Put with Glide.
VE=Varying Effort.
PCF=Putting to Correct Faults. *Example*: 8Sh-VE-PCF means eight Shot Puts at varying efforts to correct faults.
HJ=High Jump.

JCF=Jumping to Correct Faults.

Co=Co-ordination. *Examples*: 4HJ- $\frac{1}{2}$ -JCF means four High Jumps at $\frac{1}{2}$ effort to correct faults. 3HJ- $\frac{3}{4}$ -Co means three High Jumps at $\frac{3}{4}$ effort for co-ordination.

Jav=Javelin Throw or Throws.

TCF=Throwing to Correct Faults.

LSF=Long Steady Flight.

D=Direction. *Examples*: 6Jav- $\frac{1}{2}$ -TCF means six javelin throws at $\frac{1}{2}$ effort to correct faults. 3Jav- $\frac{3}{4}$ -LSF & D means three javelin throws at $\frac{3}{4}$ effort for long steady flight and direction.

HE=Hurdling Exercises.

SP-1H=Starting Practise over one Hurdle.

H=Hurdle or Hurdles.

Tr=Trot.

FHC=Fast Hurdle Clearance. *Examples*: 5H-Tr-FHC-2 means that you will run over five hurdles, trotting between flights, with the fastest possible hurdle clearance, twice. 3H- $\frac{3}{4}$ +4H- $\frac{1}{2}$ +3H- $\frac{3}{4}$ -1 means that you are to run 120 yards over ten hurdles taking the first three hurdles at $\frac{3}{4}$ effort, the next four hurdles at $\frac{1}{2}$ effort, and the last three hurdles at $\frac{3}{4}$ effort, once.

F=Full.

DT=Discus Throw with Turn.

E=Elevation.

Ft=Follow Through.

Fw=Footwork.

Sc=Scale. *Examples*: 6DT- $\frac{1}{2}$ -E, D, Ft & Fw means six discus throws at $\frac{1}{2}$ effort for elevation, direction, follow through and footwork. 3DT- $\frac{3}{4}$ -LSF & Sc means three discus throws at $\frac{3}{4}$ effort for long steady flight and scale.

(W)=Watch. *Example*: 220- $\frac{3}{4}$ -1 (W) means that you are to run 220 yards at $\frac{3}{4}$ effort, once, timed with a stop-watch.

PV=Pole Vault or Vaults.

VCF=Vaulting to Correct Faults. *Examples*: PV Exs-

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10 mins. means that you will do the pole vaulter's exercises for 10 mins. 6PV- $\frac{1}{2}$ -VCF means making six pole vaults at $\frac{1}{2}$ effort for the correction of faults.

SPP=Sprinting Practise while Carrying the Pole.

LJ=Jong Jump.

RFS=Run Formation Sprints to establish approach run for Long Jumpers.

L3S=Last three Strides of run-up. (See Chapter Eleven.)

HTO=Hitting Take-off Board. *Example*: 6RFS-LJ-F-L3S & HTO means practising six run-forming sprints for the long jump at full effort, with concentration on the last three strides and on hitting the take-off board.

T=Trials. *Example*: 100Mets-T means that you will run 100 metres trial at $\frac{1}{2}$ effort. *Note*.—The trials given for the Decathlon man are divided, firstly, so that he takes the first five events in the Decathlon programme on one Saturday and the second five events on the next Saturday. In the subsequent week he runs through the whole trials on the Thursday and Saturday, again dividing the trials over two weeks at the beginning of the second month. Needless to say he should take a reasonable rest after the carrying out of the trial for each event, before proceeding to the next trial on the day's programme.

SSh=Standing Shot Put.

SDT=Standing Discus Throw. *Examples*: 4SSh- $\frac{1}{4}$ -Co means four standing shot puts at $\frac{1}{4}$ effort for co-ordination. 3SDT- $\frac{1}{2}$ -Co means three standing discus throws at $\frac{1}{2}$ effort for co-ordination.

DECATHLON

THE DECATHLON—TWO MONTHS' FINAL TRAINING—FIRST MONTH

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -4 SSH-VF-PCF 4HJ- $\frac{1}{2}$ -JCF 3HJ- $\frac{1}{2}$ -Co 6Jav- $\frac{1}{2}$ -JCF 3Jav- $\frac{1}{2}$ -LSF & D	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -4 SSH-VF-PCF 5H-Tr-FHC-1 3H- $\frac{1}{2}$ -4H- $\frac{1}{2}$ +5H- $\frac{1}{2}$ -1 6Jav- $\frac{1}{2}$ -JCF 3Jav- $\frac{1}{2}$ -LSF & D 1M- $\frac{1}{2}$ -1	100-Tr-2 BBns-5 mins. Light training in weakest jumping event 220- $\frac{1}{2}$ -1	Rest
Tuesday	HE-5 mins. SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-2 3H-F-1 6DT- $\frac{1}{2}$ -E, D, Ft & Fw 3DT- $\frac{1}{2}$ -J&F & Sc 220- $\frac{1}{2}$ -1 (W)	100-Tr-2 BBns-5 mins. 4SSh- $\frac{1}{4}$ -Co 4Sh- $\frac{1}{2}$ -Co or PCF 3SDT- $\frac{1}{2}$ -Co 3DT- $\frac{1}{2}$ -LSF & Sc SPP-30- $\frac{1}{2}$ -2 2PV- $\frac{1}{2}$ -Co 2PV- $\frac{1}{2}$ -Co	100-Tr-2 RF Exs-10 mins. Light training in weakest throwing event or Shot Put 300- $\frac{1}{2}$ -1	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -4 SSH-VF-PCF 4HJ- $\frac{1}{2}$ -JCF 3HJ- $\frac{1}{2}$ -Co 6Jav- $\frac{1}{2}$ -JCF 3Jav- $\frac{1}{2}$ -LSF & D
Wednesday	PV Exs-10 mins. SPP-30- $\frac{1}{2}$ -3 4PV- $\frac{1}{2}$ -Co 6PV- $\frac{1}{2}$ -VCF 6RFS-LJ-F-L3S & HTO 880- $\frac{1}{2}$ -1 (W)	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{4}$ -4 50- $\frac{1}{2}$ -2 3SH- $\frac{1}{2}$ -E, D & Ft 3SH- $\frac{1}{2}$ -E, D & Ft 2RFS-LJ-F-L3S & HTO 1LJ- $\frac{1}{2}$ -J 3LJ- $\frac{1}{2}$ -Co	Rest	HE-5 mins. SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-2 3H-F-1 6DT- $\frac{1}{2}$ -E, D, Ft & Fw 3DT- $\frac{1}{2}$ -J&F & Sc 220- $\frac{1}{2}$ -1 (W)
Thursday	RF Exs-5 mins. SPP-30- $\frac{1}{2}$ -3 SP-30- $\frac{1}{4}$ -4 SSH- $\frac{1}{2}$ -Co SSH- $\frac{1}{2}$ -E & Ft SSH- $\frac{1}{2}$ -E & Ft 3HJ- $\frac{1}{2}$ -Co 4HJ- $\frac{1}{2}$ -JCF 6Jav- $\frac{1}{2}$ -Co	100-Tr-2 BBns-5 mins. Light training in weakest field events RF Exs-10 mins.	A.M. 100Mets-T- $\frac{1}{2}$ LJ-T- $\frac{1}{2}$ SH-T- $\frac{1}{2}$ P.M. 400Mets-T- $\frac{1}{2}$ 400Mets-T- $\frac{1}{2}$	PV Exs-10 mins. SPP-30- $\frac{1}{2}$ -3 SP-30- $\frac{1}{4}$ -4 4PV- $\frac{1}{2}$ -Co 6PV- $\frac{1}{2}$ -VCF 6RFS-LJ-F-L3S & HTO 880- $\frac{1}{2}$ -1 (W)
Saturday	A.M. 100Mets-T LJ-T P.M. SH-T HJ-T 400Mets-T	A.M. 100Mets.H-T DT-T PV-T Jav-T 1500Mets-T	A.M. 100Mets-T- $\frac{1}{2}$ LJ-T- $\frac{1}{2}$ SH-T- $\frac{1}{2}$ P.M. 400Mets-T- $\frac{1}{2}$ 400Mets-T- $\frac{1}{2}$	RF Exs-5 mins. 4Sh- $\frac{1}{2}$ -E & Fw 2HJ- $\frac{1}{2}$ -Co 4HJ- $\frac{1}{2}$ -Co 6Jav- $\frac{1}{2}$ -Co

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	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	RF Exs-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -3 SP-1H- $\frac{1}{2}$ -2 5H-Tr-DHC-1 3H- $\frac{1}{2}$ +4H- $\frac{1}{2}$ +3H- $\frac{1}{2}$ -1 3SDT- $\frac{1}{2}$ -E & Ft 3DT- $\frac{1}{2}$ -LSF & Sc 3M- $\frac{1}{2}$ -1	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 60- $\frac{1}{2}$ -1 SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-1 6SH-VE-PCF 6HV-VE-JCF 6AV-VE-TCF	RF Exs-5 mins. SP-30- $\frac{1}{2}$ -2 3RFS-LJ-F-Co LLJ- $\frac{1}{2}$ -Co 4LJ- $\frac{1}{2}$ -Co SSH- $\frac{1}{2}$ -E & Ft 6Sh- $\frac{1}{2}$ -Co 100Mets- $\frac{1}{2}$ -1	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 6SDT- $\frac{1}{2}$ -E, E & Sc 4DT- $\frac{1}{2}$ -LSF & D 220- $\frac{1}{2}$ -1
Tuesday	100-Tr-2 BBns-5 mins. 4SSH- $\frac{1}{2}$ -E & Ft 4SH- $\frac{1}{2}$ -E & Ft 3Jav- $\frac{1}{2}$ -E & Ft 3Jav- $\frac{1}{2}$ -LSF & E SPP-30- $\frac{1}{2}$ -2 SPP-30- $\frac{1}{2}$ -2 2PV- $\frac{1}{2}$ -Co 3PV- $\frac{1}{2}$ -Co	HE-5 mins. SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-2 3H- $\frac{1}{2}$ -2-HCF 8DT-Tic-VE-TCF 440- $\frac{1}{2}$ -1	RF Exs-5 mins. SP-30- $\frac{1}{2}$ -2 6DT-VE-Co 2HJ- $\frac{1}{2}$ -Co 4HJ- $\frac{1}{2}$ -Co 800- $\frac{1}{2}$ -1	100-Tr-2 RF Exs-5 mins. 6SDT- $\frac{1}{2}$ -E, E & Sc 4DT- $\frac{1}{2}$ -LSF & D 220- $\frac{1}{2}$ -1
Wednesday	BBns-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{1}{2}$ -4 60- $\frac{1}{2}$ -2 3DT- $\frac{1}{2}$ -Co 3DT- $\frac{1}{2}$ -LSF & Sc 2RFS-LJ-F-LSS & HTO LLJ- $\frac{1}{2}$ -E 3LJ- $\frac{1}{2}$ -Co	PV-Exs-10 mins. SPP-30- $\frac{1}{2}$ -2 SPP-30- $\frac{1}{2}$ -1 SPP-VE-VCF 220- $\frac{1}{2}$ -1	RF Exs-5 mins. 2SDT- $\frac{1}{2}$ -E, Ft & Sc 6DT-VE-Co PV Exs-5 mins. TPV- $\frac{1}{2}$ -Co 4PV- $\frac{1}{2}$ -Co 100Mets- $\frac{1}{2}$ -1	Rest
Thursday	100-Tr-2 BBns-5 mins. Light training in weakest field events RF Exs-10 mins.	100-Tr-2 BBns-5 mins. SP-30- $\frac{1}{2}$ -2 3RFS-LJ-F-LSS & HTO 2LJ- $\frac{1}{2}$ -Co 6LJ-VE-JCF 880- $\frac{1}{2}$ -1	Light training in weakest field event	Rest
Saturday	A.M. 100Mets-T LJ-T SH-T HJ-T 400Mets-T	A.M. 110Mets, H-T DP-T PV-T Jav-T 1500Mets-T	HE-5 mins. SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-1 3H- $\frac{1}{2}$ +4H- $\frac{1}{2}$ +3H- $\frac{1}{2}$ -1 Light practise weakest throwing event	Friday and Saturday DECATHLON COMPETITION For which training



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Limping up at $\frac{1}{2}$ effort. "FT"—Follow through action. *Left*: D. Muir, U.A.U. Discus Champion. *Centre*: M. Jarvinen, Finland, World's Javelin Record Holder, 242 ft. 10 $\frac{1}{8}$ ins. *Right*: H. Ford, C.U.A.C., R.A.F. Shot Putting Champion, and English Native Decathlon Record Holder.

PART IV

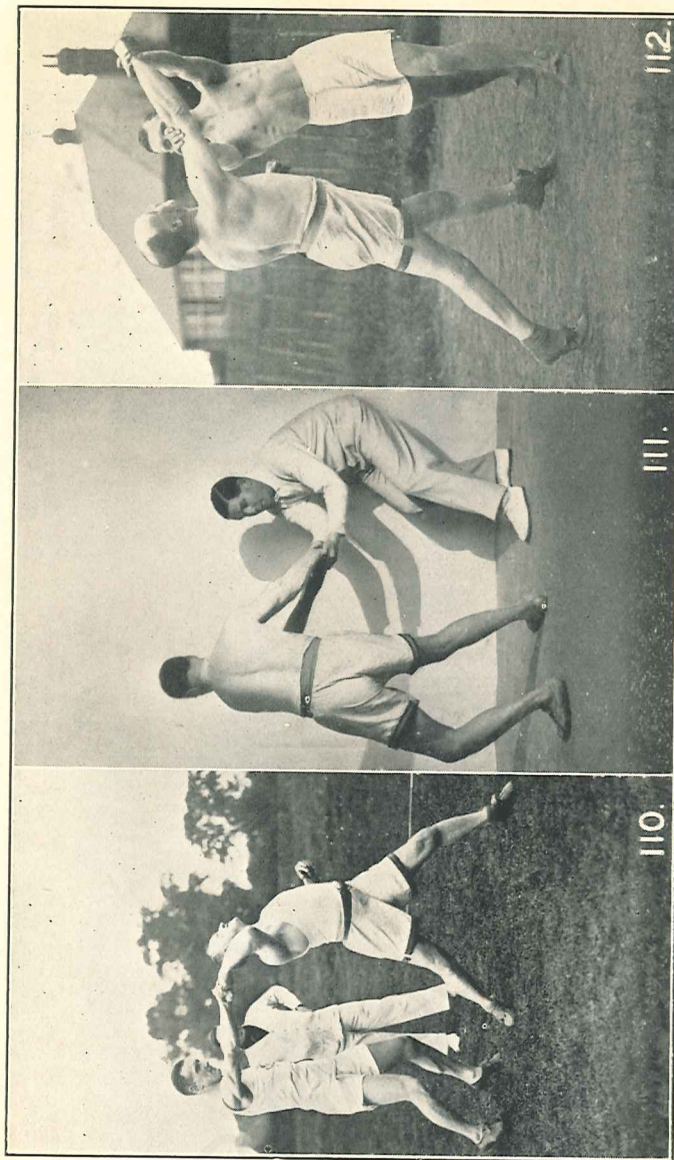
CHAPTER EIGHTEEN

TRAINING FOR BOYS

THE training of schoolboys in England, as it is practised at present, is definitely bad. That is why we so frequently find that the boy who has proved himself a brilliant athlete at school either fades out of the athletic world altogether upon leaving school, or fails to regain his early athletic promise until he has been at a University for one or two years. The trouble is that training at the Public Schools is criminally haphazard, speaking generally, and, again, the period allowed for athletic preparation is far too short.

On general principles, it may be said that boys under sixteen years of age should only "play at athletics." They may compete in track and field events, if due care is taken, but boys under twelve years of age should not run more than a furlong and that but seldom. Between fourteen and sixteen a boy may run up to 440 yards on cinders, or half a mile on grass. As regards the weight events, boys should use the youth's pattern javelin and discus; the 8-lb. shot is for boys up to fifteen and the 12-lb. shot should be standardised for the use of boys over sixteen at the Public Schools. An 8-lb. hammer can be used safely by boys of under seventeen, but nothing over 12 lbs. should be used until a youth is reaching the twenties and is beginning to mature his athletic physique.

Proper training tables for boys, up to the A.A.A. Junior Championship age of nineteen, who are able to devote a period of three months to athletic preparation, are given with each chapter throughout this book dealing with particular events that are practised by boys.



"RF Exs."—Resistive form exercises. *Left*: Javelin—S. Wilson, Northern Champion, and F. A. M. Webster, former English Champion. *Centre*: The authors, showing hammer resistive exercise. *Right*: Discus—F. A. M. Webster, former Midland Counties Champion, and S. Wilson. Examples of exercises from "Exercises for Athletes."

It still remains to cater for those many schools throughout the country at which athletics are regarded as a useful means of filling in the fag-end of second football term and at which, in consequence, only one month is available for athletic training prior to the School Sports.

Luckily, there is a definite tendency nowadays to limit the number of events in which a boy may compete, for it is now being realised that the Victor Ludorum system, which encourages the unfortunate youngster to run himself to death, is wholly bad, and has been responsible for a great many athletic disasters.

It is, however, only begging the question to decide arbitrarily that a boy may not take part in more than three events. For, obviously, a boy will not hurt himself if he competes in three or four throwing events and a jump or race. One must therefore decide as to the degree of strain imposed upon the athlete by various events.

It seems that a boys' competition can best be governed by a system of grouping. The alternatives for competition which should be offered may well be divided as follows :—

GROUP A. One Race (100 yards or 120 yards Hurdles) and three Field Events, including one throw or the shot put.

GROUP B. Two Races (up to and including 440 yards) and two Field Events, including one throw or the shot put.

GROUP C. Two Races (chosen from the 440, 880 yards and 1 mile) and one Field Event, which must be one of the throws or the shot put.

GROUP D. Four Field Events, to be either three throws and a shot put ; two jumps and two throws (counting the shot put as a throw) ; or one jump and three throws (counting the shot put as a throw).

On pages 199 to 201 will be found tables covering one month's training ; firstly, for Groups A and B ; and, secondly, for Group C. Group D is dealt with separately

for the three throwing events and the shot put, in pages 202 to 208.

These tables, which have been used successfully for a period of years at several schools which have gained remarkable athletic distinction, are given for the convenience of Games Masters who wish to get the best out of their charges, without imposing any undue strain upon them. For the better working of the system, however, Games Masters should insist upon boys choosing the events for which they wish to train before the general period of School training starts. They should insist, further, upon entries for the Sports being made at the end of the second week of training, after which period each boy's preparation should be concentrated on his best event, or events.

TABLES OF EFFORT. The efforts to be used in the various practises set out are indicated by fractions. To ascertain what these efforts should be, in proportion to each boy's average best performance, it will be necessary to refer to the Table of Effort for the particular event being practised, which is given in the chapter dealing with that event. The purpose of the Tables of Effort and the way to use them is set out on pages 17 and 107. The symbols employed in the Group Tables must, however, be set out separately.

GROUP TRAINING TABLES—SYMBOLS EXPLAINED.

440— $\frac{1}{4}$ —1. Means warming up by running 440 yards at $\frac{1}{4}$ effort, once. *Note.*—The first figure represents the distance to be run, the second figure the effort to be used and the third figure the number of times the practise is to be carried out.

BBnS=Body Bending and Stretching Exercises.

HE=Hurdling Exercises.

SP=Starting Practise. *Example :* SP-30— $\frac{1}{2}$ —2 means sprinting 30 yards, from a crouching start position,

at $\frac{1}{2}$ speed, twice. SP-1H- $\frac{1}{2}$ -2 means starting practise over one hurdle at $\frac{1}{2}$ effort, twice.

RF Exs=Resistive Form Exercises, given fully in *Exercises for Athletes* (John F. Shaw & Co., Ltd., London), which should be practised by boys working in pairs.

(JV)=Jumpers or Pole Vaulters.

(TS)=Throwers or Shot Putters. *Example*: BBnS (JV) or RF Exs (TS)-5 mins. means that body-bending and stretching exercises will be practised by jumpers and pole vaulters, or resistive form exercises by throwers and shot putters, for 5 mins.

ST=Standing Throw.

SPt=Standing Put.

S=For Style. *Example*: 6ST or SPt-S- $\frac{1}{4}$ -(TS) means that six standing throws or shot puts, for style, at $\frac{1}{4}$ effort, will be practised by throwers and shot putters.

Tic=Turning in Circle.

Gl=Glide across Circle.

ApR=Approach Run.

ApR to TO=Approach Run to Take-off. *Examples*:

Tic, Gl or ApR- $\frac{1}{2}$ -6 (TS) means that turning in the circle, gliding across the circle, or the approach run, at $\frac{1}{2}$ effort, will be carried out six times by throwers or shot putters according to their event. 3ApR to TO- $\frac{1}{2}$ -(JV) means three approach runs to take off at $\frac{1}{2}$ effort by jumpers or pole vaulters.

J=Jump or Jumps.

PV=Pole Vault or Vaults. *Example*: 3J or Pv- $\frac{1}{4}$ -S means making three jumps or pole vaults, according to your event, at $\frac{1}{4}$ effort for style.

T=Trial. *Examples*: 50-T-1 means that you will run 50 yards as a trial, once, against the stop-watch. J or Pv-T means that you will jump, or vault, in a trial until you have removed the bar three times at any one height.

H=Hurdle or Hurdles.

Tr=Trot.

FHC=Fast Hurdle Clearance. *Examples*: 5H-Tr-FHC-2 means that you will run over five hurdles, trotting between the flights and effecting fast hurdle clearance of the obstacles, twice. 3H- $\frac{1}{2}$ +4H- $\frac{1}{4}$ +3H- $\frac{1}{2}$ -1 means that you will run over ten hurdles, in all, taking the first three hurdles at $\frac{1}{2}$ effort, the next four hurdles at $\frac{1}{4}$ effort and the final three hurdles at $\frac{1}{2}$ effort, once.

Fw=Footwork.

Tx=Throwing with the Turn or Approach Run.

Pg=Putting with the Glide.

E=Elevation.

D=Direction.

FT=Follow Through. *Example*: 3Tx or Pg- $\frac{1}{2}$ -E, D, FT & Fw means three throws with a turn, or run, or puts with a glide, according to your event, at $\frac{1}{2}$ effort for elevation, direction, follow through and footwork.

The above covers the symbols used in the Training Tables for Groups A and B. There are a few additional symbols used in the Table of Group C.

MW=Mile Walk.

M=Mile or Miles. *Example*: 4MW-Tr 100/1M means that you will walk four miles, trotting 100 yards in every mile.

(W)=Watch; that is to say, the practise against which the symbol (W) appears is to be timed by a stop-watch. *Example*: 440- $\frac{3}{4}$ +440- $\frac{1}{2}$ -1 (W) means that you are to run 880 yards in all, the first 440 yards at $\frac{3}{4}$ effort and the second 440 yards at $\frac{1}{2}$ effort, once, timing the whole effort, and, also, each quarter mile, by the stop-watch. It is desirable that schoolboys should learn to run the first quarter mile, of a half mile, some 3 secs. faster than the second quarter.

VS=Varying Stride. A runner must learn to vary his stride both for the purpose of changing his pace and to rest his leg muscles. *Example*: 2M- $\frac{1}{4}$ -VS-1 (W)

means that you will run two miles at $\frac{1}{4}$ effort, varying your striding, the time to be taken with a stopwatch.

BOYS' ONE MONTH TRAINING TABLE—GROUPS A AND B

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	440- $\frac{1}{4}$ -1 BBnS or HS-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 or SP-1H- $\frac{1}{2}$ -2 SP-1H- $\frac{3}{4}$ -3	440- $\frac{1}{4}$ -1 BBnS or HE-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 100-T-1 or SP-1H- $\frac{1}{2}$ -2 SP-1H- $\frac{3}{4}$ -2 5H-Tr-FHC-2 5H-T-1	100-Tr-2 BBnS or HE-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 100-T-1 440- $\frac{1}{4}$ -1 or SP-1H- $\frac{1}{2}$ -2 3H-Tr-FHC-1 7H-T-1 440- $\frac{1}{4}$ -1	100-Tr-2 BBnS(JV) or RF Exs(TS) 2Tx or Pg- $\frac{1}{4}$ -S 3Tx or Pg- $\frac{1}{2}$ - E-D & FT and/or 2J or PV- $\frac{1}{4}$ -S 3J or PV- $\frac{1}{2}$ -S 220- $\frac{1}{4}$ -1
Tuesday	BBnS(JV) or RF Exs(TS) 6ST or SP+S- $\frac{1}{2}$ (TS) 8Tic-GI or ApR- $\frac{1}{2}$ -6(TS) and/or 3ApR to TO- $\frac{1}{2}$ (JV) 3J or PV- $\frac{1}{4}$ -S 3J or PV- $\frac{1}{2}$ -S	BBnS(JV) or RF Exs(TS) 4Tic-GI or ApR- $\frac{1}{2}$ -Fw(TS) 3Tx or Pg- $\frac{1}{4}$ -S & Fw 3Tx or Pg- $\frac{1}{2}$ -E-D- FT-Fw and/or 3ApR to TO- $\frac{3}{4}$ 4J or PV- $\frac{1}{4}$ -S 4J or PV- $\frac{1}{2}$ -S	BBnS(JV) or RF Exs(TS) SP-30- $\frac{1}{2}$ -3 4Tx or Pg- $\frac{1}{4}$ -S & Fw 4Tx or Pg- $\frac{1}{2}$ -E-D-FT and/or 2J or PV- $\frac{1}{4}$ -S 4J or PV- $\frac{1}{2}$ -S 3J or PV- $\frac{1}{4}$ -S 150- $\frac{1}{2}$ -1	100-Tr-2 BBnS or HE-5 mins. 30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -1 100- $\frac{1}{2}$ -1 or SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-2 150- $\frac{1}{2}$ -1
Wednesday	440- $\frac{1}{4}$ -1 BBnS or HE-5 mins. SP-30- $\frac{1}{2}$ -2 50- $\frac{3}{4}$ -1 or SP-1H- $\frac{1}{2}$ -2 5H-Tr-FHC-2 3H- $\frac{1}{2}$ +4H- $\frac{1}{4}$ +3H- $\frac{1}{2}$ -1	220- $\frac{1}{4}$ -1 BBnS or HE-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -2 75-T-1 or SP-1H- $\frac{1}{2}$ -2 SP-1H- $\frac{3}{4}$ -2 5H-Tr-FHC-2 3H- $\frac{1}{2}$ +4H- $\frac{1}{4}$ +3H- $\frac{1}{2}$ -1	100-Tr-2 BBnS or HE-5 mins. SP-30- $\frac{1}{2}$ -2 SP-30- $\frac{3}{4}$ -3 150- $\frac{3}{4}$ -1 or SP-1H- $\frac{1}{2}$ -2 3H- $\frac{3}{4}$ -1 5H-Tr-FHC-2 3H- $\frac{3}{4}$ +4H- $\frac{1}{2}$ +3H- $\frac{1}{2}$ -1	Rest

BOYS' ONE MONTH TRAINING TABLE—GROUPS A AND B—continued

	1st Week.	2nd Week.	3rd Week.	4th Week.	
Thursday	BBnS(JV) or RF Exs(TS) 8ST or SPT- $\frac{1}{2}$ -1 (TS) 4Tic-GI or Apr- $\frac{1}{2}$ (TS) and/or 3Apr to TIO- $\frac{3}{4}$ (JV) 4J or PV- $\frac{1}{4}$ -S 4J or PV- $\frac{1}{2}$ -S 300- $\frac{1}{4}$ -1	BBnS(JV) or RF Exs(TS) 220- $\frac{1}{4}$ -1 4Tx or Pg- $\frac{1}{4}$ -S & Fw 3Tx or Pg- $\frac{1}{2}$ -E-D & FT 2Tx or Pg- $\frac{3}{4}$ -FT and/or 2J or PV- $\frac{1}{4}$ -S 3J or PV- $\frac{1}{2}$ -S 2J or PV- $\frac{3}{4}$ -S	BBnS(JV) or RF Exs(TS) SP-30- $\frac{3}{4}$ -3 6ST or SPT- $\frac{1}{4}$ -S 4Tx or Pg- $\frac{1}{2}$ -E-D & FT and/or 1J or PV- $\frac{1}{4}$ -S 8J or PV- $\frac{1}{2}$ -S 300- $\frac{1}{4}$ -1	3M-Brisk Walk	3M-Brisk Walk
Friday	3M-Brisk Walk	3M-Brisk Walk	Rest	Rest	
Saturday	220- $\frac{1}{4}$ -1 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 50-T-1 or SP-1H- $\frac{1}{2}$ -2 3H- $\frac{3}{4}$ +4H- $\frac{1}{2}$ +3H- $\frac{1}{4}$ -1 Rest 3ST or SPT- $\frac{3}{4}$ -T 1J or PV- $\frac{1}{4}$ -S 2J or PV- $\frac{1}{2}$ -S 2J or PV- $\frac{3}{4}$ -T	100-Tr-2 BBnS-5 mins. SP-30- $\frac{3}{4}$ -2 100-T-1 or 3H-Tr-FHC 3H- $\frac{3}{4}$ -1 3H- $\frac{3}{4}$ -1 HE-3 mins. 10H-T-1 Rest J or PV-T	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 100-T-1 or 3H-Tr-FHC 3H- $\frac{3}{4}$ -1 HE-3 mins. 10H-T-1 Rest J or PV-T	Rest	Competition

BOYS' ONE MONTH TRAINING TABLE—GROUP C

	1st Week.	2nd Week.	3rd Week.	4th Week.
Monday	4MW-Tr 100/LM	BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{4}$ -2 440- $\frac{3}{4}$ +440- $\frac{1}{4}$ -1 (W)	100-Tr-2 BBnS-5 mins. SP-40- $\frac{3}{4}$ -2 440- $\frac{1}{4}$ -1 (W) Rest RF Exs-5mins. 8ST or SPT- $\frac{1}{4}$ -S	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 48T or SPT- $\frac{1}{4}$ -S 6Tx or Pg- $\frac{1}{2}$ -E-D & FT
Tuesday	BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 660- $\frac{1}{4}$ -VS-1 (W) 100- $\frac{1}{4}$ -1	RF Exs-5 mins. SP-30- $\frac{3}{4}$ -3 6Tx or Pg- $\frac{1}{4}$ -S & Fw 3Tx or Pg- $\frac{1}{2}$ -E-D-FT 3Tx or Pg- $\frac{3}{4}$ -E-D-FT Rest 660- $\frac{1}{4}$ -1	100-Tr-2 BBnS-5 mins. SP-40- $\frac{3}{4}$ -2 440- $\frac{1}{4}$ +440- $\frac{1}{4}$ -1 (W)	100-Tr-2 BBnS-5 mins. SP-30- $\frac{1}{2}$ -2 660- $\frac{3}{4}$ -1
Wednesday	RF Exs-5 mins. 8ST or SPT- $\frac{1}{4}$ -S 6Tic-GI or Apr- $\frac{1}{2}$ -Fw 6Tx or Pg- $\frac{1}{4}$ -S & Fw 440- $\frac{1}{4}$ -1	2M- $\frac{1}{4}$ -VS-1 (W)	100-Tr-2 RF Exs-5 mins. BBnS-2 mins. 3Tx or Pg- $\frac{1}{4}$ -S 3Tx or Pg- $\frac{1}{2}$ -S & Fw 6Tx or Pg-FT	Rest
Thursday	BBnS-5 mins. SP-40- $\frac{1}{2}$ -2 SP-40- $\frac{1}{4}$ -1 440- $\frac{3}{4}$ +440- $\frac{1}{4}$ -1 (W)	RF Exs-5 mins. 220- $\frac{1}{4}$ -1 8ST or SPT- $\frac{1}{4}$ -S 4Tx or Pg- $\frac{1}{4}$ -S & Fw 3Tx or Pg- $\frac{1}{2}$ -Fw & FT Rest 300- $\frac{1}{4}$ -1	100-Tr-2 BBnS-5 mins. 4M- $\frac{1}{4}$ -1 (W) Rest RF Exs-5 mins. 6ST or SPT- $\frac{1}{4}$ -S 4Tx or Pg- $\frac{1}{4}$ -S & Fw	3M-Brisk Walk
Friday	3MW-Tr 50/880	3MW-Tr 50/880	Rest	Rest
Saturday	BBnS-5 mins. 1M- $\frac{1}{4}$ -1 Long Rest RF Exs-5 mins. 8ST or SPT- $\frac{1}{4}$ -S 48T or SPT- $\frac{1}{4}$ -S 6Tic-GI or Apr- $\frac{1}{2}$ -Fw	BBnS-5 mins. 4M-T-1 (W)	880-T-1 (W)	Competition

ONE MONTH'S COMBINED TRAINING—
HAMMER, JAVELIN AND DISCUS THROWERS
AND SHOT PUTTERS
GROUP D

Working on the principle that in most of the field events exponents practise more than one event, the following scheme of training is suggested. In any case it is a good thing for a boy to gain strength and suppleness during the first two weeks of training, by trying out all four of these events. Masters and boys must read the chapters dealing with each event.

FIRST WEEK

MONDAY and WEDNESDAY.—Five minutes exercises in stretching, suppling and, especially, trunk twisting for the development of strength and speed.

8- or 10-lb. HAMMER. Practise hammer swinging round head for 5 mins. Four standing throws, practising for height and correct delivery action. Six loose, easy throws, with one turn.

SPRINTS, STARTING PRACTISE. Three starts at $\frac{1}{2}$ effort, three starts of 30 yards at $\frac{3}{4}$ effort.

SHOT. Four standing puts for body swing, elbow lift, leg drive and correct delivery, with concentration on height.

JUMPS. Three standing long jumps, three standing high jumps, as preparation for the Shot Putting Glide.

SHOT. Practise the preliminary leg and arm swing six times. Practise the glide across the circle, six times, without the shot in hand.

TUESDAY and THURSDAY.—Five minutes discus resistive exercises, boys working in pairs.

DISCUS. Six standing throws, concentrating upon true flight without wobble, with loose arm swing, and sweep of

arm round body in delivery, and stiffening up of left leg and side in final effort.

Practise the preliminary swing for 5 mins.

Practise six turning movements for footwork without the discus in hand.

JAVELIN. Five minutes javelin resistive exercises, boys working in pairs. Five minutes walking about the ground throwing the javelin down into the ground about 20 to 25 ft. ahead. Bring the body well under the javelin in an erect position while throwing, start the throw from full arm extension just above shoulder level, and make the throw with a strong turn of the shoulders. Practise step-over action in slow time. Five minutes light throwing for flat flight and height, lifting the javelin away and up off the palm of the hand.

FRIDAY.—All athletes, both track and field, should go for three miles brisk walk, breaking into a trot for 50 yards in every half mile to ease the leg muscles.

SATURDAY.—Five minutes loosening and suppling exercises.

HAMMER, 8- or 10-lb. Three standing throws for distance and height. Short rest.

DISCUS, 3·3 lbs. Three standing throws for distance. Short rest.

JAVELIN, 1 lb. 5·6 ozs. Three throws for distance and height at end of six walking steps. Short rest.

SHOT, 12 lbs. Three standing puts for distance and height. Rest. Run through the four groups of resistive exercises once, boys working in pairs.

Note for Games Masters.—Correct faults during these trials and record the results obtained by each boy.

SECOND WEEK

MONDAY.—HAMMER, 8 or 10 lbs. Five minutes hammer resistive exercises, boys working in pairs. Two standing throws. Practise turning with hammer. Three light throws with two turns. Rest.

SHOT. Five minutes shot-putting resistive exercises, boys working in pairs. Two standing puts. Practise the glide with shot in hand. Three light puts with the glide. Rest.

JUMPING. Four standing long jumps, four standing high jumps, to increase gliding power.

TUESDAY.—DISCUS, 3·3 lbs. Five minutes discus resistive exercises, boys working in pairs. Two standing throws for scale, height and follow through. Practise turn in circle with discus. Three light throws with the turn, for steadiness. Rest.

JAVELIN, 1 lb. 5·6 ozs. Five minutes javelin resistive exercises, boys working in pairs. Six walking throws into ground. Three walking throws into the air. Three walking throws off the palm of the hand. Practise approach run and step-over action. Three easy throws with light run for height and direction.

WEDNESDAY.—HAMMER, 8 or 10 lbs. Loosening and suppling exercises. Two standing throws for height and distance with good follow through. Four light throws with turn for steadiness. Practise turning with hammer, without throwing, for correction of faults in footwork. Rest.

SHOT, 12 lbs. Six press-ups from finger-tips. Two standing puts lightly for style. Three light puts with glide. Rest.

THURSDAY.—DISCUS, 3·3 lbs. Loosening and suppling exercises. Two standing throws for distance, with good follow through. Four light throws with a turn. Practise throwing with discus to correct faults in footwork. Rest.

JAVELIN, 1 lb. 5·6 ozs. Five minutes javelin resistive exercises, boys working in pairs. Three walking throws into the ground. Six light throws with an easy run for style.

FRIDAY.—Three miles brisk walk, breaking into a trot for 50 yards in each half mile.

SATURDAY.—HAMMER, 8 or 10 lbs. Loosening and

suppling exercises. Two standing throws just under full power. Two throws with a turn for distance. Rest.

DISCUS. Two loose standing throws at just under full power. Three throws with the turn for distance. Rest.

JAVELIN. Three easy throws at a light run for style and to limber up the muscles. Three throws for length and steady flight. Rest.

SHOT. Two standing puts just under full power. Two light puts with a glide for style; delivery must be as light as possible. Two puts with glide for distance.

Note for Games Masters.—Check faults during trials and record all performances.

THIRD WEEK

Note for Games Masters.—Concentrate each boy on his best event, and divide schedule as follows:

HAMMER THROWERS.

MONDAY and TUESDAY.—Eight to ten throws with turn; for height and perfection in turning and delivery action, do not try for distance.

WEDNESDAY.—Eight to ten throws with turn for distance.

THURSDAY.—Three standing long jumps. Three standing high jumps. Three $\frac{1}{2}$ speed sprints of 50 yards each.

FRIDAY.—Two miles brisk walk, breaking into a 50 yards trot in each half mile.

SATURDAY.—Loosening and stretching exercises. Two easy standing throws. Two easy throws with a turn. Six trial throws for distance. Results to be recorded.

DISCUS THROWERS.

MONDAY.—Resistive and loosening exercises, boys working in pairs. Ten to twelve good hard throws, with the turn, for distance.

TUESDAY.—Loosening and suppling exercises. Six easy shot puts. Three $\frac{1}{2}$ effort sprints of 50 yards each.

WEDNESDAY.—Arm and shoulder-loosening and body- and leg-stretching exercises. Three easy practise throws. Ten to twelve good hard throws, with turn, for distance. Six or seven throws to correct faults and perfect throwing form and footwork. Practise footwork without throwing.

THURSDAY.—Discus resistive exercises, boys working in pairs. Short practise of some event other than Discus or Hammer Throwing.

FRIDAY.—Two miles brisk walk, breaking into a 50 yards trot at every half mile.

SATURDAY.—Loosen up with stretching and suppling exercises. Three easy practise throws as in competition. Results to be recorded.

SHOT PUTTERS.

MONDAY.—Practise any event other than Shot Putting. Six to twelve press-ups from finger-tips.

TUESDAY.—Loosening and warming exercises. Six to eight easy puts, working for style and emphasising height in delivery. Six puts for distance. To be measured and recorded. Pay more attention, however, to full-powered style than to distance.

WEDNESDAY.—Easy work for the correction of whatever faults in style need attention. Six to twelve press-ups from the finger-tips.

THURSDAY.—Loosening and warming exercises. Practise standing put for delivery style and height. Practise shifting across the circle without putting. Four puts with glide for distance; concentrate on maintaining correct form under full speed and power.

FRIDAY.—Two miles brisk walk, breaking into a trot for 50 yards in every half mile.

SATURDAY.—Loosening, warming and stretching exercises. Three easy puts with glide for style. Six trial puts as in competition. Results to be recorded.

Note.—Six to twelve press-ups from finger-tips should be done each day.

JAVELIN THROWERS.

MONDAY.—Ten minutes walking about ground throwing javelin into the ground, with varying strength, 20 to 25 ft. ahead. Six to twelve very light throws for style. Five minutes javelin resistive exercises, boys working in pairs.

TUESDAY.—General loosening and, especially, arm- and shoulder-warming exercises. Ten to twelve throws for distance at almost full speed, or power, emphasising style rather than striving after distance.

WEDNESDAY and THURSDAY.—Work to make the run-up perfect. Five minutes walking about and throwing into the ground. Six very easy throws for style. Five minutes javelin resistive exercises, boys working in pairs.

FRIDAY.—Two miles brisk walk, breaking into a trot for 50 yards in each half mile.

SATURDAY.—Loosening, stretching and warming exercises, especially for the throwing arm. Six walking throws into the ground. Three very light throws for style. Six trial throws exactly as in competition. Results to be recorded.

Note.—Javelin throwers should do a moderate amount of sprinting daily, except Friday, with the sprinters. They must also practise and stabilise the approach run, so that the throw is made about 8 to 9 ft. behind the scratch line.

General Notes. If the training period is to exceed one month the third week's programme may be repeated for each week up to and including the week preceding the week in which the competition for which the preparation has been undertaken is to take place. In all the Saturday trials, boys should be given the same period of rest between each throw, or put, as would elapse in actual competition. Boys must be made to resume their sweaters and track trousers while awaiting their turns and must always warm up thoroughly before attempting anything. This prevents colds and strains.

FOURTH WEEK

HAMMER, DISCUS AND JAVELIN THROWERS, AND SHOT PUTTERS. (Week at end of which competition takes place.)

MONDAY.—Five minutes resistive exercises for the particular event to be competed in, boys working in pairs. Six light throws or puts for style.

TUESDAY.—Five minutes loosening, stretching and suppling exercises. Three easy throws, or puts, for style. Three throws, or puts, for distance, just under full effort or power, emphasising style rather than aiming at distance.

WEDNESDAY.—No work at all.

THURSDAY.—Two miles easy stroll, or no work, if there are trials on Friday.

FRIDAY.—Rest, unless obliged to compete in eliminating trials.

SATURDAY.—Limber up. Three easy throws or puts for style. Competition.

Note for Games Masters.—Work during final week must be kept as light as possible.

General Notes. If the training is to last longer than one month, carry on with the third week's programme until the week of the sports, then for that week use the fourth week's programme. Similarly, for matches and for the Public Schools Championships, carry on with the third week's programme until the week preceding the next competition, for which week use the fourth week's programme.

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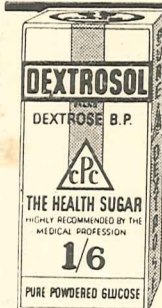
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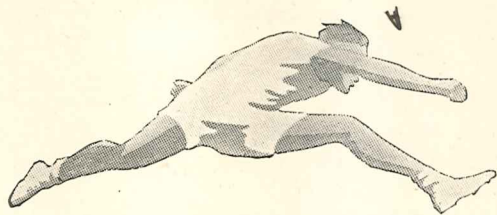
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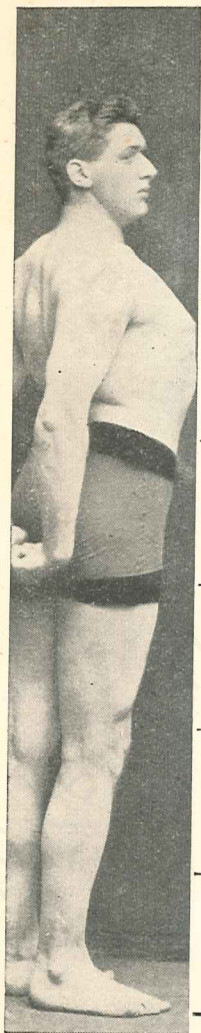
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"Your Course has been a wonderful success! I have gone up to 6 ft. 0½ in. (from 5 ft. 9½ in.) in ten weeks. My chest measurement and weight are also greater, as I desired. Many thanks for all you have done for me."

"H. & S." Leaguer, age 22, writes:

"I am delighted with your System. Have increased my height to 5 ft. 11 in., and am also much better in Health. Before taking up your treatment my Nerves were very bad, but now I have gained confidence in myself, and feel much better in every way."

**'WARE
WORTHLESS
IMITATORS!**

Write me to-day, without obligation, for free details and convincing testimony of the 'Ross' System. Give full name and address and enclose 2½d. in stamps to defray postage, etc.

A. B. MALCOLM ROSS Height Specialist,
Scarborough (Eng.)