

MISCELLANEOUS JUMPING.

THE HOP, STEP AND JUMP, AND ITS VARIATIONS.

BY MALCOLM W. FORD.



HIGHEST POINT OF STEP. (p. 236.)

THE hop, step and jump may be done either from a stand-still or with a run. The motions in both cases are the same, the only difference being that in the standing hop, step and jump the athlete stands on and takes off with one foot, in place of getting momentum from a run.

The hop, step and jump, whether done with a run or from a stand, consists in taking a hop, which means leaping from and landing on the same foot; then a step, landing on the foot opposite to the one with which the hop has been made. The final part is a jump, which consists in leaping from the foot on which the athlete lands from the step, and eventually landing on both feet. The world's amateur record for a standing hop, step and jump is 29 feet 11 inches, by J. W. Rich.

Many athletes and journalists confuse the standing hop, step and jump with the standing jump, step and jump. When doing the latter the athlete toes the mark with both feet and gives a jump, landing on one, as in a hop, and then continues as in a hop, step and jump; whereas in the hop, step and jump the athlete stands on one foot, as shown in the illustration "Hopping from a stand-still." Standing on both feet, jumping and landing on one, is as much of a jump as though both feet were used in landing, for the spring is

given from both and the power exerted by both is used,

The best record for a standing jump, step and jump is 31 feet 10 inches, by myself, and my best figures for the standing hop, step and jump are 1 $\frac{1}{2}$ inches behind Rich. The world's amateur record for a running hop, step and jump is 48 feet 3 inches, by J. Purcell, in Ireland. The best American amateur record for this event is 45 feet 7 $\frac{1}{2}$ inches, by J. H. Clausen, of Boston. It will be seen that in the running event the British record is nearly 3 feet ahead of the American.

The hop, step and jump from a stand-still should be first in order, for practice at it will put one in good condition for doing the game with a run. The stand-still event can also be done with profit on a gymnasium floor, but it is not so with the running event, where the distances cleared at each division are too great to permit landing on a hard surface without doing the jumper more harm than good. Divisions for the standing event are about as follows: Hop, 7 feet, measured from toe to heel; step, measured from heel to heel, 11 feet; jump, measured from heel to heel, about 12 feet. Rich varied nothing worth speaking of from these measurements when he made his best record; but note how different they are from divisions of the best record of Purcell in the running event: hop 19 feet, step 13 feet, jump 16 feet. These figures can hardly fail to explain very clearly why the standing event can be practiced on boards and the running event cannot. No athlete could stand the shock of landing on one foot on a board floor after clearing a distance of 19 feet.

The illustration "Hopping from a stand-still" shows R. K. Pritchard in the act of taking off for a standing hop, step and jump. This athlete holds a record for this event of 29 feet 8 $\frac{1}{2}$ inches, made in the same competition in which Rich made the best record.



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It will be seen that Pritchard is standing on his right foot and is maneuvering his other leg and arms as best he can to acquire as much momentum as is possible for the hop. When he is in the act of hopping both arms will be brought forward with also his left leg, and his body will be greatly inclined towards the direction he will go. The illustration "Just before leaving ground" reveals Pritchard's position when he is about through with all the motions of gathering momentum for the hop. After he has left ground his right or hopping foot will be brought forward, to be used in landing, the arms in the meantime performing some adjunct motions. On landing from the hop, his left foot extended back, and then with a slight giving of the right knee partly to break the force of landing on one foot but mostly to lower his body to get good spring from that leg, he will bring his left foot forward, and reaching out as far as possible with it, he will leave ground with a strong thrust of his right leg, and will then resemble the illustration "Highest point of step."

It is comparatively easy to take a large proportionate step in a standing hop, step and jump, for there is hardly

any shock in landing from the hop, and the jumper's strength not being used in withstanding any downward force, can be wholly applied to the next movement. It will be noticed that the step in the standing hop, step and jump is 11 feet while the step in the running event is only 2 feet more; yet the hop in the latter event is 12 feet more, and the jump is 4 feet longer than in the corresponding divisions of the stand-still event. When landing from the step the same motions are used as in the previous division, except that the duties of the legs are reversed. The jump or last division is very similar to the ordinary running broad jump.

Much practice at the stand-still event cannot fail to put an athlete in excellent condition for the running event. It not only develops the necessary muscle, but it accustoms the jumper to the various movements, which are similar in both the standing and running events. The latter, however, is more popular than the "standing," on account of its being harder, and also more showy, but considerable room is necessary before it can be practiced properly. A smooth, level stretch of turf or soil 150 feet long is needed, this allowing about 100 feet for a run and 50 feet for the jumping. The take-off, or mark from which the athlete takes the hop, is the same as used for a running broad jump described in *OUTING* for October, 1891.

As a gymnasium event the standing hop, step and jump is quite popular, but, to do it well, one must be equipped with shoes having soles and heels thick enough to enable him to use force without injury to the feet. Attention was called in the previous article on standing jumping to the great benefit an athlete preparing for any particular standing jump would derive from engaging in all-round standing jumping, for nearly the same muscles are used in all. There should be a space allotted on a gymnasium floor for practicing the following standing jumping events: hop, step and jump, two hops and a jump, jump, step and jump, broad jump and three broad jumps. These do not require over 45 feet in space, and there probably is no room worthy of the name of a gymnasium which cannot afford this space. A thin strip of rubber should be tacked to the floor, to be used as a toe-mark. It should

be 6 inches wide, so as to enable all of the front part of the foot—that which is used in springing—to be put on it, giving the jumper a firm foothold. Different distances may be painted on the floor, so as to give those who are practicing an idea of how far they are jumping without necessitating the use of a tape. For practicing a single broad jump there should be a mark at 8 feet, and at each succeeding 6 inches up to 10 feet. Marking is not necessary above the latter point, for so few would use it. The next mark from the take-off should be at 25 feet, and every foot from there should be marked, up to 32 feet. These latter markings are suitable for those practicing the standing hop, step and jump and three standing broad jumps, besides other miscellaneous maneuverings of three divisions which may be tried.

All gymnasiums are not equipped in this way, and I mention it merely as being a method of encouraging athletes to practice uncommon styles of standing jumping; but if the running hop, step and jump is to be practiced, different arrangements must be made. There are several ways to run this event successfully on a board floor, but I will only mention the one that I consider easiest to arrange and at the same time perfectly satisfactory. Beginning with the run, the plain boards will do. The take-off may either be merely a white line on the floor or a raised portion. The first has the difficulty of competitors not being able to take-off properly without making a foul, unless they step so far behind it that they lose much in distance. It is, however, the cheapest kind of take-off, for it merely needs a little chalk.

Athletes, as a rule, cannot do themselves justice on a flat take-off, for most running hop, step and jumpers are running broad jumpers, and are therefore used to a take-off with a ditch in front; hence the raised take-off, even though it is a little more trouble to construct, should be used. It may be a piece of wood from 5 to 6 inches wide, wedge-shaped, running from nothing to 1 or 2 inches' thickness at the outer edge. It should be from 4 to 6 feet long, and may be held in place either by weights at



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each end or nails. The perpendicular edge serves the same purpose as a perpendicular edge will in an out-of-doors' jump, where a ditch may be dug in front. The impossibility of forming a ditch on board floors by excavating necessitates its being done by elevating, but the edge must not be too high, and these measurements are about right.

A raised take-off prevents a best-on-

record being made, for it is not what would be called "level ground," but the probabilities are that no record for a jump of this kind can be made on a board floor, and as the take-off will be as fair for all as for one, so far as practice is concerned it should give perfect satisfaction. The landing-places for the separate divisions—viz.: the hop, the step and the jump—may be mattresses; loose dirt is more preferable, regarding ease of landing and exact strictness in measuring; still, as it can be imagined, this material needs a box to keep it from being scattered, and even then athletes landing in it and walking over the floor make the fact that there is dirt in the



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vicinity, known in a forcible way. It would be well to run a thin rubber strip, between 2 or 3 feet wide, from the take-off to about 50 feet on the mats, although the distance cleared will probably not be within some feet of this.

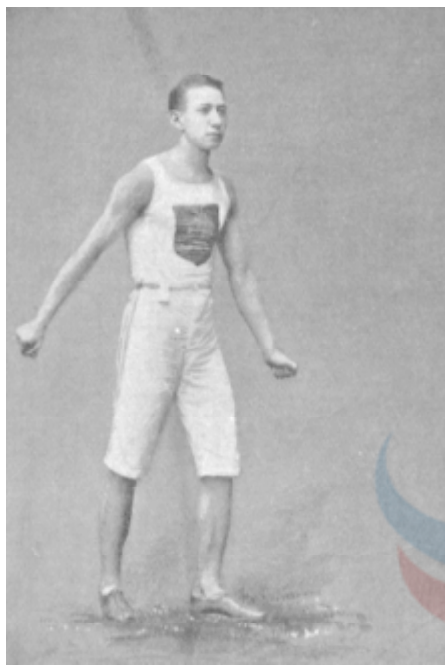
It will be seen that these arrangements are very easily provided, and the only better one which can be made for this event is to have a full path of dirt on the boards, with the regular take-off, including the ditch. This would necessitate dirt for a distance of about 150 feet; and if some athlete were in record-breaking trim during the Winter, when jumping out-of-doors is out of the ques-

tion, justification for making such elaborate arrangements could be found; but for ordinary gymnasium practice or competitions the raised take-off and mats are good enough.

It would not be well for one who is endeavoring to perfect himself in a single style to engage in *too much* all-round jumping, for he would be spending too much energy and might not have enough for his specialty; but I do not know of any exercise that will better make a man thoroughly active and strong on his legs than practicing the several styles of jumping which are fitted for a gymnasium. The many kinds of movements and strides, the landing on the heels, the springing from the toes and the extreme bending at the hip and knee, cannot fail in time to make one's legs so strong and adaptive that almost anything in the line of leaping will come easily. Practicing miscellaneous jumping has about the same effect on the leg muscles that horizontal bar-work has on the arms. The latter exercise will give one a thoroughly useful arm, for it develops strength of wrist and finger, the forearm, and the biceps and triceps. There is hardly a muscle or ligament in the arm that horizontal bar-work will not strengthen, and the same can be said of miscellaneous jumping regarding the leg muscles.

Referring to a fixed take-off and markings on a gymnasium floor, it may be said that if the fact of their permanency is made known men will find themselves practicing miscellaneous styles of leaping before they know it. The same men, if they had to wait some minutes for a tape, or a piece of chalk for marking, would not try the exercise. This is a good point for gymnasium instructors to bear in mind.

Practice at miscellaneous jumping should be taken as follows: Five or six trials at the standing broad jump, beginning by trying to squarely heel the S-foot mark, and ending by doing a distance which can be cleared by a good, stiff jump. By a stiff jump I do not mean that one should exert himself to his utmost to clear several inches more than usual and jar his knees, but it is the cool, deliberate trial that enables the jumper to land where he wishes without straining too hard. After the standing broad jump comes the



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standing hop, step and jump, and this brings about a complete change of motions and muscles used. The 25-foot mark is a fair goal for this game, and the average jumper will find this distance a little too far for an everyday performance. Half a dozen trials at this game will be sufficient, and then, for a change, the jumper may try two hops and a jump, clearing about the same distance as he did in the hop, step and jump. After this the standing jump, step and jump may be taken, and the distance cleared in this should be from one to two feet further than that cleared in the two previous styles. The three standing broad jumps come last, and the athlete should clear more in this style than in any of the others. As the "three jumps" is such a good exercise for the standing broad jump, it will do no harm to take more trials at it than in the other styles. A good performance for an average jumper is 27 feet, and any one who can clear 8 feet 6 inches for a single jump should do 27 feet in three.

Practice in any of the miscellaneous styles should not be forced, and an athlete will find that improvement will come quicker if in all of his trials he

does a distance which is considerably within his powers. Exercising with companions is apt to create rivalry, and an athlete will find that he is doing his utmost before he knows it. If one should do his very best in all the trials at half a dozen different styles of leaping, he would be taking altogether too much hard work and be so fatigued for three or four days, or even longer, that exercise would be distasteful. After the leg muscles are thoroughly accustomed to diversified work a great deal of miscellaneous leaping can be done without the athlete becoming even temporarily fatigued.

The several athletes illustrated with this article reveal quite a variety of different sizes and weights. J. H. Clausen is what would be called a small, wiry athlete. He is slender and short, and weighs in the neighborhood of 125 pounds. He holds the American record for the running hop, step and jump. E. B. Bloss, the previous holder, is considerably stouter, although about the same height as Clausen. Both of these men are good running broad jumpers, but Clausen shows unusual proficiency in the game at which he holds the record. During the year 1890 the running hop, step and jump in this country attracted considerable attention, and there was an unparalleled series of record-breaking



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performances at it. Up to August 5 of that year the record was my own, 44 feet $1\frac{3}{4}$ inches, which had stood since May, 1884. Clausen cleared 44 feet 5 inches, and 11 days after his performance Henry M. Jewett, of the Detroit Athletic Club, cleared 44 feet $8\frac{1}{4}$ inches. On September 25 the record went back to Boston: J. B. Connelly, of the Boston Athletic Association, cleared 44 feet $10\frac{3}{4}$ inches; but on October 28 the record, although still remaining in Boston, was transferred from that city's premier athletic organization to Harvard University, by Bloss, who cleared 44 feet $11\frac{1}{2}$ inches. It stayed here until September 19, 1891, when Clausen regained the record by covering 45 feet $7\frac{1}{2}$ inches.

The holder of the British record for the running two hops and a jump, 50 feet $1\frac{1}{2}$ inches, is D. Shanahan. In that country Shanahan's event generally takes the place of the running hop, step and jump, although it is always spoken of by the latter name. If an athlete devotes the same amount of time in practicing the two hops and a jump as the hop, step and a jump he will clear a greater distance in the former. There is something in the swing of the leg that is not being used, when doing the two hops and a jump, that enables greater distances to be cleared; but there is also another reason, viz.: all the jumping in a two hops and a jump is done on one foot, while in the hop, step and jump both legs are used. Jumpers practicing the running high

jump or the running broad jump, in which only one leg is used in leaping become stronger on one leg than on the other, and naturally, then they try the running two hops and a jump, they use their strong leg for all the leaping. Shanahan has never made a big record at the running hop, step and jump, but his ability to clear 50 feet in two hops and a jump leads one to think he should with proper practice, do 48 feet in the hop, step and jump. There is nothing noticeable about his build; he is medium height and weight.

R. K. Pritchard is decidedly of the tall, slender variety, standing 6 feet 1 inch in his jumping shoes, and weighing a little over 150 pounds. He is good at any kind of jumping, and should he systematically make a specialty of any one kind, he would be almost unbeatable. He has cleared 10 feet $1\frac{3}{4}$ inches for a standing broad jump, 20 feet 9 inches for a running broad jump, 4 feet 11 inches for a standing high jump, 5 feet $11\frac{1}{2}$ inches for a running high jump, 29 feet $8\frac{1}{2}$ inches for a standing hop, step and jump, and something in the neighborhood of 44 feet for a running hop, step and jump. These records show unusual all-round jumping ability.

J. W. Rich is another sample of a natural jumper, and when his dimensions are considered, his feats of activity seem all the more meritorious. He is taller than Pritchard, and weighed, when he made the best record for a standing hop, step and jump, 190 pounds. He has cleared within 2 inches of 21 feet in a running broad jump, and can do over 10 feet for a standing broad jump. He jumps with a great deal of power, but does not show the ease of Pritchard.

The best running hop, step and jumpers are slender men, for these seem to be more wiry and best able to stand the shock of landing on hard ground. The finest performer I ever saw is Thomas Burrows, an English professional athlete, who holds the world's record—48 feet 8 inches. He stands 5 feet 10 inches high, and weighed under 140 pounds. He and Shanahan are about the same size, with the exception that the amateur may be a few pounds heavier; but, like in other athletic events, there are exceptions to the preponderance of light-weight men being the best. Heavy-weights show better form at all standing jumping.