Our invention relates to gaiters or spats for the therapeutic treatment of muscles in the hips, legs, ankles and feet of human beings whereby the mass, strength and agility of the muscles may be increased. This application is a division of our copending application Serial No. 694,647, filed November 5, 1957, and is a continuation-in-part of a previously filed application, Serial No. 352,686.

An object of our invention is to provide improved gaiters or spats for the purpose set forth which includes a pocket or pockets in which various weights may be placed.

Another object of our invention is to provide improved gaiters or spats for the purpose set forth which include a pocket or pockets located at different positions on the gaiters or spats whereby various weights and amounts thereof may be placed in different locations or positions on or about the ankles or feet of the wearer of the spats.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred form of embodiment of the invention is clearly shown.

In the accompanying drawings:

FIG. 1 is a view of the spat which incorporates the features of the invention and in which there is a weight container or pocket on each side of the spat and which contains or pockets are divided into vertically extending tubes each of which is adapted to receive a weight in the form of a lead bar, and

FIG. 2 is a view of the spat seen in FIG. 1 as it appears when lying flat or in a plane.

Experience has taught us that when an athlete such as a football player, track man, jumper or the like is trained normally that his leg muscles and agility will develop to a point wherein the athlete will retain his maximum ability to run and jump and a point beyond which his leg muscles will not develop to any noticeable extent regardless of further normal training. Experimentation has taught us that the leg muscles of an athlete can be developed beyond that point attained through normal training if, during training, the athlete's legs, ankles or feet are forced to work against the handicap of weights attached thereto at strategic places, which places will be determined by the individual running and jumping characteristic of the individual athlete. Experience has also taught us that in addition to developing the leg muscles of an athlete that certain defects in his stride, the positions of his feet, both during stride and upon contact with the ground, etc. can be corrected by placing the weights, against which his muscles must work, in the proper locations about his feet and/or ankles thereby to cause him to place or "throw" his feet in a desired manner. The desirable results mentioned above can best be attained if the athlete "wears" the weights only during his training periods and removes them only at game or contest time at which time his ability to run and jump will be greatly enhanced because of his muscles, which have become accustomed to and have developed to swing the weights are freed from the burden thereof.

We have also found that the weights may be employed with advantage by physicians and surgeons for preventing atrophy and/or rehabilitating the quadriceps muscles and particularly the vastus medialis muscles. We have found, too, that the use of weights can be prescribed by physicians for rebuilding muscles in an injured area or following a surgical operation particularly to the hip or any joint or muscle therebelow.

In order to accomplish the above described desirable results, we have developed gaiters or spats which are particularly adapted for use by athletes during their training periods which spats include a pocket or pockets in which various weights may be placed and which have weight containers or pockets of different forms located at different positions on the spats whereby the above results may best be obtained. The use of our spats may be prescribed by physicians and surgeons and they may be worn constantly or intermittently by the patient according to the desires of the physician or surgeon prescribing their use.

While we have shown only a spat adapted for use or wear on the left leg, ankle or foot of a person, it is to be understood that the spats may be and preferably are made in pairs wherein identical spats may be worn on both legs of an athlete or patient or wherein different spats of the pair being used differ as to pocket location, type of pocket and quantity of weight carried in each pocket of the spats, each such pair of spats being used for the training of the athlete or prescription of the physician or surgeon necessitates.

A preferred form 60 of our spat for use in training football players is shown in FIGS. 1 and 2. Spat 60 includes a body portion 11 cut down and shaped to surround the ankle and upper portion of the left foot of a wearer. This portion 11 of the spat 60 may be formed from a soft canvas, duck, leather or any other material which will be comfortable to the wearer when the spat is drawn snugly about his leg, ankle and foot. The upper and lower edges of the body 11 of the spat are reinforced by bindings 12 of material which may be similar to that of which the body 11 is formed and which binding or edging is preferably folded over the edges of the body 11 and sewn thereto by stitching 13. The front of the spat body 11 is split as at 14 and the edges thereof are also reinforced by a relatively wide binding 15 similar to the binding 12 by two rows of stitching 16. We prefer to form the binding 15 of a soft leather and to place through these bindings and the spat body a series of eyelets 17 through which a lace 18 is threaded for the purpose of drawing the spat body 11 snugly and comfortably around the leg, ankle and foot of the wearer.

It is to be understood that while we prefer to use eyelets and lacing for drawing the spat about the wearer's leg, ankle and foot, that any other type of fastening may be employed. We particularly prefer to use the eyelets and laces on spats that are to be used by football trainees since there is little danger of injury to a person tackling the wearer of the spats as a result of contact with lacing and eyelets. Spats which are to be used by track men and the like may be provided with hooks, as shown, and laces rather than eyelets and laces since spats so provided may be fastened and removed by the wearer more quickly and easily and other athletes are not likely to come into contact with them and be injured thereby during training.

The spat 60 is held down upon the wearer's foot and ankle by a restraining strap 19 which extends under the arch of the wearer's foot and is preferably positioned just forward of the heel of the wearer's shoe, if the shoe is provided with a heel. The ends of the restraining strap 19 are sewn to the lower edges of the spat body 11 as at 64. Spat 60 further includes two containers or pockets 61, one on each side of the spat body portion 11 and which lie over, that is, at opposite sides of the ankle joint of a wearer. These containers or pockets 61 are divided into a plurality of vertically extending tube-like pockets 62 each of which may have inserted therein a weight preferably in the form of a lead bar. The desired num-
3,306,610

3. Number of lead bars are placed in pockets 62 in accordance with the training or therapeutic requirements of the user. During a period of gradual experimentation, we have found that good training results can be obtained when each leg of the trainee is forced to work against a weight which does not exceed three pounds. The front split of spat 60 at the lacing 18 is provided with a flap or tongue 63. This flap 63 is preferably, but not necessarily, formed of a soft pliable leather and its function is to prevent the laces 18 from cutting the wearer particularly when the wearer is wearing an oxford type shoe. In spat 60 the rear portion of the body 11 is reinforced and somewhat stiffened between the containers or pockets 61 by an additional strip of material 65 sewn directly to the body 11 as shown in FIG. 7 of the drawings.

While the form of embodiment of the present invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claim which follows.

Having described our invention, we claim:

A therapeutic training spat adapted to be worn over the shoe of an athlete, said spat comprising a flexible body member configured to surround and embrace the athlete's ankle and having a front portion, a rear portion and two opposed side portions, said flexible body member having two free edges disposed along vertical lines at the front portion thereof, lacing means interconnecting said free edges for securing said body snugly about the athlete's ankle, means defining a plurality of parallel vertical pockets on each side portion of said spat, said pockets extending for substantially the entire height of said spat, a plurality of elongated bar weights disposed entirely within said pockets, means associated with said pockets for releasably retaining said bar weights in said pockets, said bar weights being disposed to overlie the ankle joint, said spat body being flexible in the areas intermediate said pockets to conform closely to the athlete's ankle, a retaining strap secured to each said opposite side portion of said body adjacent to the lower edge thereof, said strap being secured to said body forwardly of, but closely adjacent to, said vertical pockets and being disposed to pass in a generally vertical plane under the athlete's instep, said strap being effective in conjunction with the lacing means to prevent relative movement between the bar weights and the athlete's ankle.

References Cited by the Examiner
UNITED STATES PATENTS
2,021,189 11/1935 McClure 36—2
2,114,790 4/1938 Venables 272—57
2,241,833 5/1941 Waller 272—57

FOREIGN PATENTS
572 1890 Great Britain
259,420 10/1926 Great Britain

RICHARD C. PINKHAM, Primary Examiner.
A. W. KRAMER, Assistant Examiner.