Jan. 23, 1968 S. F. SPEERS 3,364,616

TOY DEEP SEA DIVER OUTFIT

Filed March 7, 1966 2 Sheets-Sheet 1

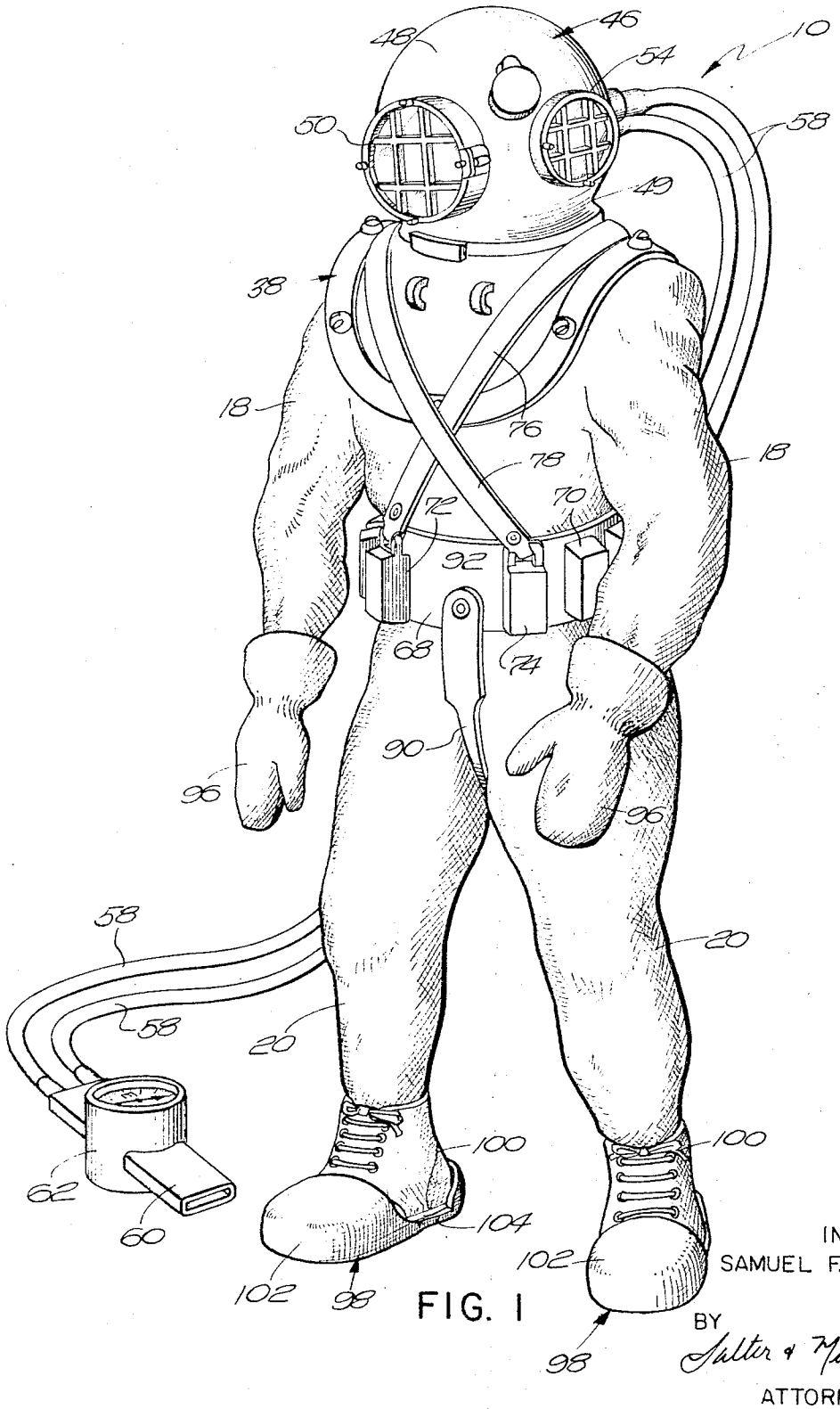


FIG. 1

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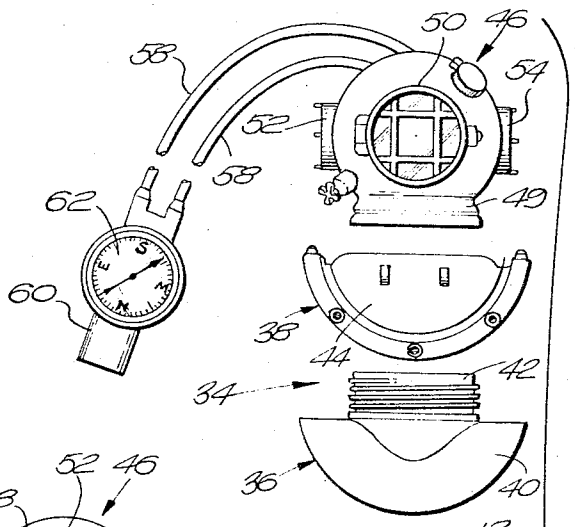


FIG. 5

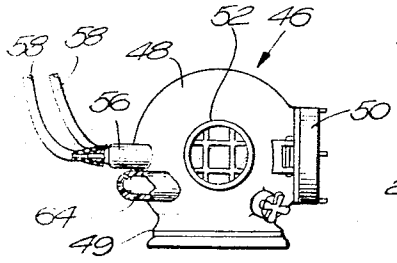


FIG. 6

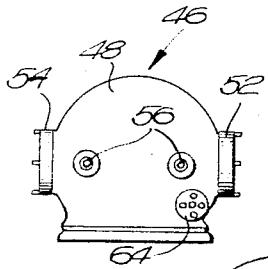


FIG. 2

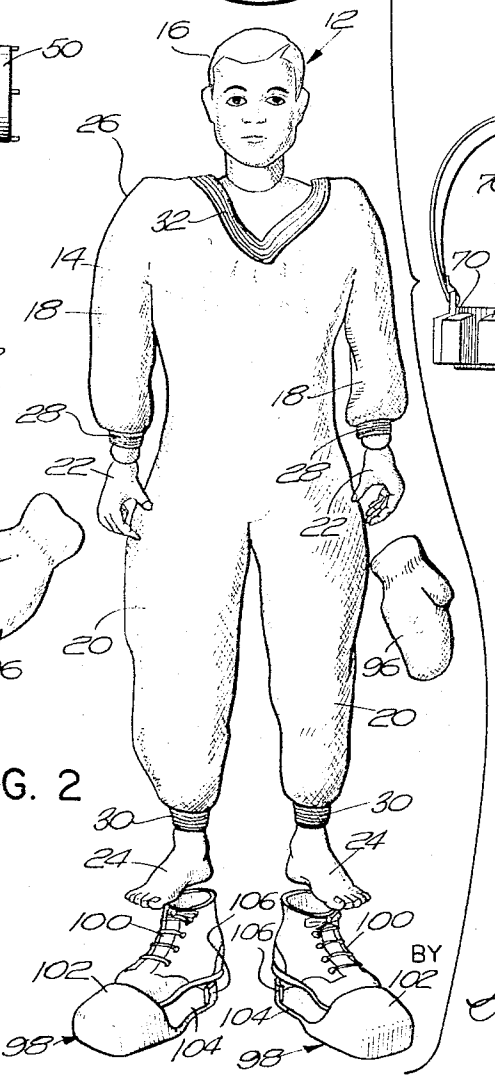


FIG. 4

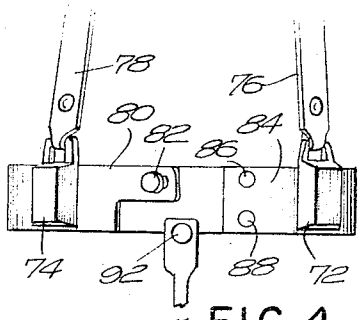
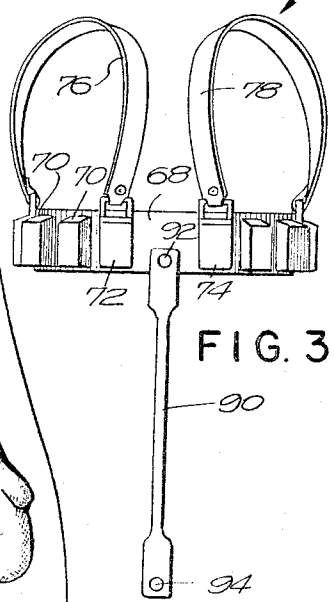


FIG. 3



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United States Patent Office 3,364,616 Patented Jan. 23, 1968

3,364,616

TOY DEEP SEA DIVER OUTFIT

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Filed Mar. 7, 1966, Ser. No. 532,368
6 Claims. (Cl. 46—92)

ABSTRACT OF THE DISCLOSURE

A toy deep sea diver outfit that simulates the appearance of an actual deep sea diver suit and that includes a breast plate assembly that cooperates with a helmet to secure a diving suit to the breast plate assembly as it is mounted on a toy figure.

The present invention relates to a toy deep sea diver. More particularly, the present invention relates to a toy figure that simulates an actual deep sea diver in dress and includes a unique construction for attaching a toy diving helmet to a breast plate assembly that is mounted on the toy figure, the helmet having those connections attached thereto to which air under pressure is introduced for producing a bubbling action when the toy figure is submerged in water, wherein the bubbling action of an actual diver is simulated.

The principal object of the present invention is to simulate an actual diver by the incorporation of toy diving accessories including a diving suit in combination with a toy figure, wherein the accessories include special details that provide for use of the device in an interesting manner. In the present invention the toy figure is provided with articulated joints and is representative of a male human in general physique. In order to simulate the equipment and dress normally associated with a deep sea diver, the toy figure as employed herein receives a water proof suit thereon. Disposed on the shoulders of the toy figure is a breast plate assembly that is comprised of an inner breast plate that includes a tubular portion and an outer breast plate having an opening therein that fits over the head of the toy figure and that receives the tubular neck portion therein. A helmet fits over the head of the toy figure and simulates the general characteristics of an actual deep sea diver's helmet but is provided with a threaded neck connection that is adapted to threadably receive the threaded neck portion of the inner breast plate. The helmet is thus secured to the breast plate assembly and fixes the breast plate assembly on the toy figure.

Another unique feature of the invention is to simulate the bubbling action of a deep sea diver when submerged in water. In order to accomplish this purpose, the helmet of the present invention is provided with inlets that communicate with air hoses and through which the user of the toy may blow for introducing air under pressure into the interior of the helmet when the toy figure is submerged in water. Small openings are provided in the helmet through which the air introduced therein is allowed to escape thereby producing the bubbling action in the water that simulates the bubbling action of an actual deep sea diver.

The toy deep sea diver as embodied herein further includes a unique arrangement of a diving harness that includes weights for submerging the toy figure. In addition, novel weighted shoes are employed and are adapted to be secured to the boots of the toy figure, the weighted shoes cooperating with the toy harness and being balanced therewith to cause the toy diver to slowly sink in the water, and thereafter retaining the toy deep sea diver in the submerged position.

In order to further add interest to the toy, the weights are calibrated such that when air is introduced into the helmet to produce the bubbling effect, the toy figure is rendered sufficiently buoyant to cause it to slowly rise to the surface of the water.

Accordingly, it is an object of the present invention to provide a toy deep diver that simulates the dress and conditions of an actual deep sea diver.

Another object of the present invention is to provide a toy deep sea diver that includes a helmet mounted on a toy figure and that is attached to a breast plate assembly, the helmet including means for introducing air under pressure therein and for discharging the air so as to similate the bubbling action of an actual deep sea diver when submerged in water.

Another object is to provide a weighted harness for use in a toy deep sea diver that cooperates with weighted shoes for submerging the toy deep sea diver in water.

Still another object is to provide a toy diver that includes a toy figure on which a diving suit and diving accessories are located that simulate actual conditions and dress of a deep sea diver.

Other objects, features and advantages of the invention will become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

In the drawings which illustrate the best mode presently contemplated for carrying out the present invention:

FIG. 1 is a perspective view of the toy deep sea diver embodied in the present invention which includes a toy figure on which a diving suit and accessories are located;

FIG. 2 is an exploded view in elevation showing the component parts of the diving suit and accessories that are mounted on the toy figure of the present invention;

FIG. 3 is a front elevational view of the harness worn by the toy deep sea diver;

FIG. 4 is a fragmentary rear elevational view of the harness showing the end connections therefor;

FIG. 5 is a side elevational view with parts shown in section of the helmet of the toy deep sea diver embodied herein; and

FIG. 6 is a rear elevational view of the helmet illustrated in FIG. 5.

Referring now to the drawings and particularly to FIGS. 1 and 2, the toy deep sea diver embodied in the present invention is illustrated and is generally indicated at **10**. The toy diver as contemplated for use herein includes a toy figure generally indicated at **12** and that includes a body **14**, a head **16**, arms **18** that are mounted on the body **14** in articulated relation and legs **20** that are also secured to the body **14** in articulated relation. Hands **22** are joined to the arms **18** and feet **24** are joined to the legs **20** in articulated relation; however as illustrated the toy figure **12** does not constitute a part of the present invention with respect to the construction thereof, the subject matter of the toy figure being illustrated and described in co-pending application Ser. No. 375,154, filed June 15, 1964. As illustrated and described in the aforesaid co-pending application, the joints of the toy figure **12** may be articulated in various motions, which motions are designed to promote the use of the toy figure in the present invention in combination with the toy diving accessories and equipment as will be hereinafter described.

The toy diver **10** further includes a diving suit indicated at **26** that is received on the toy figure **12** and includes appropriate arm and leg portions that receive the arms **18** and legs **20** of the toy figure **12** therein. In order to positively locate the arm and leg portions of the diving suit on the toy figure **12**, elastic bands **28** are

attached to the arm portions of the diving suit 26 and elastic bands 30 are attached to the leg portions of the diving suit. These elastic bands 28 and 30 insure firm securement of the diving suit 26 on the toy figure 12. As further illustrated in FIG. 2, the diving suit 26 includes a neck band 32 through which the head 16 of the toy figure 12 projects, the neck band 32 further providing for assembly of a breast plate unit as will hereinafter be described.

Referring again to FIG. 2, a breast plate assembly generally indicated at 34 is illustrated and includes an inner breast plate 36 and an outer breast plate 38. The inner breast plate 36 includes a body portion 40 having a central opening formed therein with which a threaded neck portion 42 communicates. The body portion 40 of the inner breast plate 36 has a saddle-like configuration that is adapted to be received on the shoulders of the toy figure 12. In this connection the inner breast plate 36 is disposed such that the body portion 40 is located interiorly of the suit 26 and in contact with the bare figure. The threaded neck portion 42 projects through the neck band 32 of the diving suit 26 and encircles the neck of the toy figure 12. As shown the outer breast plate 38 includes a body portion 44 that has a configuration generally similar to that of the body portion 40 of the inner breast plate 36. The outer breast plate 38 is further formed with a central opening that is sufficiently large enough for the head 16 of the toy figure to extend therethrough and through which the neck portion 42 projects.

In the assembly of the outer breast plate 38 on the inner breast plate 36, the outer breast plate 38 is placed over the head 16 of the toy figure 12, the head 16 being received in the opening defined in the body portion 44. The neck portion 42 of the inner breast plate 36 in this position, as illustrated in FIG. 1, projects through the opening formed in the body portion 44 of the outer breast plate 38. The breast plate assembly 34 is then secured in place by the attachment of a helmet generally indicated at 46 to the neck portion 42 of the inner breast plate 36.

Referring to FIGS. 2, 5 and 6, the helmet 46 is illustrated and is defined by a generally spherical, hollow member 48 on the lower portion of which a neck 49 is formed with internal threads therein. The opening that defines the neck 49 in which the threads are formed is sufficiently large enough to fit over the head 16 of the toy figure 12, the threaded neck 49 thus being received on the threaded portion 42 of the inner breast plate 36. It is seen that the helmet 46 may be locked to the inner breast plate 36 for securing the helmet and breast plate assembly in place on the toy figure.

Referring again to FIGS. 5 and 6, the helmet 48 simulates the construction of an actual deep sea diver helmet and includes a pivotally mounted face plate 50 and side plates 52 and 54. The face plate 50 and side plates 52 and 54 simulate those plates through which the diver would have visual access. Formed on the rear of the member 48 are projections 56 in which openings are formed that communicate with the interior of the hollow member 48. As shown in FIG. 5, tubular hoses 58 are secured to the projections 56 and define means through which air under pressure is introduced into the interior of the helmet. The hoses 58 terminate in a mouthpiece 60, as illustrated in FIGS. 1 and 2, into which the user of the toy device may blow for forcing air under pressure into the interior of the helmet. A compass 62 may be included as part of the mouthpiece 60 and is provided for decorative or visual effect. Also joined to the rear portion of the hollow member 48 is a perforated extension 64, the perforations in the extension 64 providing for exhaust of the air that is introduced into the interior of the helmet member 48. Thus, as will be described, when air is blown into the helmet member 48 it will be discharged through the perforated portion 64 for producing a bubbling action when the toy diver is submerged in water.

Since the toy deep sea diver is normally employed in water and is adapted to be submerged therein, a harness generally indicated at 66 is provided and is constructed so to receive weighted elements for overcoming the buoyancy of the toy figure 12 when placed in water. As shown in FIGS. 3 and 4, the harness 66 includes a belt portion 68 to which a plurality of weights 70 are attached, end weights 72 and 74 further being provided and being formed with loop portions to which shoulder straps 76 and 78 are secured. As shown in FIG. 1, the shoulder straps 76 and 78 are received over the outer breast plate 38 in criss-cross fashion, the opposed ends of the belt portion 68 being connectable at the rear of the toy figure for securing the harness 66 in place. In this connection and as illustrated in FIG. 4 the belt portion 68 includes an end extension 80 having a projection 82 formed thereon. An end extension 84 located adjacent to the end extension 80 is provided with openings 86 and 88, the opening 86 receiving a projection 82 therein in frictional relation for securing the belt portion 68 around the waist of the toy figure. In order to further secure the harness 66 in place a center strap 90 is employed and is connectable to the front of the belt portion by a rivet 92. A projection 94 formed on the outer end of the center strap 90 opposite the rivet 92 is adapted to be received in the opening 88 in the end extension 84 of the belt portion. The center strap 90 thus cooperates with the straps 76 and 78 to lock the harness 66 in place.

The toy figure 12 is further outfitted with appropriate gloves 96 that are received on the hands 22 in the usual manner. In order to further provide for submerging of the toy diver, weighted shoes 98 are fixed to boots 100 that are received on the feet 24 of the toy figure 12. As illustrated in FIGS. 1 and 2, each of the weighted shoes 98 includes an instep portion 102 that is joined to a base 104, a heel portion 106 being joined to the base and engaging the heel of each boot 100 in frictional relation. Since the toes of the boots 100 are received within the instep portions 102 of the weighted shoes 98, the heel portions 106 combine therewith to secure the weighted shoes on the boots. For convenience the boots 100 may be slipped over the feet 24 of the toy figure 12 prior to receiving the weighted shoes 98 thereon.

With the toy figure dressed in the diving suit 26 and assembled with the related articles as described and as illustrated in FIG. 1, the toy deep sea diver is ready for submerging in water. In this connection the user of the device may place the toy deep sea diver in any convenient receptacle in which water is located, the weighted harness 66 and weighted shoes 98 cooperating to retain the toy in the submerged position. With the diver submerged in the water, the user may then blow through the mouthpiece 60, the air under pressure from the user being directed through the hoses 58 and into the helmet member 48. The air is then directed outwardly through the perforated extension 64, the air producing a bubbling effect in the water that is noticeable on the surface thereof. This simulates the actual conditions of a diver when submerged in water. In connection with the use of the toy diver, the harness 66 and weighted shoes 98 are calibrated such that when the toy diver complete with suit and accessories is placed in water, it will slowly sink to the bottom of the vessel in which it is placed. When the user blows air into the helmet member 48 hard enough to displace the water therein, the toy diver will be rendered sufficiently buoyant to then cause it to rise slowly to the surface of the water. As the water in the helmet is displaced by the air, bubbles will also appear on the surface of the water.

Various attitudes of the toy deep sea diver may be obtained by locating the toy diver in different positions due to the articulated limbs thereof. If desired, an air pump may be connected to the hoses 58 for introducing

air under pressure into the helmet member 48. In this connection the diver may be employed in a fish tank for supplying air to the tank water for purifying the water in the well-known manner, and in this instance would either be anchored to the bottom of the tank or would be provided with additional weights.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that the same is not limited to the particular forms herein shown and described except insofar as indicated by the scope of the appended claims.

What is claimed is:

1. In a toy deep sea diver outfit, a diving suit including a neckband through which a head of a toy figure is adapted to project, a breast plate assembly located on said diving suit and including an inner breast plate that is defined by a body portion that has a saddle-like configuration, wherein the underside of the body portion is concave for fitting over shoulders of said toy figure, said inner breast plate body portion being located substantially interiorly of said diving suit adjacent to the neckband thereof in normally freely removable relation to said diving suit, a threaded neck portion joined to said body portion at the upper end thereof and extending through the neckband of said diving suit for projecting thereabove, an outer breast plate including a body portion having a configuration similar to that of the inner breast plate body portion, wherein the underside of the outer breast plate body portion is concave and is received over said inner breast plate body portion in conformity therewith, the body portion of said outer breast plate being located in overlying relation on the part of the diving suit that is located exteriorly of said inner breast plate body portion to capture said part of the diving suit between said inner and outer breast plates, said outer breast plate having an opening through which the threaded neck portion of said inner breast plate extends, and a helmet having a threaded neck that engages the threaded neck portion of said inner breast plate and is thereby locked to the inner breast plate for securing the helmet to said breast plate assembly and for securing said breast plate assembly to said diving suit.

2. In a toy deep sea diver outfit as set forth in claim 1, said helmet having at least one air inlet formed therein that communicates with the interior of said helmet, a hose connection connectable to said air inlet for directing air under pressure into said helmet, and perforations formed in said helmet out through which the air escapes for producing a bubbling action when said toy is submerged in water, thereby simulating the bubbling action of an actual diver when submered in water.

3. In a toy deep sea diver outfit as set forth in claim 2, the end of said hose that is opposite to that connectable to said inlet having a mouthpiece joined thereto through which air may be blown by the user of the toy for producing the bubbling action when said toy diver is submerged in water.

4. In a toy deep sea diver outfit as set forth in claim 2, a simulated diving harness including a plurality of weights mounted on said figure, and weighted boots carried by the feet of said fiure, said weights and shoes being calibrated to overcome the natural buoyancy of the figure to cause it to slowly submerge in water, said weights and shoes being of insufficient weight to retain said toy figure submerged when the air is introduced into said helmet, wherein the buoyancy created in said figure by the introduction of air into said helmet, causing said figure to slowly rise to the surface of the water.

5. In a toy deep sea diver outfit as set forth in claim 1, a simulated diving harness including a belt that extends around the waist of the figure and that has a plurality of weights mounted thereon, means located on the ends of said belt for securing said ends at the rear waist of the figure, shoulder straps connectable to said belt at the front and rear thereof for effectively mounting the harness on said figure, and a center strap secured to the forward center of the belt and extendable between the legs of the figure for connection to one of the ends of the belt at the rear of the figure for further securing said harness on said figure.

6. In a toy deep sea diver outfit as set forth in claim 5, a pair of boots adaptable for mounting on the feet of the figure and a pair of weighted shoes each of which includes a base, a forward instep portion joined to said base for receiving the forward portion of a boot and a rear heel portion extending upwardly from said base and fitting behind the heel of the boot in frictional relation when it is placed on said base and in said instep portion, for securing the shoe to the boot.

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