KNEE-BOARD FOR CEMENT FINISHERS

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Fig. 1

Fig. 2

Fig. 3

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KNEE-BOARD FOR CEMENT FINISHERS

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The present invention relates to certain new and useful improvements in a specially constructed knee-board which is especially, but not necessarily, adapted for use by cement finishers and to assist a user thereof to move about over the surface of green or unset concrete while troweling or otherwise working on a finishing surface before the concrete sets up for hardening.

As the preceding general statement clearly implies, kneeing pads, knee-boards and the like, are not new and as a matter of fact, it will be of help here to fully acquaint the reader with the further fact that a construction, similar to that here revealed, is already covered in a patent granted to me under date of February 3, 1953, under Number 2,627,301.

Reference to the embodiment of the invention covered in the stated patent will show that it has to do with a movable kneeing device which is characterized by a flat base board adapted to ride in shiftable contact with a concrete or an equivalent surface, a knee pad mounted atop the leading end of said base, a U-shaped bracket including a bight portion and arm portion, said bight portion being secured to the top of said base adjacent the trailing end of the base, a horizontally disposed frame secured to the upper ends of the arms of said bracket, said frame being generally rectangular and having a forward V-shaped portion and constituting a toe receiving and supporting stirrup, a second bracket secured to the intermediate portion of the top of said base and spaced rearwardly from the knee pad and forwardly in relation to the stirrup, a yoke provided with a depending stud adjustable mounted on said bracket, cushioning means, a casing for said cushioning means, said casing and cushioning means being attached to said yoke and provided with adjustable leg fastening straps.

It has been found that the intermediate bracket on the board and the cushioned concave-convex yoke tends to inhibit freedom of motion insofar as side sway is concerned. It is felt therefore that this intermediate shin receiving and supporting means should be improved upon. It is therefore an object of the instant invention to structurally, functionally, and otherwise improve upon my prior Patent 2,627,301 and, in doing so, to provide an improved structural arrangement in which manufacturers, users, and others will find their respective requirements and needs aptly and satisfactorily met.

A further object of the invention, generally construed, is to improve upon and reduce the number of parts entering into the combination, thereby not only increasing the efficiency of the structure as a whole, but also rendering the same less costly to manufacture and otherwise simplify factors of assembling and sale.

In carrying out a preferred embodiment of the invention, there is provided a flat bottom base which is adapted to ride in shiftable contact with the concrete, a knee-pad which is mounted atop the leading end of the base, a toe accommodating frame which has a V-shaped forward portion and constitutes an elevating stirrup, means supporting a frame in a horizontal elevated plane about the trailing end portion of said base, and intermediate leg restraining means which latter is in the form of a U-shaped frame hingedly mounted on the intermediate upper side of the base and foldable to an out-of-the-way position when not in use, said frame having leg encircling straps to facilitate properly securing the leg in the desired functioning position.

More specifically, any suitable pad means is arranged at the front of the knee-board and appropriate toe accommodating means at the rear, the remaining means being a U-shaped frame whose bight portion is hingedly mounted on the intermediate top side of the board and whose upright arms are provided with cooperating straps which may be buckled together to satisfactorily embrace the wearer's leg.

Other objects, features, and advantages will become more readily apparent from the following description and the accompanying sheet of drawings.

In the accompanying drawings, wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a side elevational view of a cement finisher's knee-board constructed in accordance with the invention and showing the leg strapping and shackling means in both full and dotted line positions;

Figure 2 is a top plan view of the structure seen in Figure 1 and;

Figure 3 is a cross section on the vertical line 3—3 of Figure 1 looking in the direction of the arrows.

As in the previously mentioned patent, the knee-board is of any appropriate material and is generally of wood and light weight and of one piece construction. It is here denoted by the numeral 14 and a flat bottom 18 and a flat top 10. The forward portion is relatively wide as at 12 and is provided with a knee-pad which is generally denoted by the numeral 14. This is of any suitable construction and appropriately covered as at 16, with the covering means fastened down in any suitable manner as at 18.

The prop-type toe holder is designated generally, as a unit, by the numeral 20 and it comprises a U-shaped mounting bracket 22 secured to the base by way of suitable fasteners 24, as best shown in Figure 2. Appropriately attached to the upright portions is a substantially rectangular frame 26 which lies in horizontal plane substantially parallel to that of the baseboard. The forward member of the frame is slightly V-shaped as at 28 and is disposed at a plane extending downwardly and forwardly toward the knee-cushion or pad as clearly shown in the drawing. This means therefore provides a suitably shaped frame which constitutes a stirrup and is well adapted to receive the toe of the user's foot when his knee is resting on the knee-pad as will be readily understood. It follows therefore that the means 14 at the front and the means 20 at the rear is preferably the same as that correspondingly shown in the afore-mentioned patent. The improvement is in the addition of the center leg accommodating and restraining and shackling means. This comprises, as before mentioned, a substantially U-shaped frame 30. The bight portion 32 is normally in contact with the intermediate upper surface of the board. More specifically, it is hinged in place in the manner shown. The hinge means is generally noted at 34 and comprises one leaf 36 which is riveted to the board and the other leaf 38 which is welded or otherwise attached to the upright or arm portions 40—40. The knuckle or hinging means is denoted at 37. Any other appropriate means may, however, be employed for hingedly attaching the U-shaped frame so that it may be folded down to an out-of-the-way position when not in use and swung up to the upright position shown where it is then in alignment with the pad and the toe stirrup frame 26. Riveted as at 42, to the upper end of one
upright, as shown in Figure 3, is a flexible strap 44. This cooperates with a complemental strap 46 riveted at 48 to the other upright. The last named strap is provided with buckle means 50 to accommodate the free end portion of the strap 44. Thus, this hingedly mounted U-shape frame and associated strap means provides a proper embracing shackle for the calf of the leg of the wearer or user. Satisfactory retention is assured and side-switching of the knee on the pad is reduced to a minimum. It will be seen therefore that the wearer’s leg may be effectively strapped in place with a greater assurance of comfort, such that cannot be had in similar constructed prior art adaptations.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A knee-board for use by a concrete finisher comprising, in combination, a horizontally elongated rigid base having flat top and bottom surfaces, pad means for the concrete finisher’s knee fixedly superimposed on the top surface of the base at the leading end of the base, elevated means fixed at the trailing end of the base in longitudinally spaced alignment in respect to said pad and adapted to embrace as well as elevate the toe of the user, a U-shaped leg harnessing and bracing frame having a rigid bight portion and complemental rigid leg embracing arms, said U-shaped frame being adapted to effectually and comfortably receive the shin and calf portions of the user’s leg and maintain the same in alignment with the pad and to prevent the leg from shifting out of place and avoiding accidental displacement of the knee from said pad, hinge means attached to said bight portion and flat top surface of the base intermediate the knee pad and the toe embracing means respectively and securing the frame hingedly to the base, and buckle-equipped strap means carried by and cooperating with the respective arms of said U-shaped frame and adapted to embrace the calf of the leg in a manner to harness the leg between the rigid arms but to do so in a manner which does not needlessly and uncomfortably cramp and bind the leg in the desired stabilized position in said U-shaped frame.

2. A readily applicable and removable maneuverable knee-board for handy use by concrete finishers comprising, in combination, a single horizontally elongated base having a substantially flat bottom adapted to rest and ride in shiftable contact on a concrete surface, a strapless cushioned knee pad fixedly mounted atop the leading end of said base, toe elevating, embracing and retaining means attached to the rear end portion of said base in alignment with said knee pad, a substantially U-shaped leg stabilizing and position-retaining frame having a rigid bight portion horizontally disposed and rigid arms which are vertical when in use, said frame being adapted to receive and substantially embrace the cooperating shin and calf portions of the user’s leg in a manner which serves to prevent the leg from shifting laterally out of its intended position directly above the base and so as, in this manner, to virtually prevent the user’s knee from slipping or becoming displaced from said pad, means securing said bight portion directly to the intermediate top side of the base so that the frame is in longitudinal alignment with the pad and also said toe retaining means, and buckle-equipped flexible strap means carried by the cooperating arms of the U-shaped frame and adapted to embrace the calf of the leg in a manner to comfortably harness the leg between the rigid arms without, however, needlessly and undesirably binding and cramping the leg, the means for securing said bight portion to said base embodying a hinge allowing said U-shaped frame to be swung downwardly against the top of the base and to an out-of-the-way position when it is not in use.

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