Feb. 9, 1965 R. D. SMITH 3,168,746

WORK PLANTS WITH KNEE PROTECTORS

Filed April 11, 1963

Fig. 1

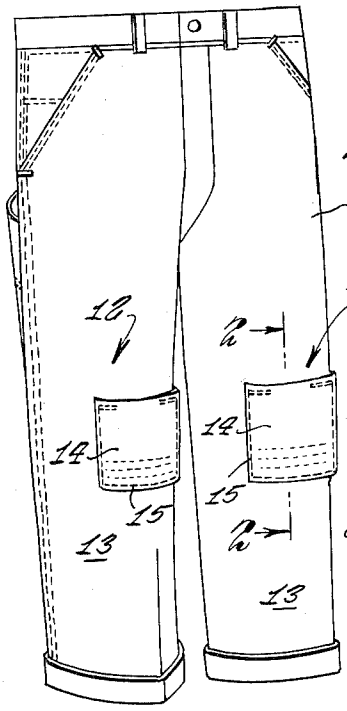


Fig. 2

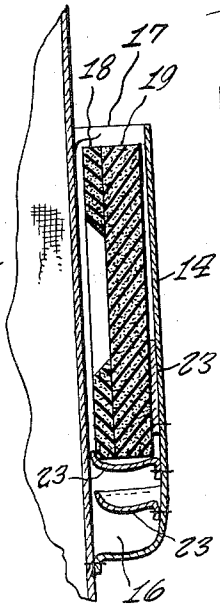


Fig. 3

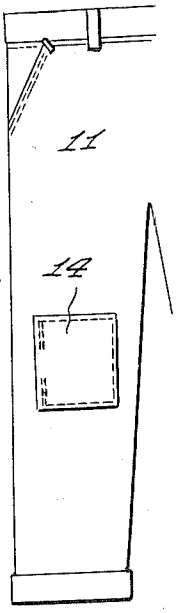


Fig. 4

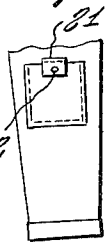


Fig. 5

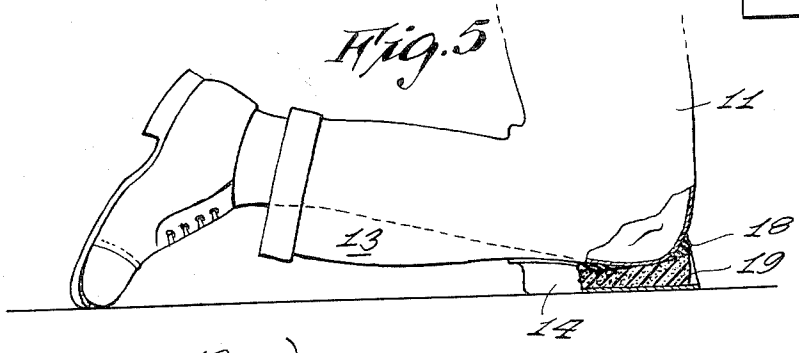
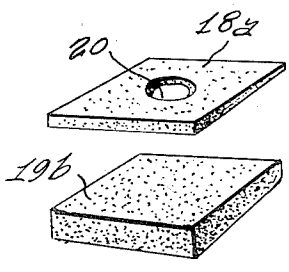


Fig. 6



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WORK PANTS WITH KNEE PROTECTORS

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3 Claims. (Cl. 2—24)

This invention relates generally to padded garments. More specifically it relates to garments having knee pads.

One object of the present invention is to provide a garment having knee pads which are removable so as to permit laundering of the garment without the same, after which the pad is replaceable.

Another object is to provide a garment such as trousers, overalls, coveralls or the like having self contained means whereby the knee pads are adjustable for maximum comfortable use.

Still another object is to provide a garment having knee pads comprised of a plurality of elements which are adjustable relative to one another and which are interchangeable with other elements of varied thicknesses.

A still further object is to provide a garment for use by plumbers, steam fitters, carpenters, housewives, electricians, charwomen, floor scrapers and other persons who kneel, which have padded knee portions that additionally protect the knees at all times from accidental hitting against other objects.

Yet another object is to provide a knee pad which is recessed to fit a knee cap.

Other objects of the invention will be readily apparent upon a study of the following specification and the accompanying drawing wherein:

FIGURE 1 is a perspective view of a work pants shown incorporating the present invention.

FIGURE 2 is an enlarged cross sectional view through 2—2 of FIGURE 1.

FIGURE 3 is a fragmentary front view of a work pants showing a modified form of the invention.

FIGURE 4 is a similar view showing still another form of the invention.

FIGURE 5 is a side elevation view partly in cross section showing the device in operative use, and

FIGURE 6 is an exploded view showing modified forms of the pad elements.

Referring now to the drawing in detail, the numeral 10 represents a work pants with knee protectors incorporating the present invention wherein there is a garment 11 and a pair of knee protector assemblies 12 on each garment leg 13.

Each knee protector is comprised of an outer panel 14 attached by means of stitching 15 to the knee portion of the garment thereby forming a pocket 16 therebetween having an opening 17 for receiving therein a pair of pad elements 18 and 19. The panel is made preferably from heavy sturdy material or from material similar to the garment for purpose of appearance. The pad elements are made from sponge rubber, the element 18 being relatively thin and having a bevelled central opening 20 while element 19 is relatively thicker and being interchangeable with other elements of varied thicknesses. The opening 20 serves as a seat for receiving the knee cap. The stitching extends around all four edges of the panel leaving only a center portion of one of the edges unattached to form opening 17, thus producing corners inside the pocket for arresting the corresponding corners of the pad elements and preventing the pads unintentionally from falling out of the pocket. The opening 17 may be at the top as shown in FIGURE 1, at the side as shown in FIGURE 3, or it may additionally have a retaining tab 21 secured by button 22. As shown in FIGURE 6, the pad elements 18*a* and 19*a* may be each wedge shaped whereby relative arrangement therebetween is adjustable for maximum comfort due to the amount of angle between a floor and the lower leg of a person as shown in FIGURE 5.

In view that work parts are usually sold uncuffed so as to fit workmen having shorter or longer legs, the man's knee position in the garment may vary with that of another man. Accordingly, in some cases, the pad elements should be lower or higher. Such instant adjustment is accomplished by means of a plurality of horizontal platforms 23 secured at different levels in the pocket each of which selectively can serve as a pocket bottom to support the pad elements.

In operative use, the pads are arranged in preferred position relative to one another, then inserted into the pocket to the level desired, with the opening 20 facing the knee cap.

Thus there has been shown a work pants with knee protectors that offers maximum comfort.

While various changes may be made in the detail construction, it shall be understood that such changes will be in the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth my invention, what I desire to secure by Letters Patent of the United States is:

1. In a garment, the combination of a work pants having leg portions, and each leg portion having a knee protector for protecting a wearer's knees, said protector having selectively adjustable means for providing maximum comfort, said knee protector each comprising a rectangular panel attached at its edges to said leg portion to form a pocket therebetween, one of said edges having an unattached center portion forming an opening to said pocket, a plurality of pad elements in said pocket, said pad elements being of generally square configuration, any edge of which is longer than said pocket opening, whereby said pad element cannot unintentionally egress from said pocket, one of said pad elements having a bevelled central opening for receiving a wearer's knee cap therein, and each of said pad elements being wedge shaped having relatively angular opposite sides between a relatively thick edge and an opposite thin edge, said pad elements being adjustable relative one another whereby the thick or thin edges of one is adjacent a thick or thin edge of another.

2. In a garment, the combination as set forth in claim 1 wherein said edge having an unattached center portion forming a pocket opening is a side edge of said pocket.

3. In a garment the combination of a work pants having leg portions, and each leg portion having a knee protector for protecting a wearer's knees, said protector having selectively adjustable means for providing maximum comfort, said knee protector comprising a rectangular panel attached at its edges to said leg portion to form a pocket therebetween, one of said edges having an unattached center portion forming an opening to said pocket, a plurality of pad elements in said pocket, said pad elements being of generally square configuration, any edge of which is longer than said pocket opening, whereby said pad element cannot unintentionally egress from said pocket, one of pad elements having a bevelled central opening for receiving a wearer's knee cap therein, said pocket including a plurality of rectangular horizontal platforms thereacross, said platforms being attached on three edges to the inner side of said panel, said platforms each being attached at different levels on said panel to form selectively a bottom support for said pad elements.

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