

Dec. 16, 1930.

J. E. SHOTWELL

1,785,213

KNEE PAD

Filed Aug. 12, 1930

Fig. 1

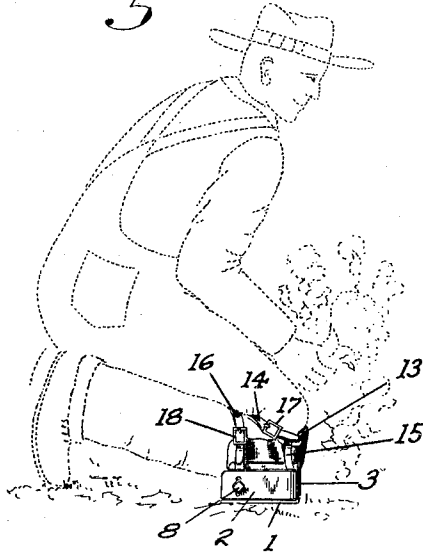


Fig. 2

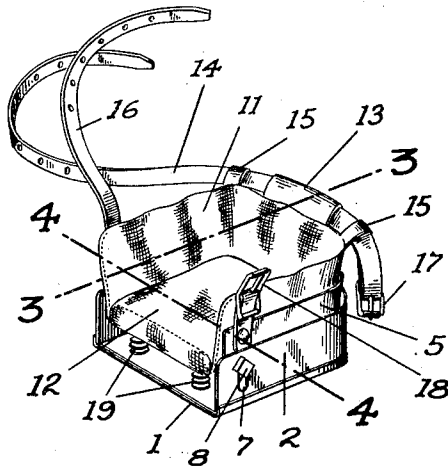


Fig. 3

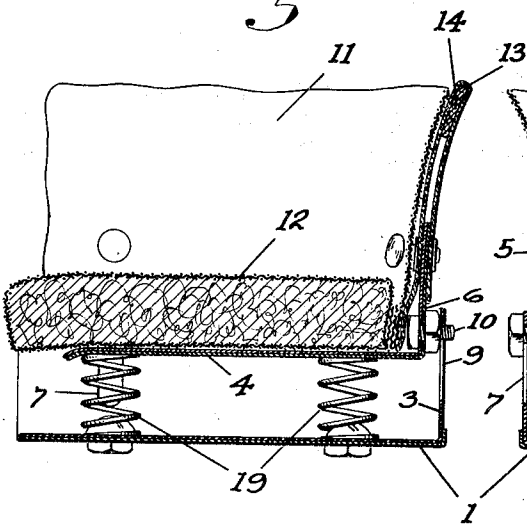
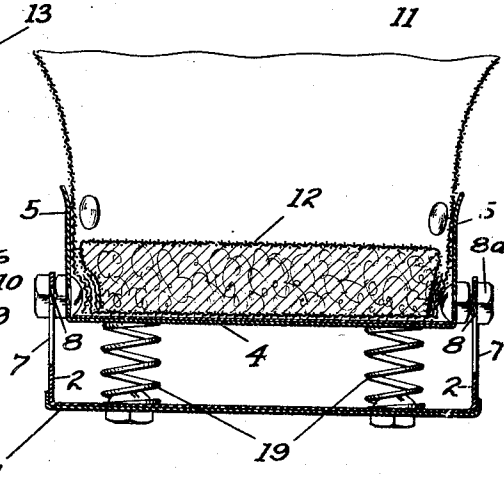


Fig. 4



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KNEE PAD

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This invention relates to knee protecting pads for agricultural and similar workers, and is particularly intended for the use of pickers of cotton and similar crops which are harvested by hand and which necessitate considerable kneeling on the part of the workers. The knee being more or less continuously in contact with the hard or broken ground soon becomes fatigued and chafed, as is well known to those experienced in this work, and the ordinary form of knee pad, while preventing the wearing out of the trousers, does not materially protect the knee itself against the fatiguing effect.

The principal object of my invention is to avoid the above objectionable features, and to increase the comfort and physical well being of such workers by providing a knee protecting pad so constructed that a spring mounted or suspended cushion is provided between the knee and the ground.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a fanciful perspective view of a cotton picker showing one of my improved knee pads in position on his knee.

Fig. 2 is a perspective view of the pad detached.

Fig. 3 is a longitudinal section of the pad on a line 3—3 of Fig. 2.

Fig. 4 is a transverse sectional view on a line 4—4 of Fig. 2.

Referring now more particularly to the characters of reference on the drawings, the device comprises a primary shoe which is preferably of rigid sheet steel and consists of a flat bottom or base 1 of rectangular form having upstanding side plates 2 and a front plate 3. Fitting loosely between the side and front plates of the primary shoe is a secondary shoe of substantially the same form

and comprising a bottom plate 4, side plates 5, and a front plate 6. This secondary shoe is adapted to have vertical movement relative to the primary shoe and within the same. It is however normally held quiescent relative to the primary shoe by means of a plurality of coiled springs 19 interposed between the two plates 1 and 4.

The sides 2 near the rear end thereof are provided with vertical slots 7, while on the sides 5 adjacent the slots 7 are studs 8 which project through the slots and are movable therein and normally engage the upper ends of the slots under the pressure of the springs 19. The front plate 3 is provided with a centrally located vertical slot 9, while a stud 10 is secured on the front plate 6 and projects into said slot and normally engages the upper end of said slot under pressure of the springs 19.

The studs 8 have securing bolts 8a to hold the parts together, but the stud 10 projects freely into its slot 9 without a securing nut, all for a purpose as will presently appear.

A fabric knee pad container and protector 11 fits into the secondary shoe and holds a knee pad 12 of horse hair or any other soft fibrous material.

On the plate 6 and centrally thereof is a strap guide 13 through which is movable the fastening strap 14. Separator straps 15 are also secured on the secondary shoe at each front corner thereof and encircle the fastening strap 14 in order to hold it spaced at the forward part of the pad so as to prevent pinching or binding of the strap 14 on the wearer. A back strap 16 is secured to the rear end of the secondary shoe, both the straps 14 and 16 having in conjunction therewith buckles 17 and 18 to allow the knee pad to be properly secured to the knee of the wearer, as will be obvious. When the pad is strapped on the knee of the wearer, as shown in Fig. 1, and the pressure of the body is put thereon the secondary shoe tends to pivot on the studs 8 so that the forward end thereof may move downwardly in an arc under the weight of the wearer. The fact that the stud 10 projects freely into the slot 9 allows of this pivoting and arcing movement downwardly with

the studs 8 acting as pivots. At the same time if the pressure was released from the forward end of the secondary shoe and applied evenly over the secondary shoe as a whole the knee pad could move downwardly in a direct vertical line against the pressure of all the springs. By reason of this particular construction therefore the pad can readily adjust itself to pressure from all directions, and under different weights, and under the different configurations of the knee of the wearer, and give the proper resiliency to effect the objects of the invention.

From the foregoing description it will be readily seen that I have produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A knee pad comprising a primary shoe, and a secondary shoe movable within the primary shoe and normally held quiescent by a plurality of yieldable elements interposed between the bottoms of the two shoes, pivots on the secondary shoe connected with the primary shoe near the rear end thereof, the front plate of the primary shoe having a vertical slot and a stud on the front end of the secondary shoe projecting into and being movable vertically within the slot.

2. A knee pad comprising a primary shoe consisting of a bottom plate, side plates, and a front plate, the side plates being provided with vertical slots near their lower ends and the front plate being provided with a centrally located vertical slot, the secondary shoe comprising studs near its rear end projecting into and movable vertically in the rear slots of the primary shoe, and a stud secured to the front end of the secondary shoe and projecting to and movable freely within the slot of the front plate of the primary shoe, and yieldable means interposed between the bottoms of the primary and secondary shoes.

In testimony whereof I affix my signature.
JOSEPH EMSLEY SHOTWELL.

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