Feb. 7, 1933. W. J. RUTH 1,896,561

KNEE PAD

Filed April 2, 1931

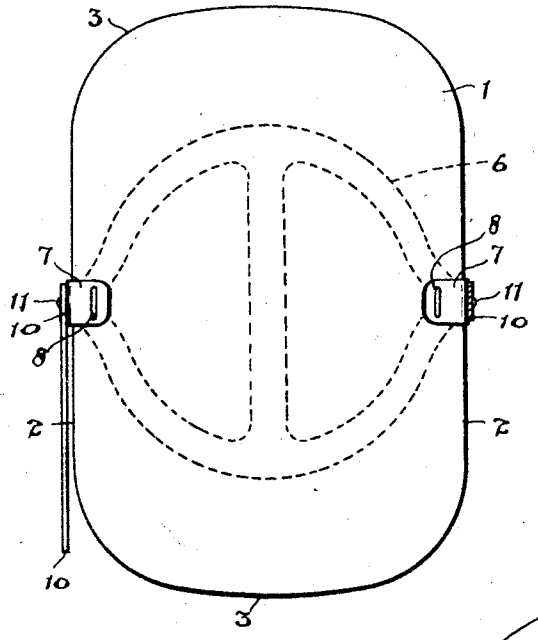


Fig. 2.

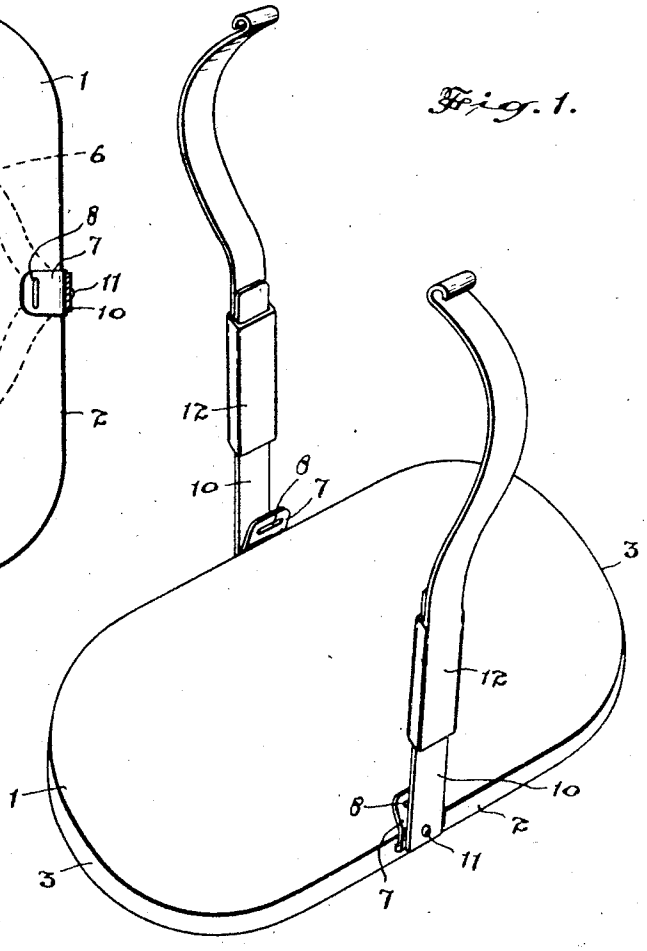


Fig. 1.

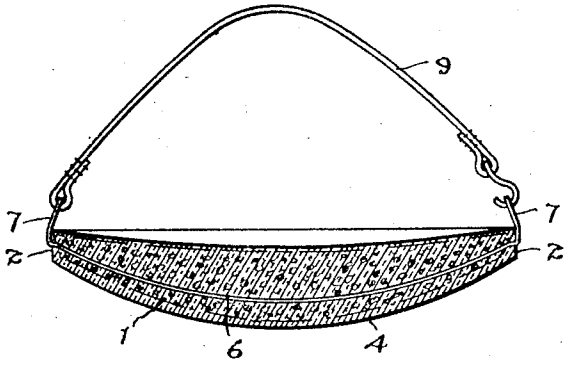


Fig. 3.

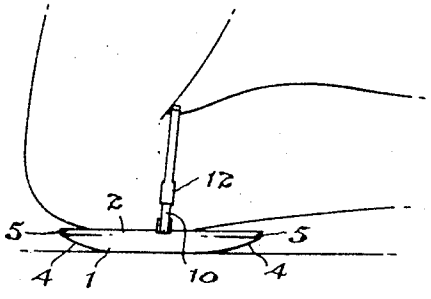


Fig. 4.

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UNITED STATES PATENT OFFICE

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KNEE PAD

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The principal objects of this invention are to materially reduce the discomfort and injurious effects to persons occupying a kneeling posture and to provide a pad of extremely soft resilient material which may be very readily placed in position for use and which may be secured to the knee over a dress or may be fastened securely around the leg, as may be desired.

The principal features of the invention consist in the novel construction of a pad of sponge rubber and in the arrangement therein of means to which external fastening members are adjustably secured.

In the accompanying drawing, Figure 1 is a perspective view of my improved pad showing a pair of adjustable spring clips for securing the pad in position upon the knee.

Figure 2 is a plan view of the pad showing one of the spring clips swung parallel with the pad.

Figure 3 is a transverse sectional view of the pad taken centrally through the holding members and showing a strap holding device arranged thereon.

Figure 4 is an elevational view illustrating the manner of using the pad.

Numerous forms of pads for protecting the knees of persons when occupied in a kneeling position have been devised but the present invention proposes the novel use of a well-known material such as sponge rubber which presents a marked degree of improvement in the art.

As illustrated in the accompanying drawing the pad 1 is in plan substantially rectangular in form, having parallel sides 2 and rounded ends 3. This pad is formed in section, both transversely and longitudinally, with a rounded surface 4 thus providing the pad with a thick central cross-section tapering to comparatively thin edges 5.

The pad is moulded so that its exterior surfaces present a smooth surface while the interior is filled with small gas-filled cells which is the ordinary internal sectional feature of all sponge rubbers, the cells being formed by the gasifying of certain materials milled into the rubber.

A metal plate 6 which is dished to conform to the curvature of the bottom surface 4 of the pad is moulded into the pad so that there is a body of sponge rubber beneath the plate and a body of greater thickness on the top side thereof. The plate 6 is formed with lugs 7 which project from the side edges 2 of the pad about mid-way of its length and the ends of these lugs are preferably bent slightly inward and are provided with slots 8 which are adapted to receive the end members of a fastening strap 9, as illustrated in Figure 3.

Spring clip members 10 are secured to the lugs 7 preferably by pivotal connections in the form of rivets 11 and the clip members are preferably formed each with a slidable extension 12 which are curved inwardly at their ends to fit around the curvature of the leg.

The slidable adjustment enables the user to adjust the clips to the most comfortable position. These members are a snug sliding fit but any suitable form of means for locking them in an adjustable position may be provided.

The pivotal arrangement of the clips 10 enables their being turned downwardly parallel with the pad so that they will be out of the way if a strap fastener 9 as shown in Figure 3 is desired to be used and the pivotal arrangement also enables the pads being placed snugly together, both for packing and storing purposes when not in use.

It will be readily understood that the soft sponge rubber will provide a very resilient pad which will protect the knees from injury and discomfort when bearing the weight of the body upon a hard surface. The smooth outer surface of the pad will not collect dirt, as would the cellular interior structure and it will resist wear and in order to obtain the maximum wearing value, the bottom covering will preferably be made thicker than that of the top. Further, the curved bottom surface of the pad will allow freedom of movement in a rocking action, either sideways or longitudinally of the pad and the curved surface also keeps the edges clear of the floor so that they will not become marred or torn.

What I claim as my invention is:

1. A knee pad, comprising in combination a resilient pad of moulded rubber, said pad being reinforced bodily by a reinforcing metal plate embedded therein to impart body rigidity thereto, said plate having attachment lugs projecting from the edges, and means secured to said lugs for securing the pad to the leg of the wearer.

2. A knee pad, comprising in combination, a moulded pad of rubber, said pad being reinforced bodily by a metal plate embedded therein to impart body rigidity thereto, said plate having lug extensions projecting from the sides of the pad, spring members pivotally secured to said lugs and extending therefrom, and extension clip members slidably mounted on said spring members at one end and being curved inwardly at the other end to grip the leg of the wearer.

3. A knee pad, comprising in combination a moulded pad of rubber, said pad being reinforced bodily by a metal plate embedded in the pad to impart body rigidity thereto, said plate having lug extensions projecting from the sides of the pad, and spring metal clips secured to said lugs.

4. A knee pad, comprising in combination a moulded pad of rubber, said pad being reinforced bodily by a metal plate embedded in the pad to impart body rigidity thereto, said plate having lug extensions projecting from the sides of the pad, and spring metal clips pivotally secured to said lugs, the pivotal connection of said clips to said lugs permitting the pad to pivot relative to said clips and the folding of the clips into compact relation to the pad.

WILLIAM J. RUTH.