N. & G. C. HORATH & R. WILLIAMS.

KNEE PAD FOR MINERS.

APPLICATION FILED JAN. 25, 1909.

926,328. Patented June 29, 1909.

Fig. 3.

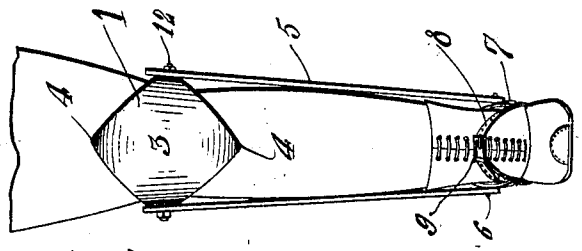


Fig. 5.

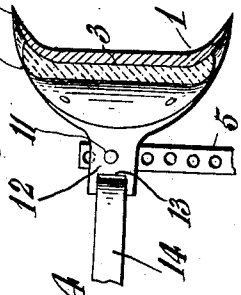


Fig. 4.

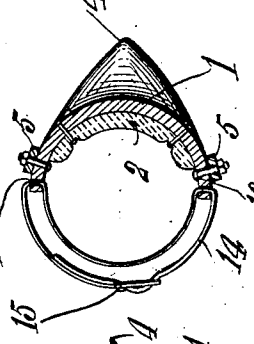


Fig. 2.

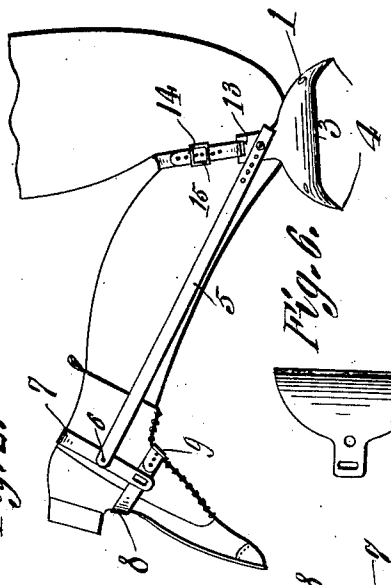


Fig. 6.

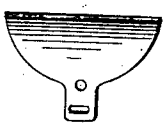


Fig. 1.

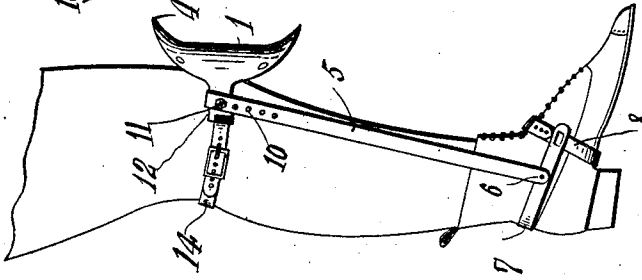
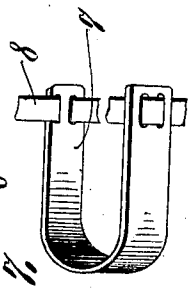


Fig. 7.



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UNITED STATES PATENT OFFICE.

NICHOLAS HORATH, GROVER C. HORATH, AND ROBERT WILLIAMS, OF KEENSBURG, ILLINOIS.

KNEE-PAD FOR MINERS.

No. 926,328. Specification of Letters Patent. Patented June 29, 1909.

Application filed January 25, 1909. Serial No. 474,123.

To all whom it may concern:

Be it known that we, NICHOLAS HORATH, GROVER C. HORATH, and ROBERT WILLIAMS, citizens of the United States, residing at Keensburg, in the county of Wabash and State of Illinois, have invented certain new and useful Improvements in Knee-Pads for Miners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in knee pads and leg braces especially adapted for use by miners.

The object of the invention is to provide a simple and practical device of this character which may be readily applied to the foot and lower part of the leg or limb, without restricting the freedom of movement of the same and which will not only provide an effective cushion for the knee when the wearer must kneel on stones or other rough surfaces but will also prevent him from slipping on inclined or uneven surfaces and further support the knee off of or above the ground to thereby exclude dampness from the knee.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation showing the invention applied; Fig. 2 is a similar view showing the limb bent; Fig. 3 is a front elevation of the device; Fig. 4 is a horizontal section through the pad proper; Fig. 5 is a detail vertical section through the same; Fig. 6 is a detail view of a modified form of knee pad; and Fig. 7 is a detail view of the heel strap.

The improved knee pad comprises a metal body portion 1 having a backing or lining 2 of felt or other soft material which is in direct contact with the knee and forms a cushion for the latter. The metal body 1 of the knee pad is curved transversely, as shown in Fig. 4, and also longitudinally, as shown in Fig. 5, so that it is substantially arc-shaped or moon-shaped when viewed from the side. This peculiar shape of the knee pad gives its outer face a hollow central portion 3 with two horns or spurs 4 at its ends. These horns or spurs are provided for the purpose of causing the pad to effectively engage an inclined, rough or uneven surface to prevent the knee from slipping. This peculiar shape of the metal body of the pad also throws the knee in the cushion backing or lining 2 above or out of contact with the ground so that any water or moisture on the ground will not be taken up to the knee. By making said body 1 of metal, the knee will be protected from the sharp edges and corners of rocks and the life of the pad will be much longer than if it were constructed of other material liable to be cut and worn by sharp rocks.

While any suitable means may be provided for applying the knee pad to the human limb, the same is preferably effected by a harness consisting of two side bars 5 arranged on opposite sides of the lower portion of the limb and extending from the knee down to the foot. The lower ends of the bars 5 are pivoted at 6 to a U-shaped strap 7 which extends around the heel and has its ends engaged with an instep strap 8. The latter has a buckle 9 at one end and its other end is apertured for engagement with the buckle, whereby the device may be adjusted on the foot of the wearer. The upper ends of the side bars 5 are adjustably connected to the metal body portion 1 of the knee pad by forming in said bars a longitudinal series of apertures 10 to receive adjusting bolts 11 arranged in rearwardly projecting ears 12 formed integral with the metal body 1 of the knee cap at central points on its side edges. Said ears 12 are also formed, adjacent their extremities, with vertical slots 13 to receive a leg strap 14 by means of which the device is fastened to the upper part of the leg or limb. Said strap 14, as shown in Fig. 4 of the drawings, passes through the slots 13 of both ears 12 and its ends are brought together and adjustably connected by a buckle or the like 15. The heel strap 7 is preferably made of metal and its ends are formed with parallel slots 7^a to slidably receive the instep strap 8, whereby the latter may be readily adjusted.

The pad shown in Fig. 6 of the drawings is especially adapted for the use of brick layers, stone masons and the like and its metal body portion 1^a has a uniform transverse curvature but no longitudinal curvature so that this form of the invention is without the spurs 4. It will be understood that a knee pad of this form or any other form and construction may be substituted for the knee pad shown in Fig. 1 of the drawings.

From the foregoing it will be seen that by reason of the adjustment of the several parts

of the harness, it may be adapted for use upon persons of different size and that when applied it will brace the lower portion of the limb without interfering with the free movement of the same, either at the knee or at the ankle. The harness effectively retains the improved pad in proper position at the knee so that whenever the wearer kneels the horns or spurs 4 will contact with the ground and secure an effective grip so that the knee will not slip. The peculiar construction of the knee pad not only effectively protects and cushions the knee but also excludes dampness from the same.

Having thus described the invention what is claimed is:

1. A device of the character described comprising a knee pad having a one-piece body curved transversely and having its upper and lower ends curved outwardly and pointed to provide single integral spurs to prevent the pad from slipping, a cushion lining in said body and means for attaching the pad to the human limb.

2. A device of the character described comprising a knee pad having a body curved transversely and also having its upper and lower ends curved outwardly and pointed to provide integral spurs, the side edges of said body being formed with rearwardly projecting integral ears having transverse slots, a cushion lining upon the inner face of the body, a one-piece leg strap passed through the slots in said ears and having its ends brought together and adjustably united, side bars having their upper ends formed with longitudinal series of openings, transverse pivots passed through said ears on the body of the knee pad and through certain of the openings in said side bars to adjustably pivot the knee pad to said side bars, a U-shaped heel strap having the intermediate portions of its parallel arms pivoted to the lower ends of said side bars and the projecting extremities of said arms formed with spaced slots, and a one-piece instep strap passed through the slots at the ends of the arms of the heel strap and having its ends brought together and adjustably united.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

NICHOLAS HORATH.
GROVER C. HORATH.
ROBERT WILLIAMS.

Witnesses:
MARION T. AUTLIES,
WILLIAM R. MIDDLETON.