No. 871,760. PATENTED NOV. 19, 1907.

W. LONG.

PNEUMATIC KNEE PAD.

APPLICATION FILED JULY 27, 1906.

Fig. 3.

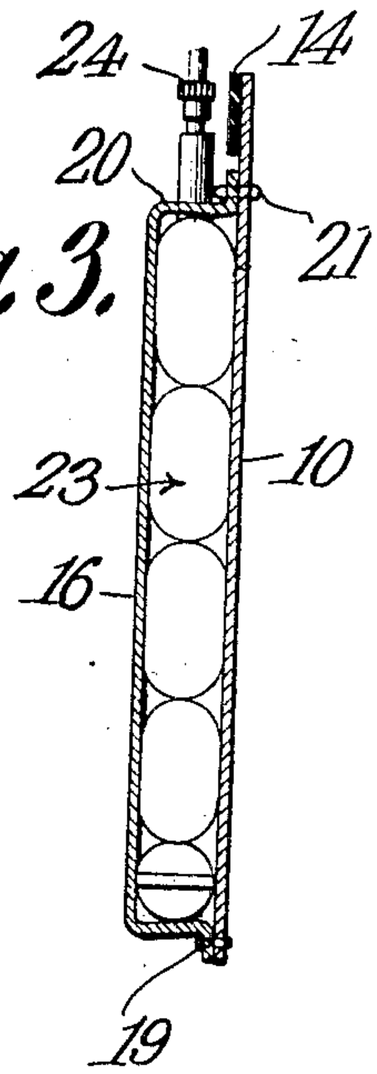


Fig. 1.

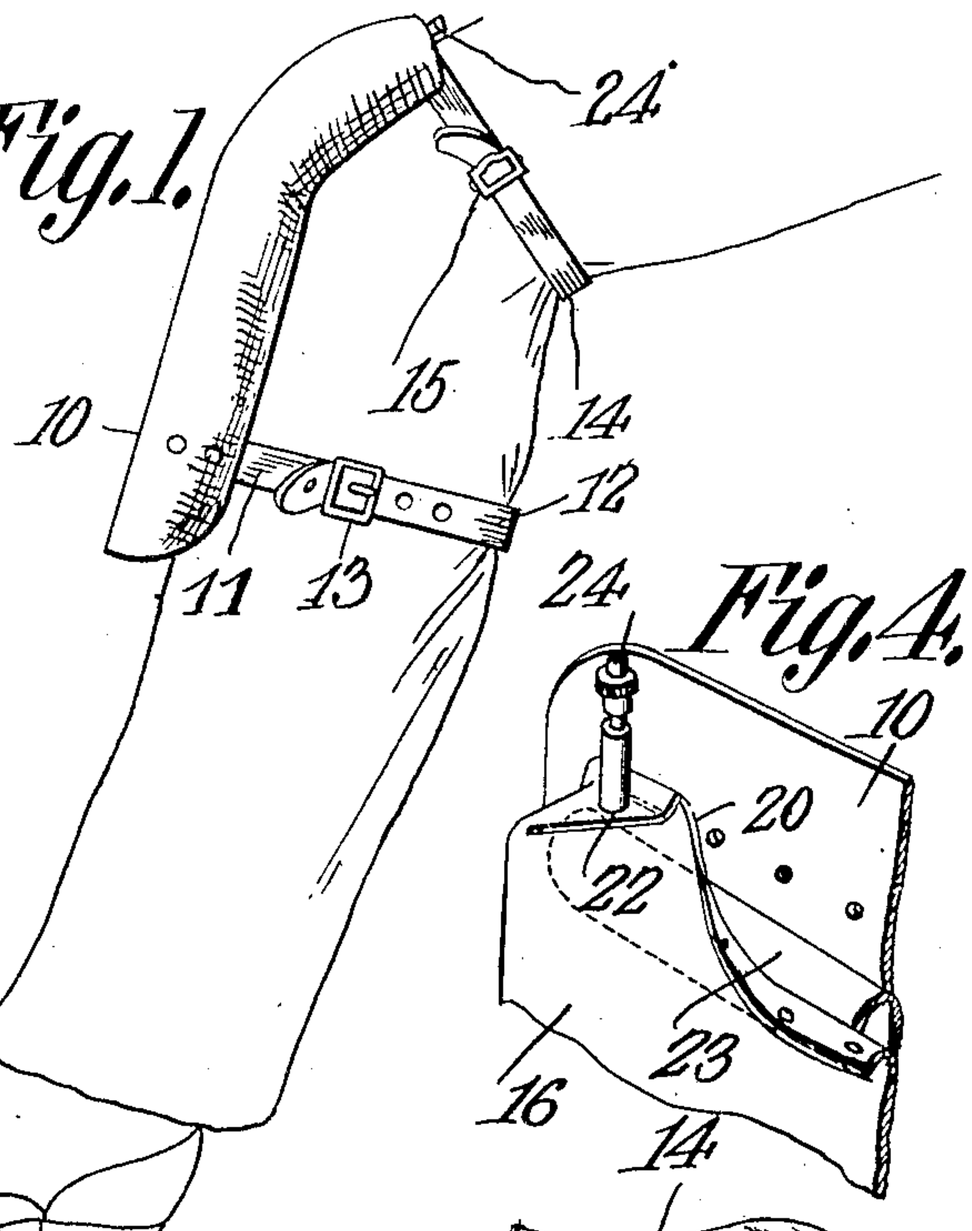
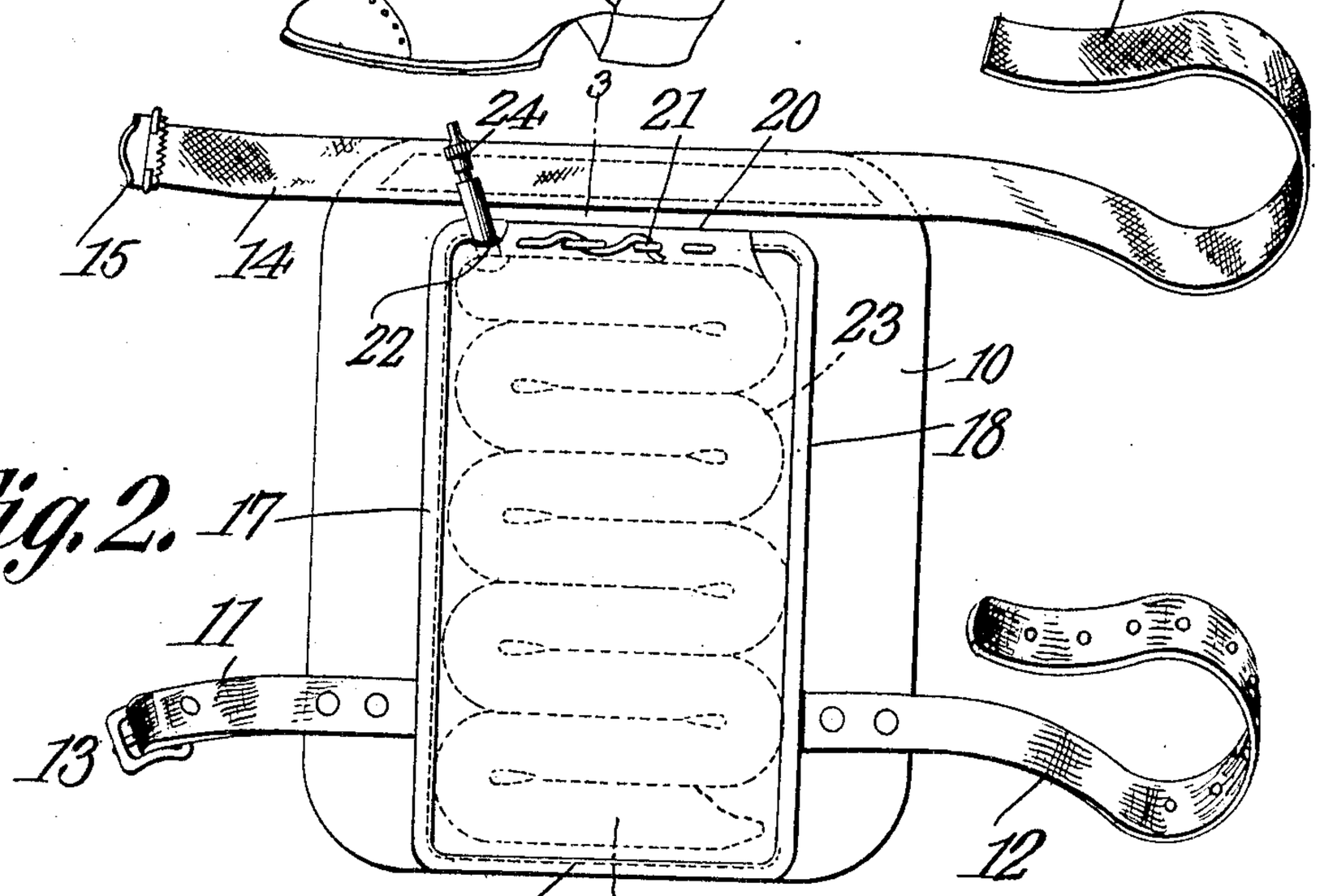


Fig. 4.

Fig. 2.



WITNESSES:

E. F. Holcomb

E. N. Woodward.

William Long,
INVENTOR.

By C. A. Snow & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM LONG, OF SHERIDAN, INDIANA, ASSIGNOR OF ONE-HALF TO JOHN C. NEWBY, OF SHERIDAN, INDIANA.

PNEUMATIC KNEE-PAD.

No. 871,760. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed July 27, 1906. Serial No. 328,116.

To all whom it may concern:

Be it known that I, WILLIAM LONG, a citizen of the United States, residing at Sheridan, in the county of Hamilton and State of Indiana, have invented a new and useful Pneumatic Knee-Pad, of which the following is a specification.

This invention relates to pads for the protection of the knees of mechanics who are required to work with the knees upon the floor, or upon the ground, and has for its object to improve the construction and increase the efficiency, utility and durability of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction as hereafter fully described and claimed.

In the accompanying drawings forming a part of this specification and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that various changes in the form, proportion and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention within the scope of the appended claims.

In the drawings:—Figure 1 is a side view of the improved device applied. Fig. 2 is a rear elevation of the improved device. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a perspective view of a portion of the device from the rear.

The improved device comprises an outer portion 10, preferably of relatively strong material such as leather, rubber cloth, or the like, and provided with means for attaching upon the legs of the wearer at the knee joints, the fastening means being preferably leather straps 11—12 and buckle 13, elastic strap 14 and clasp 15, the elastic straps being located at the upper portion of the outer member for passing around the legs above the knees, so that the device will yield to the movements of the wearer when in use.

Attached to the inner face of the outer portion 10 is an inner portion 16, the attachment being made at the side edges 17—18 and one end 19, leaving the other end 20 unattached, permanently, but adapted to be detachably connected as by lacings 21. At one side of its unattached end, the portion 16 is provided with an aperture 22 to receive the valve of a pneumatic cushion, as hereafter described.

The portions 10 and 16 are of relatively heavy material to enable them to withstand the strains to which they will be subjected, and so arranged that a pneumatic cushion can be arranged between them, the cushion being preferably in the form of the inflatable tube, as represented at 23, the tube being inserted through the unattached end 20 and its valve 24 passed through the aperture 22, in position to have the air pump applied.

By having the cushion in the form of a pneumatic tube the convolutions of which extend transversely across the casing, a greater bearing surface is presented and the casing rendered pliable so as to conform to the shape of the knee and thus permit the operator to bend the latter.

It will be noted that the pad extends both above and below the knee cap, and in order that the wearer may walk in an erect position with any degree of comfort, it is essential that the pad should be sufficiently flexible and yieldable to permit free movement of the knee joint. This would be impossible with a pad structure of ordinary construction, but by placing the convolutions of the pad parallel with the line of bend of the knee, and transversely to the length of the leg, there is nothing to prevent free movement of the knee joints while walking, and the operator may readily move from an erect to a kneeling position without moving the pad from place.

The device is very simple and complete, can be inexpensively manufactured, and when not required can be deflated and thus reduced in size for storage or transportation.

The device will be found very convenient for carpet layers, floor tile setters and finishers, and like workmen or merchants, or others who are required to work upon the knees.

What is claimed is:

1. A knee pad comprising an outer section and an inner section, the outer section being of much greater area than the inner section and extending at the top and sides in the form of flanges, attaching bands or straps connected to said flanges, the two sections forming an intermediate pocket, and a pneumatic cushion disposed between the sections,

said cushion being in the form of an elongated tube bent into the form of a series of superposed coils that extend transversely of the pad and are free to separate from each other to permit flexing of the knee joint.

2. A knee pad comprising an inner section having outwardly turned edge portions, and an outer section of greater area than the inner section, the two sections being secured together and arranged to form an intermediate pocket, an upper strap secured to the upper flange formed by the extension of the outer section, lower straps secured to the side flanges formed by the extension of the upper section, and a pneumatic pad disposed between the sections and in the form of a tube bent into superposed convolutions that are transverse with respect to the pad and are free to separate to permit flexing of the knee joint.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM LONG.

Witnesses
ROLAND GRIFFIN,
CHARLES W. GRIFFIN.