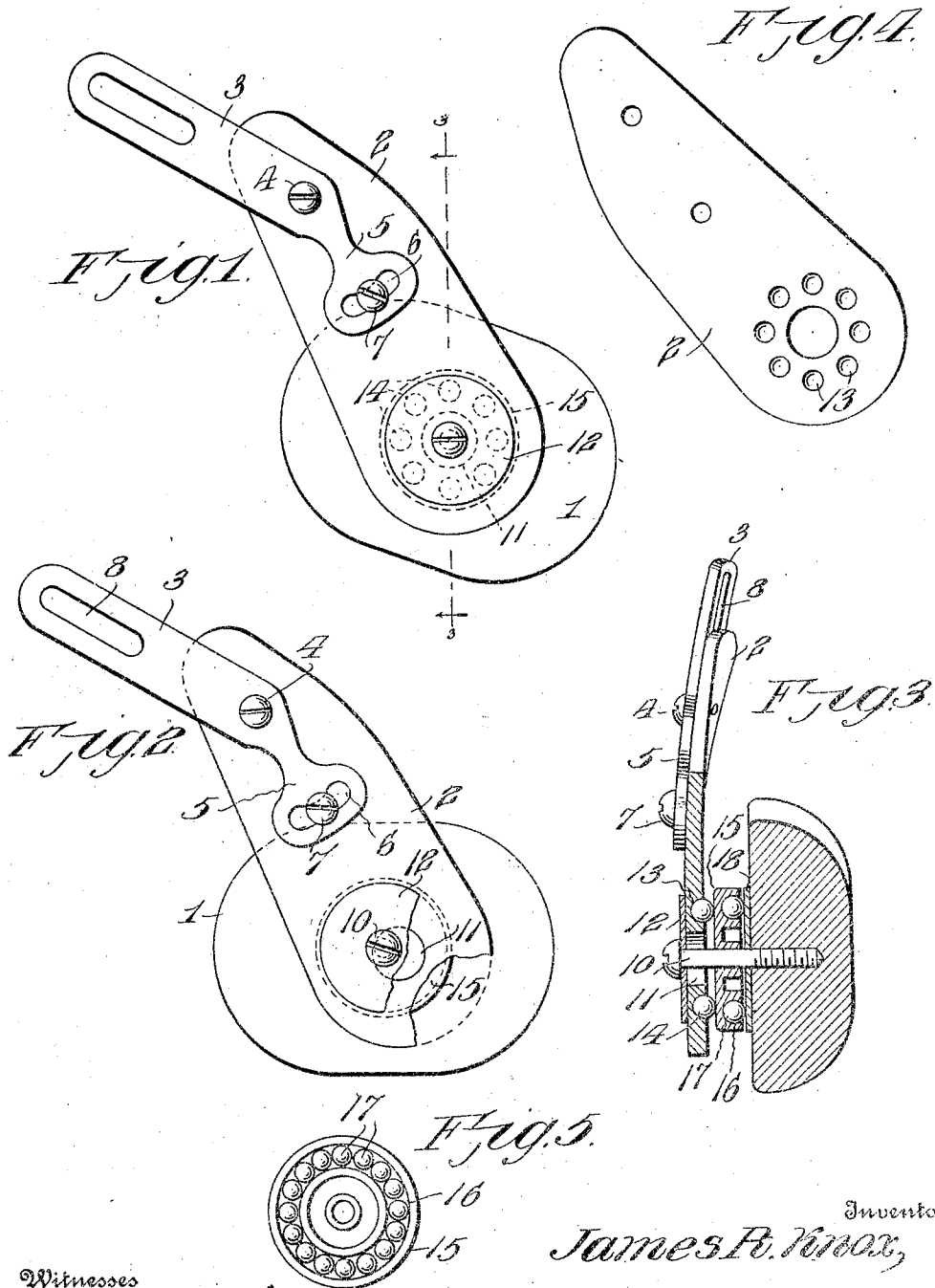


J. R. KNOX.
TRUSS.

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TRUSS.

1,005,043.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES R. KNOX, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented new and useful Improvements in Trusses, of which the following is a specification.

This invention relates to improvements in trusses, and particularly to a novel construction of truss pad mounting, the object of the invention being to provide means whereby the pad, while securely held in position, is permitted to have movement relative to its carrier, so as to adapt the parts to adjust themselves automatically to the body movements of the wearer and prevent excess pressure or strain upon or chafing of the affected part.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a front elevation of a truss embodying my invention, showing the pad in normal operative position. Fig. 2 is a similar view, with parts broken away, showing a relative adjustment of the pad under one of the body movements of the wearer. Fig. 3 is a vertical transverse section on the line 3—3 of Fig. 1. Fig. 4 is a rear elevation of the carrier plate. Fig. 5 is a rear side view of the bearing ring.

Referring to the drawing, 1 designates the pad, 2 the pad carrier and 3 the supporting member composing the truss. The pad 1 is constructed in practice of wood or other suitable material. The carrier 2 consists preferably of an oblong metallic plate suitably curved at its upper end to conform to the contour of the part of the body against which it bears. The said upper end of the carrier plate is pivotally connected by a screw 4 with the supporting member, which is in the form of a bracket arm having an angularly bent lower end 5 formed with a transverse slot 6. A screw 7 passes through said slot and enters the plate 2, thus permitting the latter to be adjusted laterally with relation to the bracket arm as circumstances require and to be secured in adjusted position by tightening the screw 7. The upper end of the bracket arm is provided with a slot 8 for passage of the usual belt or strap.

The outer or front surface of the pad 1 is flat and has projecting therefrom a stem 10

preferably in the form of a screw having its threaded end entering a threaded recess in the pad and its headed end projecting through a circular opening 11 in the lower end of the carrier plate 2, the head of the screw being arranged to bear against a washer 12 disposed upon the outer side of said carrier plate.

Formed in the rear face of the carrier plate is an annular series of seats or recesses 13 concentric with the opening 11 and partially receiving anti-friction bearing balls 14. The rear projecting surfaces of these balls rest against the outer or front flat face of a bearing ring 15 loosely arranged upon the stem between the pad and carrier plate. The rear face of the bearing ring is provided with an annular channel or runway 16 for a series of bearing balls 17 which contact with a washer or bearing plate 18 loosely disposed on the stem between the same and the pad.

It will thus be seen from the foregoing description that the bearing ring is arranged between and has an anti-friction bearing engagement with both the pad and its carrier plate, the ring and plate being free for relative rotative movement about the stem 10, while the carrier plate is also free for relative vertical and horizontal movement relative to the stem without affecting the pad. The carrier plate is further also free to have a circular movement about the stem, whereby a relative universal joint connection between the parts is provided.

Fig. 1 shows the truss disposed as in normal position for use.

Fig. 2 shows a position which the pad may assume under a certain body movement of the wearer, in which the pad moves upwardly and laterally with relation to the carrier and also turns to a substantially horizontal position on its axis, the stem 10. Owing to the fact that the opening 11 in the carrier plate is of much larger diameter than the stem 10, it will be apparent that the pad and carrier may have relative shifting movements in all directions without disturbing their points of bearing upon the body and without axial movement of the pad, and that both the pad and carrier plate may also shift axially. By this means the pad and carrier plate are permitted to automatically adjust themselves to the movements of the body or are self-adjusting to compensate for any change in position be-

tween the parts of the body against which they bear without the pad or plate becoming displaced. The loose connection described not only allows universal movement, but the bearing surfaces prevent friction and permit freedom of motion, so that while the parts adjust themselves to the body movements they do not shift their points of bearing. As a result, the parts of the body are relieved from excess pressure or strain and prevented from becoming chafed or bruised. Ease and comfort in wearing the appliance are thus secured without loss of efficiency of the device in other respects. It will be observed that these results are secured by the described type of connection between the pad and carrier member, whereby the pad is normally free for the automatic adjusting movements set forth when applied to the body of the wearer and under the body movements of the wearer, in which respect the invention is radically different from prior devices in which the pad is adjustable merely as to position on the supporting means and is fixed in adjusted position for use.

Having thus described my invention, I claim:—

A truss comprising supporting means including a carrier member having an opening therein, a pad having a stem extending through said opening and connecting said pad with the carrier member, said stem being of less diameter than the opening and freely movable normally therein to permit relative vertical, lateral and axial movements between said pad and carrier member when the device is applied for use and under the body movements of the wearer, a bearing member loosely mounted on the stem between the pad and carrier member, and antifriction bearings between the opposite faces of said bearing member and the juxtaposed faces of the pad and carrier member.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES R. KNOX.

Witnesses:

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