

(No Model.)

E. E. BOOMHOWER.
TRUSS.

No. 519,882.

Patented May 15, 1894.

Fig. 1.

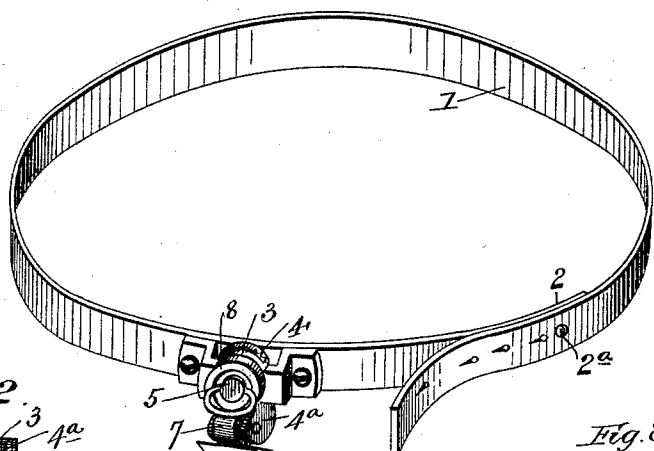


Fig. 2.

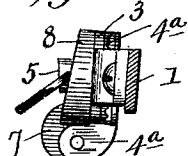


Fig. 8.

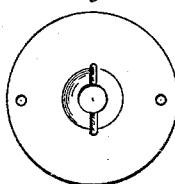


Fig. 7.

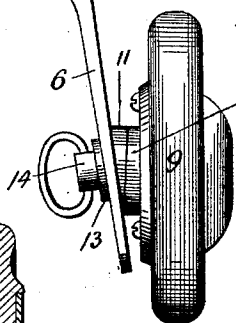


Fig. 3.

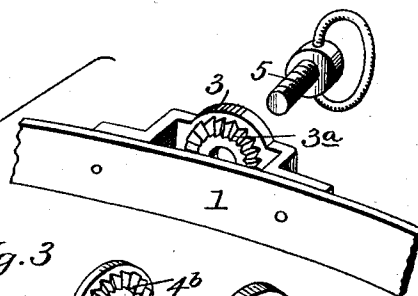


Fig. 4.



Fig. 6.

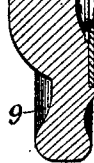


Fig. 5.



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TRUSS.

SPECIFICATION forming part of Letters Patent No. 519,882, dated May 15, 1894.

Application filed November 4, 1893. Serial No. 490,019. (No model.)

To all whom it may concern:

Be it known that I, ELI E. BOOMHOWER, a citizen of the United States, residing at Morrisville, in the county of Lamoille and State of Vermont, have invented certain new and useful Improvements in Trusses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention consists in a new and improved truss, in which are embodied certain novel and valuable features; which give it the most perfect accuracy of adjustment, while adding to its compactness and durability; and the invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, in which the same numerals of reference indicate corresponding parts in the several figures:—Figure 1 is a perspective view of my truss. Fig. 2 is a side elevation. Fig. 3 illustrates the invention in detail, with its several parts separated. Fig. 4 is an edge view of the part "8." Fig. 5 gives edge views of the parts "12" and "11." Fig. 6 is a central sectional view of the pad. Figs. 7 and 8 are detail views, respectively, of the head of part "10" and the plate which holds it in position in the pad.

Referring to the several parts by their designating numerals, 1 indicates the belt or band which passes around the body of the wearer, and which is formed of flexible or untempered steel. Upon this belt is secured at a suitable distance from the end, 2, of the band, for the purpose hereinafter described, an arched bearing plate, 3, the inner side of the flattened arch of which is formed with a circular series of serrations or teeth, 3^a.

4 indicates a circular adjusting plate, formed at its lower end with the parallel lugs

4^a, and on its side with a circular series of teeth 4^b which mesh with the serrations 3^a of the arched plate 3. The adjusting plate 4 has a central threaded aperture, 4^c, adapted to receive the retaining screw 5 which passes through a central opening of the arched plate 3.

The pad carrying plate, 6, is of compact form, and is formed at its upper end with a projection, 7, extending at right angles to the plane of the plate, as shown, and pivoted by a transverse pivot between the lugs 4^a of the adjusting plate 4; the part 7 being formed with a beak or finger-like point 7^a, extending beyond its pivotal point, as shown. Upon the arched bearing plate 3 is secured an adjusting cam-plate, 8, which is pivotally held by the screw 5 passing through a plain opening in its center; said cam plate having a milled edge for convenience in turning it with the fingers. The beak or point 7^a extends over the edge of this cam, as shown, and it will be seen that by turning the cam and thus moving its inclined edge beneath the point 7^a of the pivoted pad carrying plate 6, the pad carried by plate 6 can be pressed in with an exact adjustment, or allowed to move out, thus exactly adjusting the angle or inclination of the pivoted pad carrying plate with relation to the belt. By loosening the locking or binding screw 5 the adjusting plate 4 can be turned on its central pivot to move the pad laterally to either side, to the exact point required; when by tightening the screw the plate 4, and consequently the pad, is locked at that point, by the teeth of the plate engaging with those of the arched bearing plate. The pad carrying plate 6 is formed with the longitudinal slot 6^a. The pad, 9, which I have here shown, has projecting from its outer side a small threaded bolt, 10, the head of which is secured in the pad by a ball-and-socket joint. Upon this threaded bolt is loosely mounted a beveled disk or plate, 11, having a central rib, 11^a on its outer side which fits and slides in the longitudinal slot

of the pad carrying plate, and between said sliding beveled plate 11 and the outer side of the pad an adjusting cam plate, 12, is loosely mounted on the threaded bolt, having a milled edge for convenience in turning it. The vertically adjustable pad is held in its adjusted position by a thumb nut, 14, on the outer end of the threaded bolt, a metal washer, 13, fitting between the nut and the outer side of the pad carrying plate. It will now be seen that by loosening the thumb nut 14 the pad can be slid up or down along the longitudinally slotted plate 6 to adjust the distance of the pad from the belt, to suit the wearer.

When the thin end of the adjusting cam-plate 12 is under the thicker end of the beveled plate 11, the pad stands nearly parallel with the pad carrying plate, as shown in Fig. 2, while by turning the cam plate 12 by applying the fingers to its milled edge as its thick end gradually comes beneath the thickened end of the beveled plate 11, the pad is tilted, turning on the head of its bolt 10, and its angle with the pad carrying plate can be thus exactly adjusted to give it exactly the desired pitch; as clearly shown in Fig. 3. The arm or pad carrying plate 6 is attached to the band 1 at a point varying from three to six inches from the end 2 of said band, depending upon the size of the person and consequently upon the size of the band itself. By this arrangement, when the apertured other end of the flexible band 1 is engaged with the locking projection or button 2^a at the extremity of the end 2, a compound leverage is exerted on the pad which holds it securely at the point to which it has been adjusted, so that it cannot slip or be accidentally moved by any ordinary force. If the pad carrying plate 6 were at the end of the part 2 it would not stay in its adjusted position, but by the motion of the body the pad would be moved away from the rupture. The pad or pad-carrying arm is generally attached to the end of the body band in trusses, and they work well because such bands are made of springless or tempered steel; while my body-band 1 is made of flexible or untempered steel, and by attaching the pad carrying plate to the band at a proper distance from its end 2, this flexible end of the band, when its other end has been secured to it, works as a lever to keep the truss-pad in place.

It will be seen from the foregoing description, taken in connection with the accompanying drawings, that in my new and improved truss the pad can be adjusted laterally, to either side, that the angle of the pad carrying plate to the belt plate can be adjusted, that the pad can be moved up or down to adjust

its distance from the plate, and that finally the angle of the pad itself with relation to the pad carrying plate can be separately and exactly adjusted; while by securing the pad carrying plate to the flexible body band at the specified distance from its end 2 that the said end operates as a lever to assist in keeping the pad in place. By all of these several adjusting means, the most perfect accuracy of adjustment can be attained; while as will be seen the truss is unusually compact and durable in its construction.

It is obvious that I do not wish to confine myself to the exact details of construction shown, as I reserve the right to use any equivalents which will accomplish the same adjustments or results.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a truss the combination with a bearing plate, and a pad carrying plate pivotally connected to the said plate and having a beak, of a cam-plate having connection with the bearing-plate and adapted to be rotated to bring the cam surface beneath the beak, substantially as described.

2. In a truss the combination of an arched bearing-plate, an adjusting plate, a binding screw securing the two plates together, a pad carrying plate pivotally attached to the arched plate and having a beak, and a cam plate mounted on the said binding screw and adapted to be turned thereon to bring the cam portion beneath the said beak, substantially as set forth.

3. A truss comprising a band, an arched plate attached to the band and having a circular series of teeth, an adjusting plate having a corresponding circular series of teeth, a binding screw securing the plates in the relative located position, a slotted pad carrying plate pivotally connected with the said adjusting plate and having a beak, a cam plate mounted on the binding screw and adapted to be turned thereon to bring the cam portion beneath the said beak, a pad having a threaded stem to pass through the slot in its supporting arm, a cam-faced washer having a rib to enter the slot in the plate, a second cam-faced washer 12, and a thumb nut to bind the parts and secure them in the located position, substantially as described.

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

ELI E. BOOMHOWER.

Witnesses:

O. D. STURGES,
ESTES J. HATCH.