

(No Model.)

E. O. WARE & J. B. WILLAMAN.
TRUSS.

No. 574,467.

Patented Jan. 5, 1897.

Fig. 1.

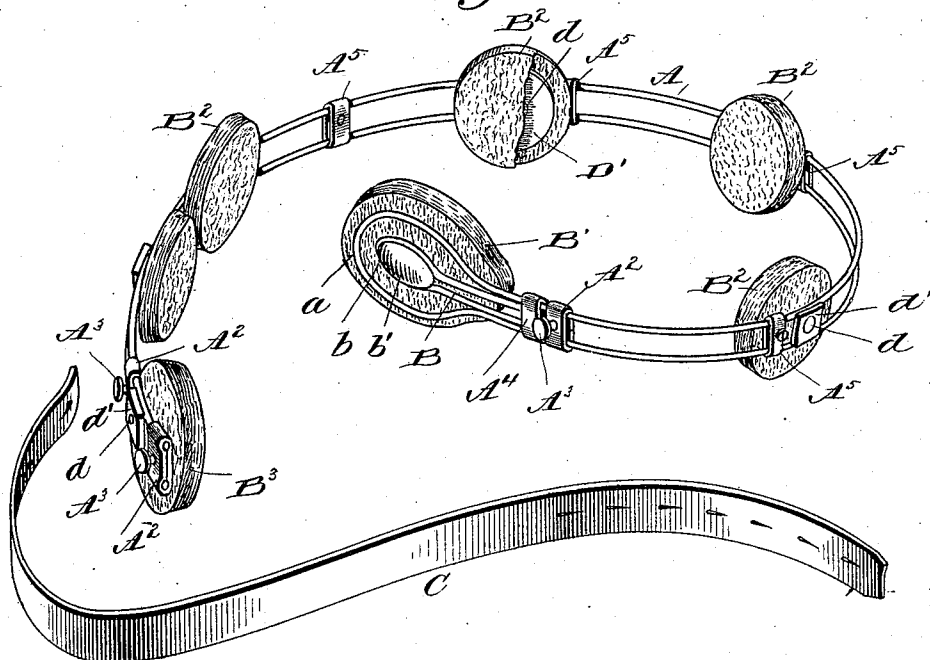


Fig. 2.

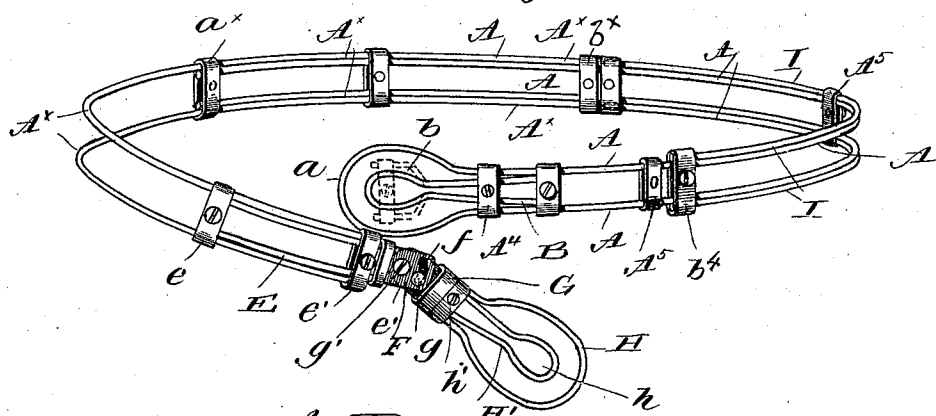
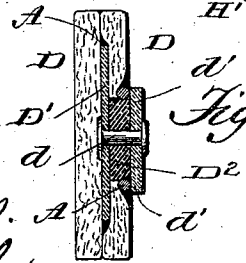


Fig. 3.



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#111

UNITED STATES PATENT OFFICE.

EDWIN O. WARE AND JOSEPH B. WILLAMAN, OF SALEM, OHIO.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 574,467, dated January 5, 1897.

Application filed December 3, 1895. Serial No. 570,941. (No model.)

To all whom it may concern:

Be it known that we, EDWIN O. WARE and JOSEPH B. WILLAMAN, citizens of the United States, residing at Salem, in the county of Columbiana, State of Ohio, have invented certain new and useful Improvements in Trusses, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in trusses, and is designed, primarily, as an improvement on the truss disclosed in our Patent No. 545,640, issued September 3, 1895, having for its object, among others, to provide a simplified and cheaper construction, whereby two single trusses can be readily made into a double truss or a double truss into two single ones. We provide also an improved felt pad and novel means of mounting the same. We provide also novel means of attaching one of the pads, so that it may be readily moved up or down or at any desired angle to suit the wearer. Either side of the truss can be lengthened or shortened, as circumstances may require, and in case of the single truss the same may be made the desired length by simply moving the end clamp and cutting off the wire at said end.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a single truss embodying our present improvements. Fig. 2 is a similar view of a double truss with the strengthening band or wire. Fig. 3 is an enlarged cross-section through one of the pads.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, calling attention first to Fig. 1, A designates a spring-wire frame, the wire of which is bent upon itself to form the loop a, and at this end is mounted the spring-support B, in the loop b of which is held the button b' of the pad B'. This pad may be of any suitable construction, but preferably formed

as will be hereinafter described. The ends of this spring-support are carried by a sliding clamp A², mounted to slide on the parallel portions of the spring-frame and of itself being of slightly-resilient material, so that by turning up the thumb-screw A³, which passes through one side and engages a threaded opening in the other, the ends of the spring-support can be firmly clamped, and by loosening the screw the said spring-support can be adjusted on the spring-frame. A slide A⁴ is provided on the parallel portions of the spring-frame at this end to draw them together, as will be readily understood. Any desired number of additional clamps or sliding bands A⁵ may be provided, preferably one for each pad to clamp or compress the parallel portions of the spring-wire frame about the pads to hold them in their adjusted position, the said clamps being moved in the direction of the length of the spring-wire frame away from the pads when it is desired to loosen the latter so they can be adjusted.

Any desired number of pads B² can be provided, the preferred construction of which will be hereinafter described, and is illustrated in section in Fig. 8.

The end of the spring-frame opposite the loop a is composed of the parallel ends of the wire composing said frame, and it will be readily observed that by moving the end pad B³ and by cutting off the end of said frame, that is, the ends of the wire, the frame may be shortened as may be desired. This end pad B³ has a sliding clamp A² upon each side thereof, as indicated in Fig. 1, and by loosening the said screws thereof the clamp and pad may be readily removed from the frame, if desired, or adjusted thereon. The strap C is attached to the thumb-screw A³ of the clamp to the rear of the end pad.

Referring now to Fig. 3, it will be seen that the pad is made up as follows: D D are two thicknesses of felt or a single piece split near its center for the reception of a disk or plate D', preferably of leather, to which is secured by a rivet or stud d the outer plate d', preferably rectangular in form, as shown best in Fig. 1, and also held by said rivet between the disks or plates d' D' is the block D² of rubber. The disk D' is confined between the two plies or thicknesses of felt D D, and the

parallel portions of the wire frame A are inserted between the outer disk or plate d' and the adjacent face of the felt D, compressing the latter, as indicated in Fig. 3, and bearing
 5 against the opposite sides of the rubber block D^2 , as also indicated in Fig. 3. Thus we obtain the resilient properties and advantages of the rubber without exposing the rubber to
 10 any material extent to the atmospheric action, and the rubber block being compressed by the wires of the spring-frame affords a much firmer hold and prevents displacement of the pad.

In Fig. 2 we have shown a double truss,
 15 which may be formed by taking two of the single trusses hereinbefore described and by reversing the one, so that the loop portions will extend in opposite directions. The spring-wire frames thereof may be overlapped
 20 at their free ends and held by the clamps, as indicated. In this figure A^x represents the spring-frame of one of the single trusses and A that of the other, a^x indicating the clamp that holds the free ends of the wire of the
 25 frame A to the parallel portions of the wire of the frame A^x , while b^x designates the clamp that holds the free ends of the wire frame A^x to the parallel portions of the wire frame A, as will be readily understood; the frame A
 30 having the loop a and the spring-support B with its loop b and clamp A^4 the same as in the form illustrated in Fig. 1; but the outer end of the frame A^x is shown in this instance as carrying a pad-holder of a construction different from that seen in Fig. 1. This consists
 35 of the wire E, the ends of which are held in a suitable clamp e on the parallel portions of the wire frame A^x , and another clamp e' is provided at the ends of the wire of said frame
 40 A^x , while the wire E carries a plate F, having at its end a curved slot f , in which works a pin or screw or projection g on the plate G, which is pivotally mounted on the plate F by the pivot or screw g' , and this plate G carries
 45 the loop H and the spring-support H' with its loop h , in which is designed to be held a pad of suitable construction, and the said loop and wire support are designed to be held upon the
 50 pad by a sliding clamp h' , as illustrated in said figure. By means of this pivoted plate and the curved slot and screw the loop H and support H', with their pad, can be moved up or down or adjusted to any desired angle within the limit of the adjustment to suit the wearer.

53 If it is desired at any time to form two single trusses of the double truss shown in Fig. 2 or one of similar construction, all that it is necessary to do is to separate the two frames and to place on each of them the desired number of pads B^2 .
 60

The frame of either the single or double truss may be strengthened, when desired, by an additional wire I, arranged outside of the parallel portions of the wire of either frame and held by suitable clamps b^4 , the same as
 65 illustrated at the right of Fig. 2.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

The block D^2 may be of any other suitable
 70 material besides rubber. The double truss seen in Fig. 2 can be adjusted to make it larger or smaller by loosening the screws in the clamps and moving the spring-frames on each other and then tightening the screws in
 75 the clamps to hold the parts in their adjusted positions. The spring-support B, instead of being made of a single piece of wire, as hereinbefore described, may be made of two separate pieces and their outer ends joined by a
 80 clamp, as indicated by dotted lines in Fig. 2.

What we claim as new is—

1. A truss-pad composed of a body portion of soft material, a plate held within the same, a stud projecting outward from said plate, an
 85 outer plate, and an interposed block of resilient material, seated in a recess in the body portion and bearing against the inner plate combined with a spring-wire frame, the parallel portions of which are arranged between
 90 the outer plate and the body portion and bearing against the opposite sides of said block, substantially as specified.

2. The combination with a spring-frame, of a wire held at one end thereof and provided
 95 with a plate having a curved slot, a second plate pivotally mounted thereon with means engaging said slot, and carrying a spring-loop, and a spring-support with a loop located within the first-mentioned loop, substantially
 100 as specified.

3. A truss-frame formed of two substantially like parts, with their adjacent ends overlapping each other, and clamps binding
 105 the same together, whereby said frames may be adjusted to change the length thereof or separated to constitute two single truss-frames, each of said parts being formed at one end with a spring-loop and a spring-loop
 110 support within the same, the loops at one end being pivotally mounted in position; substantially as described.

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

EDWIN O. WARE.
 JOSEPH B. WILLAMAN.

Witnesses:

FRANK MERCER,
 HIRAM K. GREEN.