(No Model.)

B. F. ATKINSON.

TRUSS.

No. 385,587. Patented July 3, 1888.

FIG. 1.

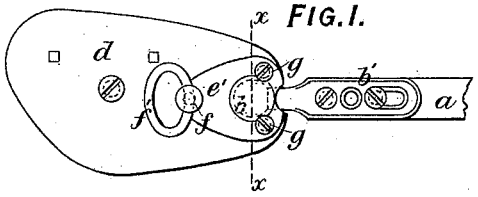


FIG. 5.

FIG. 6.

FIG. 2.

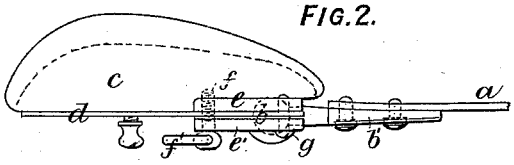


FIG. 7.

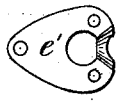


FIG. 3.

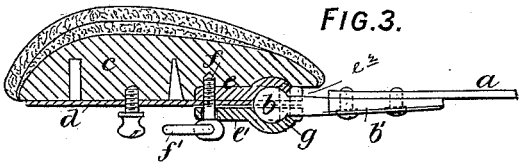


FIG. 8.

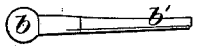


FIG. 9.

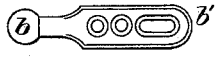


FIG. 4.

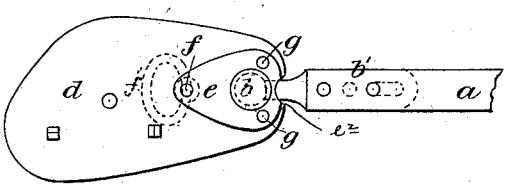


FIG. 10.

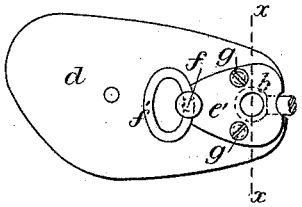
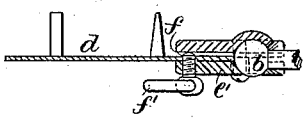


FIG. 11.



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UNITED STATES PATENT OFFICE.

BENJAMIN F. ATKINSON, OF HANOVER SQUARE, COUNTY OF MIDDLESEX, ENGLAND.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 385,587, dated July 3, 1888.

Application filed August 29, 1887. Serial No. 248,191. (No model.) Patented in England September 24, 1885, No. 11,394.

To all whom it may concern:

Be it known that I, BENJAMIN FREDERICK ATKINSON, a subject of the Queen of Great Britain, residing at 7 Mill Street, Hanover Square, in the county of Middlesex, England, surgical mechanician, have invented certain new and useful Improvements in Trusses, (for which I have received Letters Patent in Great Britain, No. 11,394, dated September 24, 1885,) of which the following is a specification.

My invention relates to that class of trusses in which the pad is adjustably fixed to the retaining-spring by a joint consisting of a ball and socket in combination with a binding-screw. In one description of such joint as heretofore constructed the ball is rigidly fixed to the end of the retaining-spring and the socket is formed in two parts, one of which is formed in the foundation-plate of the pad, while the other part is adjustably connected to such plate by means of a screw formed with a comparatively-long lever-handle and placed between the ball and the fulcrum of the adjustable part of the socket, such parts being all placed on the same central line. In another description of such joint the fulcrum of the adjustable part of the socket is placed between the power-screw and the ball, all such parts being also placed on the same central line.

By the above constructions of parts it was difficult to hold the ball with sufficient force to secure the pad at the required angle in relation to the retaining-spring without constructing the parts larger and heavier than is desirable.

According to my invention I construct a truss having at one or both ends a ball which extends longitudinally therefrom, a pad having a backing, an adjustable socket part on one side of the backing having a hemispherical concavity, a fixed socket part on the opposite side of the backing also having a hemispherical concavity, said socket parts having a flaring opening extending longitudinally from the socket formed by the hemispherical concavities in which the ball is received, such flaring opening permitting lateral movement of the stem of the ball, screws for connecting the socket parts together, and a power-screw which passes through said parts for securing the ball tightly within its socket.

My invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the back of the pad and part of the retaining-spring. Fig. 2 is an edge view, and Fig. 3 is a longitudinal section, of the same. Fig. 4 is a face view of the same, showing the body of the pad removed. Figs. 5, 6, and 7 are views of parts of the socket; and Figs. 8 and 9 are an edge view and a plan of the ball and its carrying-plate. Fig. 10 is a back view, and Fig. 11 is a longitudinal section showing a slight modification.

a represents a part of the retaining-spring.

b is the ball which is formed at the end of and in line with a plate, *b'*, fixed to the spring *a*.

c is the body of the pad with its covering.

d is the foundation-plate, to which the body *c* of the pad is fixed, and which carries the parts *e e'* of the socket and the power-screw *f*. In the construction shown at Figs. 1 to 7 the part *e* of the socket is rigidly fixed to the foundation-plate *d;* but in that shown at Figs. 10 and 11 the reverse arrangement is adopted. The adjustable part *e* or *e'* is, according to my invention, fixed to the foundation-plate *d* by two screws, *g*, placed one on each side of the ball *b*, which screws form the fulcrum of such adjustable part *e* or *e'*. A flaring opening, e^2, extends from the recess or socket, in which the ball *b* fits in a direction lengthwise of the socket-pieces *e e'*, to provide room for the movement of the plate *b'*, on which the ball is formed.

By this arrangement I am enabled to place the fulcrum of the adjustable part *e* or *e'* so near to a cross-line, *x*, running through the center of the ball *b*, that with a comparatively short lever and small power-screw, *f*, I am enabled to obtain great power to hold the ball *b* within its socket *e e'* sufficiently firm to secure the pad *c* at the requisite angle to the retaining-spring *a*. The power-screw *f* is provided with a pivoted loop-handle, *f'*, by which it can be readily rotated.

In the construction shown at Figs. 1 to 7 the center of the ball *b* is placed between the fulcrum-screws *g g* and the power-screw *f*, in

which case the power-screw acts to draw the outer end of the adjustable part *e'* down to the foundation-plate *d* in the act of binding the socket on the ball; but in the arrangement represented at Figs. 10 and 11 the fulcrum-screws *g g* are placed between the center of the ball *b* and the power-screw *f*, in which case the adjustable part *e* is forced away from the foundation-plate *d* by the end of the power-screw *f* acting thereon in the act of binding the socket on the ball.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

The combination, with a truss having at one or both ends a ball, *b*, extending longitudinally therefrom, of a pad having a backing, *d*, an adjustable socket part on one side of the backing having a hemispherical concavity, a fixed socket part on the opposite side of the backing also having a hemispherical concavity, said socket parts having a flaring opening extending longitudinally from the socket formed by said hemispherical concavities in which the ball is received, said flaring opening permitting lateral movement of the stem of the ball, screws *g g*, connecting said socket parts together, and a power-screw, *f*, passing through said parts for securing the ball *b* tightly within said socket, substantially as and for the purpose set forth.

B. F. ATKINSON.

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