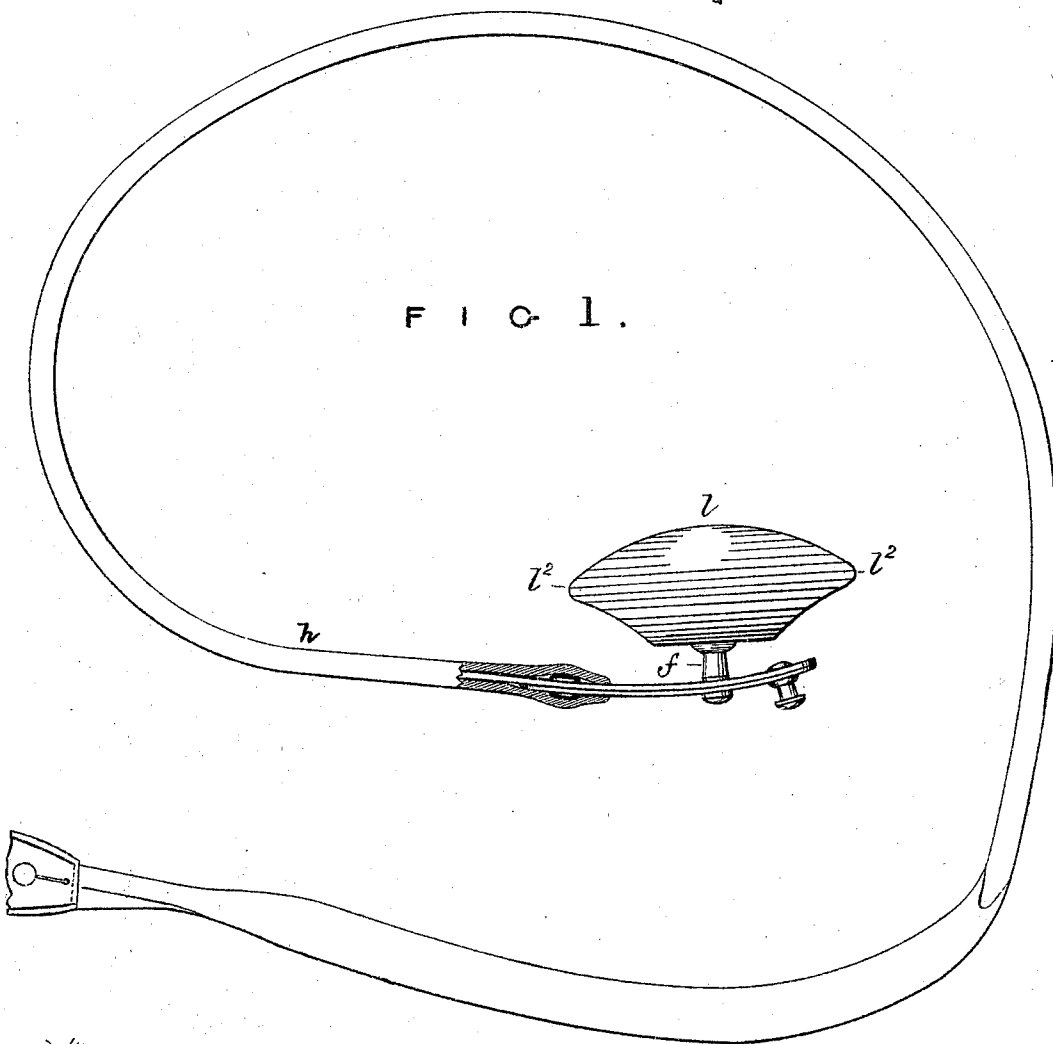


A. T. C. SCHOEVERS.
Trusses.

Patented June 24, 1873.



Witnesses

Witnesses
 Jacques Buels, Paulus T. H.
 Adrianus Wilhelmus Ludovicus de Haat

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No. 140,168.

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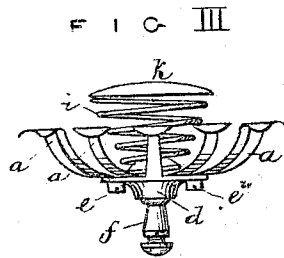
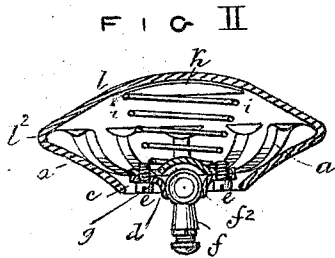


FIG IV

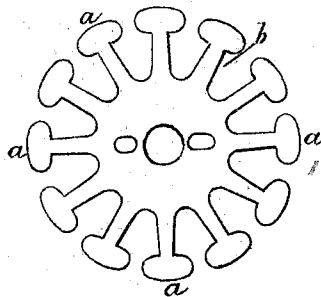


FIG V

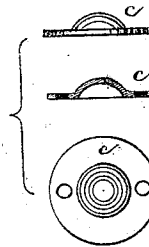


FIG IX

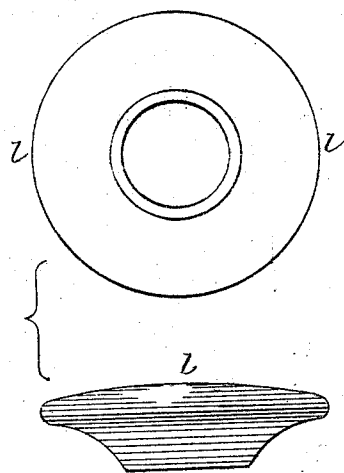


FIG VI

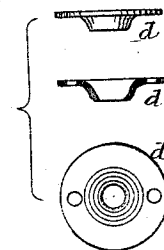


FIG VII

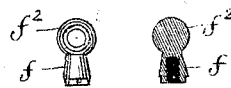


FIG VIII



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UNITED STATES PATENT OFFICE.

ALEXANDER T. C. SCHOEVERS, OF HAGUE, HOLLAND.

IMPROVEMENT IN TRUSSES.

Specification forming part of Letters Patent No. **140,168**, dated June 24, 1873; application filed June 6, 1873.

To all whom it may concern:

Be it known that I, ALEXANDER TIMON CORNELIS SCHOEVERS, of the Hague, in the Kingdom of Holland, surgeon, have invented certain Improvements in Trusses for the Cure or Relief of Hernia, of which the following is a specification:

My invention has for its object the production of a truss which in use shall exert the necessary pressure at the required point, and at the same time shall not be liable to displacement by the motion of the body of the wearer. My said invention has reference wholly or mainly to that part of the truss called the pad or cushion; and consists in making the said pad or cushion in the following manner:

I make the back of the pad of a series of radial spring-arms connected to a central plate. The ends of the spring-arms are expanded in breadth and slightly turned up. The said springs and central plate are bent so as to give the whole a dome-like figure. The said springs and central plate may be made in one piece by cutting out from thin sheet-steel. The outline of this spring back of the pad may either be circular or elliptical. Within the said dome or spring back is a coiled spring of a conical figure, the apex of the cone being connected to the center of the plate forming the summit of the dome. The base of the conical spring carries a small metallic plate, which, when the spring carrying it is uncompressed, projects a short distance beyond the plane in which the ends of the spring-arms are situated. The parts described are contained within a case or cover of vulcanized India rubber. The pad is connected to the spring-band which passes round the body of the wearer by a connection at its back, which allows the said pad a considerable range of motion about the end of the spring-band. The face of the pad of the truss is of a slightly-convex figure, the central part being made to project considerably by the pressure of the conical spring.

In applying my improved truss, the central part of the face of the pad is applied to the center of the rupture, the spring-band being attached to the body of the wearer. The said spring-band presses the pad against the body,

and the result of the pressure is that the edge of the pad is thereby pressed all round against the body, thus fixing the position of the pad by the hold which the edge of the pad acquires on the flesh of the part to which it is applied. By my improved truss the pressure is applied to the rupture at the precise point required, and the position of the pad is so secured that there is no risk of its displacement by the motion of the wearer's body.

Having explained the nature of my invention, I will proceed to describe, with reference to the accompanying drawings, the manner in which the same is to be performed.

Figure 1 represents in edge view a truss constructed according to my invention. Fig. 2 represents a cross-section of the pad or cushion of the truss detached. Fig. 3 represents the pad or cushion in elevation, without its case or cover of vulcanized India rubber; and Figs. 4, 5, 6, 7, 8, and 9 are parts of the same, as hereinafter explained.

The same letters of reference indicate the same parts in the several figures of the drawings.

a a is the series of radial spring-arms connected to the center-plate *b*, the said spring-arms and plate constituting the spring back of the pad, the said spring back having a dome-shaped figure. The said arms and plate *a b* are made from one piece of sheet-steel. The ends of the spring-arms *a a* are expanded in breadth and have a convex or rounded figure given to them. The dome-shaped spring back *a b* is represented in plan in Fig. 4. The center-plate *b* of the dome-shaped spring back is secured between the flat edges of the two cupped metallic plates *c d*, the middle of each plate being hemispherical, for the purpose hereinafter explained. The cupped plate *c* is represented separately in elevation, section, and plan in Fig. 5; and the cupped plate *d* is represented separately in elevation, section, and plan in Fig. 6. The two plates *c d* are connected together with the middle part *b* of the dome-shaped back *a b* between them by the screw-pins *e e*, the concave faces of the plates being presented to each other. When so presented to each other and fixed together a spherical central opening is left between them, in which the spherical end *f* of the con-

necting-arm f fixed on the spring-band h works. The arm f f^2 is shown separately in Fig. 7. Between the cupped plate c and the head f^2 of the arm f is a filling-up piece, g , shown separately in Fig. 8. The connection of the spring-band h of the truss to the pad or cushion is thus effected by a joint of the kind commonly called a ball-and-socket joint, the spherical end f^2 of the arm f forming the ball part and the spherical opening between the two plates c d the socket part of the joint. Within the dome-shaped spring back a b of the pad is a coiled spring, i , of a conical figure, the apex of the cone being connected by soldering or otherwise to the center of the cupped plate c . The base of the conical spring i carries a small convex metallic plate, k , which plate k projects, when the spring i is uncompressed, beyond the plane in which the arms a a of the spring back a b are situated. l is the case or cover, of vulcanized India rubber, (shown separately in Fig. 9,) by which the parts constituting the pad or cushion are enveloped. The said case or cover l , besides covering and protecting the parts of the pad from injury, also assists in preventing the pad from getting out of place. The pad or cushion thus made has a convex figure, the central part being made to project considerably by the pressure of the conical coiled spring. The shape of the completed pad or cushion is best seen in Figs. 1 and 2. By connecting the pad or cushion to the spring-band h of the truss by the ball-and-socket joint at its back, as represented in the drawing, the said pad or cushion has considerable play or range of motion about the end of the said spring band.

In applying my improved truss to a rupture, the central part of the face of the pad or cushion is placed against the center of the rupture and the spring-band is fastened to the body of the wearer. On fastening the truss to the body the action of the spring-band presses the pad against the body and compresses the arms a a of the spring back a b , which are thereby

expanded or flattened out, and by their elasticity press every part of the edge l^2 of the pad against the body. The position of the pad is thus fixed by the hold which the edge l^2 of the pad acquires on the flesh of the part to which it is applied, and the central part k of the pad, which has been pressed with considerable force against the ruptured part by the action of the coiled spring i , is thereby prevented from being displaced.

By an examination of the drawing, it will be seen that by the united action of the spring back or dome a b , conical spring and plate i k , elastic covering l , and the spring-band h , the pad or cushion is so firmly fixed on the person that it cannot be moved without lifting up the spring-band.

Having now described the nature of my invention and the manner in which the same is to be performed, I wish it to be understood that I do not limit myself to the precise details herein described and illustrated, as the same may be varied without departing from the nature of my invention; but

I claim as my invention of improvements in trusses for the cure or relief of hernia—

1. A truss pad or cushion composed of a dome-shaped spring back, in combination with a central conical spring-cushion within the same, the whole being arranged and enveloped in a case of vulcanized India rubber or its equivalent, substantially as shown and described.

2. In combination with the dome-shaped spring back and the spring-cushion within the same, the arm or stem for connecting said parts to the spring-band of the truss, said arm being united with the pad by a ball-and-socket joint, substantially as shown and set forth.

ALEXANDER TIMON CORNELIS SCHOEVEERS.

Witnesses:

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A. W. L' DE ROOT.