No. 731,141. PATENTED JUNE 16, 1903.

O. TIRRILL & A. DE BEVOISE.

TRUSS.

APPLICATION FILED MAR. 27, 1903.

NO MODEL.

Fig. 1.

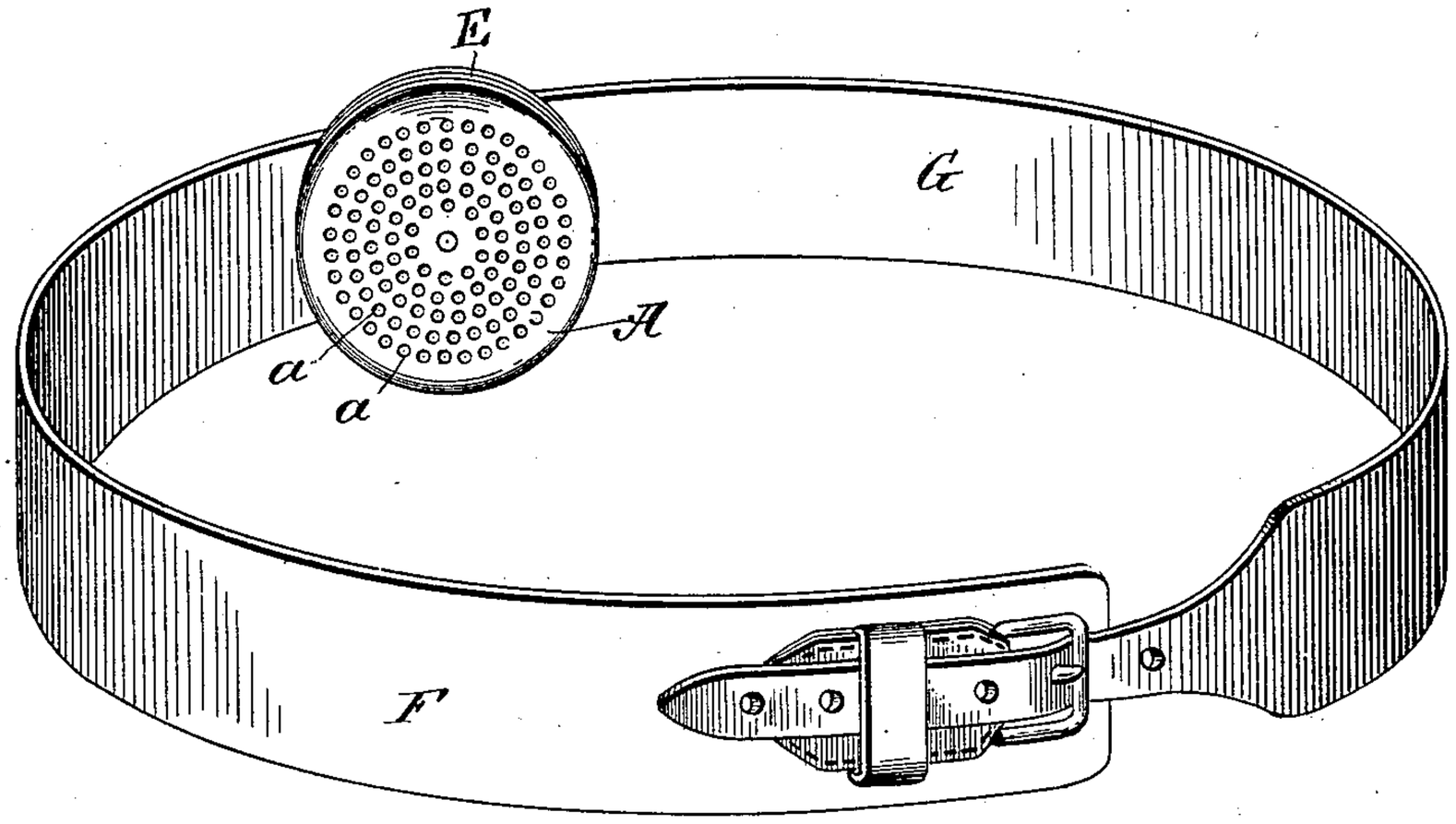


Fig. 2.

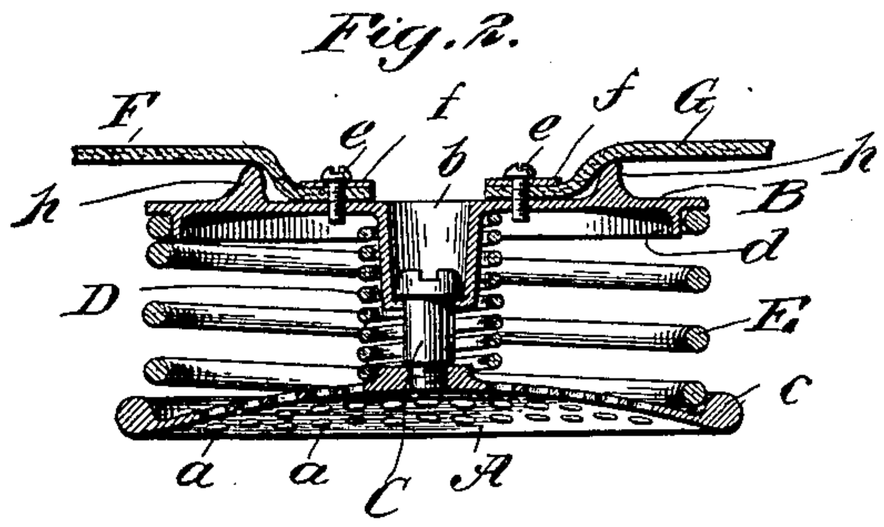
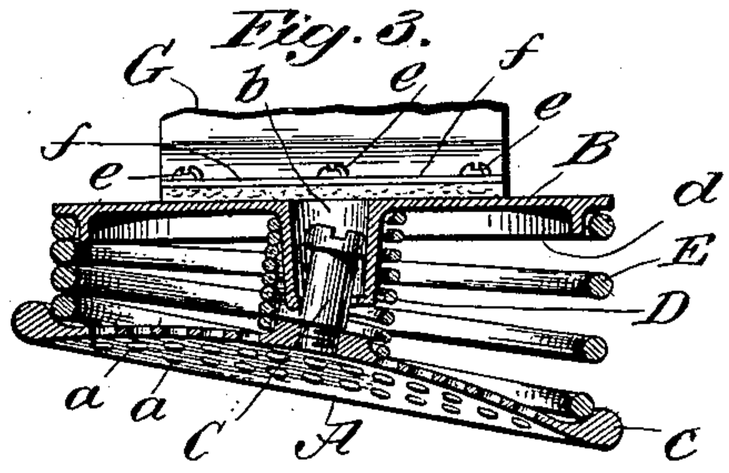


Fig. 3.



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No. 731,141. Patented June 16, 1903.

UNITED STATES PATENT OFFICE.

OAKES TIRRILL AND ABRAHAM DE BEVOISE, OF NEW YORK, N. Y.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 731,141, dated June 16, 1903.

Application filed March 27, 1903. Serial No. 149,830. (No model.)

To all whom it may concern:

Be it known that we, OAKES TIRRILL and ABRAHAM DE BEVOISE, citizens of the United States, and residents of the borough of Brooklyn, in the city, county, and State of New York, have invented certain new and useful Improvements in Trusses, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings and to the letters marked thereon.

Our invention has relation to that class of devices commonly known as "hernial trusses," and the objects of our invention are to provide or produce a truss of this kind which shall be made of few and simple parts, capable of ready adjustment or conformity to the movements of the body, which may be used with comfort and convenience to the wearer, holding the ruptured part without the usual tendency of enlarging it affording ventilation for the covered part, and obviating the tendency to chafe the skin as well as to wear the sustaining-band. To accomplish these objects and to secure other and further advantages in the matters of construction, operation, and use our improvements involve certain novel and useful arrangements or combinations of parts and peculiar features of construction, as will be herein first fully described and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view illustrating the improved truss-pad as it appears when applied upon a belt as for application to the person of the user. Fig. 2 is an axial section and elevation of the pad, showing the manner of constructing and arranging the parts and the manner of applying the belt to the back plate. Fig. 3 is an axial section and elevation on a plane at right angles to that of Fig. 2 showing the front plate inclined in respect to the back plate and indicating the possible adjustments contemplated by the improved construction.

In all the figures like letters of reference wherever they occur indicate corresponding parts.

A is the front or face of the truss-pad, and B the back plate thereof, these two plates being maintained with respect to each other in a manner to be hereinafter explained. Either of these plates may be made of any desired material, as metal, hard rubber, celluloid, or other suitable substance. The face-plate A, being intended to be held against the person of the wearer, is concave on its bearing-face, as plainly indicated in the drawings, and it is perforated throughout, as at *a a*. The object in making the bearing-face concave is so that instead of operating to force the walls of the rupture apart and to open or enlarge it it will rather tend to draw the walls together and prevent further opening, and this with increased safety and comfort to the wearer. The face-plate is perforated, as indicated, to provide for contact of air through it to prevent overheating and to insure proper ventilation. When these plates are made of metal, they may be cast or stamped or spun up, as may be desired, but they should be made as light as is consistent with their necessary strength and durability.

The face and back plates are coupled one to the other by use of a simple form of screw-bolt C, entering a threaded socket in the face-plate and passing down through a cavity *b*, formed in the back plate, the head of the screw-bolt being large enough to prevent it being withdrawn through the inner end of the cavity *b* and yet small enough to admit of the bolt being canted in any direction within the cavity.

D is a central spiral spring located between the two plates and of sufficient strength to keep them normally pressed apart with sufficient power to afford the desired spring-pressure when the pad is in use. The spring D is prevented from being dislodged by fitting around the neck in which the cavity *b* is formed and also around the enlarged portion of the back of the face-plate, in which the screw-thread is located, for receiving the end of the screw-bolt.

An outer coiled spring E is also employed between the two plates. The face-plate is provided at its circumference with an enlarged portion *c*, which forms with the back of this plate a recess for accommodating one extremity of the spring E, and the back plate is provided with a ledge *d*, which is embraced by the adjacent extremity of spring E, as indicated. The purpose of the spring E is to

afford additional spring-power tending to keep the two plates apart and also admitting the inclining of one plate with respect to the other, preserving always about the same pressure on all parts of the plate and insuring its tendency to return as soon as the inclining force is removed or relieved. Under the construction and arrangement thus far described it will be apparent that one plate may be inclined with respect to the other in every direction, and from this it will be seen that the pad will accommodate itself to the movements of the body of the wearer, affording always about the same pressure of the bearing-plate against the body, no matter what position the wearer may assume. Either plate may turn freely on the ends of the two springs, so that no twisting or turning or bending of the body will cause the pad to injure the skin of the wearer, it being held immovable on the part to which applied.

The screw-bolt may be easily removed and another spring substituted for the central spring whenever desired to vary the degree of spring-pressure, and the parts may be quickly detached from each other for purpose of cleaning, if desired.

F and G represent two sections of a leather or other suitable belt by which the pad is to be applied and held in position. Of course these sections may be of any desired length. They are secured to the back plate by removable screws, as *e e*, and these preferably pass down through thin narrow metal strips *f*, which prevent the belt from tearing away from its anchorage. The belt-sections instead of bearing directly on the back of the plate are carried over ribs or projections *h h*, formed upon the back of the back plate, and are thus prevented from coming in contact with the margin of the back plate by which they would be worn. These ledges are sufficiently removed from the margin of the back plate so that the sections of the belt will be always in contact with them, no matter what may be the movements of the pad, and they thus insure always about the same security of adjustment of the pad and pressure of the belt by which it is held.

Having now fully described our invention, what we claim as new herein, and desire to secure by Letters Patent, is—

1. In a truss of the character herein set forth, an adjustable face-plate connected with a back plate by a coupling-bolt and a spiral spring interposed between the two plates, the face of the bearing-plate being concaved, substantially as and for the purposes set forth.

2. In a truss of the character herein set forth, an adjustable face-plate coupled with the back plate by a coupling-bolt and a spiral spring interposed between the two plates, said face-plate being concave on its face and being perforated, substantially as shown and described.

3. In a truss of the character herein set forth, the combination with a face-plate, a back plate, a screw-bolt for uniting the two, and central and marginal springs between the two, the springs and coupling-bolt permitting the inclination of one plate with reference to the other, substantially as and for the purposes set forth.

4. In a truss of the character herein set forth, the combination of the face-plate, the back plate and means for coupling the two, the back plate being provided with ledges on which the sections of the belt bear, substantially as and for the purposes set forth.

5. In a truss of the character herein set forth, the combination of the face-plate, the back plate, a coupling-bolt, and two springs interposed between the two plates, the plates being each movable on the ends of the two springs, substantially as and for the purposes set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

OAKES TIRRILL.
ABRAHAM DE BEVOISE.

Witnesses:
C. SEDGWICK,
WORTH OSGOOD.