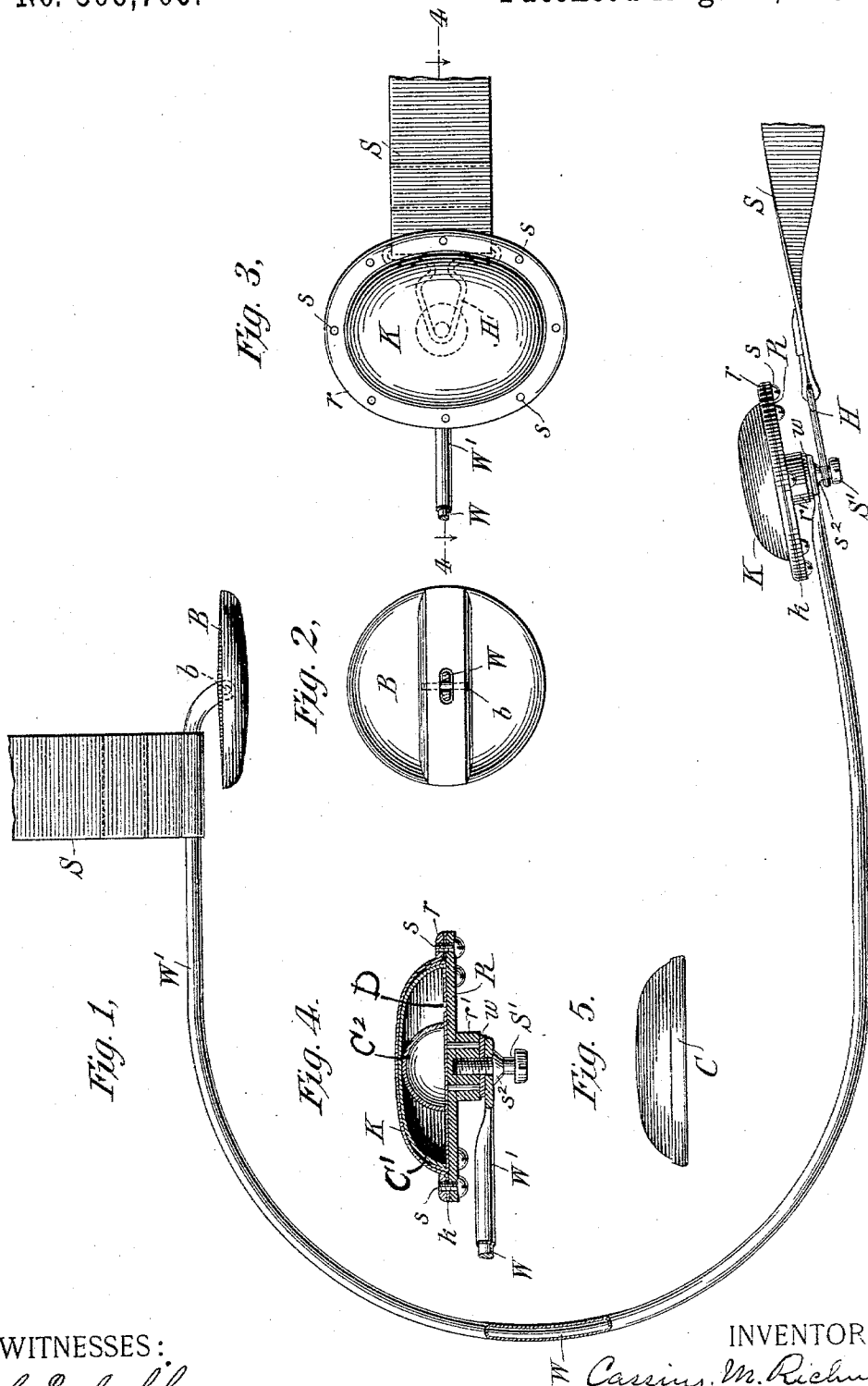


(Model.)

C. M. RICHMOND.
TRUSS.

No. 566,700.

Patented Aug. 25, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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TRUSS.

SPECIFICATION forming part of Letters Patent No. 566,700, dated August 25, 1896.

Application filed November 19, 1895. Serial No. 569,421. (Model.)

To all whom it may concern:

Be it known that I, CASSIUS M. RICHMOND, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Trusses, of which the following is a specification.

This invention relates to trusses, but more particularly to what are called "truss-pads," which are secured to spring holders or belts, passing around the waist, and which press on the abdominal wall to close the opening through which the hernia descends.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a view of my truss complete; Fig. 2, a rear view of a back pad which I employ; Fig. 3, a face view of the hernia-pad; Fig. 4, a horizontal section on the line 4 4 of Fig. 1, and Fig. 5 is a detail view.

In this specification similar letters of reference indicate like or equivalent parts on the various figures of the drawings, and in the practice of my invention I employ a spring W, made of steel wire and covered with an aluminium tube W', said parts being bent into a suitable shape to pass half around the body of the wearer, and one end of the spring being curved and flattened, as shown at *b* in Figs. 1 and 2, and pivotally connected with said flattened end *b* is a back pad B, made preferably of hard rubber, and provided with a projection W, into which the flattened end of the spring projects, and to which it is pivoted by a pin which passes therethrough, as shown in Figs. 1 and 2. The opposite end of the spring W is also preferably flattened, and secured thereto is my improved hernia-pad, and which is constructed and secured to the end of the spring W in the following manner.

My improved hernia-pad proper is designated by the letter C in Fig. 5, and is plano-convex in form; and it consists, as shown in Fig. 4, of a flat piece or back D, composed of soft rubber, to one side of which is secured a hollow semielliptical or semispherical front cushion-pad C', which is also composed of soft, flexible, and elastic rubber, the space

between the back D and the pad C' being filled with air under normal pressure, and between the flat piece or back D and the pad or cushion C' is placed a hollow semispherical reinforcing cushion or pad C², also composed of flexible rubber, the base-rim of which is secured or sealed to the back D and the convex outer surface of which forms a support or bearing for the cushion or pad C' when the latter is depressed.

The parts C', C², and D, which constitute the main part of the pad, are preferably made of white flexible and elastic rubber, such as is usually employed in the manufacture of syringes and similar articles, this variety of rubber being possessed of great elasticity and considerable rigidity.

The pad composed of the parts D, C', and C² is preferably slightly elliptical in form on its flat side or surface, and the said parts are hermetically sealed together and are perfectly air-tight, and the connection of these parts may be made by waterproof cement, or by any preferred means, or by any process that will result in producing a perfectly air-tight connection.

The pad proper is connected with or secured to a base-plate R, made of some rigid material, such as hard rubber, and of such thickness as to give proper rigidity without being too heavy for comfort, and this connection is made by means of a ring *r*, similar in outline and material to the plate R, and by a cap or covering K, which is preferably composed of a chamois-skin or kid, and stretched tightly over the pad C, or the outer or front part C' thereof, and provided with an annular flange or rim *k*, on which the ring *r* is placed, said ring being then secured to the plate R by means of screws *s*, or in any desired manner. By means of this construction the pad proper, composed of the back D and the parts C' and C², are securely held to the plate R, and the cap or covering K, in addition to holding these parts together, also protects the pad proper, composed of the parts C', C², and D, and serves as the best possible bearing-surface therefor.

Secured to or formed on the back of the

plate R, and centrally thereof, is a neck of cylindrical extension r' , to which the flattened end of the spring W is secured by means of a screw S' , as shown in Figs. 1 and 4, said screw being provided with a collar S^2 , which bears upon the flattened end of the spring W, between which and the neck r' is preferably placed a washer w , and I also employ a strap S, of any preferred material, which is attached to the spring W at the back and passes up over the shoulder and down to the screw S' , to which it is detachably secured by a loop or hook H. It will be understood that the parts C' and C^2 of the pad are each filled with air under normal pressure, and that said air cannot escape, and I thus provide a perfect air pad or cushion, and, if preferred, these parts may be made of other material than rubber, or a combination of rubber and canvas, or other articles may be employed, and many changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages, and, if desired, the flexible back D may be omitted and the parts C' and C^2 secured directly to the plate R.

One of the chief elements of my invention consists of the combination of the parts C' and C^2 of one air bulb or pad, one within another, in such manner that the inner one at all times supports the outer one, and thus retains the parts in proper form regardless of the pressure applied thereto, and it is evident that the pad described herein may be employed for other purposes and in connection with other devices in addition to trusses, and my improved pad is not therefore limited in use to the device herein shown and described.

A truss-pad constructed as above described is light and strong and, as has been demonstrated by actual practice, very efficient. The rigid plate forms a firm foundation against which the air-bulb, pad, or cushion rests, and all the pressure exerted by the truss is, by means of the air-bulb, pad, or cushion, conveyed to the abdominal opening, where a constant but yielding pressure is at all times present.

I am aware that truss-pads have been made of a hollow rubber ball, with a valve-opening for filling same, and also that a closed hemisphere has been used in connection with a belt and having a cover stitched thereto around the base of the bulb, and such forms I do not claim; but,

Having fully described my invention, I claim and desire to secure by Letters Patent—

1. In a truss-pad, the combination of a rigid base-plate, a plano-convex, hollow, flexible cushion or pad, comprising a flexible back and front, and filled with air under normal pressure, and a soft, flexible cover therefor, and a ring by which said parts are secured

together and to the rigid base-plate, substantially as shown and described.

2. In a truss or other pad, the combination of a rigid base-plate, and a plano-convex, closed, hollow, flexible pad or cushion which is hermetically sealed and secured to said plate, and a similar reinforcing, hollow, flexible pad or cushion within the first and hermetically sealed to the plane surface thereof, and a soft, flexible covering over the outer or front cushion, substantially as shown and described.

3. A pad adapted to be supported upon a rigid back, and comprising a main, outer, closed, hollow and flexible cushion, which is flat on its inner, and convex on its outer, surface, and a similar, smaller, hollow, closed and flexible reinforcing pad or cushion centrally located within said outer cushion and hermetically sealed to the inner, flat surface thereof, substantially as shown and described.

4. A pad comprising a rigid back, a main, outer, closed, hollow and flexible cushion, flat on its inner, and convex on its outer, surface, and a similar, smaller, hollow, closed and flexible reinforcing pad or cushion centrally located within said outer cushion and hermetically sealed to the inner flat surface thereof, substantially as and for the purpose set forth.

5. A pad for trusses and other devices, which comprises a rigid back, and a main, outer, closed, hollow and flexible cushion, which is flat on its inner, and convex on its outer, surface, and a similar, smaller, hollow, closed and flexible reinforcing pad or cushion centrally located within said outer cushion and hermetically sealed to the inner flat surface thereof, and said outer or main pad or cushion being provided with a soft, flexible covering, and a ring by means of which connection with the rigid base-plate is made, substantially as shown and described.

6. In a truss, the combination of a spring, wire or rod, a tube of aluminum which incloses said wire or rod, a back pad secured to one end of said wire or rod, and a plano-convex, hollow and flexible air cushion or pad secured to the other end, said air cushion or pad being secured to a rigid base-plate and provided with a soft, flexible covering and said cushion or pad being composed of two hollow, flexible and elastic pads or cushions, one of which is placed within the other and sealed thereto, substantially as shown and described.

Signed at city of New York, in the county of New York and State of New York, this 18th day of November, A. D. 1895.

CASSIUS M. RICHMOND.

Witnesses:

ALBERT B. LEFLER,
ALBERT RITCH.