

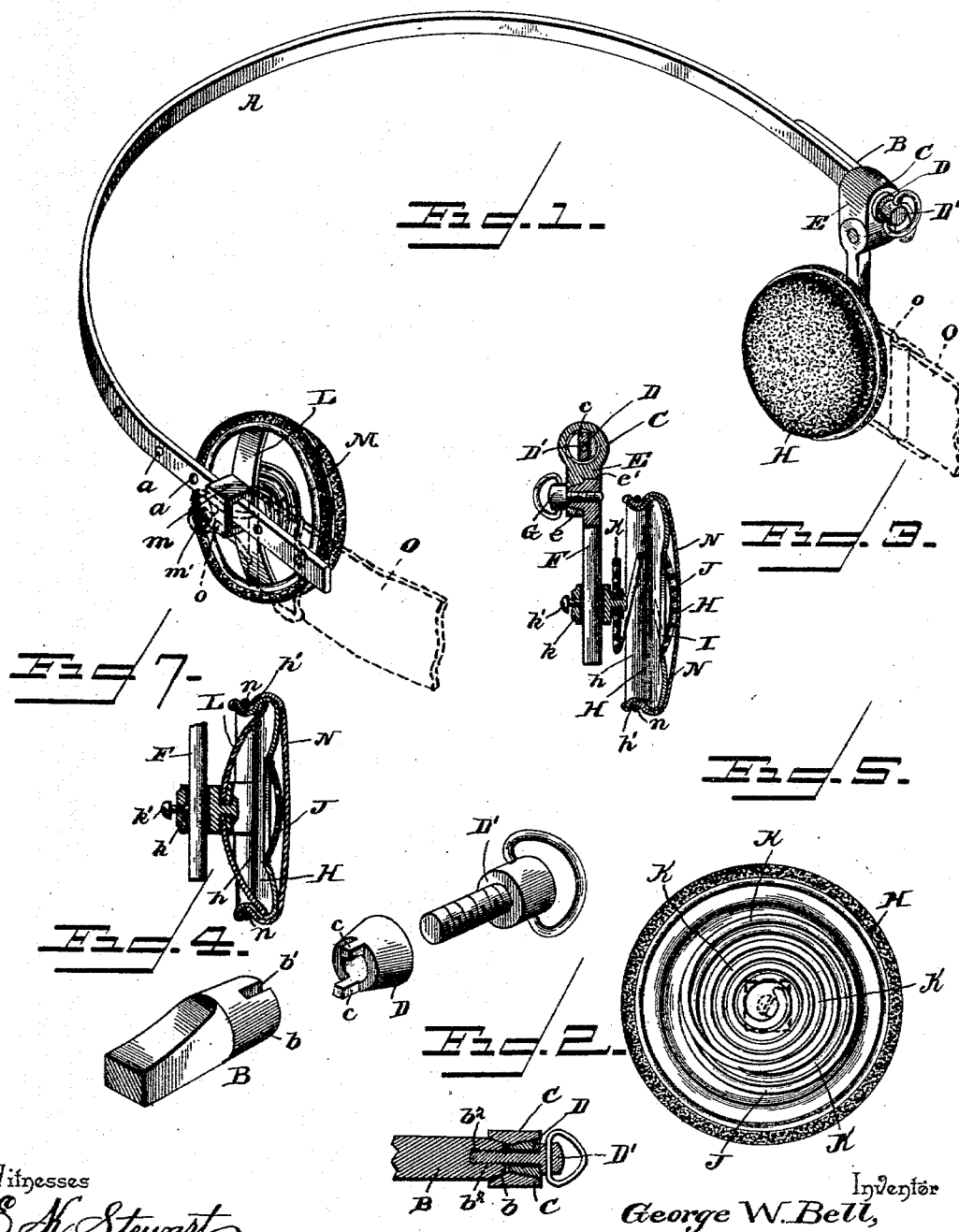
(No Model.)

2 Sheets—Sheet 1.

G. W. BELL.
TRUSS.

No. 515,948.

Patented Mar. 6, 1894.



Witnesses

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D. P. Walcott.

Inventor

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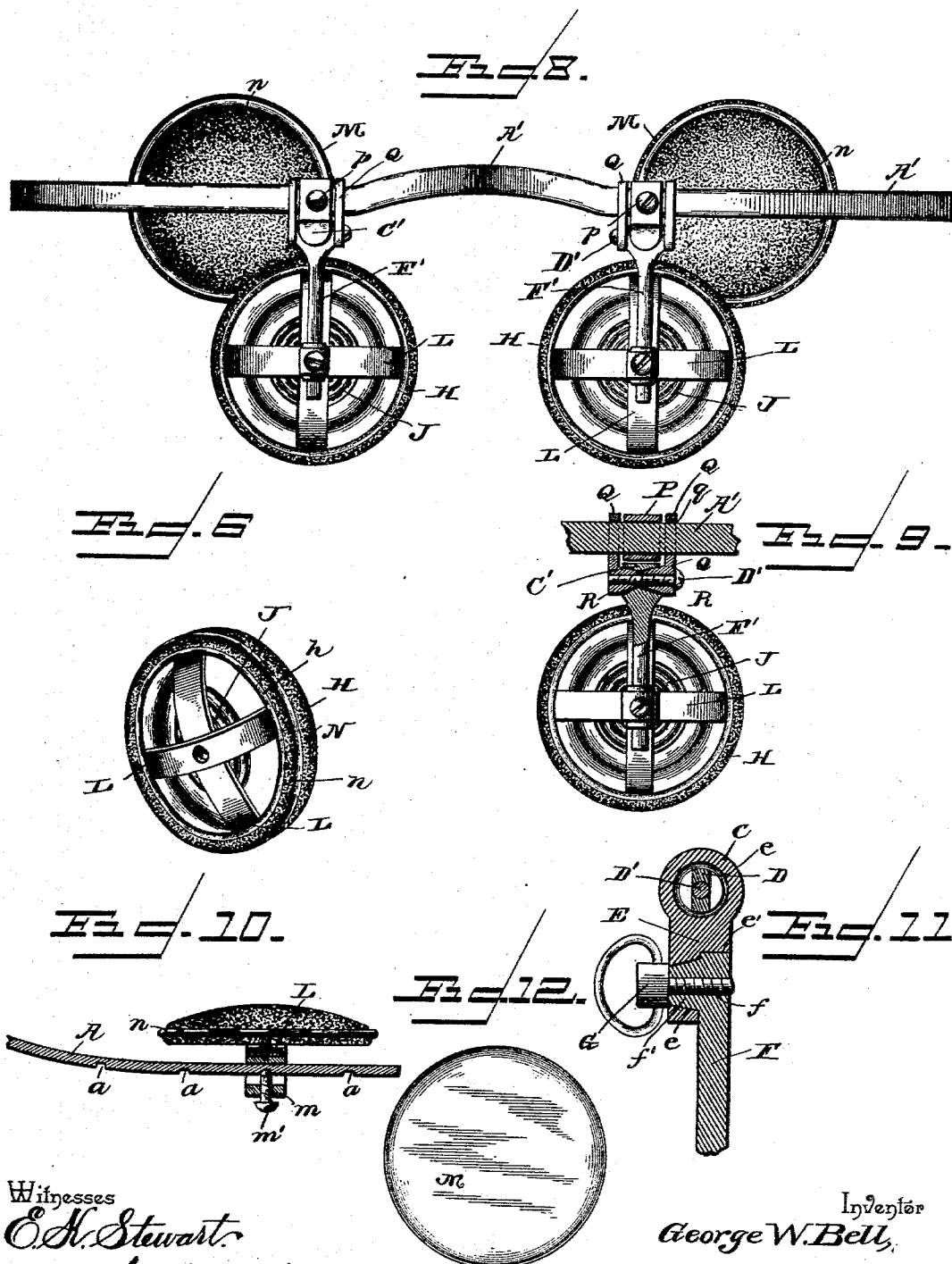
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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON BELL, OF ST. JOSEPH, MISSOURI, ASSIGNOR TO THE
BELL HERNIA TREATMENT COMPANY, OF HAMILTON COUNTY, OHIO.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 515,948, dated March 6, 1894.

Application filed January 16 1893. Serial No. 453,485. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON BELL, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and useful Hernial Truss, of which the following is a specification.

This invention relates to trusses; and it has for its object to provide certain improvements in hernial trusses which shall be simple and durable in construction yet at the same time be so constructed as to provide means for securing every possible adjustment for the pads, to the slightest fraction of an inch, so that the rupture can be completely covered and pressed inward at the proper angle in order to facilitate a cure.

The invention also contemplates in connection with the general adjustments, a special construction of pad which yields to the motions and respirations of the body, while at the same time giving an easy and gentle, though firm, pressure on the ruptured parts.

With these and other objects in view which will readily appear as the nature of the invention is better understood the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a perspective view of a single-pad truss, adapted for right or left hernia. Fig. 2 is an enlarged detail sectional view of the clamp end, at one end of the body band. Fig. 3 is an enlarged detail sectional view of the pad and its attaching arms. Fig. 4 is an enlarged detail in perspective of the double cone clamp at one end of the body band. Fig. 5 is an enlarged detail elevation of one of the pads. Fig. 6 is a perspective of a modification. Fig. 7 is a detail sectional view of the modification. Fig. 8 is a front elevation of a double truss. Fig. 9 is an enlarged vertical sectional view of the connection of the pad arms to the body band of the truss shown in Fig. 8. Fig. 10 is an enlarged detail sectional view of the connection of one of the back pads to the body band ends. Fig. 11 is an enlarged detail sectional view of the pad arm connection of Fig. 3. Fig. 12 is a detail view of a plain back pad.

Referring to the accompanying drawings, A represents a metallic body band constructed of suitable spring metal, and may or may not be covered as desired. The body band A, illustrated in Fig. 1, is provided with a series of adjustment notches *a*, ranging from the rear end thereof to a suitable point, for the purposes to be presently described, and the other front end of said metallic band, when employed as a single truss for right and left hernias, terminates in a rounded shank B. The rounded shank B, at the front end of the body band A, is provided with a tapered or conical end *b*, in which is formed a transverse slot *b'*, and is interiorly threaded as at *b*². The tapered or conical end of the rounded shank B, is adapted to receive one side of the double cone collar C. The attachment collar C, has the opening therethrough oppositely tapered from the center thereof, to form opposite cone portions, one of which fits over the cone end of the body band while the other cone portion of the collar receives the tapered or conical follower plug D. The tapered or conical follower plug D, is centrally perforated and is provided at its inner end with the opposite lugs *c*, which take into the transverse slot or notch *b'*, on each side of the threaded opening *b*², and said plug receives the end binding screw D'. The end binding screw D', passes through the perforated plug and into the interiorly threaded stem of the body band, and when tightened wedges the follower plug into one side of the collar, and forces the other cone side of the collar onto the cone end of the body band. This completes a double cone clamp for the attachment collar C, so that the same can be radially adjusted on the end of the body band, so as to adjust the pad to and from the body, to the very smallest fraction of an inch.

The double cone attachment collar C, is provided with a depending lug E, having a tapered opening *e*, and recessed or socketed side *e'*, which receives the upper perforated end of the pad arm F. The pad arm F, is provided at its upper end with the threads, *f*, and a laterally extended tapered boss *f'*, which registers with the tapered opening *e*, in the collar lug, and is designed to be clamped therein in any adjusted position by means of

the clamping screw G, engaging the threaded opening through the boss and the upper end of said pad arm, and binding on the outer face of the collar lug. By reason of this adjustment, the pad arm can be adjusted laterally to any degree desired, in order to allow for a large lateral adjustment of the pad H, in front of the body, so that the same can be properly adjusted over the rupture. The pad H, consists of a flat circular piece of metal provided with an annular flange *h*, in which is formed a groove *h'*. The pad H, is also provided with a central circular opening I, in which is arranged a spiral spring-coil J. The spiral spring-coil J, registers with the opening I, and has one terminal of the coil rigid to the inside of the pad, so that the body of the coil slightly projects through the opening in the pad, in order to form an auxiliary spring pressure for retaining the rupture in proper position. By reason of the central protruding spring coil, the direct pressure which is placed on the rupture is a yielding pressure, which is in constant motion, yielding to the body, while at the same time giving the necessary pressure to firmly retain the rupture. An auxiliary pad supporting spring coil K, is secured at one end to, and held off from, the outer face of the pad, and is connected to the collar clamp *k*, longitudinally adjustable on the pad arm F, and held in any adjusted position by means of the set screw *k'*. As illustrated in the modification in Fig. 6, the spring coil K, is dispensed with, and its equivalent substituted in the form of crossed leaf springs L, connected at their points of intersection to the collar *k*, and having their ends sprung into engagement with the inside of the annular flange *h*, of the pad. This construction also gives the pad a spring support so that the same will yield independently of the rigid body band.

Arranged to be adjustably mounted on the rear end of the body band A, is the back pad M, which pad may be a single circular blank of metal as illustrated in one of the figures, or identical in construction with the hernia pad H, as illustrated in other figures, and the same is adjustably attached to the back portion of the body by means of a sliding clamp *m*, held in position by means of the set screw *m'*, taking into the notches *a*, in said body band.

In order to facilitate the cure of the rupture, I preferably employ a medicated felt covering N, for the hernia pads, and may use an unmedicated covering for the back pads if so desired, in order to insure a soft contact. In either case, the coverings N, are placed over the contact faces of the pads, and are held firmly in position by means of the ring clips or bands *n* sprung into the grooves *h*, formed in the flanges of the pads.

A suitable connecting strap O, may be employed to connect the ends of the body band when used for a single hernia, and said strap is provided with the hook buckles

o, slipped into engagement with the set screws at each end of the body band, as referred to.

A slight modification of the truss is made when it is necessary to adapt the same to a double hernia, as illustrated in Fig. 8 of the drawings. In this modification the body band is continuous in front, and carries at its rear ends the back pads M, before referred to as mounted on the body band for single hernia.

Referring to the continuous body band as A', in the figures in which it is shown, the same accommodates on the continuous front portion thereof the sliding clamp boxes P, which are held in any adjusted position by means of the set screws *p*. Arranged to move with the clamp boxes P, on both sides of the same are the opposite depending arms Q. The opposite depending arms Q, are provided with slots *q*, embracing the flat body band, and at their lower ends with the perforated tapered or conical bosses R, which extend laterally from the lower ends of the arms, and one of which is threaded to receive the binding screw D', which passes through both of said bosses and serves to wedge the same into the opposite conical or tapered portions of the double cone collar C', formed at the upper end of the pad arm F'. This construction allows the pad to be adjusted to and away from the body in the same manner as in the single truss herein described, and is modified only to a slight degree, so as to adapt the pad attachment to a double truss body band. The other features of the construction relative to the pads are the same in the modification just described, and the same advantageous results secured in the double truss as in the single truss. It will of course be understood that the attachment collar C, and the pad arm F, adjustably connected thereto, could be clamped in position between the arms Q, instead of the modified form of pad arm described.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, for I will have it understood that instead of making the body band flat the same can also be round, the pad need not necessarily be metal but may be of any other suitable material, and other immaterial features of the truss may be varied at the option of the manufacturer.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a truss, the body band, an attachment collar clamped for radial adjustment on one end of said body band and having a depending perforated lug socketed at one side, a pad arm having a threaded perforation at one end and an off-standing boss at such threaded end, said boss being adapted to fit the socketed side of said lug, a clamping screw passing through said perforated lug and engaging the threaded opening of the pad arm, and

the pad adjustably attached to said pad arm, substantially as set forth.

2. In a truss, the body band, the pad arm carrying a double cone attachment collar, and a double cone clamp adjustably attaching said collar to the body band, substantially as set forth.

3. In a truss, the metallic body band, an adjustable pad arm having an attachment collar provided with opposite interior tapered or cone portions, a double cone clamp comprising opposite tapered or cone portions fitting the opposite portions of said collar, a binding screw adapted to wedge the opposite clamp portions into said collar, and a pad adjustably connected to said pad arms, substantially as set forth.

4. In a truss, the combination of a flat body band terminating in one end in a rounded shank having a tapered or conical end interiorly threaded and provided with a transverse slot, an attachment collar having opposite interior cone portions one of which fits said tapered or conical end, a tapered or conical follower plug fitting the opposite cone portion of said collar and having lugs adapted to take into said transverse slot, a binding screw adapted to pass through said plug and engage the interior threads of the band shank to clamp the collar tightly to the body band in its adjusted position, the pad arm connected to said attachment collar for lateral adjustment, and the pad longitudinally adjust-

able on said pad arm, substantially as set forth.

5. In a truss, the combination with a flat body band, an attachment collar clamped for radial adjustment on the front end of said body band and provided with a depending lug having a tapered opening, a pad arm provided with a threaded perforation at one end and a laterally extending tapered boss adapted to register with the tapered opening in said lug, a clamping screw engaging said threaded opening and binding on the outer face of said lug, and a pad longitudinally adjustable on said pad arm, substantially as set forth.

6. A truss pad consisting of a flat circular piece of metal provided with an annular grooved flange and a central circular opening, a spiral spring coil registering with and protruding through and beyond said central opening, an auxiliary pad-supporting spring coil secured to and held off from the outer face of the pad and connected with the point of attachment, a pad cover, and a ring clip adapted to be sprung into the groove of the pad flange, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE WASHINGTON BELL.

Witnesses:

B. F. BUZARD,
M. LAWLOR.