(No Model.)

J. A. MARVIN.

TRUSS.

No. 458,127. Patented Aug. 18, 1891.

Fig. 1.

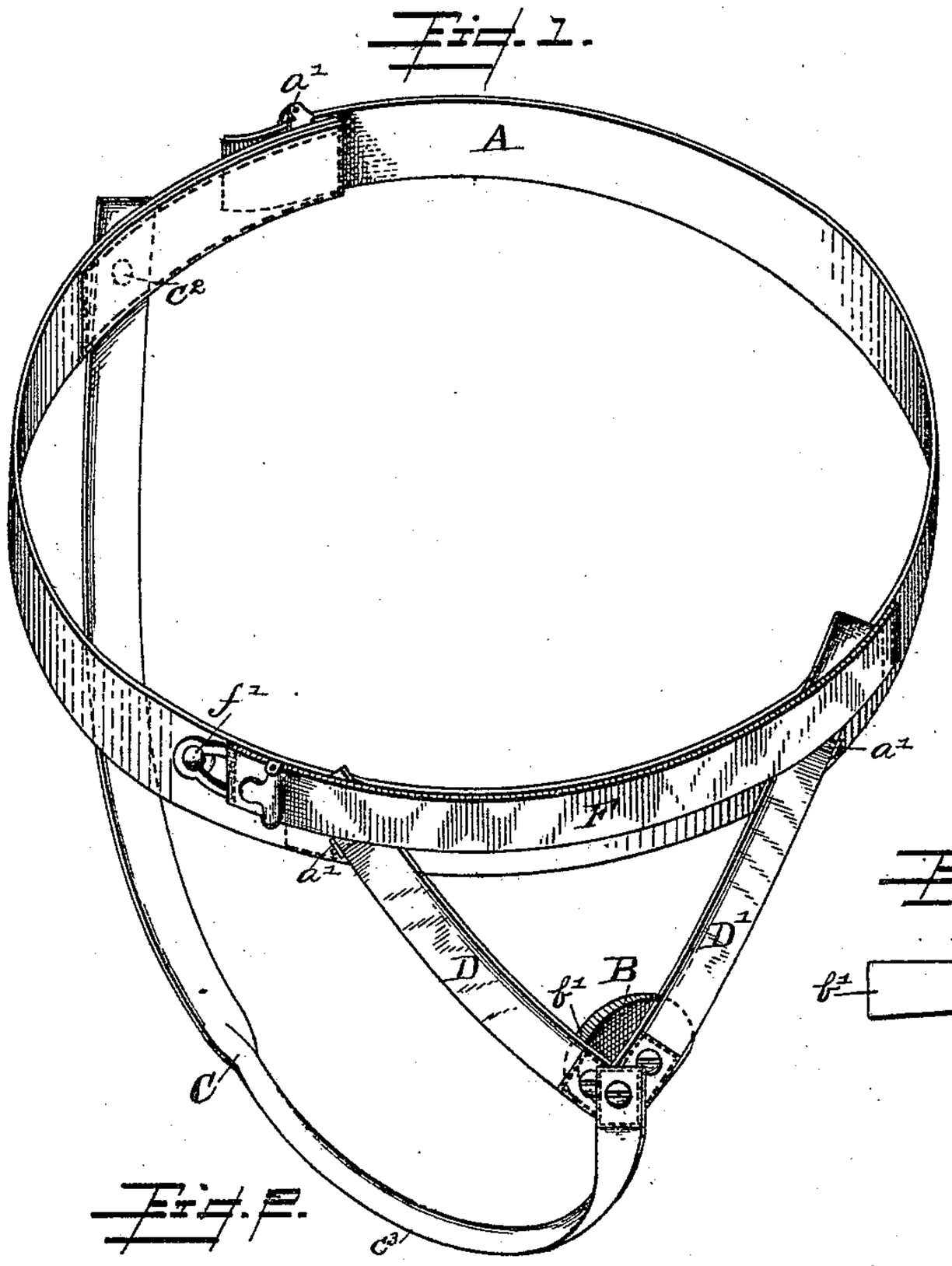

Fig. 4.

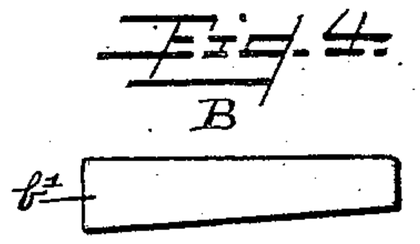

Fig. 2.

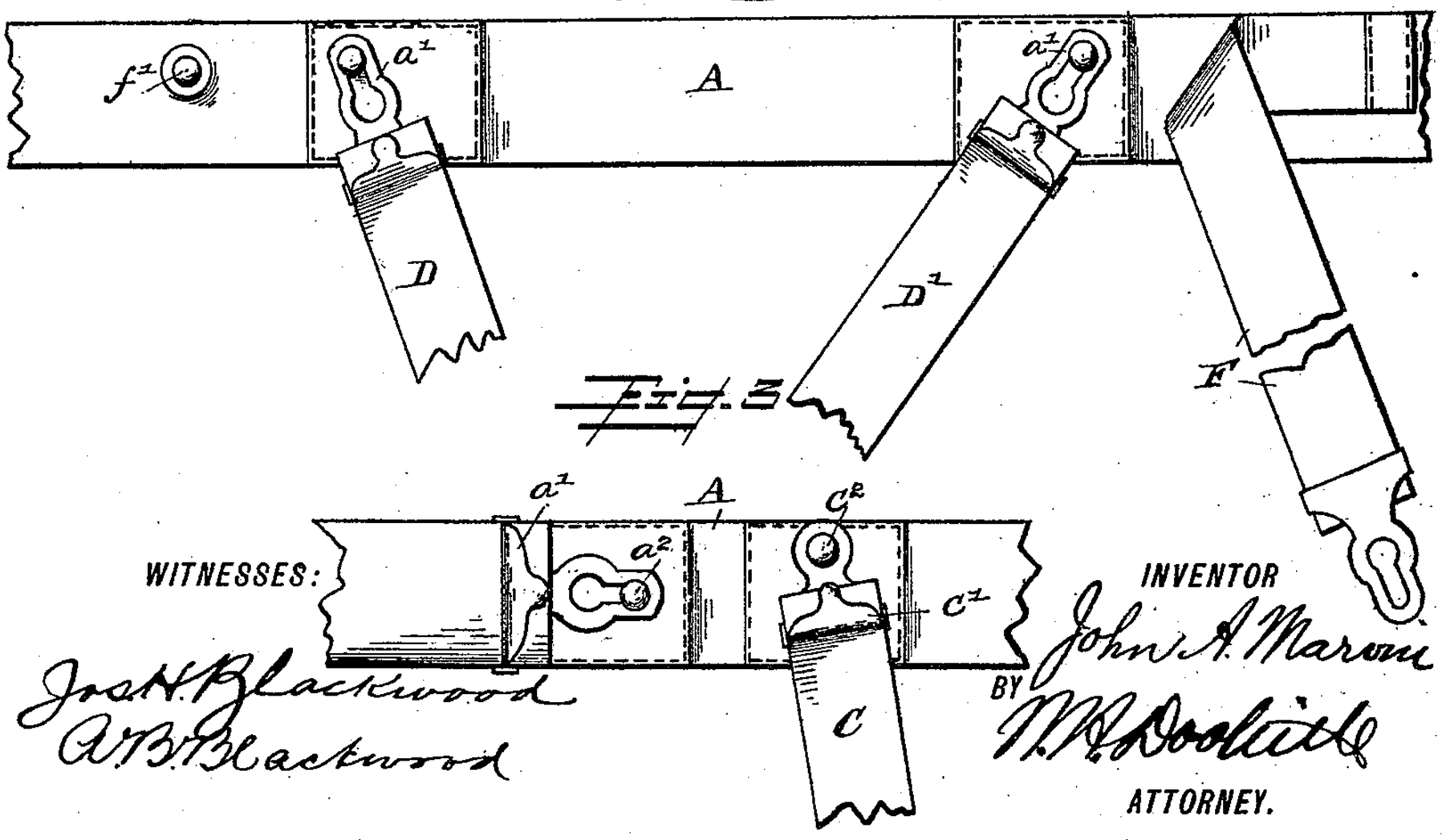

Fig. 3.

WITNESSES:

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TRUSS.

SPECIFICATION forming part of Letters Patent No. 458,127, dated August 18, 1891.

Application filed February 20, 1891. Serial No. 382,191. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. MARVIN, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Trusses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in trusses; and its object is to improve the construction and operation of trusses used in the reduction of hernia in several very important particulars.

Heretofore in many forms of trusses a great disadvantage has existed in the arrangement of the abdominal band in connection with the part carrying straps in such manner as not to support the abdomen. Another disadvantage, especially where inguinal hernia is treated, is the supporting the part by straps or other connections which come in contact with the leg, whereby the motion of the leg in walking, but especially in stooping or sitting down, disturbs the position of the pad, and thus irritates and injures the rupture and partially raises the pad therefrom. Another difficulty arises from the inability to readily adjust the straps carrying the pad, for the purpose of adapting it quickly and easily to the position desired and in holding the straps in place when so adjusted. Still another disadvantage found is due to the form of the pad itself. Pads as generally made are convex on the pressing-surface, resembling in shape the ball of the thumb, whereby the support or pressure is rendered unstable, easily giving to the pad a rolling or unsteady movement, which is highly detrimental in effect, as it destroys the steady constant uniform pressure so necessary in keeping the intestines in place, and tending to keep open, instead of closed, the rupture, and thus prevent its healing, none of the trusses heretofore made having in view, so far as I am aware, by their construction or pressure the closing of the inguinal canal below or at the rupture. These and other disadvantages I overcome by the parts and their construction and arrangement, as hereinafter described, wherein by the abdomen-belt is passed completely around the body below the abdomen at or above the top of the hips, forming a perfect abdominal support, and thus preventing the intestines from crowding heavily into the lower cavity of the abdomen, bringing the pad down low, so as to completely cover and compress the rupture, making the pad perfectly flat on its inner or hernial surface and thicker at one end than at the other, attaching the straps carrying the pad at a single point on the thicker end of the pad, two of the straps reaching directly up to the abdominal belt and having adjustable connections therewith at different points and not in contact with the leg, while the perineal or crotch strap is pivoted to the same point of the pad, whereby the inner and lower corner of the pad is given a steady and reliable pressure at the point where it will best close the inguinal canal and draw the edges of the rupture together, so that opportunity for healing is given, and finally using an elastic strap brought tightly over buckles and hooks, to which connect the other straps to the abdominal belt to hold and confine the same closely in place. All these parts, their construction and operation are illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view; Figs. 2 and 3, details showing mode of connection of pad-straps and abdominal belt and the fastening-strap covering the connections of the other straps, and Fig. 4 a detail of the pad.

Referring to the drawings, A is the abdominal band, composed of an elastic web or other suitable material, carrying at one end a sliding suspender-loop a', having an elongated eye adapted to engage with a stud a^2 on the opposite end of the band. This band, as already stated, is passed entirely around the body at the hips, and its ends are united at the back of the body.

B is a pad, preferably made of cork, its inner or pressing surface being made flat and having one end b' thicker than the opposite end.

C is a perineal or crotch band made of elastic material, with one end engaged with a buckle-loop c', pivoted to a stud c^2, secured to the abdominal band. The opposite end of

band C is permanently pivoted to the thick and inner end of the pad and on and over the ends of straps D D′, which are rigidly secured to the same point on the pad. The strap C has its edges brought and sewed together at the lowest part C^3, so as to make that portion of the strap round and thus obviate the cutting and irritation of the body at that point. The two straps D D′ are brought together to form a V at the point, when they are rigidly secured to the pad, and their opposite ends are provided with buckle loops and eyes, such as *a′*, previously described, which are adapted to engage with studs on the abdominal belt A. By the employment of such connections the straps D D′ are pivoted to the abdominal belt, so as to swing thereon, whereby the pad may the better be adjusted to the desired position, and by the use of the buckles *a′* and buckle C′ at one end of the crotch-strap C the pad can be drawn tight, adjusted to the position desired, and held securely in place. The end of perineal strap C being also pivoted to the pad, this strap yields to the lateral motion of that portion of the body coming in contact therewith without disturbing the position of the pad, and also permits the pad to be adjusted before being fixed. This mode of attaching these straps to the pad is important, as the thicker end of the pad is placed over the inguinal canal, and in order to perfectly close the same and bring its edges together, so that the rupture will heal, it is highly desirable that the pressure be brought at that point and there made steady and uniform.

The making of the juncture of the two pad-straps and the pad a bearing for the perineal strap, so that when the latter is tightened it brings all the pressure at the point mentioned, also aids greatly in the accomplishment of the object aimed at.

F is an additional holding-strap made of elastic material secured at one end permanently to the abdominal belt with its other end free and provided with a buckle loop and eye to engage with a stud *f′* on the abdominal belt. It would be impracticable to accomplish this operation and purpose if the pad did not have the shape and surface just described, for with a rounded bearing-surface or a pad the same thickness throughout the uniform pressure could not be obtained, as the rounded surface would produce a rocking motion, and a pad of the same thickness throughout would not admit of the particular and greater pressure at the one desired point. The purpose of this strap F is to cover the ends of the pad-straps after they are engaged with the abdominal belt and hold the engaging eyes to the studs, thus making an effectual fastening device for this purpose when the truss is in use.

It will be noticed that the pad is not directly connected to the abdominal band, so that that band is not the means used to secure and adjust the pad in its place; but this is done by the inguinal band and the shorter straps; and also that the abdominal band is used at all times as a support to the abdomen, and that all the other parts are easily detached therefrom.

Having now described my invention, what I claim is—

1. In a truss for inguinal hernia, the combination, with a pad, of two adjustable straps, the lower ends of each attached, respectively, to the opposite sides of said pad near their edges, an ordinary body-belt to which the said straps are adapted to be detachably secured, and a perineal strap to one end of which said pad is attached, the other end of said strap secured to the belt, whereby the pad may be adjusted and held securely in any desired location without disturbing the position of the said belt, substantially as described.

2. In a truss, the combination, with the abdominal band, of a pad having a flat bearing-surface and one end made thicker than the other, elastic pad-straps rigidly secured at or near the opposite lower edges of the pad, a perineal elastic band secured to and pivoted near the end of said pad, and means for tightening and adjusting said straps in relation to the abdominal band, substantially as described.

3. In a truss, in combination with the body-belt, the pad-straps having loop ends removably secured to the said belt, and an elastic strap permanently attached at one end to said belt and having at the other end a slotted loop-buckle adapted to cover and latch over the fastening ends of said pad-straps to hold the latter in engagement with the body-belt, substantially as described.

4. In a truss, in combination with the abdominal band, the pad-straps having loop ends removably secured to the said band, and an elastic strap permanently attached at one end to said band and adapted to cover and latch over the fastening ends of said pad-straps to hold the latter in engagement with the abdominal band, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. MARVIN.

Witnesses:
JAS. H. BLACKWOOD,
ALBERT B. BLACKWOOD.