

(No Model.)

M. R. BARKER.
TRUSS.

No. 414,182.

Patented Nov. 5, 1889.

Fig. 2.

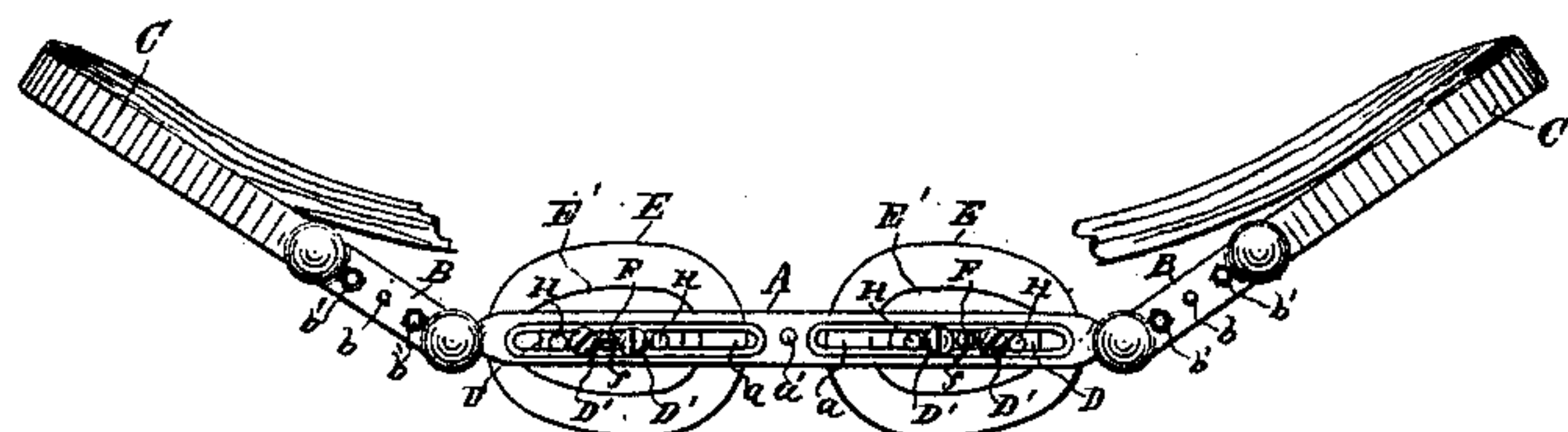


Fig. 1.

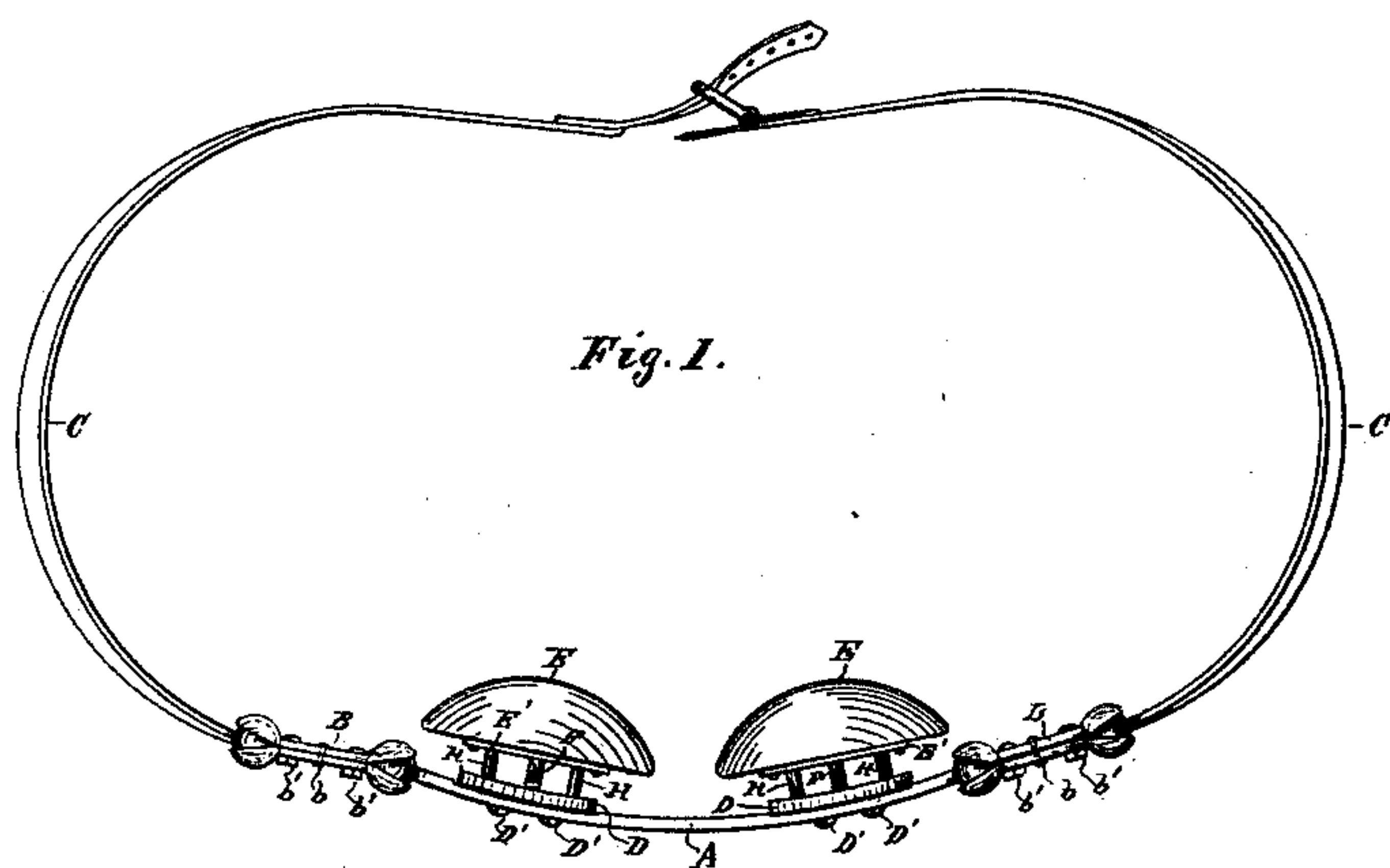


Fig. 3.

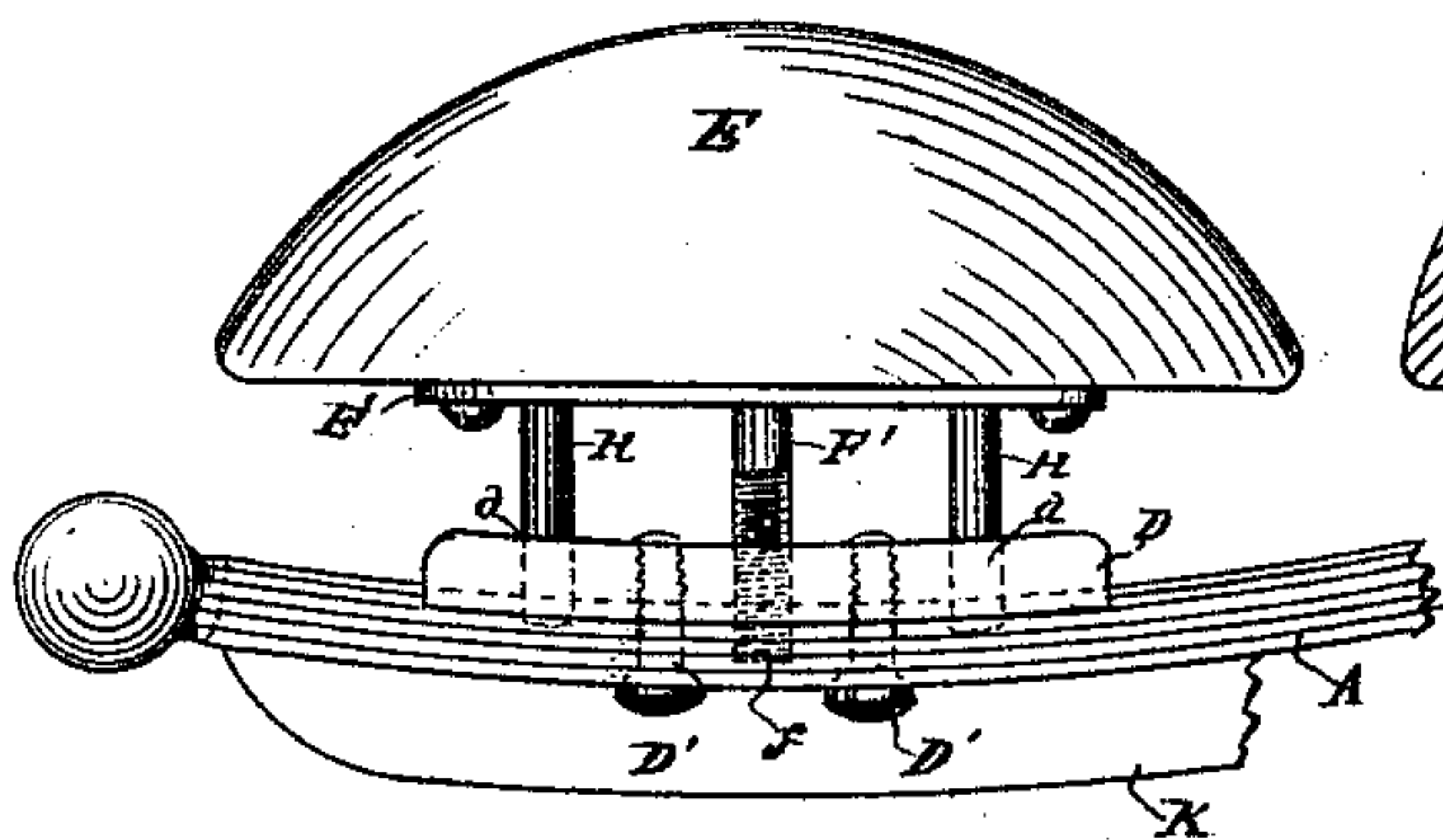


Fig. 4.

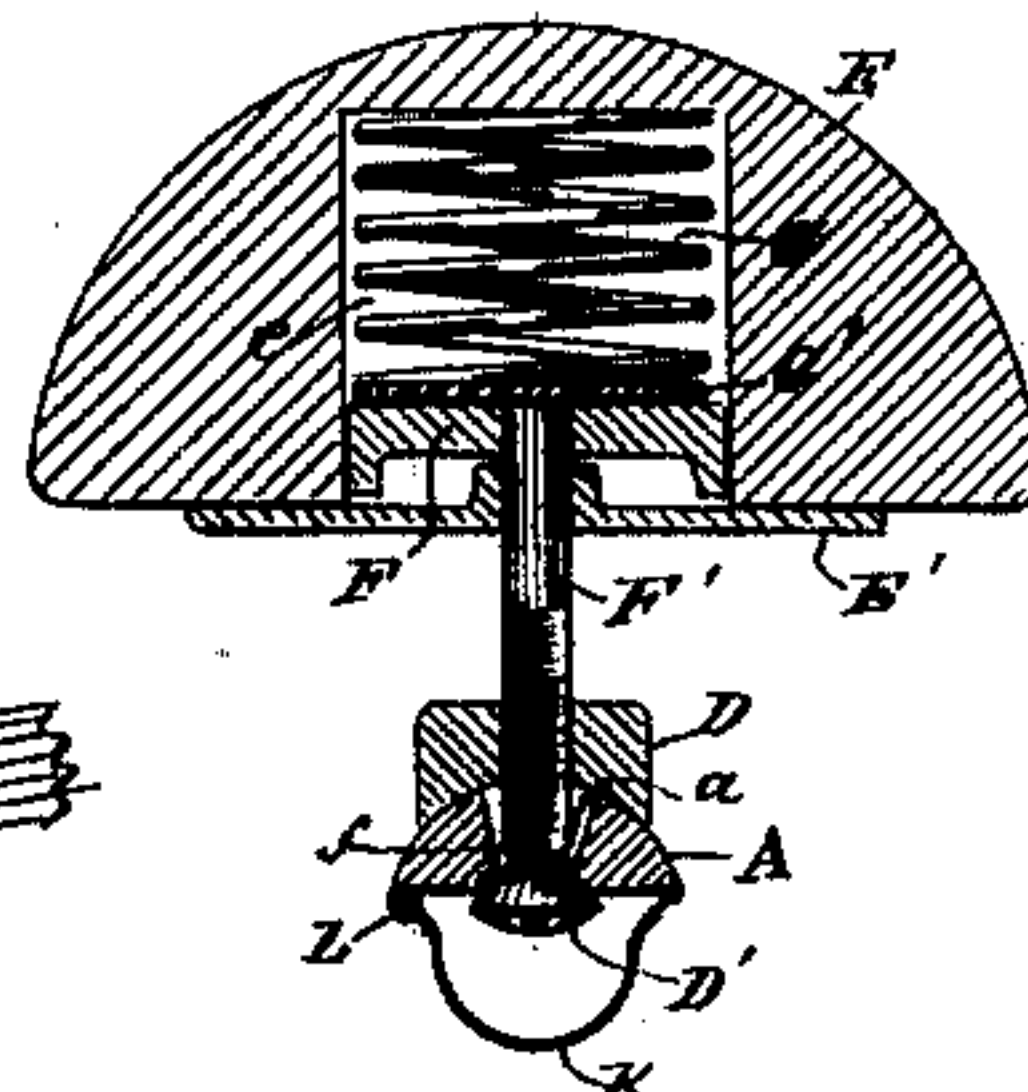


Fig. 7.

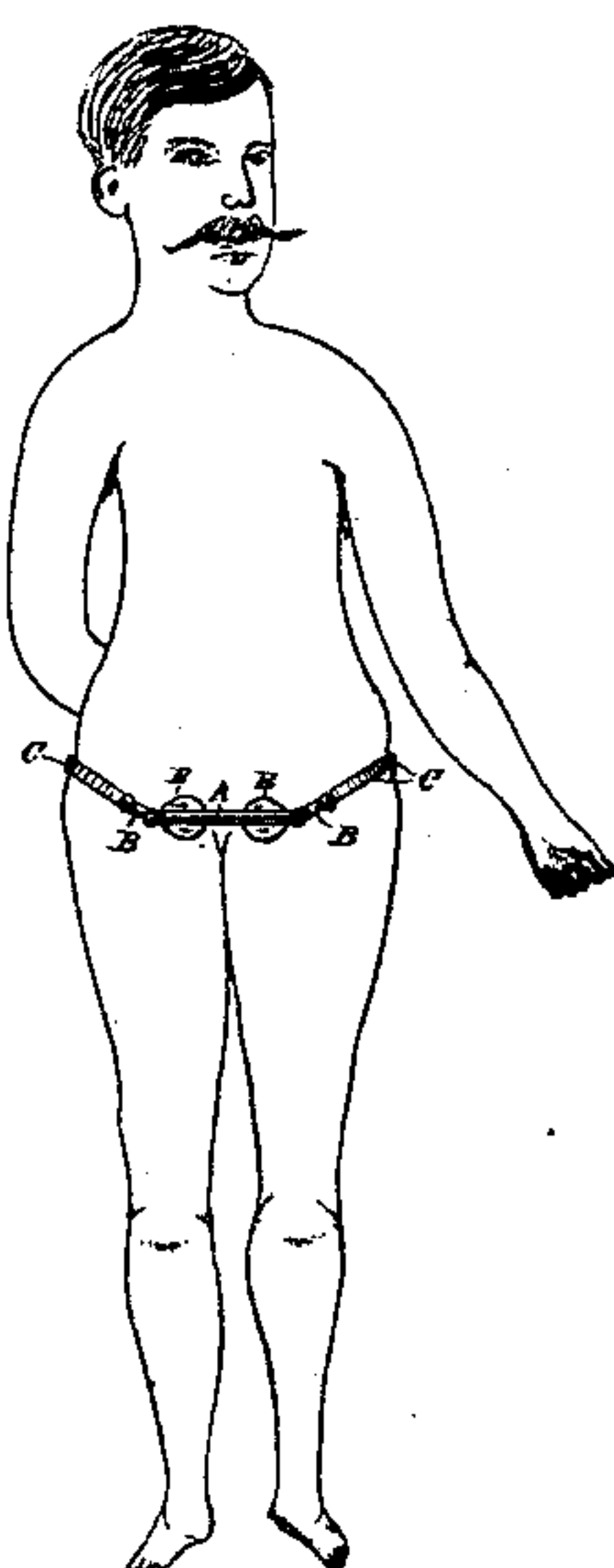


Fig. 6.

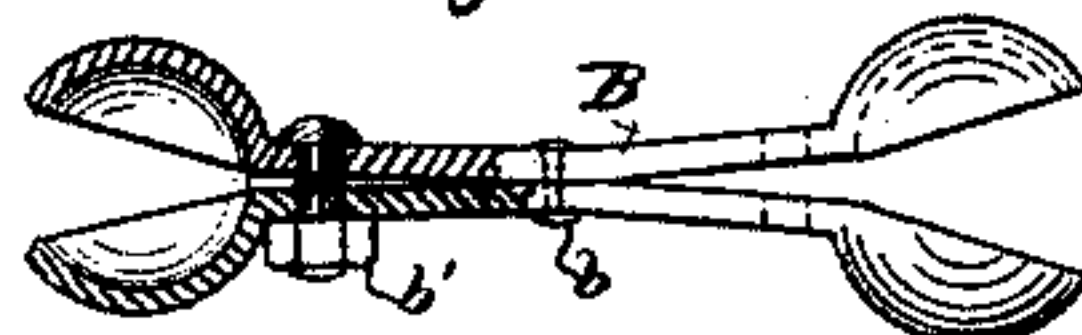
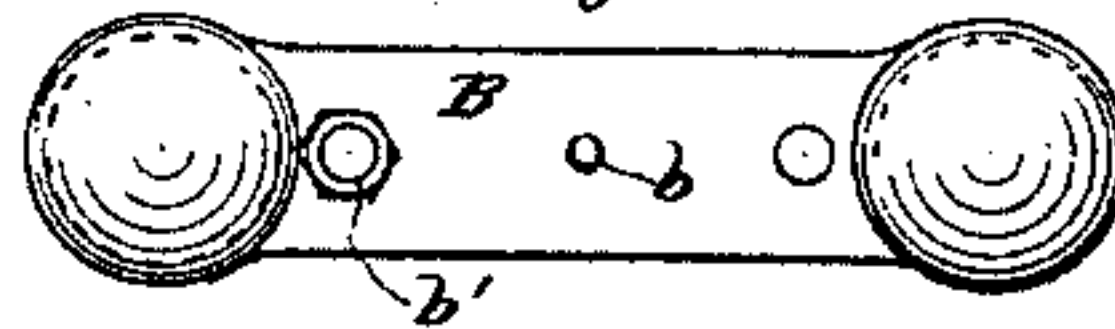


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

MILTON R. BARKER, OF MINNEAPOLIS, MINNESOTA.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 414,182, dated November 5, 1889.

Application filed March 13, 1889. Serial No. 303,114. (No model.)

To all whom it may concern:

Be it known that I, MILTON R. BARKER, a citizen of the United States, and a resident of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented a certain new and useful Hernial Truss, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to hernial trusses, and has for its object to provide a truss which shall be universally adjustable.

In the modern treatment of inguinal hernia it is the practice to apply the pad to the head of the ring and press upward thereon, thus drawing the ring into a slit with contiguous walls, which upon retention and proper treatment for a sufficient time will unite, thus closing the opening. To accomplish this result successfully and in the shortest time, it is necessary that the pressure should be applied at exactly the right spot and in exactly the right direction. As the openings occur at divers points on the person, and as individuals differ widely among themselves in form and the relative amount of muscular and fatty tissue, it is extremely difficult to obtain a truss capable of the compound adjustment necessary to do the work. I seek to solve the problem by a truss having a universal adjustment, and which is at the same time of such simple construction that the patient can himself effect the adjustment without professional assistance.

To these ends one of the leading features of my invention consists in making the supporting-band in sections and connecting the same by ball-and-socket joints. This enables me to set the pad-supporting section exactly where required for a proper base of resistance without regard to its relation to the hip or body sections of the band. It enables me, for example, to set the pad-section at any angle to the hip-sections, both with reference to the vertical and to the horizontal planes, as well as at a different level. I then mount the pads on the band in such a manner that they are laterally, angularly, and transversely adjustable thereon. In other words, the truss

is universally adjustable, and the pressure can always be applied to the right point in a right line from the base of resistance. I also provide guides for moving the parts truly, and locking devices for securing them in their proper relative positions.

In the drawings I have shown the preferred form of my construction. Therein, like letters referring to like parts—

Figure 1 is a plan view, and Fig. 2 a front elevation, of my invention with pad-section shield removed. Fig. 3 is a plan of the pad-section of the supporting-band with pad and shield in position. Fig. 4 is a horizontal section. Figs. 5 and 6 are views, in plan and partial section, respectively, of one of the split sockets detached; and Fig. 7 is a front view of the truss in position on a person.

A B C is the supporting-band, of which A represents the front or pad section, C the hip or body sections, and B the thigh-sections coupling together the other two. The hip or body sections are made of suitable spring metal—such as bronze—conformable to the person, and is flattened where it bears against the body. The front or pad section is formed with a flat front and a convex back surface, and is provided with longitudinal slots *a*, conical in cross-section, narrowing from the back to a point forward of the middle and then again widening to the front surface. The pad-section is also provided with a central transverse hole *a'*, for the attachment of an umbilical pad, (not shown,) if so desired.

The thigh or coupling sections are, as shown, formed of two strips or stems having half or corresponding segments of sockets on their extremities, and united at their centers in any suitable way, as by a rivet *b*. The half-sockets, therefore, tend to spring apart from the center of the stems as a base. They are drawn together, when desired, by any suitable clamping device, as the bolt and nut *b'*, working through transverse holes in the stems adjacent to the half-sockets.

The adjacent extremities of the pad and body sections are provided with spherical heads adapted to fit the sockets on the thigh-sections. The interior of the sockets and the

exterior of the spherical heads are corrugated. The two can therefore be very readily locked together in any desired relative position by the bolt and nut *b'*.

5 It will be readily understood that instead of making coupling-sections with sockets on both ends and spherical heads on the adjacent ends of the body and pad sections the construction might be reversed, placing the
10 spherical heads on the ends of the coupling-sections and the sockets on the body and pad sections; or the different sections might have a socket on one end and a spherical head on the other.

15 D is a pad-block, concave on its front surface and adapted to fit over the convex back of the pad-section. It is provided with transverse holes *d* near its opposite extremities, and is adjustably secured to the pad-section
20 with head-screws *D'*, working through the slot *a*.

E is the pad, of the ordinary construction, secured to the face-plate *E'* and provided with recess *e*.

25 F is a piston-head or disk located within the recess *e* and provided with the screw-threaded stem *F'*, rigidly secured thereto and projecting outward through a central hole in the face-plate *E'*, and engaging with a screw-
30 threaded hole in the pad-block D.

G is a coiled spring located in the recess and bearing against the piston F, with or without an intermediate washer *G'*. The stem *F'* is provided with a slot *f* for operating the same.

35 H are dowel or guide pins rigidly secured to the face-plate *E'*, and working through the transverse holes *d* in the pad-block D.

40 It will be readily seen that this construction permits a lateral, angular, and transverse adjustment of the pad. The block D may be moved laterally on its concave seat and secured at any point by the set-screws *D'*. It may also be turned on its seat, carrying with
45 it the pad, and be tightly locked thereto by the set-screws *D'*. The transverse adjustment with variable pressure is effected by the piston F and its screw-threaded stem *F'* from the pad-block as a base of resistance.

50 In virtue of the peculiar shape of the longitudinal slots *a* in the pad-sections A the screw-heads *D'* and the stem *F'* are permitted a limited movement therein in an arc of a circle, while preserving a straight-line action
55 in their seats.

The dowel-pins H, working in the holes *d*, serve to prevent the tilting of the pad and to insure its straight-line movement in its transverse adjustment.

60 K is a concavo-convex shield of any suitable stiff material, preferably metal, attached to the front side of the pad-section to protect the clothing from disturbance by the set-screws, pad-stem, and dowel-pins. This shield

is preferably hinged, as shown at L, to the upper edge of the pad-section. 65

The operation is evident from the description already given.

The coupling-section B may take any position with reference to A and C and be locked therein, and the pad-section A may be freely turned at any angle to the coupling-sections B. This adjustment, together with the adjustment of the pad on the pad-supporting section, makes up a universally-adjustable truss. 75

The concave surface of the pad-block and the convex surface of the pad-section are corrugated for better securing the two in their relative adjustment. 80

In case it is desired to support umbilical hernia, the sections of the band may be readily adjusted to a continuous level and the umbilical pad applied to the center of the pad-section. 85

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A hernial-truss band made up of sections connected by ball-and-socket joints, substantially as described. 90

2. A hernial-truss band made up of sections connected by ball-and-socket joints and provided with locking devices for rendering the joints rigid in any desired relative position of their parts, substantially as described. 95

3. A sectional truss-band united by ball and split socket joints, and a clamp for drawing together the parts of the split socket, and clamping the same tightly to the spherical head, substantially as described. 100

4. A hernial-truss band consisting of hip, thigh, and pad sections, the hip and pad sections being flattened and provided with spherical heads on their adjacent extremities, and the thigh-sections being provided with split sockets for engaging said heads, and clamping devices for locking the parts of the joint together in any desired position. 110

5. A universally-adjustable hernial truss, consisting of a sectional supporting-band united by ball-and-socket joints, and pads laterally, angularly, and transversely adjustable on the band, substantially as described. 115

6. In a hernial truss, the combination, with a supporting-band made of sections connected by ball-and-socket joints, of a pad mounted thereon transversely adjustable thereto, and transverse guides constraining the pad to move in true lines, substantially as described. 120

7. In a hernial truss, the combination, with the pad-supporting band convex on its back surface and provided with longitudinal slots conical in cross-section and flaring outward, of a concave pad-block mounted on the convex surface of the band, and set-screws work- 125

ing through said conical slot for securing said block at any desired point of its angular or lateral adjustment, substantially as described.

on the block provided with dowel or guide pins working in said holes, substantially as described.

MILTON R. BARKER.

In presence of—

JAS. F. WILLIAMSON,
EMMA F. ELMORE.

5 8. In a hernial truss, the combination, with the pad-supporting band, of a pad-block mounted thereon having transverse holes, and a transversely-adjustable pad mounted