

No. 715,701.

Patented Dec. 9, 1902.

M. B. SMYTH.  
TRUSS.

(Application filed May 19, 1902.)

(No Model.)

Fig. 1.

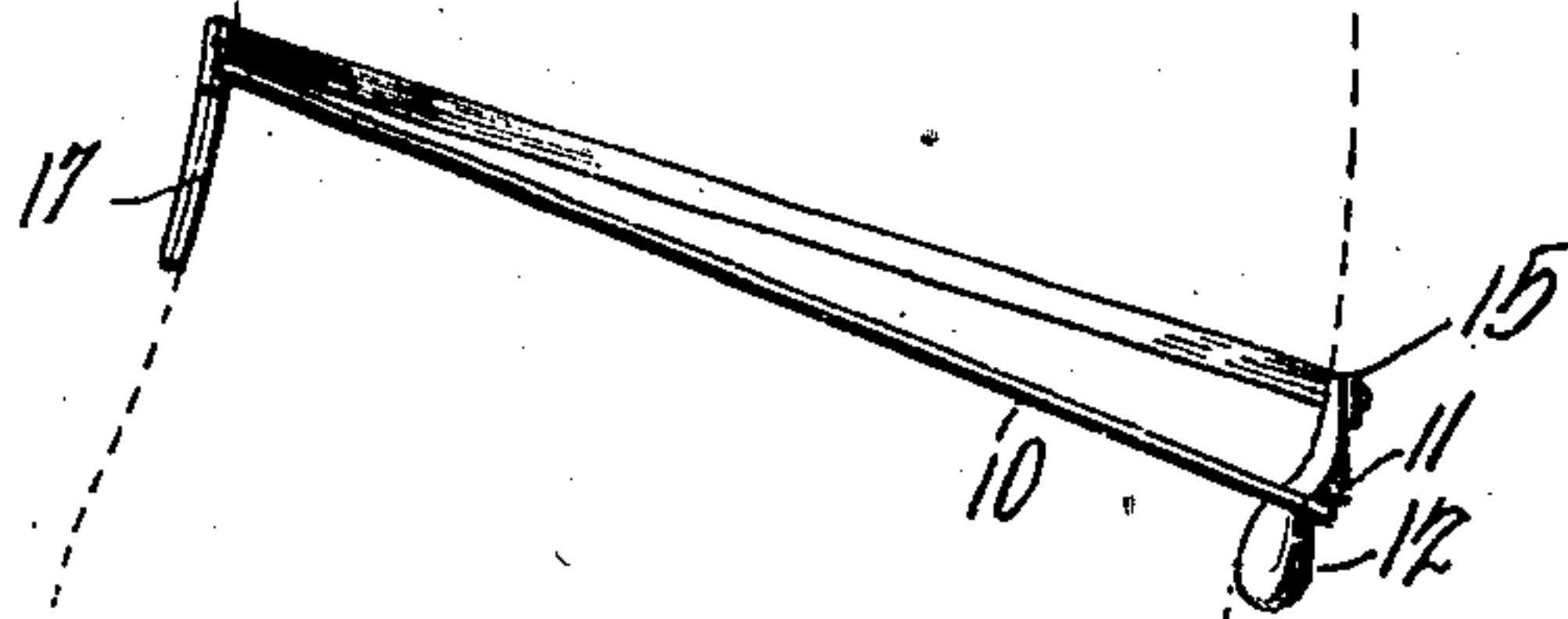


Fig. 4.

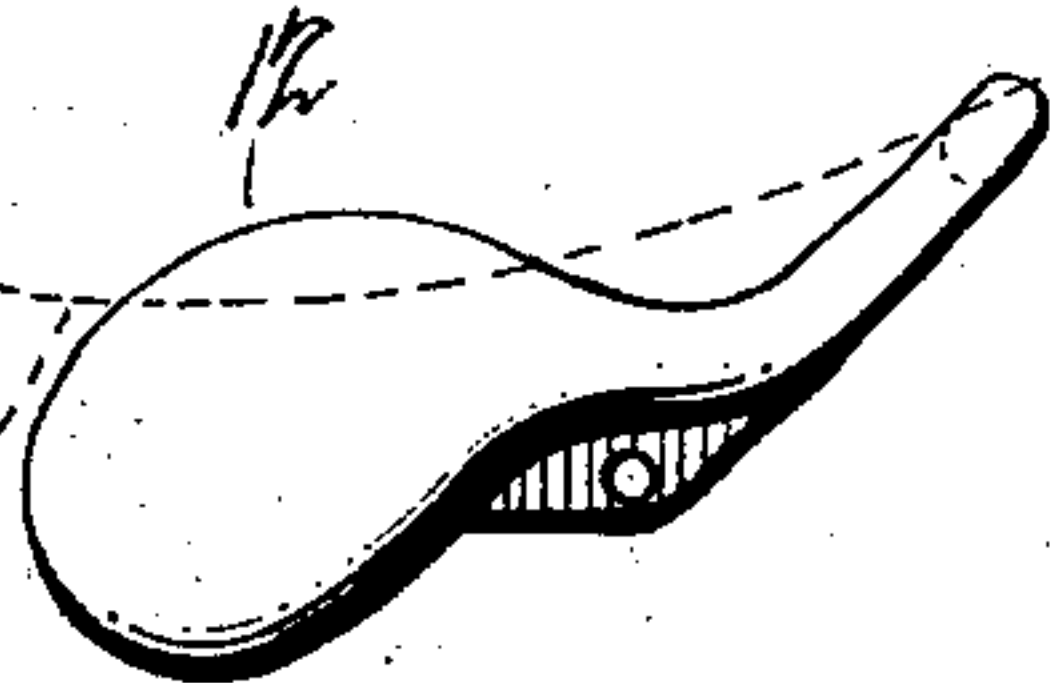


Fig. 3.

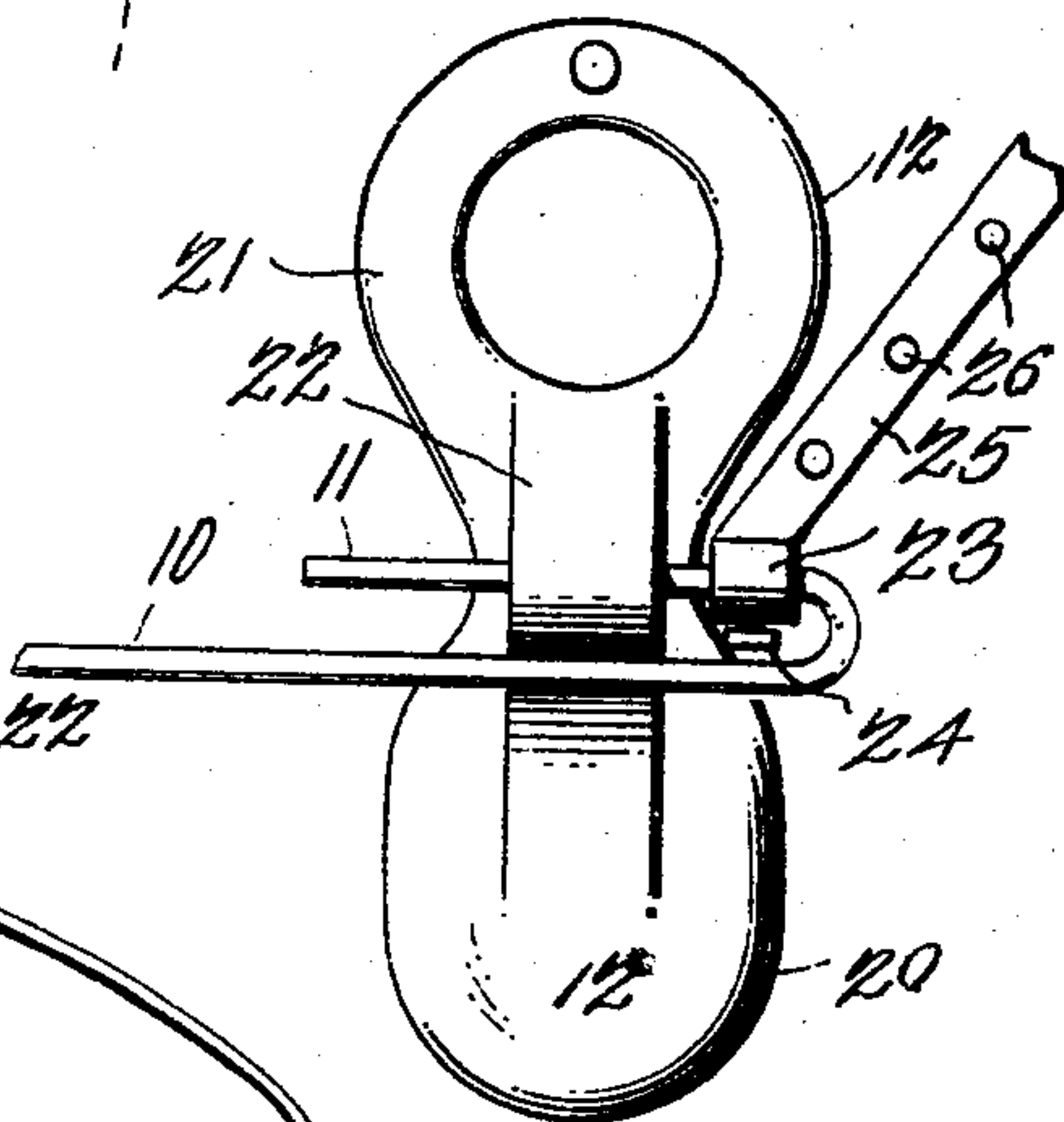


Fig. 2.

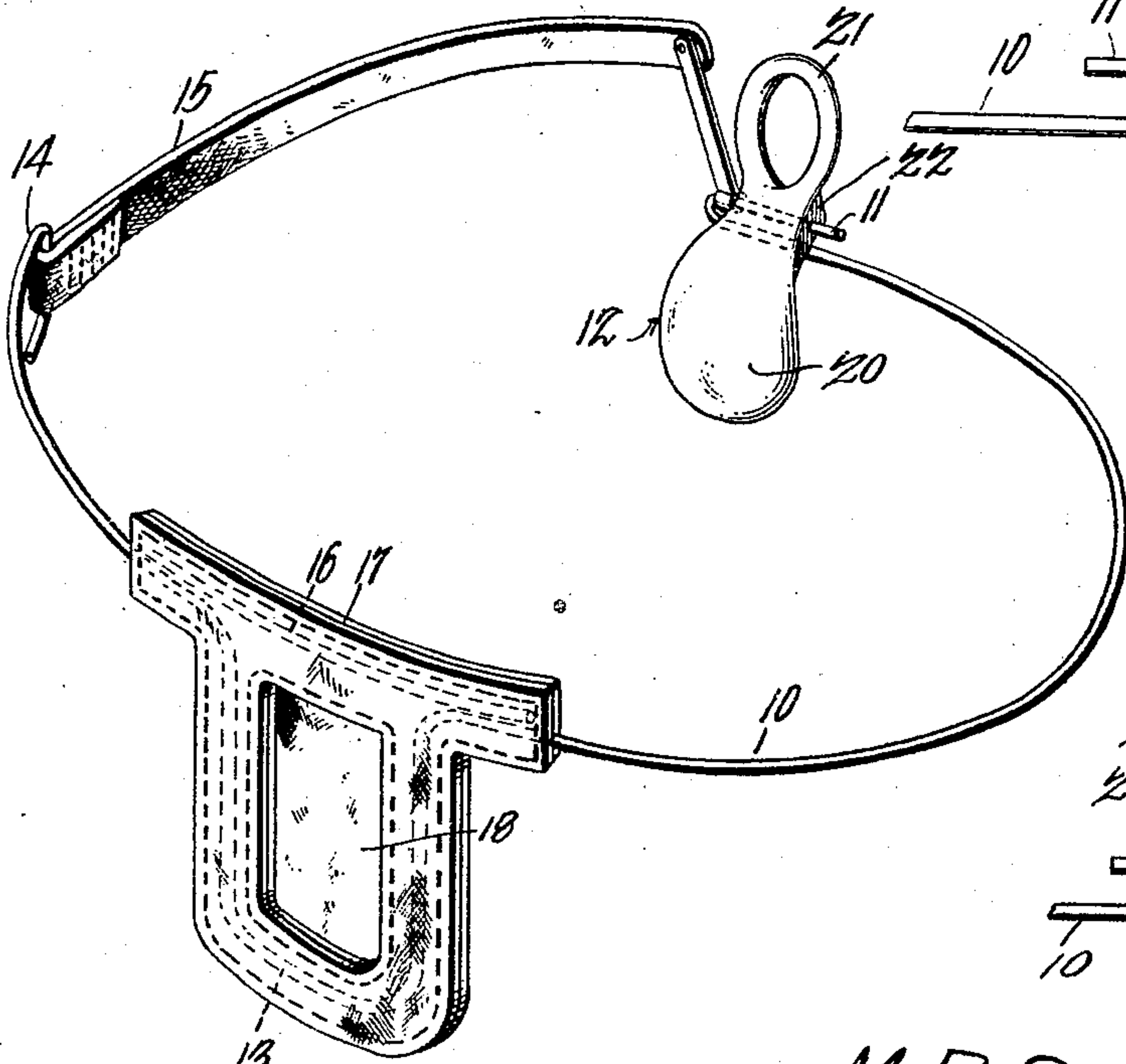
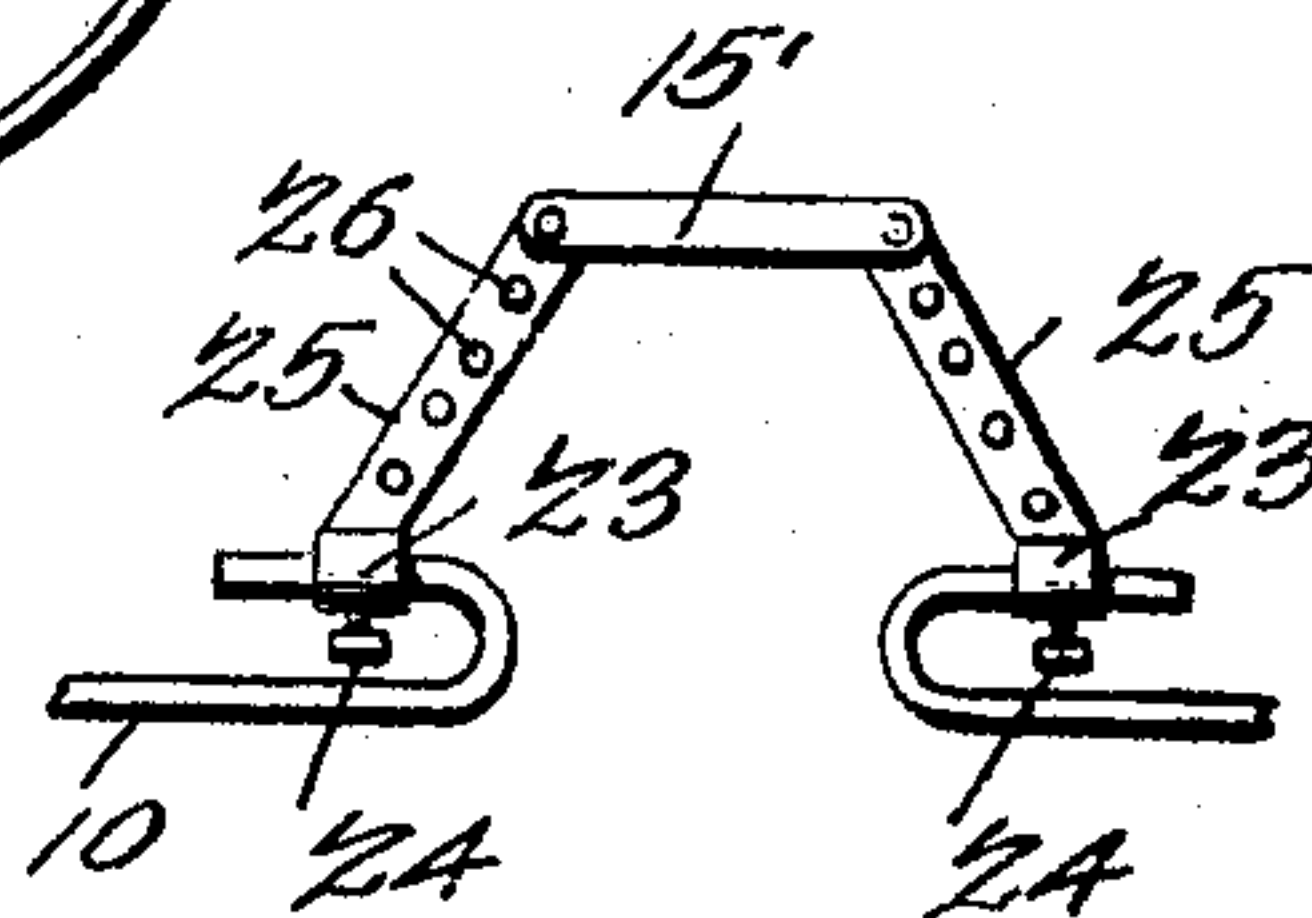


Fig. 5.



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# UNITED STATES PATENT OFFICE.

MILTON B. SMYTH, OF HOLTON, KANSAS.

## TRUSS.

SPECIFICATION forming part of Letters Patent No. 715,701, dated December 9, 1902.

Application filed May 19, 1902, Serial No. 108,009. (No model.)

*To all whom it may concern:*

Be it known that I, MILTON B. SMYTH, a citizen of the United States, residing at Holton, in the county of Jackson and State of Kansas, have invented a new and useful Truss, of which the following is a specification.

My invention relates to certain improvements in mechanical trusses employed for the treatment of inguinal hernia, and has for its principal object to construct an improved form of truss brace and pad which will more securely hold the rupture than devices of the class in common use.

One of the objects of the invention is to provide a novel form of truss pad and support, the latter being arranged in such manner as to move with the body independent of its support and permit free movement without danger of slipping of the pad from the hernia.

A still further object is to so construct and arrange the pad that when the patient assumes a stooping position the pad will be pressed with increased force against the rupture by the contraction of the abdominal muscles, the upper portion of the pad being in contact with the abdominal wall.

A still further object is to so mount the truss on its support that a slight rotative movement of the pad may be obtained as the patient stoops, the lower portion of the pad being forced inwardly in such manner as to avoid pressure against the Poupart's ligament and at the same time prevent the escape of the hernia below the pad.

A still further object of the invention is to so construct the pad-support as to provide for the adjustment of the position of the pad and the degree of pressure exerted thereon.

A still further object of the invention is to so construct and arrange the truss-brace as to exercise the required inward pressure at the proper point on the pad and without any tendency to exert a lifting strain at the front of the body.

A still further object of the invention is to provide a pad which, in effect, will retain the rupture by a pressure similar to that exerted by the finger; and a still further object is to provide for the employment of a pad conforming to the anatomical structure and position of the inguinal canal, so that a pad of

much smaller size than usual may be employed and injurious pressure on the tissue adjacent to the canal avoided.

With these and other objects in view the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of a truss constructed in accordance with my invention. Fig. 2 is a perspective view of the same. Fig. 3 is a front elevation of the pad and its supporting-brace, drawn to an enlarged scale. Fig. 4 is a side elevation of the pad, showing the position to which the pad moves when the patient assumes a stooping position. Fig. 5 is a detail of a portion of a double truss.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The brace 10 is formed of spring-wire bent to conform to the shape of the body and of such length as to extend around rather more than half of the body. At the front end of the brace the wire is bent upwardly to form an upper member 11, arranged in a plane substantially parallel with the body of the brace. This upper member serves to support the pad 12, the construction of which is more fully described hereinafter. At the rear of the brace the wire is bent downwardly in the form of a loop 13 and thence extends to a point beyond the median line of the sacrum, terminating in a loop 14, with which may engage one end of an adjustable strap 15, extending around the opposite side of the body and connected at its front end to the brace. At the top of the looped portion 13 is an auxiliary wire 16, having its end soldered or otherwise secured to the brace 10 and forming a rigid ring which may be covered by leather or similar material, as indicated at 17, the leather extending over all portions of the wire proper and leaving a central open space, which may be covered by material of lighter character, such as chamois, as indicated at 18. The loop is designed to press directly upon the sacrum, its lower edge only being in direct contact with the body and this lower edge in practice being arranged in



a substantially horizontal plane with the pad 12 at the front of the body, so that there will be no tendency on the part of the brace to raise the pad and permit the escape of the rupture.

The pad 12 comprises a substantially ovate body 20, formed of wire-netting or other material and having at its upper end a ring 21 for engagement with the abdominal wall. At a point near the top of the pad proper is a forwardly-extending perforated lug 22, adapted for the reception of the upper member 11 of the brace. The pad is adjustable to the right or left of the body in order to press upon a rupture at any point and when so adjusted is firmly held in the desired position by the brace, the latter having a slight movement with the body as the patient moves, but the pad at all times retaining the position to which it is adjusted. On the portion 11 of the brace is an adjustable collar 23, having a locking-screw 24, adapted to engage with the member 11 and hold the collar in place, and from this collar projects an arm 25, the arm being inclined toward the median line, so as not to interfere with the upward extension of the pad. The arm 25 is provided with a number of studs 26, to which the forward end of the strap 15 may be secured, the connection being such as to prevent any upward movement of the pad, the tendency being rather in a downward direction, in order to prevent the rupture from slipping under the pad. When a double truss is used, the two arms are connected by a strap 15', as shown in Fig. 5. When the pad is properly adjusted, it will press firmly against the rupture, the point of pressure being normally on a line at about the center of the pad when the patient is standing erect, and the pressure exerted may be adjusted to any desired extent by twisting the upper member 11 to the front or rear, the parts 10 and 11 being moved somewhat out of a vertical plane, so that the main body 10 may press with greater or less force against the outer face of the lug 22. By pressing the member 11 outwardly from the front of the body this pressure may be increased to such an extent as to entirely remove the ring 21 from contact with the abdomen, or by moving it in the reverse direction the pressure may be lessened to meet any special requirements. When the patient stoops, the abdominal muscles shorten and crowd the adipose tissue under the skin to a point under the upwardly-extending loop without moving the position of the latter on the external skin. This results in a rotative movement of the pad with the member 11 as a center, and the lower rounded portion of the pad is pressed with increased force on the rupture at a point, if the pad be properly adjusted, immediately above the Poupart's ligament without, however, riding upon this ligament and permitting the escape of the rupture from under the pad. In trusses as usually made the stooping of the patient causes painful pressure of the pad on the

Poupart's ligament, and as the latter is of an unyielding nature the pad will ride up and in so doing release the rupture.

By making the pad in the manner shown its size may be materially decreased and unnecessary pressure on the tissues outside the inguinal canal be avoided. The pad is of a shape corresponding to the shape of the canal and in practice is found to act in much the same manner as single-finger pressure.

While the construction herein described, and illustrated in the accompanying drawings, is the preferred form of the device, it is obvious that many changes in the form, proportions, size, and minor details of construction may be made without departing from the spirit or sacrificing any of the advantages of my invention.

Having thus described my invention, what I claim is—

1. The combination in a truss, of a brace, a pad having its upper rear portion pivotally mounted on the brace and having a rocking movement thereon, said pad having a rigid upwardly-extending portion adapted for contact with the abdominal wall.

2. The combination in a truss, of a brace having an upper member adjustable with respect to the body of the brace, and a pad having its upper rear portion pivotally mounted on said member and provided with an upward extension for contact with the abdominal wall.

3. In a truss, the combination with a brace, of a pad pivotally mounted thereon and having an upwardly-extending ring for contact with the abdominal wall.

4. In a truss, the combination with the pad, of a brace having an upper member adjustable with respect to the body of the brace and on which said pad is mounted.

5. In a truss, the combination with a pad, of a brace having an upper member on which said pad is pivotally mounted, the outer face of said pad below its pivot-point being engaged by the main portion of the brace and pressed inwardly against the rupture.

6. In a truss, the combination with a pivoted pad, of a brace having a rigidly-secured upwardly-extending arm at its front end and adjacent to the pad, and a strap connecting the upper end of said arm to the opposite portion of the brace.

7. In a truss, the combination with the pivoted pad, of a brace having a rigidly-secured upwardly-extending arm provided with a plurality of strap-engaging studs, said arm being disposed at the extreme end of the brace at a point adjacent to the pad, and a strap extending between the upper portion of said arm and the opposite portion of the brace.

8. In a truss, the combination with a pad, of a brace having at its rear end a downwardly-extending loop for pressure on the sacrum, an upwardly-extending arm at the front end of said brace and a strap connecting the rear end of the brace to said arm.

9. A truss-brace formed of a spring-wire  
downwardly and forwardly bent at its rear  
end to form a loop, and an auxiliary wire  
rigidly secured to the brace and extending  
5 over the upper portion of said loop, substan-  
tially as described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

MILTON B. SMYTH.

Witnesses:

J. F. WAYLOR,  
A. W. ROLLEY.