(No Model.) 2 Sheets—Sheet 1.

F. WAGNER.

GYNECOLOGICAL FORCEPS.

No. 555,194. Patented Feb. 25, 1896.

Fig. 1.

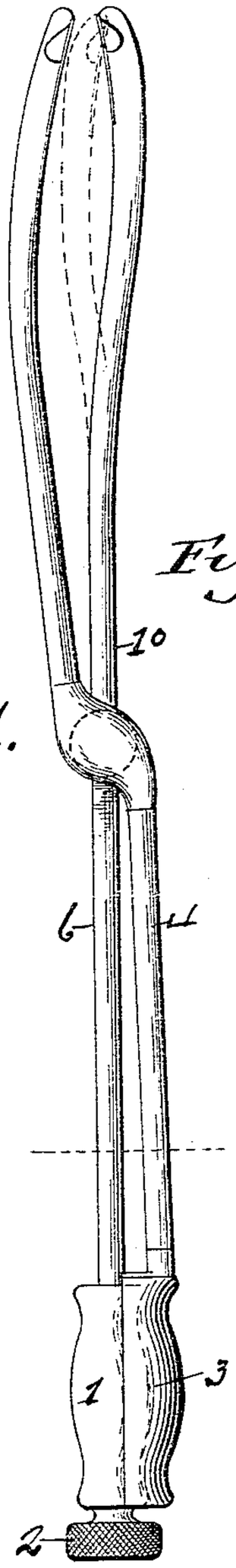


Fig. 2.

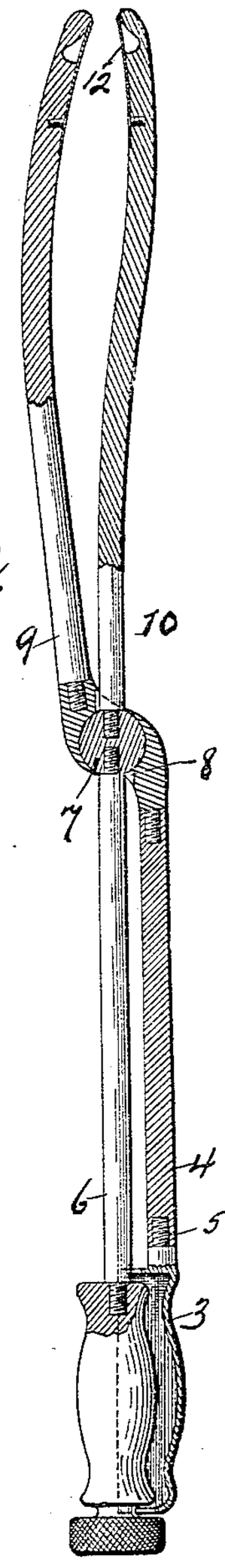
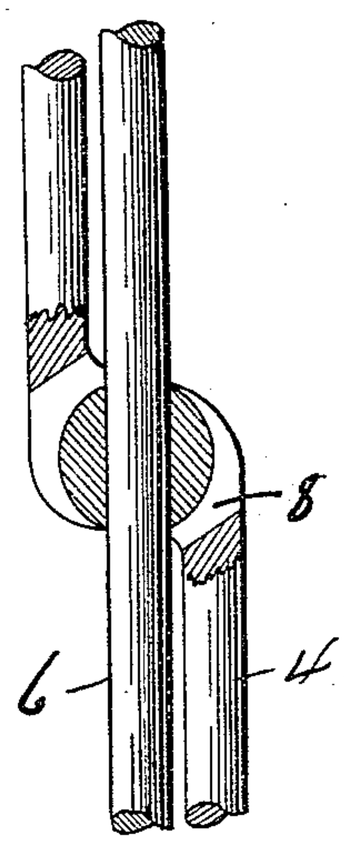


Fig. 3.



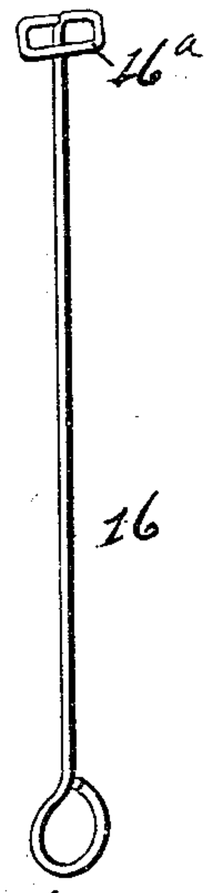
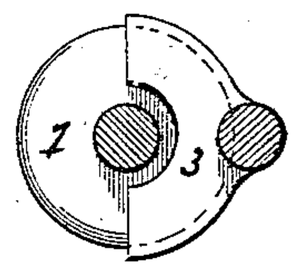


Fig. 5.

Fig. 4.



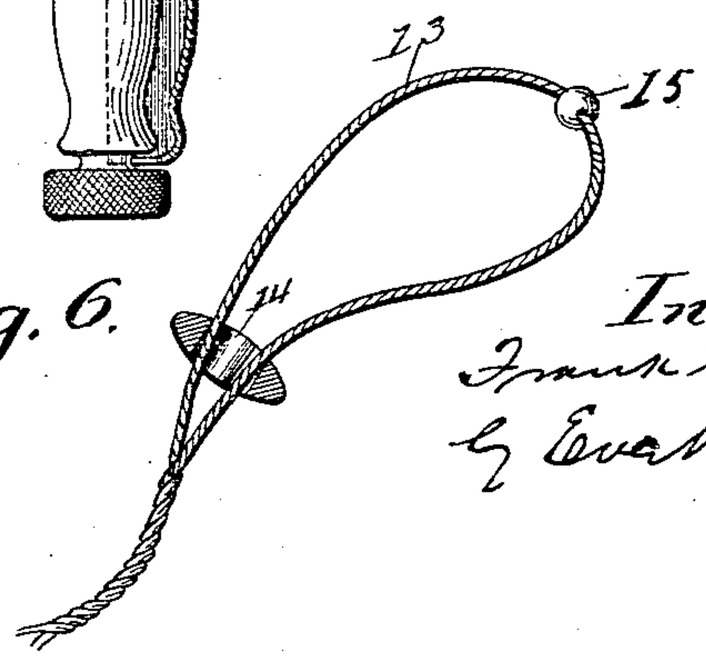


Fig. 6.

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(No Model.) 2 Sheets—Sheet 2.

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GYNECOLOGICAL FORCEPS.

No. 555,194. Patented Feb. 25, 1896.

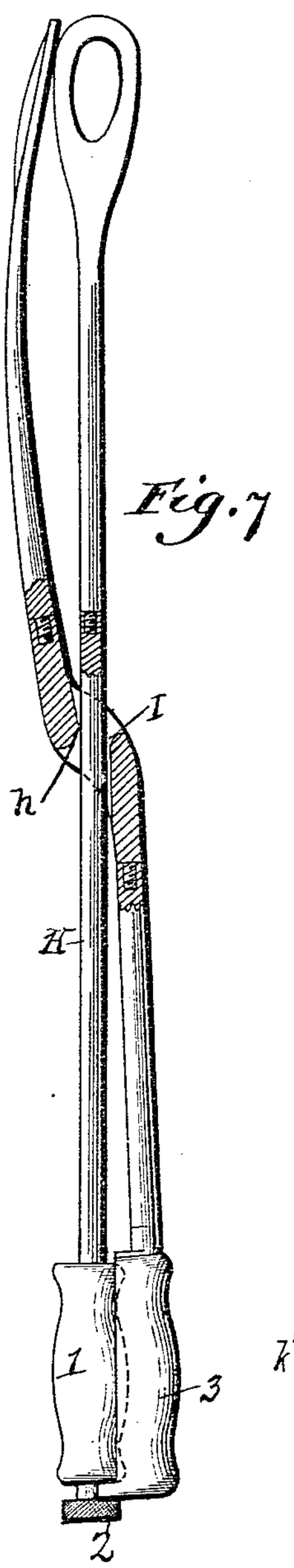

Fig. 7

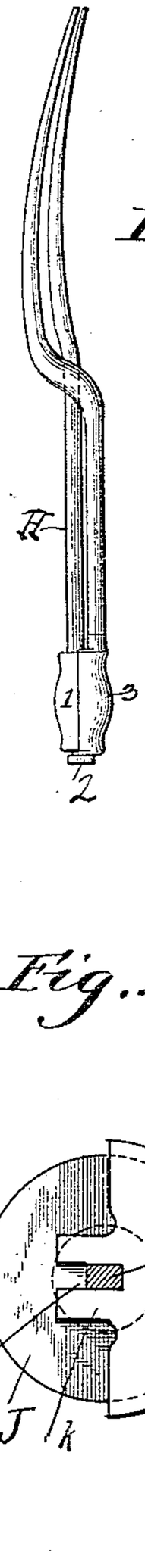

Fig. 8

Fig. 11

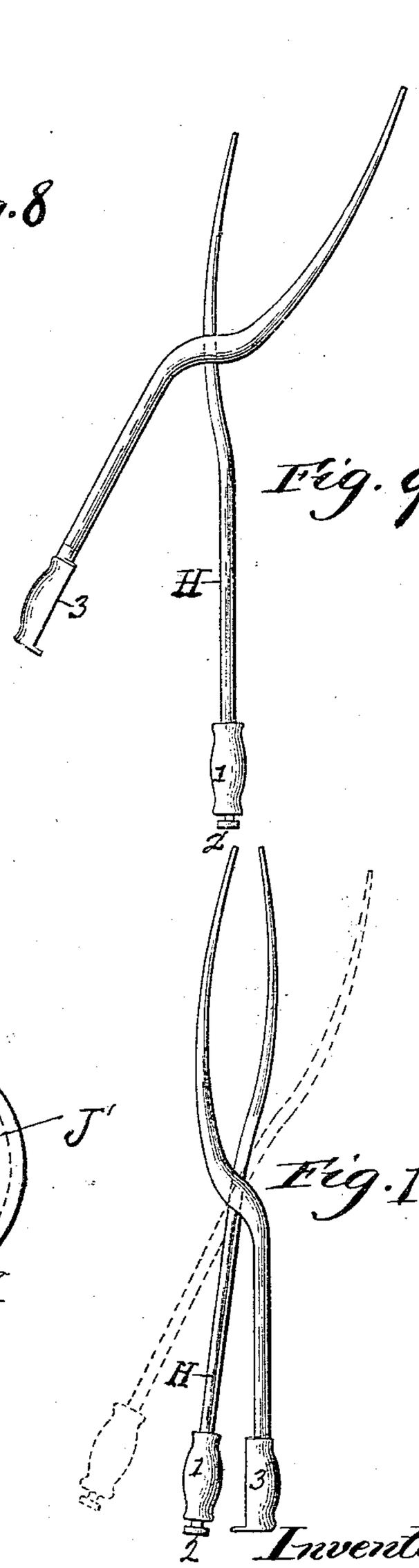

Fig. 9

Fig. 10

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UNITED STATES PATENT OFFICE.

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GYNECOLOGICAL FORCEPS.

SPECIFICATION forming part of Letters Patent No. 555,194, dated February 25, 1896.

Application filed March 11, 1895. Serial No. 541,288. (No model.)

To all whom it may concern:

Be it known that I, FRANK WAGNER, a citizen of the United States of America, residing at Shancks, in the county of Morrow and State of Ohio, have invented certain new and useful Improvements in Gynecological Forceps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in surgical instruments, and more particularly to that class known as "obstetrical forceps," for delivering bodies that cannot be otherwise reached or handled.

This invention has for its object the construction of an instrument of the above-referred-to class that will materially assist in such delivery and render the operation less dangerous.

A further object of the invention is the production of an instrument particularly applicable in cases of malposition, that it may be possible to adjust the body to the proper place, and, furthermore, in producing means for the introduction of a tape or cord around the body, that it may be held in its adjusted position.

The invention has for its further object to design an instrument that will be strong, durable and simple in its operation.

With the above and other objects in view the invention finally consists in the novel construction, combination and arrangement of parts to be hereinafter more particularly described and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings forming part of this specification, wherein like numerals denote corresponding parts in the several views, in which—

Figure 1 is a side view of my improved forceps. Fig. 2 is a similar view partly in section. Fig. 3 is a detail view of a modified form. Fig. 4 is a sectional view on the line *x x* of Fig. 1. Fig. 5 is a perspective view of the adjuster. Fig. 6 is a sectional view of the keeper with the cord in place; Fig. 7, a view in elevation, partly in section, with one blade turned to illustrate its shape, &c. Fig. 8 is a similar view showing the instrument folded. Figs. 9 and 10 are similar views showing varying adjustments, and Fig. 11 is a bottom plan view of the handles.

In the drawings, 1 indicates the handle, carrying on its lower end a knob 2. The handle is partly inclosed by a hollow casing 3, which carries a rod 4, which is preferably attached by means of screw-threads, as shown at 5. The rod 6 is attached in like manner to the end of the handle and carries the ball 7, operating in a split socket 8, forming a sigmoidal connection between the rod 4 and the blade 9 of the forceps. A corresponding blade 10 is attached to the ball 7. The ends of the blades are provided with eyelets, the inner walls of which consist of a spring 12, which normally inclose the eyelets, which are adapted to receive a cord or tape 13 or any flexible material, the free ends of which are passed through a keeper 14. The cord is further provided with a stop-ball 15 to prevent the loss of the keeper should the loop fail to encircle the object and be tightened. An adjuster 16 for the operation of the keeper is formed with the loop 16^a at its upper extremity for the reception of the ends of the cord.

Fig. 1, dotted lines, illustrates how the blades may be turned to coincide in contour with each other and is the adjustment which should be made before it is introduced for an operation, as the arms can then be turned, carrying the blades which can be so directed as to pass around the object.

In the modification shown in Fig. 3, the ball-and-socket joint is the same as shown in the other figures, but it will be seen that the ball is provided with a central aperture, in which the operating-rod of one of the blades is slidingly mounted. By this arrangement the sliding arm can be advanced or withdrawn to cause the blades to be of greater or less length with relation to each other, which is especially desirable at times, since one of the blades might meet an obstruction, in which event, with the old form of forceps in common use, great annoyance would be caused, but with a device as here described the sliding arm could be pushed forward and at the same time turned, if desired, to facilitate the locating of the body and the adjustment of the loop.

In the modification shown in Fig. 7 the arm H is slidable in the socket I, said socket tapering from the outer edge on each side toward the center and forming a fulcrum *h*, on which the arm H rides. In this figure one of the blades is shown in front elevation that an understanding of its construction may be had; but it will be understood that an instrument may be made having interchangeable blades, one set of which might be formed, as shown in Fig. 7, and the other set as shown in Fig. 1, secured in position by the screw-threaded shank and socket shown. The handles J of Fig. 11 are similar to those of Fig. 4, while the handle K is provided with a hook *k*, with a slot *k'* to receive the shank J' of the handle J. The hook as employed will tend to indicate the position of the blade, for when the recess fits around the shank the blades will be opposite. This arrangement will also prevent the turning of the arm, as will be apparent.

Operation: In cases where malposition has taken place the cord is threaded through the eyelets of the blades and the instrument inserted in the womb. When in this position the handle is turned, thus spreading the blades, the cord forming a loop, which is passed around the body. The keeper is then applied by inserting the free ends of the cord, forming the loop through the same. The ends of the cord are also passed through the loop of the adjuster and are then forced inwardly, thereby tightening the loop around the body. When this is accomplished the instrument and adjuster are withdrawn and the cord detaches itself from the blades by means of the springs, releasing the cord from the eyelets.

As will be seen, all parts of the instrument may be readily taken apart for the purpose of cleaning and applying disinfectants.

Particular attention is directed to the fact that various changes may be made in the details of construction of the above-described instrument without departing from the general spirit of my invention.

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

1. Obstetrical forceps consisting of arms and blades, with a socket formed in one of the arms, a ball fitting in the socket with the opposite arm slidable in an aperture formed in the ball, for the purpose described.

2. In a device of the character described, the combination with a socket the walls of which are split and carry a blade and handle-rod, a ball in the socket having a central aperture in which the opposite blade-rod is slidable for the purpose described.

3. Obstetrical forceps having blade-arms provided with joints which allow the end of one blade to move beyond the end of the opposite blade and simultaneously turn, for the purpose described.

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

FRANK WAGNER.

Witnesses:
O. M. FARBER,
P. GRABLER.