

No. 751,475.

PATENTED FEB. 9, 1904.

T. DE VILBISS.
SPECULUM

APPLICATION FILED NOV. 21, 1901.

NO MODEL.

Fig. 1.

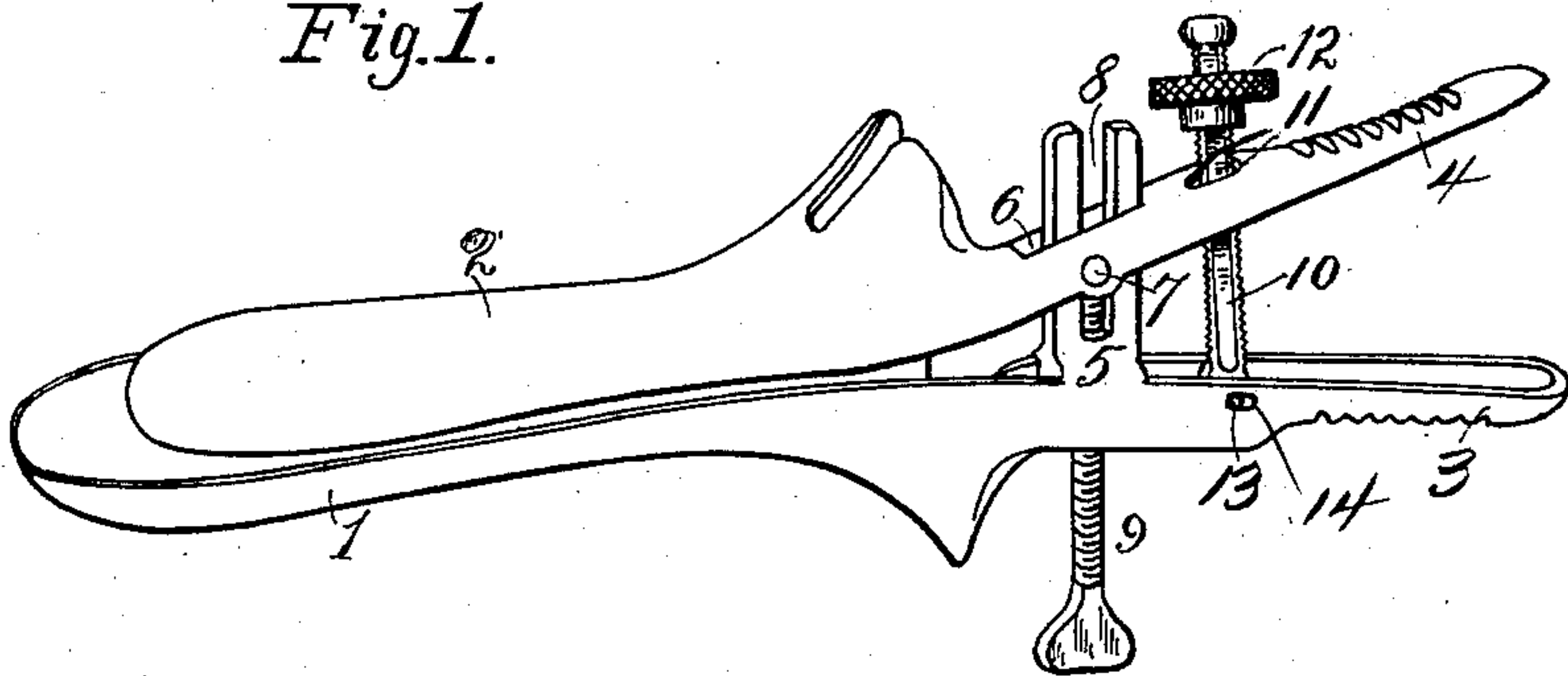


Fig. 2.

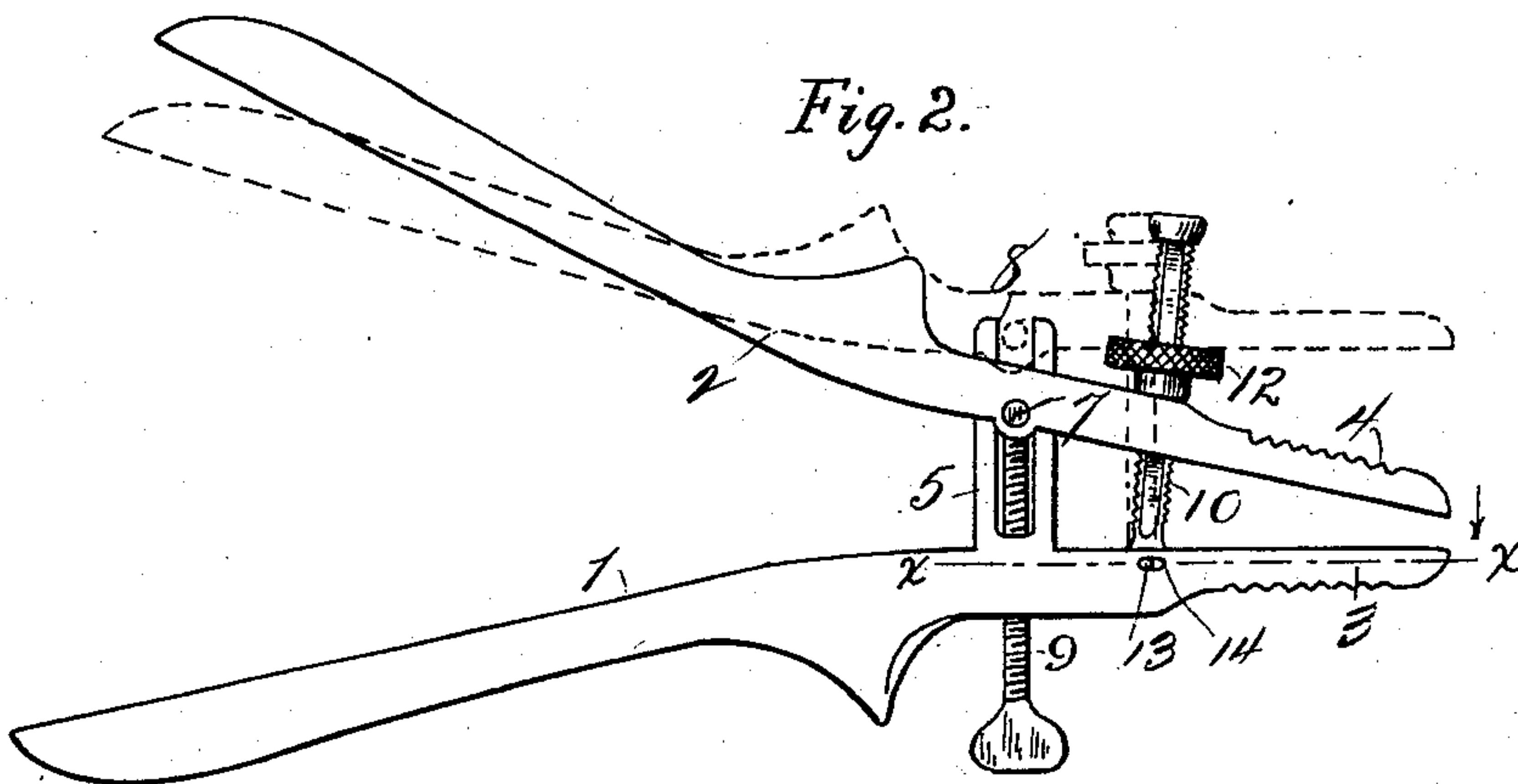


Fig. 3.

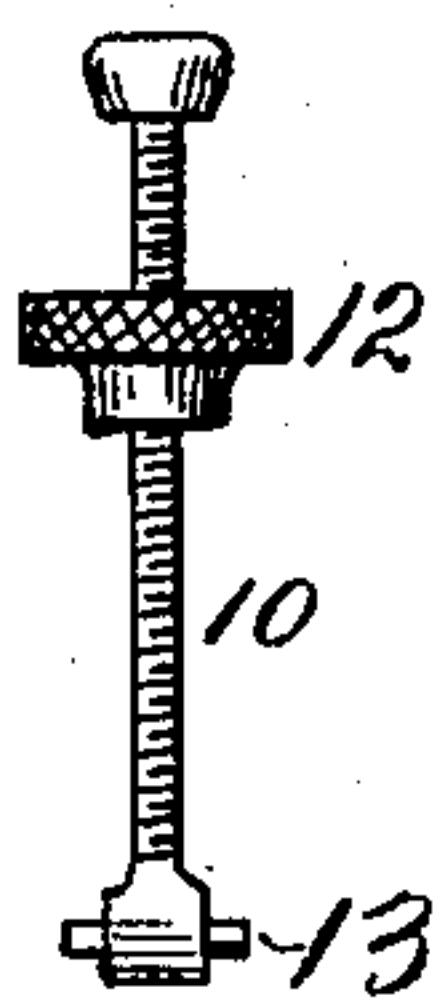
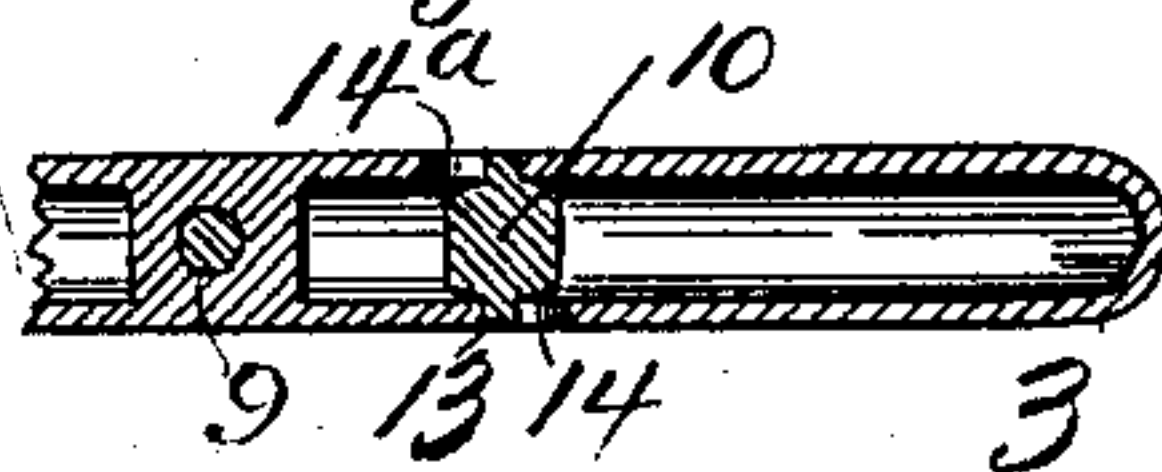


Fig. 4.



WITNESSES:

David C. Walter
L. E. Brown

INVENTOR.

Thomas De Vilbiss
By his Atty.
Shuman Hall

UNITED STATES PATENT OFFICE.

THOMAS DE VILBISS, OF TOLEDO, OHIO.

SPECULUM.

SPECIFICATION forming part of Letters Patent No. 751,475, dated February 9, 1904.

Application filed November 21, 1901. Serial No. 83,095. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DE VILBISS, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have
 5 invented certain new and useful Improvements in Speculums; and I do 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
 10 use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to and its object is to
 15 provide a speculum in which the blades or plates of the speculum may be swung apart to any desired extent at their inner ends and in which the pivotal connections between the two blades or plates at the mouth of the specu-
 20 lum may be so adjusted that the two parts are thrown bodily asunder, whereby the mouth of the speculum may be opened or closed, as may be desired, and whereby the throw of the inner ends of the blades may be varied as
 25 may be required, thus furnishing a speculum having an inner and outer adjustment ranging from the smallest to the largest extensions within practical limits.

My invention consists also in certain details
 30 of construction hereinafter pointed out, by means of which the parts may be quickly assembled and separated for cleansing and for packing in compact form.

I attain these results by means of the de-
 35 vices and arrangement of parts hereinafter described and shown, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my de-
 40 vice closed to nearly its smallest adjustment; Fig. 2, a side elevation of the same, showing the blades open at their inner extremities and illustrating the manner of projecting and retracting the pivotal connection between the blades, whereby the blades are separated
 45 bodily; Fig. 3, an elevation of my adjusting-screw; and Fig. 4, a sectional top plan view of one of the handles, hereinafter referred to, taken on line *xx*, Fig. 2.

Like numerals of reference indicate like
 50 parts throughout the drawings.

In the drawings, 1 is the lower and 2 the upper blade of a vaginal speculum, the blades being of the usual elongated concavo-convex form. The lower blade is provided with handle 3 and the upper blade has handle 4. 55 Secured to or formed upon the handle of the blade 1 just in front of and at the side of the mouth of the speculum is an upwardly-projecting slotted arm or bracket 5, which passes through a corresponding vertical opening 6 in 60 the handle of the upper blade. Across this opening and through the upper handle passes transversely a pin 7, which fits into and is vertically movable in the slot or crotch 8 of the bracket 5. A threaded hole is tapped verti- 65 cally through the lower handle into the bottom of the slot 8. This hole takes a set-screw 9, the upper end of which projects against the pin 7. For the sake of lightness and to facilitate 70 the stamping or pressing of the blades and their handles out of sheet metal the handles are longitudinally grooved into trough-like form on their adjacent sides. Pivotaly se- 75 cured to the lower handle is a flat screw 10, which passes through a corresponding hole 11 in the opposite handle. Upon this screw, above the handle, is a set-nut 12, adapted to 80 traverse nearly the length of the flat screw 10. The pivot for the screw 10 consists of a pin 13, passing through the bottom of screw 10 and which engages holes 14 and 14^a, formed 85 transversely through the walls of the handle 3. It will be seen from Fig. 4 that these two holes are not in alinement and that the forward side of one of the holes lies directly opposite the 85 rear side of the other hole.

The operation of my device is as follows: The parts being assembled, as illustrated in Fig. 1, the screw 9 is withdrawn to such extent that the pin 7 rests in the bottom of the 90 slot or crotch 8 of the bracket 5. The two blades will now rest in contact and the mouth of the speculum will be reduced to its smallest size. To separate the inner extremities of the two blades, the set-nut 12 is screwed down- 95 wardly, pressing the handles together and swinging apart upon the fulcrum 7 the inner extremities of the two blades. During this operation the mouth of the speculum remains practically unchanged. Now to extend and 100

enlarge the mouth of the speculum the set-screw 9 is screwed upwardly against the pin 7, thus separating the two blades, which swing apart upon the pivoted screw 10, which now
 5 forms the fulcrum. When the speculum is in use, the exterior pressure upon the two blades will hold the pin 7 against the end of the screw 9 and the handle 4 against the set-nut 12. Thus it will be seen that the separation of the
 10 inner extremities of the blades and the outer extremities of the blades forming the mouth of the speculum may within certain limits be as great or small as desired and that either or both of these adjustments may be obtained
 15 without removing the speculum.

When it is necessary to take the instrument apart, the pin 7 is lifted out of the slot or crotch 8, the screw 10 is given a quarter-turn axially, which frees the pin 13 from the holes 14 14^a,
 20 which permits the separation of the two blades. The arrangement of the pivot 13 and the elongated staggered holes 14 14^a, together with the flat screw passing through the narrow opening 11, and fulcrum-pin 7, resting in the slot
 25 8, prevents the lateral movement and disengagement of the parts except when the pivot 7 is lifted out of the crotch or slot 8.

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

1. In a speculum, a blade, a handle therefor, a slotted arm on said handle, an adjusting-screw projecting into the slot of said arm, another blade, a handle therefor, and a pivot on said
 35 latter handle which slides in said slot and which is controlled by said screw.

2. In a speculum, a pair of blades, a pair of handles therefor disposed at one side of the blades, adjustable pivotal connections between

and in the same plane with said handles, and means disposed substantially in the same plane
 40 with the said two handles for regulating the distance between said handles and for securing the handles in adjusted position in relation to each other.

3. In a speculum, a blade having a handle and an arm on the handle near the mouth of the speculum, another blade, a handle therefor, a pivot on said latter handle which is
 45 mounted and movable in said arm, a screw 50 which projects and retracts said pivot, and means for securing said latter blade in adjusted position on said pivot.

4. In a speculum, a blade, a handle therefor, a slotted arm on said handle, an adjusting-
 55 screw passing through said handle into the slot of said arm; another blade, a handle therefor, a pivot on said latter handle which slides in said slot, a screw pivoted in said first-mentioned
 60 handle, and an adjusting-nut on said screw which engages the other handle.

5. In a speculum, a pair of blades, a pair of handles for said blades, one of said handles having a recess therein and holes in the opposite walls of said recess which holes are out of
 65 alinement with each other, a screw having flat sides and which passes through a corresponding opening in the other of said handles, a pivot-pin on said screw which engages said
 70 holes in the walls of said recess, an adjusting-nut on said flat screw, and a laterally-movable pivotal connection between said two blades.

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

THOMAS DE VILBISS.

Witnesses:

F. M. DOTSON,
 L. E. BROWN.