

(No Model.)

J. W. DAILY.
SPECULUM.

No. 458,708.

Patented Sept. 1, 1891.

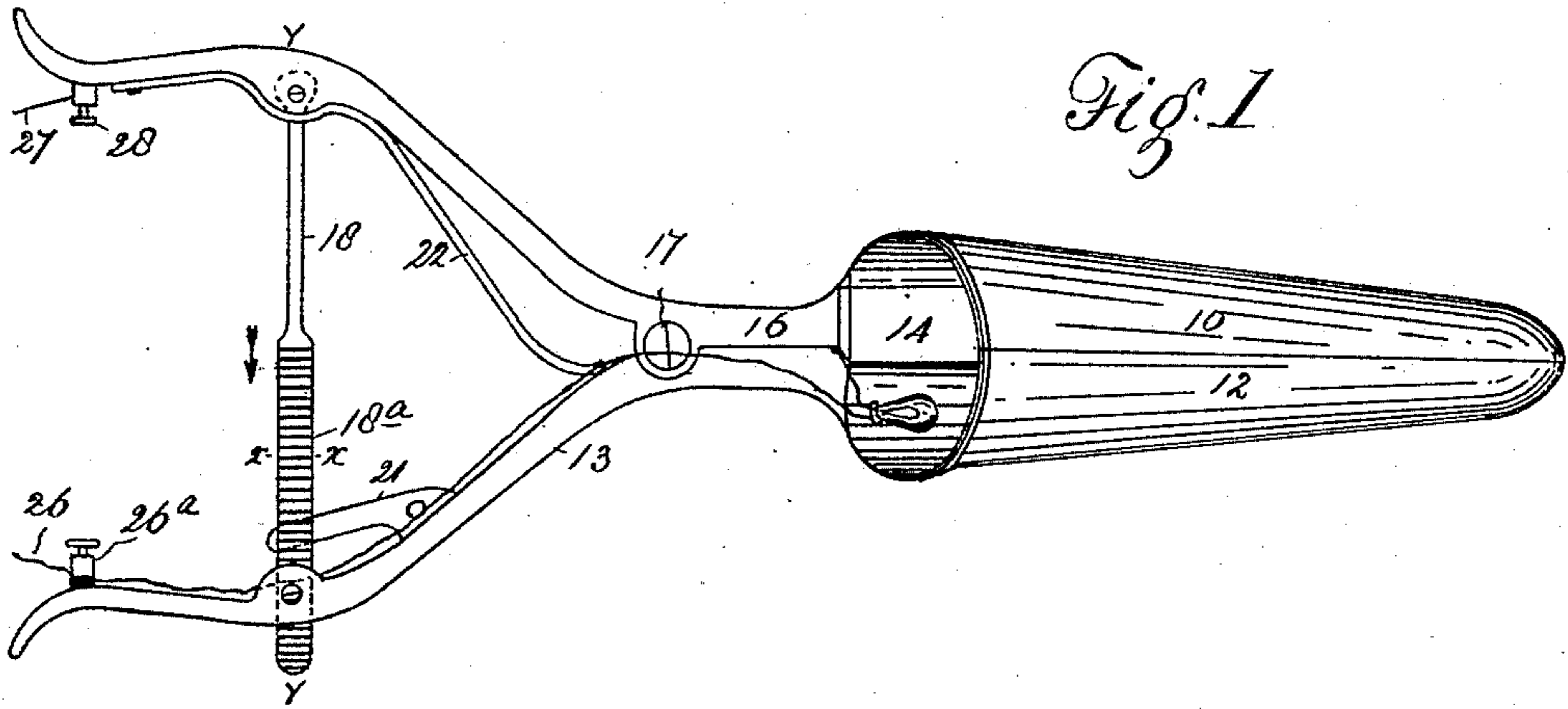


Fig. 1

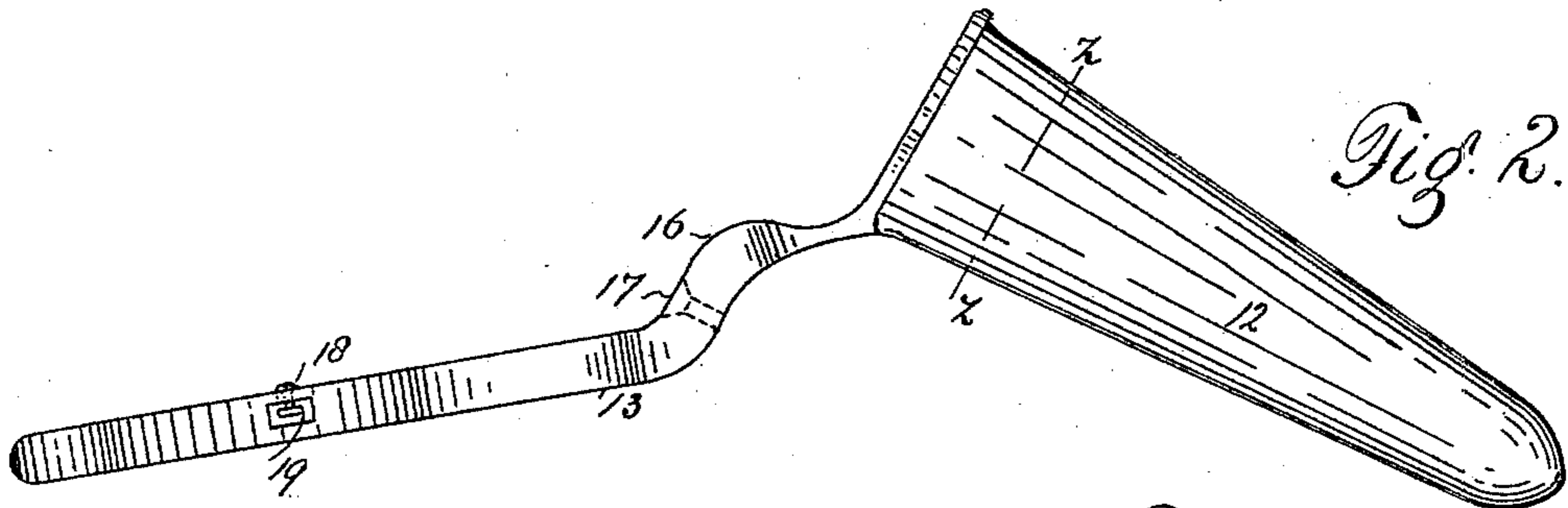


Fig. 2.

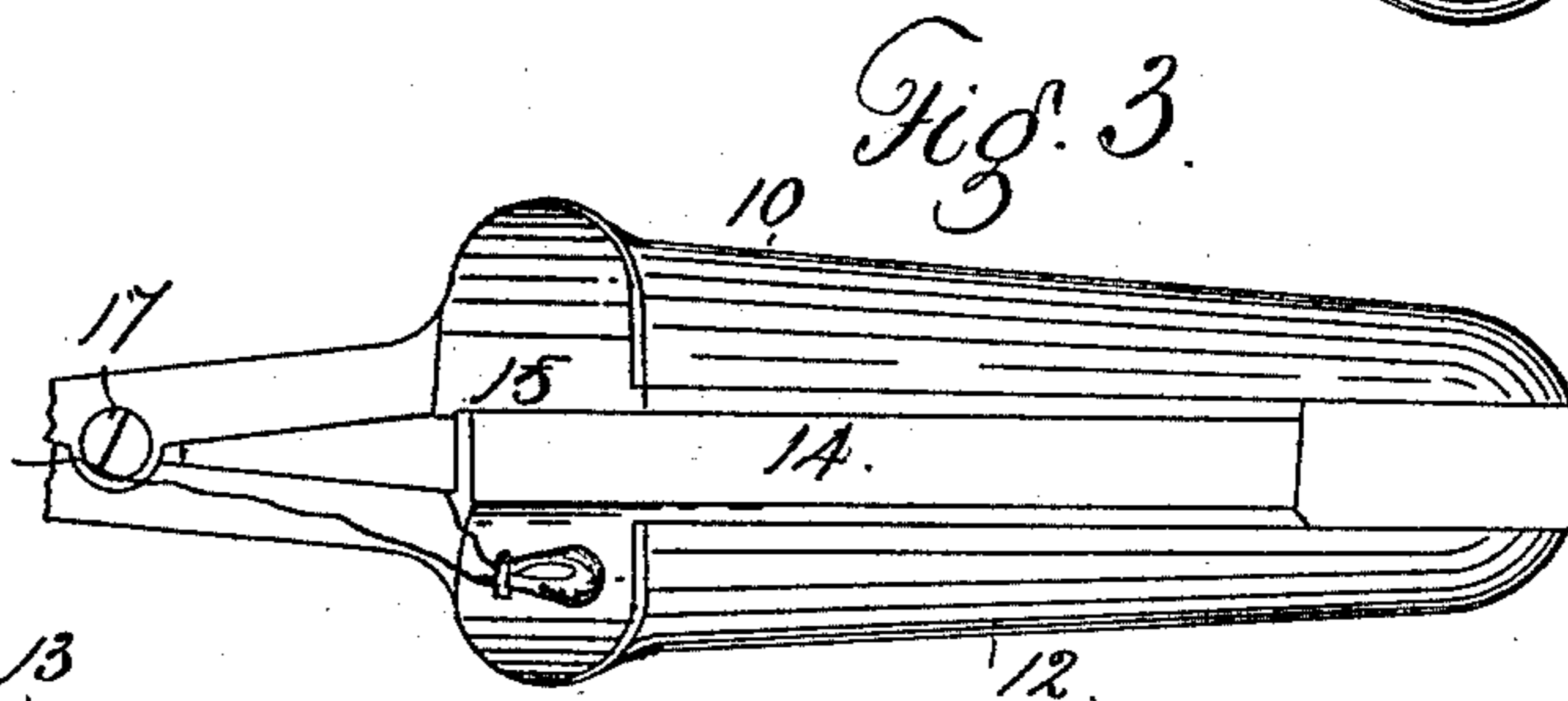


Fig. 3.

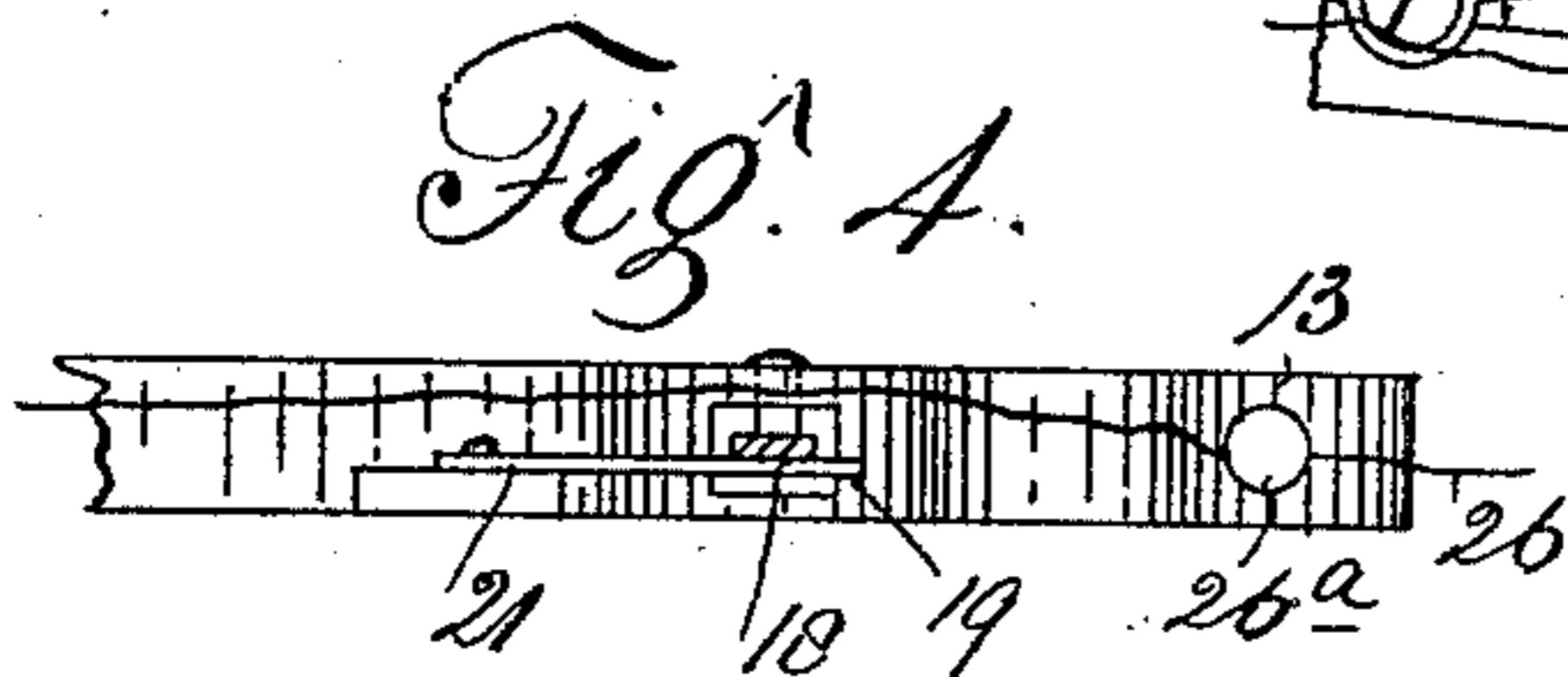


Fig. 4.

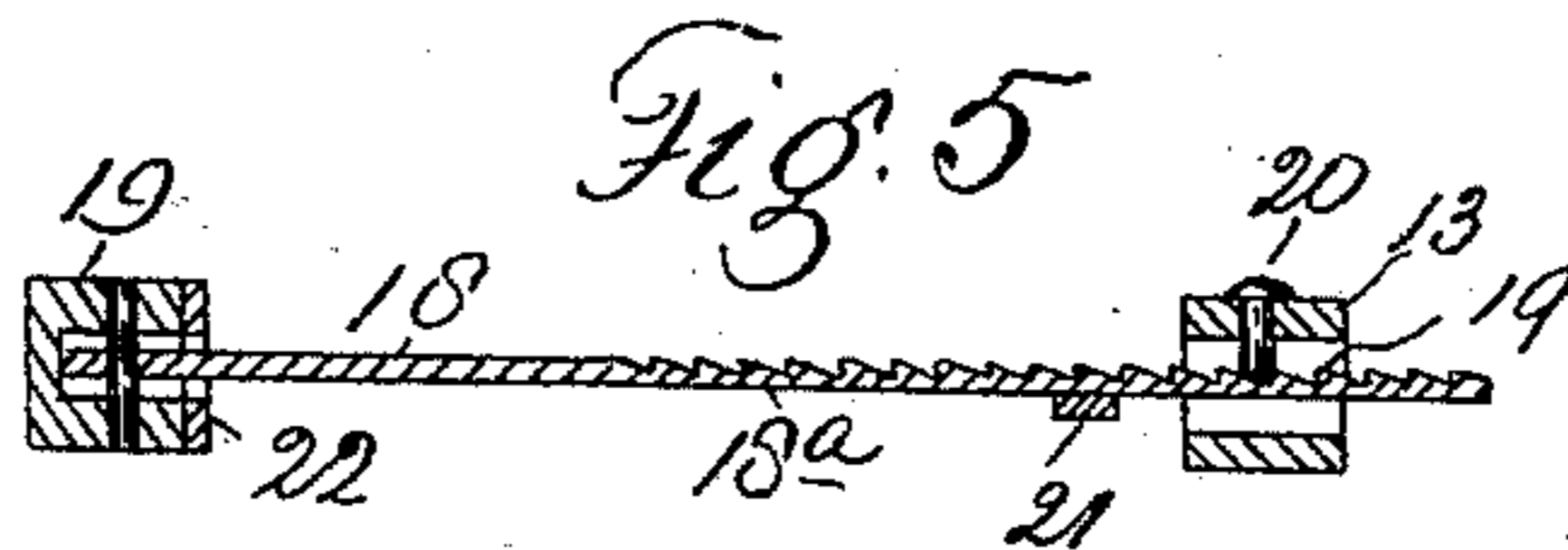


Fig. 5

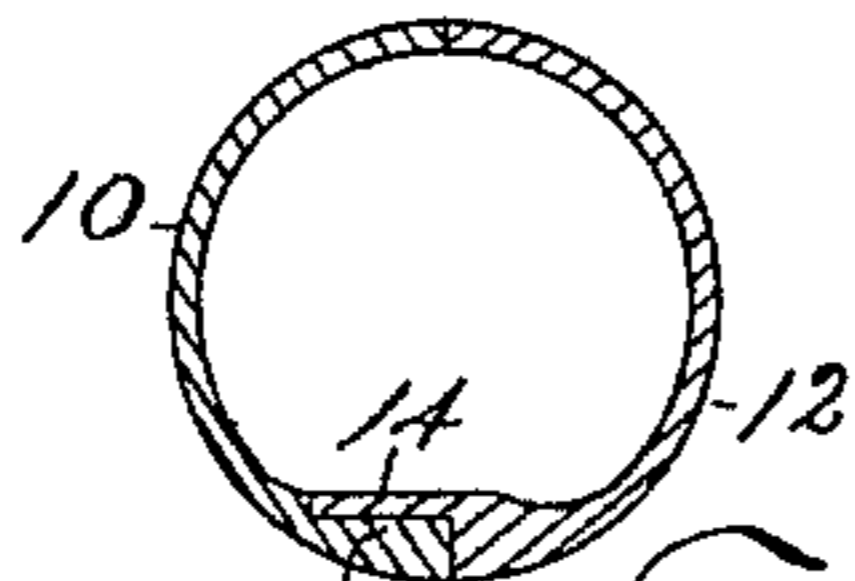


Fig. 6.

WITNESSES:

G. J. Pollard
W. M. Connell

INVENTOR

John W. Daily
BY *A. J. St. John*
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN W. DAILY, OF DENVER, COLORADO.

SPECULUM.

SPECIFICATION forming part of Letters Patent No. 458,708, dated September 1, 1891.

Application filed April 17, 1891. Serial No. 389,391. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. DAILY, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have 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 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 a novel form and construction of speculum or surgical instrument used to dilate certain passages of the body and throw the light within for the purpose of facilitating their examination.

The object of my invention is to provide an instrument of the class stated which shall be superior to those heretofore used in point of utility, and at the same time of simple and economical construction.

My improved speculum is of the bivalve class and possesses several important features of novelty.

In the use of speculums much difficulty is often experienced by reason of the tissues protruding thereinto from both sides as the jaws or valves are opened after insertion in the orifice, whereby it often results, particularly where the patient is fleshy, that these protruding parts meet in the center of the instrument and completely obstruct the view. I so construct my speculum that the parts can only enter from one side, and to accomplish this I provide one of the valves or jaws with a lip which when the instrument is closed overlaps the opposite jaw interiorly, said lip being of sufficient width to bridge the space which would otherwise be left between the jaws on one side when the instrument is open. The advantages of this feature will be readily observed.

Another feature is the attachment of a small incandescent electric lamp to the interior of one of the jaws of the instrument, whereby perfect illumination is obtained under all circumstances.

Other features are the hinging of the jaws so that their axis shall be parallel with their

sides, and the mechanism for controlling the opening and closing of the jaws.

The instrument will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment of the invention.

In the drawings, Figure 1 is a top or plan view of the instrument closed; Fig. 2, a side elevation of the same. Fig. 3 is a top view showing the jaws open, the handle being broken away. Fig. 4 is a section taken on the line $x x$, Fig. 1, looking in the direction indicated by the arrow; Fig. 5, a section taken on the line $y y$, Fig. 1; Fig. 6, a cross-section taken on the line $z z$, Fig. 2.

In the views, wherein similar reference characters indicate corresponding parts of the mechanism, let the numeral 10 designate one of the jaws or valves provided with the handle portion 11. The opposite jaw 12 is provided with a similar handle-piece 13 and a lip or blade 14, adapted to overlap the opposite jaw interiorly when the jaws are closed, the jaw 10 being provided with a recess or depression 15 for the reception of said lip. The two jaws or valves when closed form a hollow cone-shaped body, with the handle parts extending obliquely downward from the base a short distance, where a bend 16 is formed extending at right angles to the body of the instrument. The handle-pieces are suitably hinged at this bend by a rivet 17, which forms the axis of the jaws. This axis should be parallel with the adjacent sides of the body of the instrument, so that the space between these jaws when opened will be of equal width throughout their length. This method of hinging the handles has a decided advantage over the old method, in which the handles are carried straight back from the body of the instrument and pivoted by a rivet placed at right angles to the body thereof. It will be readily seen that where the axis is placed as last described or in the old-style instruments, the opening between the jaws or valves will continually increase in width from the base toward the point. It may thus happen that after the instrument is inserted and opened it will be wider at its anterior extremity than at the base, which will of course cause difficulty in removing the same, since it must be removed before it can be closed,

as the tissues protrude between the jaws. Below and in the rear of the axis the handle-pieces make a slight bend upward and then bow outward from each other, as shown in the drawings. These handles are connected about midway between their axis and their free extremities by a ratchet-bar 18, one extremity of which is pivoted in a suitable socket formed in piece 10, while the opposite extremity passes through an opening 19, formed in part 13. Bar 18 is provided with a toothed or notched portion 18^a, the teeth being pointed inward, as shown in Fig. 5, and engaged by a stationary pin 20, secured in the part 13 and extending into opening 19. The ratchet-bar is normally held in engagement with this pin by a spring 21, secured at one extremity to part 13, while its free extremity projects outward therefrom and engages the ratchet-bar. Opening 19 is made of such size that the bar 18 may be pressed downward therein sufficiently to release its teeth from engagement with pin 20. This downward movement of the ratchet-bar is made in opposition to the action of spring 21. When the ratchet-bar is released from pin 20, the handle-pieces are forced outward and the jaws to the closed position by the action of a steel spring 22, secured at one extremity to the inner side of part 11, while the opposite or free extremity engages the handle-piece 13 in the rear of the axis. A small incandescent electric lamp 25 is secured to the inner side of one of the jaws, as shown. This lamp is shown attached to the jaw 12, and this is preferable on account of lip 14, which gives a greater surface area for the purpose. One circuit-wire 26 is secured to the

handle-piece 13 by an insulated binding-screw 26^a, from which it is carried to the lamp, while the other wire 27 terminates at a binding-screw 28, from which point the metal of the instrument forms the circuit medium to a point 29, where a short wire is secured to the metal and carried thence to the lamp. This is believed to be the most convenient method of connecting the circuit-wires with the lamp. Any other convenient method may, however, be employed.

Having thus described my invention, what I claim is—

1. A speculum provided with two distinct axially-movable overlapping jaws, which when in use present a single longitudinal opening, the tissues being concealed on the opposite side by the overlapping parts, substantially as described.

2. The combination, with the hinged or pivoted handle-pieces of a speculum, of a ratchet-bar having one extremity secured to one of said handle-pieces and the opposite extremity passing through a suitable opening in the opposite piece, which is provided with a pin adapted to engage the teeth of the bar, a spring holding the teeth of the bar normally in engagement with said pin, and a spring secured to one of the handle-pieces and having its free extremity in engagement with the opposite handle-piece, substantially as and for the purpose set forth.

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

JOHN W. DAILY.

Witnesses:

WM. MCCONNELL,
G. J. ROLLANDET.