

(No Model.)

J. P. HAWKES.
SURGICAL INSTRUMENT.

No. 535,798.

Patented Mar. 12, 1895.

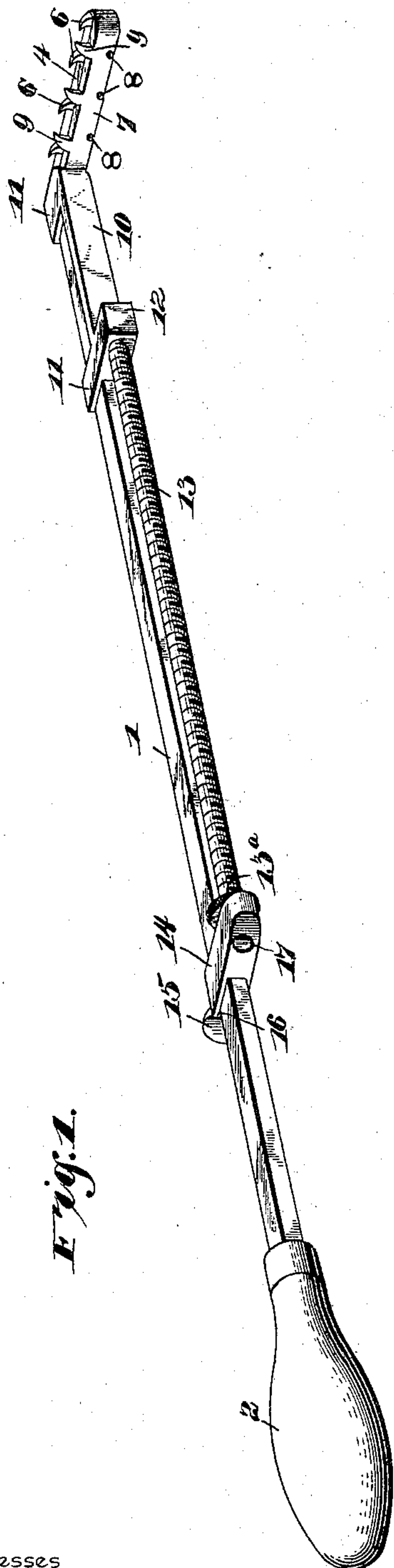


Fig. 1.

Fig. 2.

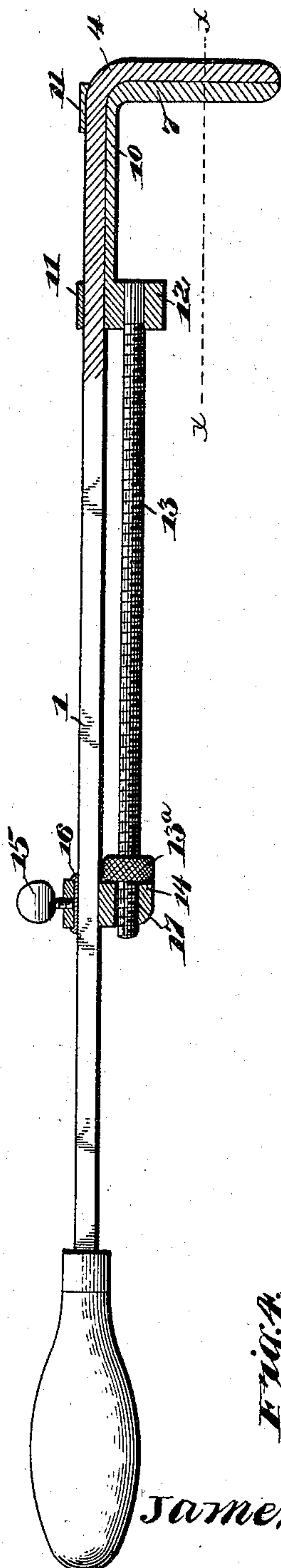


Fig. 3.

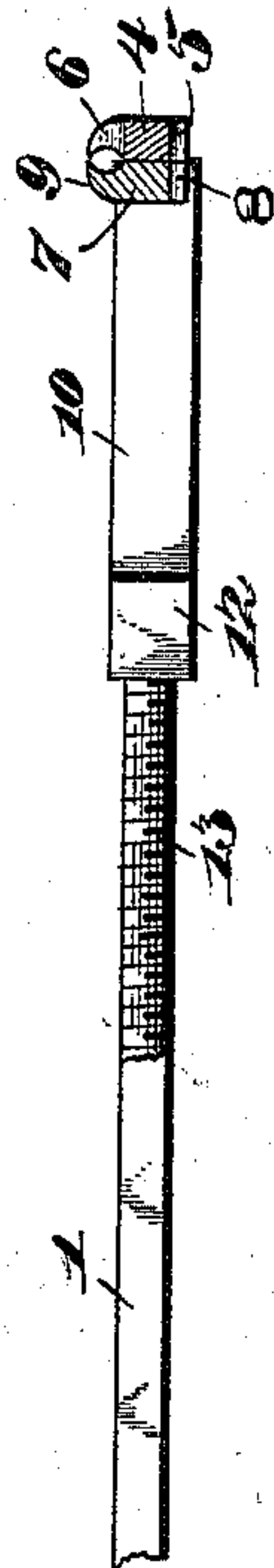
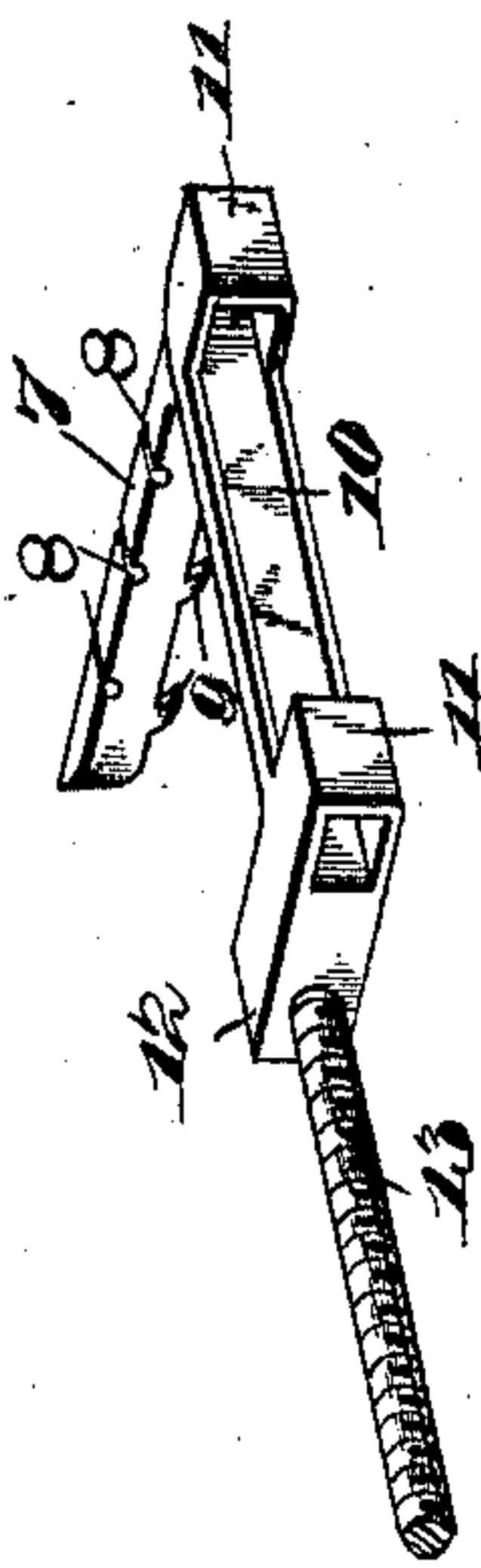


Fig. 4.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

JAMES PATRICK HAWKES, OF TEMPLE, TEXAS.

SURGICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 535,798, dated March 12, 1895.

Application filed April 20, 1894. Serial No. 508,296. (No model.)

To all whom it may concern:

Be it known that I, JAMES PATRICK HAWKES, a citizen of the United States, residing at Temple, in the county of Bell and State of Texas, have invented a new and useful Surgical Instrument, of which the following is a specification.

This invention relates to surgical instruments, and it has for its object to provide a new and useful device of this character constructed for use as a tractor for operating upon fistula.

To this end the main and primary object of the present invention is to construct a tractor device in a simple and practical manner whereby the same shall be especially adapted for use in vesico-vaginal fistula operations, but which may advantageously be employed in operating upon other fistulas, to firmly compress the edge-tissues and prevent loss of blood, while at the same time serving as a clamp to hold the edges together to admit of the easy and efficient use of the wire or other ligatures in sewing the parts together.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a perspective view of a tractor instrument constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view thereof. Fig. 3 is a detail section on the line $x-x$ of Fig. 2. Fig. 4 is a detail in perspective of the sliding jaw and jaw-plate.

Referring to the accompanying drawings, 1 designates the metal shank of the instrument that is made of suitable metal and in either a round or rectangular form, said shank being adapted to be made as light as possible so as to be conveniently handled. The instrument shank 1, is mounted at one end in a suitable handle 2, whereby it may be readily grasped and manipulated by the surgeon, and is provided at its other end with the right angularly disposed forcep-jaw 4. The right angularly disposed forcep-jaw 4, of the instrument, is fixed and is provided therein with a series of ligature grooves 5, and at one edge with a series of hook shaped tractor teeth 6.

The fixed forcep jaw 4, is opposed to the adjustable sliding jaw 7, that is arranged to move to and away from the jaw 4, and is of the same length and thickness, and is provided therein with a series of ligature grooves 8, that are adapted to align with those in the fixed jaw, and at one edge with a series of hook-shaped tractor teeth 9, that are disposed reversely to the teeth on the jaw 4, and alternate therewith in order to provide for properly engaging and drawing together the tissues at the opposite edges of the fistula.

The adjustable sliding jaw 7, is projected at right angles from one end of the sliding jaw plate 10. The sliding jaw plate 10, is arranged to slide at one side of the instrument shank 1, and is provided at its opposite ends with the sleeves or collars 11, which loosely slide on the shank 1, to provide for adjusting the jaw 7, to and away from the jaw 4, and said jaw plate 9, is further provided at one end with the off-standing attachment lug 12, into which is fitted one end of the adjusting screw 13. The adjusting screw 13, is disposed parallel with the shank 1, and accommodates thereon the milled adjusting nut 13^a, that is adapted to work in one side of the adjustable collar 14. The collar 14, is mounted for adjustment on the shank 1, and is held thereon in any adjusted position by the set screw 15, passing therethrough and working against the clamp plate 16. The clamp plate 16 is arranged within the collar opening and receives the impingement of the screw 15, to relieve the shank 1, from wear thereon, and also to provide for a firmer and steadier clamping of the collar in position. The adjustable collar 14, is also provided with a screw opening 17, through which is adapted to loosely pass the screw shank 13, to admit of the adjustment of the adjustable collar when necessary.

In operation, the instrument is properly brought to a position with the jaws 4 and 7 separated to span the fistula or cavity, and the teeth on the fixed jaw are engaged in the tissue above the fistula. The teeth on the sliding jaw are then engaged in the tissue below the fistula and by adjusting the nut 13^a, the jaws are brought together so as to close the fistula and compress the tissues, thereby preventing flow of blood. It will be under-

stood that the edge-tissues are held clamped between the jaws, in which position the edges are pared off in the usual way, after which the wire or other ligatures are passed through the ligature grooves of the jaws and through the clamped edges of the fistula, and are then tied to complete the operation. The jaws of the instrument are separated by adjusting the nut and screw, to provide for the removal thereof.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, and at this point it may be observed that in manipulating the instrument, after passing the ligatures through the edge tissues of the fistula, a surgeon's knot is made loosely and the upper ends of the ligatures are fastened in any suitable manner to the upper jaw so as to hold them firmly, and then the lower ends of the ligatures are held in the hand of the surgeon so that when ready to disengage the instrument, by manipulating the screw to separate the jaws, the ends of the ligatures will be carried away from each other so as to tighten the knot, and by this operation it will be seen that the instrument will assist in tying the knots of the ligatures.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a surgical instrument of the class described, the shank carrying a fixed jaw having grooves therein, and an opposing movable jaw mounted to slide on the shank and having grooves adapted to align with those in the fixed jaw, substantially as set forth.

2. In a surgical instrument of the class described, the handle shank provided at one end with a fixed jaw having ligature grooves, a jaw plate mounted to slide on the shank

and having a jaw opposed to the fixed jaw and also provided with ligature grooves, and means for adjusting said jaw plate, substantially as set forth.

3. In a surgical instrument of the class described, the handle-shank provided with a fixed jaw having grooves at one edge and tractor teeth at the opposite edge, and an opposing movable jaw, also having openings and tractor teeth disposed reversely to those on the fixed jaw, substantially as set forth.

4. In a surgical instrument of the class described, the handle shank having at one end a right-angularly disposed fixed jaw provided with ligature grooves, and hook-shaped teeth at one edge, an opposing movable jaw mounted to slide on the shank and also provided with ligature grooves and at one edge with hook-shaped teeth reversely disposed to those on the fixed jaw and alternating therewith, and means for adjusting the movable jaw, substantially as set forth.

5. In a surgical instrument of the class described, the shank having a handle at one end and a grooved and toothed fixed jaw at its other end, a sliding jaw plate having collars loosely embracing said shank and an offstanding grooved and toothed jaw opposed to said fixed jaw, an adjusting screw secured at one end to the sliding jaw-plate, an adjustable collar mounted on said shank, and an adjusting nut arranged to work on said screw at one side of the adjustable collar, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES PATRICK HAWKES.

Witnesses:

E. B. DICE,
NAT KING.