

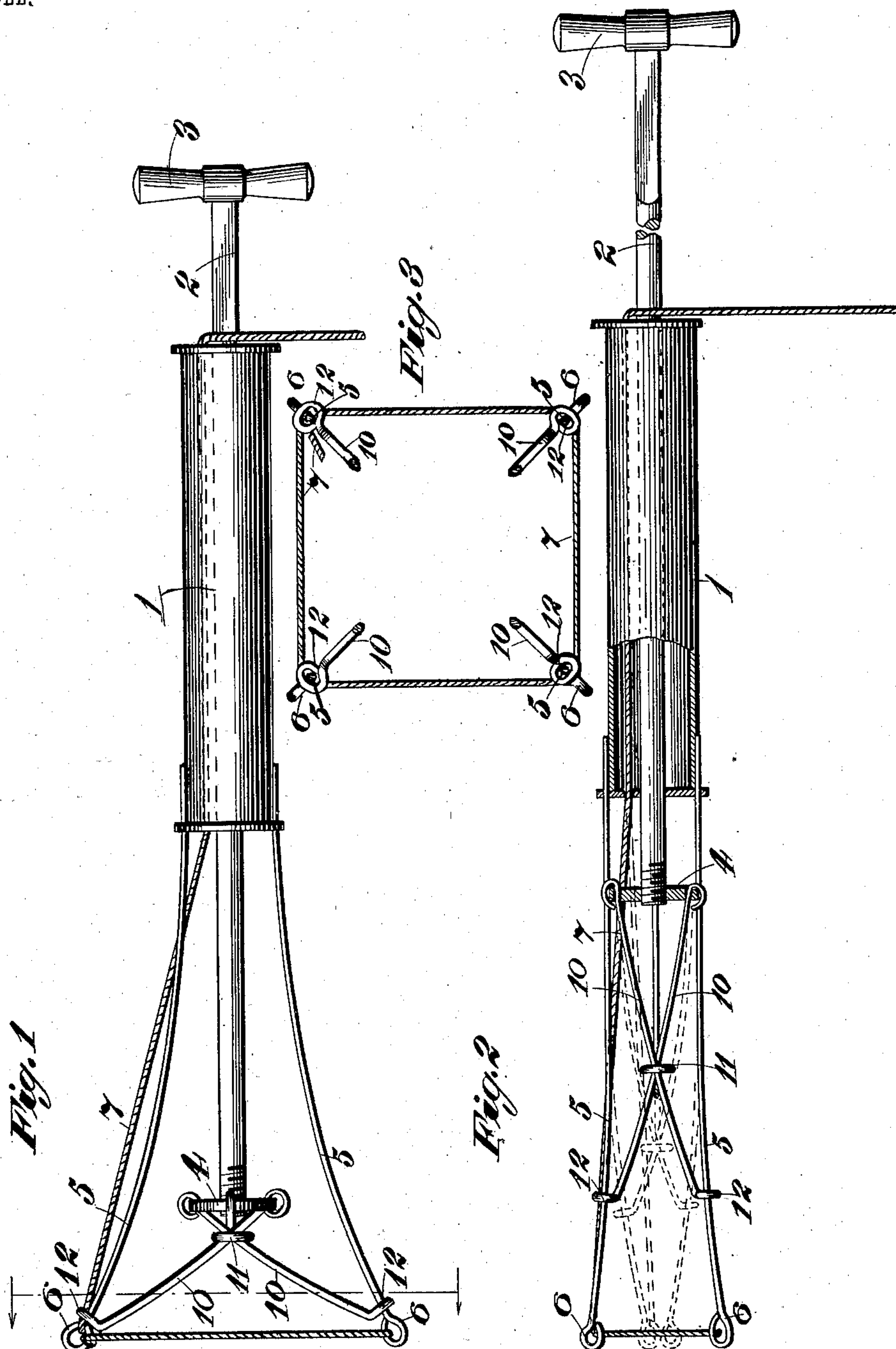
No. 742,026.

PATENTED OCT. 20, 1903.

W. A. HILL.
EMBRYOTRACTOR.

APPLICATION FILED JULY 9, 1903.

NO MODEL.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM A. HILL, OF COYLE, OKLAHOMA TERRITORY, ASSIGNOR OF ONE-HALF TO ISAAC PENDLETON HENTHORN, OF COYLE, OKLAHOMA TERRITORY.

EMBRYOTRACTOR.

SPECIFICATION forming part of Letters Patent No. 742,026, dated October 20, 1903.

Application filed July 9, 1903. Serial No. 164,914. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. HILL, a citizen of the United States, and a resident of Coyle, Logan county, Oklahoma Territory, have invented certain new and useful Improvements in Embryotrac-
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toractors; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to surgery, and more especially to obstetrical instruments; and the object of the same is to produce an improved embryotractor for use on animals or possibly

on human beings.

To this end the invention consists in the construction hereinafter described.

In the drawings, Figure 1 is a side elevation with the parts distended. Fig. 2 is a longitudinal section with the plunger retracted, showing in dotted lines how the jaws are drawn inward by the cord. Fig. 3 is a section on the dotted line in Fig. 1.

The numeral 1 designates a cylindrical handle or shank, through which slides a plunger 2, having a handpiece 3 at its rear end and a head 4 at its front end beyond the shank. From the forward end of the latter project a number of jaws 5, which are preferably of steel wire curved slightly outward away from each other and having eyes 6 at their outer extremities. 7 is a draw-cord attached to one of these eyes, leading around through the others and then through the eye to which it is attached and leading thence through the length of the shank and out its rear end to within reach of the operator.

The parts above described are commonly used to a greater or less extent in devices of this character already on the market, and I will now describe the means which I employ for opening and closing the jaws without injury to the animal or person upon which the instrument is used.

The numerals 10 designate spring-wires, whose inner ends are loosely connected to eyes near the edges of the head 4, whose bodies thence cross each other and where they are crossed are led through a ring 11 and whose outer ends are bent radially outward into

eyes 12, which loosely embrace the jaws. The ring is not attached to any member, but slides freely on the group of wires, being held in place by the divergence of these wires from each other on either side of the ring. Hence the latter serves as a fulcrum and even as a movable fulcrum, according to the position it occupies between the power, which is the head 4, and the work, which is the group of eyes 12.

In operation the plunger is retracted and the outer ends of the jaws are drawn together by the cord, so that the machine can be inserted. Then the cord is released and the plunger is pressed forward, which carries all the wires forward until they are checked by their outer ends striking the eyes on the jaws, after which further forward movement of the plunger automatically shortens the distance between the head 4 and the ring 11 and separates the wires and with them the jaws. The entire device is now moved forward to grasp the embryo, after which the plunger is retracted out of the way. The cord is then drawn upon, whereby the jaws are borne radially inward and embedded slightly in the sides of the embryo, and finally the latter is easily withdrawn by means of the machine. Experience has shown that it is not only possible to give the jaws a normal outward bend or divergence toward their outer ends, but it is also preferable. The final drawing on the cord opposes their normal outward spring, bends them back to a straight position, and if they are long it may even bend them a little beyond the straight, and the embedding of the jaws and especially of their eyes into the soft flesh of the embryo occurs usually at the neck and no injury results.

It is obvious that the machine can be made in various sizes, and the details of construction and the exact shape of parts are matters of little importance.

What is claimed as new is—

1. In an embryotractor, the combination with the shank, the spring-jaws, and means for drawing their outer ends together; of spreading mechanism comprising a series of wires having eyes at their outer ends loosely engaging said jaws, their bodies crossing each

other between their ends, a ring loosely surrounding said bodies where they cross, and means for moving their inner ends longitudinally of the instrument.

5 2. In an embryotractor, the combination with the shank, the spring-jaws, and means for drawing their outer ends together; of spreading mechanism comprising a series of wires having eyes at their outer ends loosely
10 engaging said jaws, their bodies crossing each other between their ends, a ring loosely surrounding said bodies where they cross, a plunger sliding through the shank, and a head at its forward end loosely connected to the
15 inner ends of said wires.

3. In an embryotractor, the combination

with the tubular shank, a series of jaws projecting from its front end and curved normally outward, eyes at their outer extremities, and a draw-cord rove through said eyes 20 and extending through the shank; of jaw-distending mechanism including wires crossing each other and there passing through a loose ring, said jaws having eyes sliding on said jaws, all substantially as described. 25

In testimony whereof I have hereunto subscribed my signature this the 3d day of July, A. D. 1903.

WILLIAM A. HILL.

Witnesses:

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