

(No Model.)

W. E. FARNHAM.
VETERINARY OBSTETRICAL FORCEPS.

No. 544,296.

Patented Aug. 13, 1895.

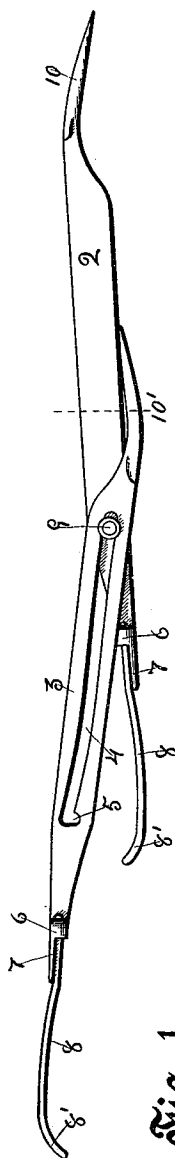


Fig. 1.

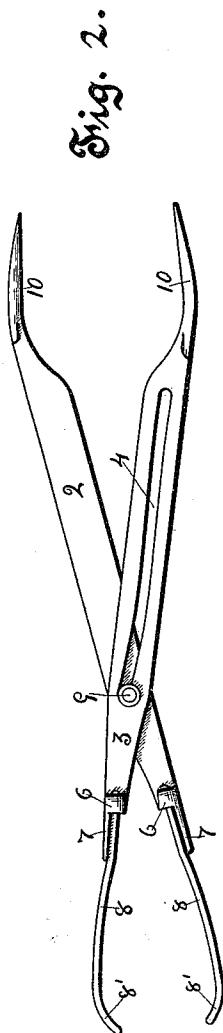


Fig. 2.



Fig. 3.

Witnesses

Frank Michel
J. F. Badgerow.

William E. Farnham Inventor

By his Attorney Jan. Vaughan

UNITED STATES PATENT OFFICE.

WILLIAM E. FARNHAM, OF BLAIR, NEBRASKA.

VETERINARY OBSTETRICAL FORCEPS.

SPECIFICATION forming part of Letters Patent No. 544,296, dated August 13, 1895.

Application filed October 1, 1894. Serial No. 524,642. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. FARNHAM, a citizen of the United States, residing at Blair, in the county of Washington and State of Nebraska, have invented a new and useful Obstetrical Forceps, of which the following is a specification.

My invention relates to improvements in forceps with oval loop-jaws; and the objects of my improvement are, first, to provide an elastic jaw with a rigid shank; second, to facilitate the application of the forceps by pivoting the jaws inseparably together in such a manner that one of them may be inserted and placed in position before the opposite jaw enters the vaginal cavity, and, third, to provide at reduced cost of manufacture an obstetrical forceps for stock-raisers' use, such as hereinafter described. I attain these objects with others of less importance, to be hereinafter more fully set forth, by the mechanism illustrated by the accompanying drawings, which represents a forceps especially formed for parturition at farrowing in the care of swine.

Figure 1 is a top view showing one of the jaws forwardly extended for making the initial insertion. Fig. 2 is a top view showing the relative positions of the jaws after both are properly inserted. Fig. 3 is a side view of one of the shanks, handle, and jaw before the two principal parts are assembled in constructing.

Similar numerals refer to similar parts throughout the several views.

The flattened shanks 2 and 3 are loosely pivoted together flatwise by the integral pivot 9 on shank 2 inserted through the longitudinal slot 4 in shank 3, and headed down over a retaining-washer. The jaw ends of the shanks have integral T-heads 6 at right angles to the plane of movement of the shanks on the pivot, said heads less in thickness than the width of the shanks, which are tapered edgewise to agree with the heads. The jaws 8 each consist of a single piece of spring-wire bent to an approximate oval with the ends of the wire at the small end of the oval. (See Fig. 3.) The ends of the wire are riveted in perforations through the opposite ends of the T-head in the direction of the shank. Each head has an integral projecting web 7 flush

with the outer edge of the shank, agreeing with the plane of the loop and against the back of the loop or jaw to reinforce the same and prevent the wire from breaking at its junction with the head. As shown in Figs. 1 and 2, the loops or jaws are also bent laterally with a slight middle curvature 3 and a more abrupt bend 8' toward each other at the ends of the jaws, the four lines of spring-wire between the extending ends of the jaws and their junction with the shanks inclosing a space approximately the shape of a pig's head, with nose toward the shanks and ends of the jaws 8'' on opposite sides of the neck. The rear ends of the shanks are provided with integral handles 10 flattened and bent, as shown, to form convenient hand-holds.

By the use of spring-wire strongest and lightest jaws are obtained, and as the jaws are not integral parts of the shanks said shanks are made of cast metal, preferably malleable iron, the jaws then attached, and the whole tinned or plated. In this manner an elastic-jaw forceps is produced at a cost much below that by forgings, where jaws and shanks are integral and that meet the requirements of stock-raisers quite as well. Further, the form of the jaws may be modified at any time to meet the exigencies of different cases, even after the instrument is completed, as the spring-wire will admit of much bending, being to a considerable extent ductile. For instance, the curves 8' 8' may be further bent, so as to form the end of the jaw into a large blunt hook, the opposite shank serving as a double hand-hold when ranged transversely; also the general form of jaw may be changed without interfering with the shank construction, and jaws can be easily replaced with new ones in case of breaking or other failure.

The shanks at pivot are normally inseparable in the completed instrument, which is an advantage to stock-raisers, as it is always intact ready for use, and the manner of pivoting permits the use of a single jaw, when desired, by sliding and turning the other back and out of the way or where it can be used as a transverse handle.

In operation the shank 3 is thrust forward until the pivot 9 rests in the rear end of the slot 4, as shown in Fig. 1, and its handle par-

allel with and against the back edge of shank 2, so that both parts may be grasped with one hand at 10' and firmly held until the jaw on shank 3 is inserted beyond the innominate bones and properly placed, when the shank 2 and its jaw is thrust forward in like manner until the pivot 9 is seated in the notch 5 at the forward end of the slot, which retains the jaws in the right relative position during delivery.

The elasticity of the jaws prevents undue or injurious pressure on any part of the offspring's head, as well as gives the tips of the jaws 8" a yielding touch, so as not to crush or dislocate the neck.

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

1. In an obstetrical forceps the combination of a pair of oppositely disposed jaws having handled shanks inseparably pivoted together by a stud on one shank to loosely slide in a longitudinal slot in the other shank, whereby one jaw may be advanced and inserted before the other; the handle of the advanced jaw adapted to rest parallel with and against the opposite shank, where both may be grasped with one hand and thus retained during the insertion of the advanced jaw, substantially as described.

2. In an obstetrical forceps the combination of a pair of looped ductile jaws having handled shanks inseparably pivoted together by a stud on one shank to slide loosely in a longitudinal slot in the other shank, whereby one jaw may be advanced and inserted before the other, the latter adapted to be used as a transverse handle to the advanced jaw and shank, substantially as described.

3. In an obstetrical forceps the combination of a pair of elastic jaws having rigid shanks inseparably pivoted together by a stud on one shank to loosely slide in a longitudinal slot in the other shank and a lateral branch off the slot, to receive and retain the stud to hold the

jaws in oppositely disposed positions, substantially as described.

4. In an obstetrical forceps the combination of a pair of rigid shanks centrally pivoted and having corresponding jaw ends, each provided with elastic loop shaped jaws consisting of spring wire, attached to the end of the shank, and a reinforcing web extending from the shank onto the back of the jaw substantially as described.

5. In an obstetrical forceps the combination of a pair of flat rigid shanks centrally pivoted to swing edgewise, and having jaw ends consisting of integral T heads at right angles to their plane of motion, each head having a jaw consisting of a single piece of spring wire bent to form a loop the ends of the wire fastened in opposite ends of the head, and an integral web extending from the head onto the back of the loop or jaw, substantially as described.

6. In an obstetrical forceps the combination of a pair of shanks pivoted by a stud on one, to slide in a longitudinal slot in the other, each having an elastic jaw formed of a single piece of spring wire bent to form a loop of the desired shape, and fastened to the end of the shank, substantially as described.

7. In an obstetrical forceps the combination of the shank 2, having the pivot 9, fitted to slide loosely in the slot 4 and the branch or notch 5 in the shank 3, each shank having a handle portion 10, and a jaw 8, consisting of a single piece of spring wire bent to the form of loop shown, the ends of the wire fastened to the end of the shank in an integral T shaped head 6, having an integral web 7, to reinforce the jaw, substantially as described.

Signed at Blair, in the county of Washington and State of Nebraska, this 27th day of September, 1894.

WILLIAM E. FARNHAM.

Witnesses:

J. W. BOGGS,

J. F. BADGEROW.