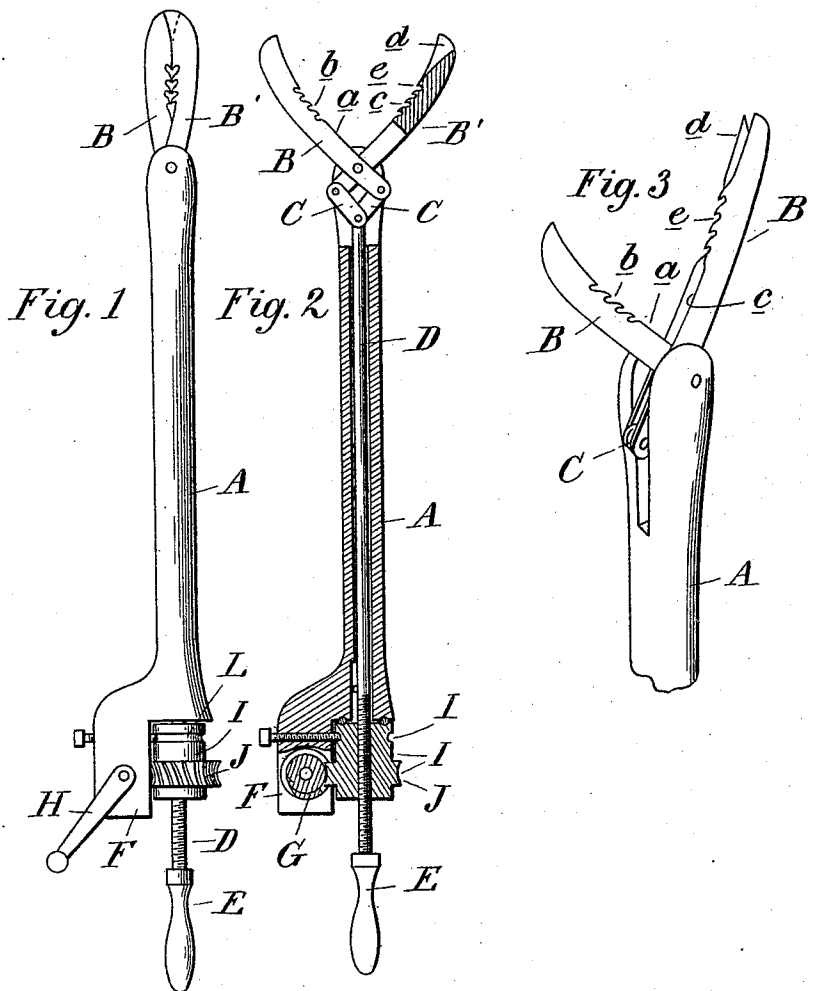


(No Model.)

W. L. & J. C. DRINKWATER.
PARTURITION SHEARS.

No. 487,068.

Patented Nov. 29, 1892.



Witnesses:

R. M. Hulbert
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UNITED STATES PATENT OFFICE.

WILLIAM L. DRINKWATER AND JAMES C. DRINKWATER, OF MOUNT CLEMENS, MICHIGAN.

PARTURITION-SHEARS.

SPECIFICATION forming part of Letters Patent No. 487,068, dated November 29, 1892.

Application filed May 9, 1892. Serial No. 432,294. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM L. DRINKWATER and JAMES C. DRINKWATER, subjects of the Queen of Great Britain, residing at Mount Clemens, in the county of Macomb and State of Michigan, have invented certain new and useful Improvements in Parturition-Shears, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates more specifically to a veterinary instrument for use in parturition of horses and other large animals, whereby the medical practitioner is enabled to dissect the fetus *in utero* if necessary to prevent great injury or to save the life of the animal; and the invention consists in the peculiar construction and arrangement of cutting-jaws and in their combination with mechanical devices for actuating the same with sufficient force to cut through bone, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is an elevation of our instrument with the jaws closed. Fig. 2 is a vertical central longitudinal section therein with the jaws open. Fig. 3 is a detached perspective view of the jaws showing more particularly the grasping and cutting edges of the same.

A is a frame and preferably tubular, of sufficient length to introduce into the uterus. The outer end of this frame is bifurcated and has pivotally secured therein the jaws B and B'. The jaw B has a single knife-edge *a*, partly formed with hook-teeth *b* and having a concave cutting-edge. The jaw B' is bifurcated at its inner end, and the jaw B is pivoted in the bifurcation. The bifurcated portion is formed with cutting-edges *c*, corresponding to the blade B, and its outer end is grooved to form two cutting-edges *d*, between which the cutting-edge of the jaw B enters, the edge of this jaw being likewise concave. The middle portion of the jaw B' has a single edge with hooked teeth *e* formed therein, which is in the same plane as the edge in the jaw B. Each of the jaws is extended beyond its pivot and pivotally secured to the toggles C, which in turn are pivotally secured to a sliding rod D, passing centrally through the

frame and projecting out at the rear thereof, terminating in a suitable handle E.

The rear end of the frame is cut off at right angles and has a lateral offset F, in which is journaled the worm-wheel G, having an actuating crank-handle H. 55

The rear end of the stem D is screw-threaded and carries thereon the nut I, which carries or is formed with a screw-wheel J, which engages with the worm G. The nut is held 60 from longitudinal displacement by a set-screw engaging into an annular groove L, formed in the nut, and antifricition ball-bearings are formed between the adjacent ends of the frame and nut. 65

In practice, the parts being arranged and constructed substantially as shown and described, they are intended to operate as follows: By turning the crank-handle H in one direction (preferably to the right) a rotary 70 motion is imparted to nut J through the engagement of the worm and screw-pinion, and as the nut is firmly held in place against longitudinal displacement the stem D will be drawn rearwardly with great force, thereby 75 closing the jaws. When the jaws are thus closed, the instrument is in the position shown in Fig. 1, the two jaws closing tightly upon each other and having no projecting edges or corners, so that the two may be introduced 80 without injury, their points interlocking. By reversing the motion of the handle H the jaws are opened out to any desired extent and then guided by the hand of the operator to the extremity of the fetus intended to be cut, 85 another operator meanwhile holding the tool by the handle end and actuating the handle H in the closing direction of the jaws under the instruction of the surgeon. The jaws in closing, it will be seen, operate in a twofold 90 manner—that is, the hooked portions of the jaws engage upon the membranous or fleshy portions and thereby hold the tool firmly to its work, so that at the time the bone is reached no displacement of the jaws can take 95 place, while the motion is so powerful that it will readily cut through the bone, and a clean severance of the parts can be obtained by the interlocking of the cutting-jaws, as it will be seen that the single jaw enters partly within 100

the double jaw and is thereby prevented from springing out of line, insuring a clean cut. It will further be seen that a constant increasing force is obtained by the spreading of the toggles in the closing movement of the jaws, which thereby increases the power greatly.

The special feature and spirit of our invention consists, primarily, in the peculiar arrangement of the jaws, whereby the object to be bisected is forcibly grasped; second, in the action of the toggle to increase the power; third, in the application of the worm-gear for actuating the jaws with sufficient power to cut through bones.

What we claim as our invention is—

1. In a veterinary surgical instrument, the combination, with a handle, of two movable jaws pivoted to the handle, one jaw having two parallel cutting-edges at its outer end and an intervening space between the edges and the other jaw having a single cutting-

edge at its outer end arranged to enter the space between the other cutting-edges, toothed sections on both jaws below the cutting-edges, and means for actuating the jaws, substantially as described.

2. In a veterinary surgical shears, the combination of a handle or frame, the jaws pivoted at the end, the toggle-levers C, connected to the jaws, the shaft D, connected to the toggle-levers and extending through the handle, the nut I, having worm gear-wheel J thereon, having a screw-threaded aperture through which the shaft engages, the worm-pinion G, and the crank H, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM L. DRINKWATER.

JAMES C. DRINKWATER.

Witnesses:

N. L. LINDOP,

W. H. HAYWOOD.