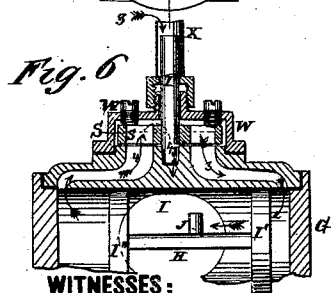
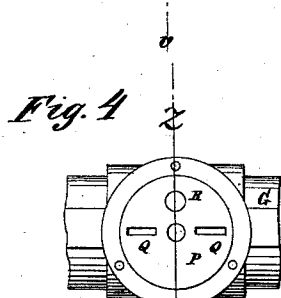
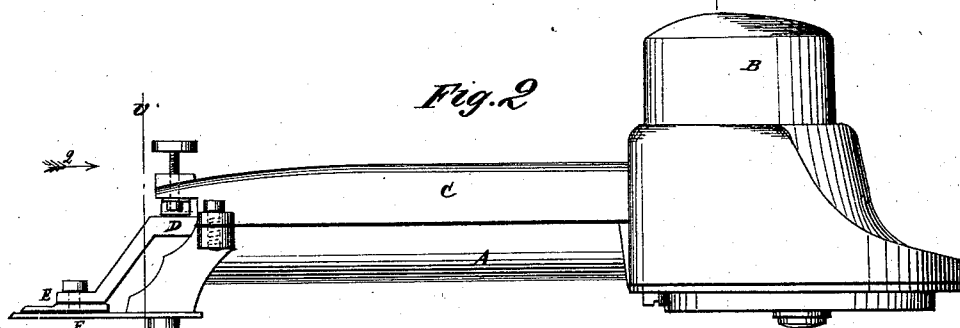
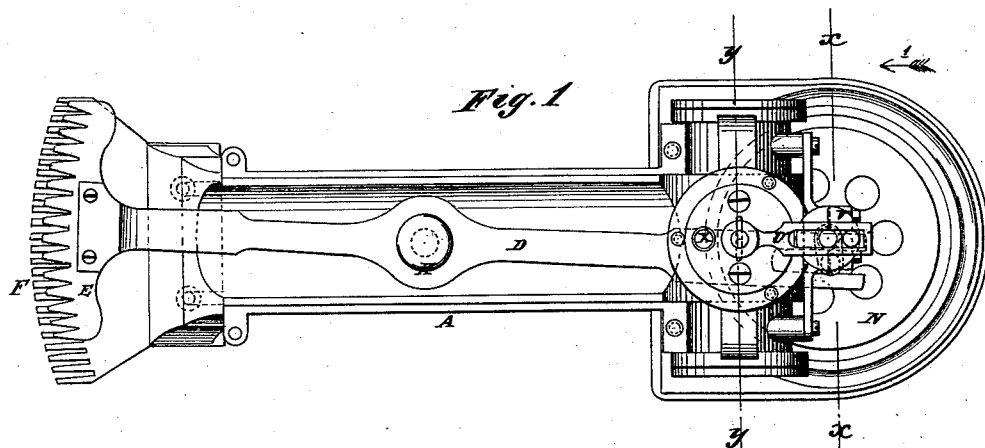


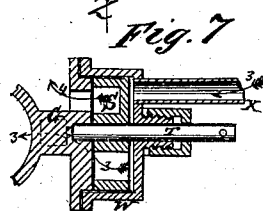
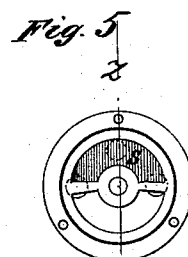
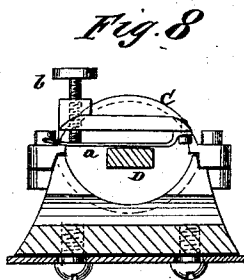
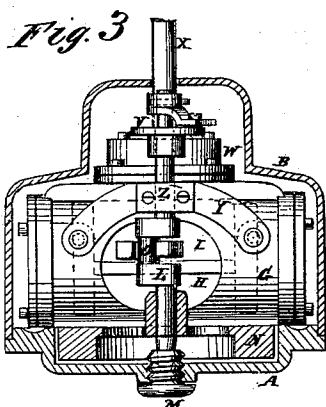
No. 155,855.

Patented Oct. 13, 1874.



WITNESSES:

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Sedgwick



INVENTOR:

W. D. Burgess
BY *Munroe*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WARREN S. BURGESS, OF NORRISTOWN, PENNSYLVANIA, ASSIGNOR TO
HIMSELF AND CHARLES P. BICKINGS, OF SAME PLACE.

IMPROVEMENT IN ANIMAL-CLIPPING MACHINES.

Specification forming part of Letters Patent No. **155,855**, dated October 13, 1874; application filed
June 20, 1874.

To all whom it may concern:

Be it known that I, WARREN S. BURGESS, of Norristown, in the county of Montgomery and State of Pennsylvania, have invented a new and useful Improvement in Animal-Clipping Machines, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

In the accompanying drawing, Figure 1 is a top or plan view, with the top or cap plates removed. Fig. 2 is a side view of the machine complete. Fig. 3 is a cross-section of Fig. 1, taken on the line *xx*. Fig. 4 is a detail, showing the valve-seat and ports of the air-engine. Fig. 5 is a detail view of the vibrating valve. Fig. 6 is a section of Fig. 1, taken on the line *yy*. Fig. 7 is a section through the lines *zz* of Figs. 4 and 5. Fig. 8 is a section of Fig. 2 on the line *xx*, looking in the direction indicated by arrow 2.

Similar letters of reference indicate corresponding parts.

The operating parts of this machine are attached to a plate or shell, A. These parts are covered by two cap-pieces, B and C. The former covers the engine, and the latter the vibrating lever which works the cutter. D is the vibrating lever. E is the cutter, which is attached to the end of the lever, and vibrates on the cutter-plate F, which latter is attached to the end of the plate or shell A. G is the air-engine, which is placed on the lower plate at right angles with the lever D. This cylinder has two pistons, one working in each end, connected together by the plate H. I is an opening through the cylinder between the pistons. I' I' represent the pistons. The end of the lever D passes through this opening. The end of the lever is slotted and works on the pin J of the plate H, which gives the vibrating motion to the lever. This lever vibrates on the stud K. Outside of the opening I is a vertical crank-shaft, L, which is stepped into the screw *m* of the shell. N is a fly-wheel on this shaft, which is revolved in a recess in the shell. This shaft L is revolved by means of the crank O, which works in the slot of the lever. P is the valve-seat, (see Fig. 4,) showing the ports Q Q, which admit

and exhaust the compressed air. R is the exhaust-port. S is the valve which is attached to the central valve-stem T, and receives a vibrating motion from the crank-shaft L, by means of the slotted arm U on the valve-stem, and a wrist-pin in the crank-plate V of the shaft L. W is the air-chamber in which the valve works. The compressed air is pumped into this chamber through the tube X, and the valve opens and closes the ports Q Q alternately, to admit and exhaust the air, as indicated by the arrows of Figs. 6 and 7. The air is exhausted through a hole beneath the air-chest. (Seen in Fig. 7.) The shaft L is supported in an upright position by means of the curved bar Y, which is attached to the cylinder and carries the shaft-boxes Z.

To adjust the cutter E to the cutter-plate F, I place an adjustable spring, *a*, (see Fig. 8,) on the under side of the cap-piece C, which spring is made to bear with more or less pressure on the top of the vibrating lever D by the screw *b*. This machine is connected with the pump or compressed-air reservoir by a flexible tube, so that it may be conveniently moved over the animal. By means of the fly-wheel N, the cutter is given a steady and regular motion, and the machine is guided with great ease and accuracy.

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

1. The combination, with lever D, pivoted at K, of a cylinder, G, at right angles thereto, and having an aperture, I, at the side, with a double piston, I' I', plate H, and pin J, as and for the purpose described.

2. The combination of cylinder G, having open sides, plate H, having pin J, crank-shaft L, crank-plate V, and slotted arm *u* with its valve, as and for the purpose set forth.

3. The balance-wheel N, arranged beneath the cylinder G, and on the lower end of the crank-shaft L, that operates valve mechanism in the manner specified.

WARREN S. BURGESS.

Witnesses:

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