(No Model.)

H. HAUSSMANN.

ECRASEUR.

No. 422,777. Patented Mar. 4, 1890.

Fig. 1.

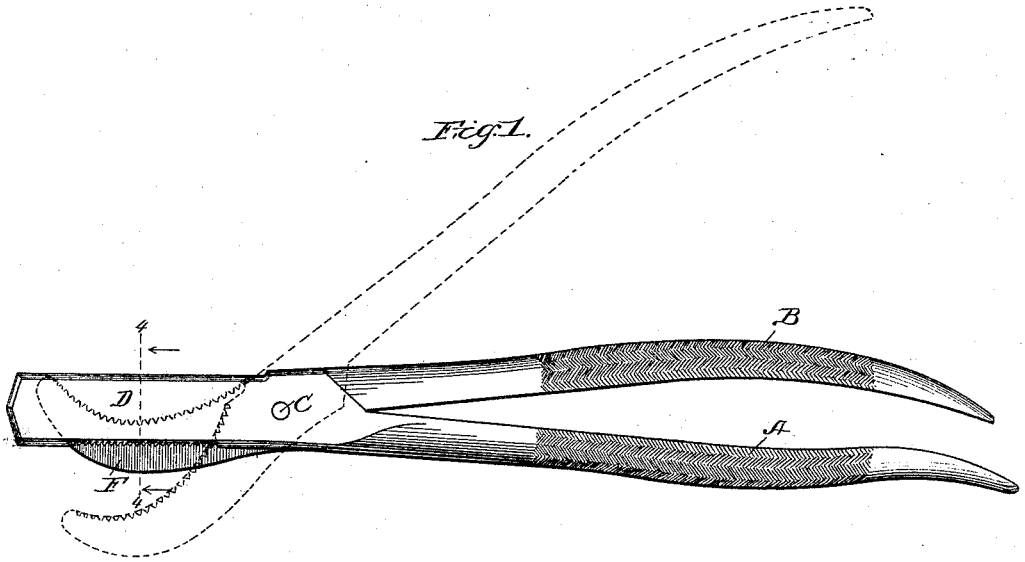


Fig. 2.

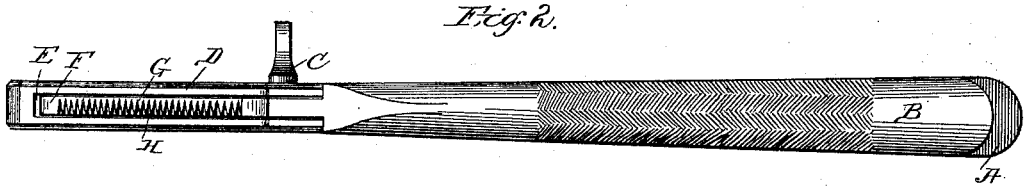


Fig. 3.

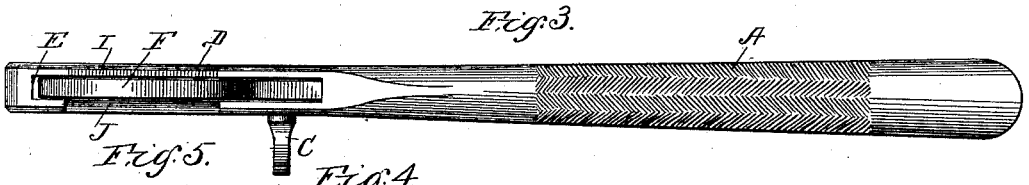


Fig. 5.

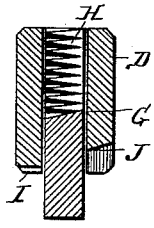


Fig. 4.

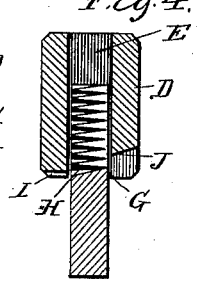
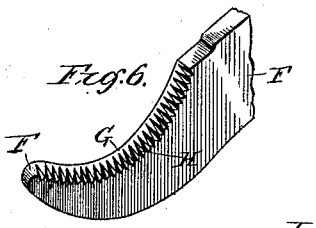


Fig. 6.



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UNITED STATES PATENT OFFICE.

HERMANN HAUSSMANN, OF CHICAGO, ILLINOIS.

ECRASEUR.

SPECIFICATION forming part of Letters Patent No. 422,777, dated March 4, 1890.

Application filed June 25, 1889. Serial No. 315,554. (No model.)

To all whom it may concern:

Be it known that I, HERMANN HAUSSMANN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ecraseurs, of which the following is a specification.

This invention relates to improvements in ecraseurs especially designed for use in the castration of animals, and has for its prime object to produce an instrument that will sever the living tissues in such manner as to amalgamate the ends of the veins, arteries, and other living tissues before cutting, and thereby avoid the danger of hemorrhage which occurs when the parts are severed by a clean cut.

Another object is to sever the living tissues in a single continuous operation, but in successive steps by first crushing or amalgamating and then cutting the ends of the living tissues.

These objects are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of an ecraseur embodying my invention, the dotted lines showing the movement of the cutting-jaw; Fig. 2, a top plan view thereof; Fig. 3, an inverted plan view of the same; Fig. 4, a transverse section on the line 4 4, looking in the direction indicated by the arrows, and showing jaws slightly separated before performing the cutting operation; Fig. 5, a similar view showing the jaws as having completed the operation; and Fig. 6, a perspective view of the end of the cutting-jaw.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A B indicate the handles of my ecraseur pivoted together at C, and the former terminating forward of the pivot in a longitudinally-slotted bar D, in the slot E of which projects and works the cutting-jaw F of the instrument, in which the handle B terminates forward of the pivot. This cutting-jaw is preferably curved from the pivot to the end thereof inwardly toward the slotted bar, and the inner or upper edge—that is, the edge toward the side bar—is beveled at an angle from one side inwardly nearly to the opposite side edge, which latter is left smooth and unbroken and constitutes a cutting-jaw G, while the beveled or inclined portion is serrated, so as to constitute a rough crushing-surface H. Thus it will be seen that although the entire inner or upper edge of the cutting-jaw is the operative edge thereof, it is divided into two parts lying in differing horizontal planes, so that the two parts may perform their functions in successive order instead of simultaneously, as would occur if the upper operative edge were straight. This is accomplished by arranging the opposing edges of the longitudinally-slotted bar D, which constitutes a sustaining-jaw for the instrument during the cutting operation, so that the edges thereof on opposite sides of the slot in which the knife works will also lie in differing planes, one edge I being serrated on the side corresponding with the serrated edge of the cutting-jaw, and the other J beveled outwardly so as to leave a smooth knife-like cutting-edge opposing the cutting-edge of said jaw; hence, in operation, when the cutting-jaw is moved toward the sustaining-jaw, the two serrated edges will meet first and crush or amalgamate the living tissues between them, and immediately afterward, on the continued movement of the cutting-jaw, the knife-like cutting-edges will meet and sever the living tissues and after the serrated edges have completed their operation and crushed or amalgamated the edges of the living tissues, so that hemorrhage cannot result from the cutting operation.

In order to accomplish the operation in these successive steps, as before described, I prefer to have the cutting and crushing edges of the cutting and sustaining jaw arranged in substantially the manner here shown, although a variation therefrom might be made without materially departing from the spirit of my invention, and with the angles of the cutting-surface opposing each other, as shown, so as to produce the most effective cutter, and when so arranged there should be sufficient difference between the planes of the crushing and cutting edges of the sustaining-jaw to permit the complete operation of the crushing-edge of the cutting-jaw before the cutting-

edges meet, in order that all danger of hemorrhage resulting from the cutting operation may be effectually avoided.

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

1. In an ecraseur, the combination, with a slotted sustaining-jaw having the edges thereof serrated on one side of said slot and beveled or knife-like on the opposite side, of a cutting-jaw working in the slot of said sustaining-jaw, serrated on one side edge and smooth or knife-like on the opposite side edge, substantially as described.

2. In an ecraseur, the combination, with a slotted sustaining-jaw, the edges of which lie in different planes at the opposite side of said slot, one of said edges being serrated and the other beveled or knife-like, of a cutting-jaw working in the slot in said sustaining-jaw and beveled on its upper edge, one edge of said beveled surface being straight or knife-like and the other serrated, substantially as described.

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Witnesses:
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