(No Model.) 3 Sheets—Sheet 1.

J. W. EISENHUTH.

CLIPPING MACHINE.

No. 419,323. Patented Jan. 14, 1890.

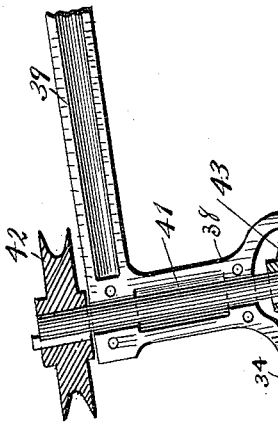


Fig. 1.

Fig. 7.

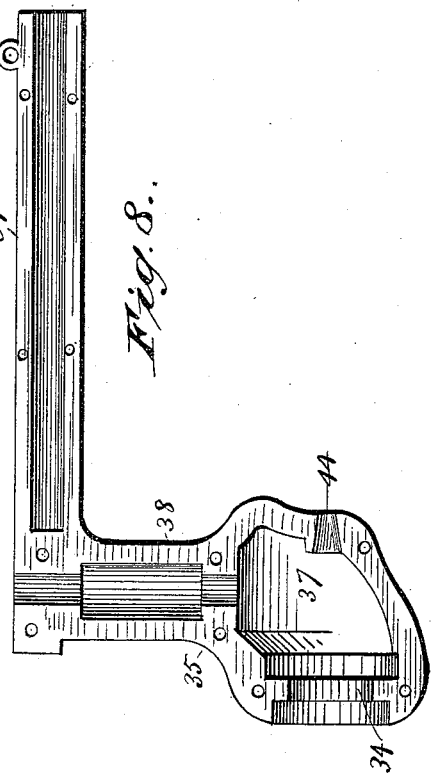
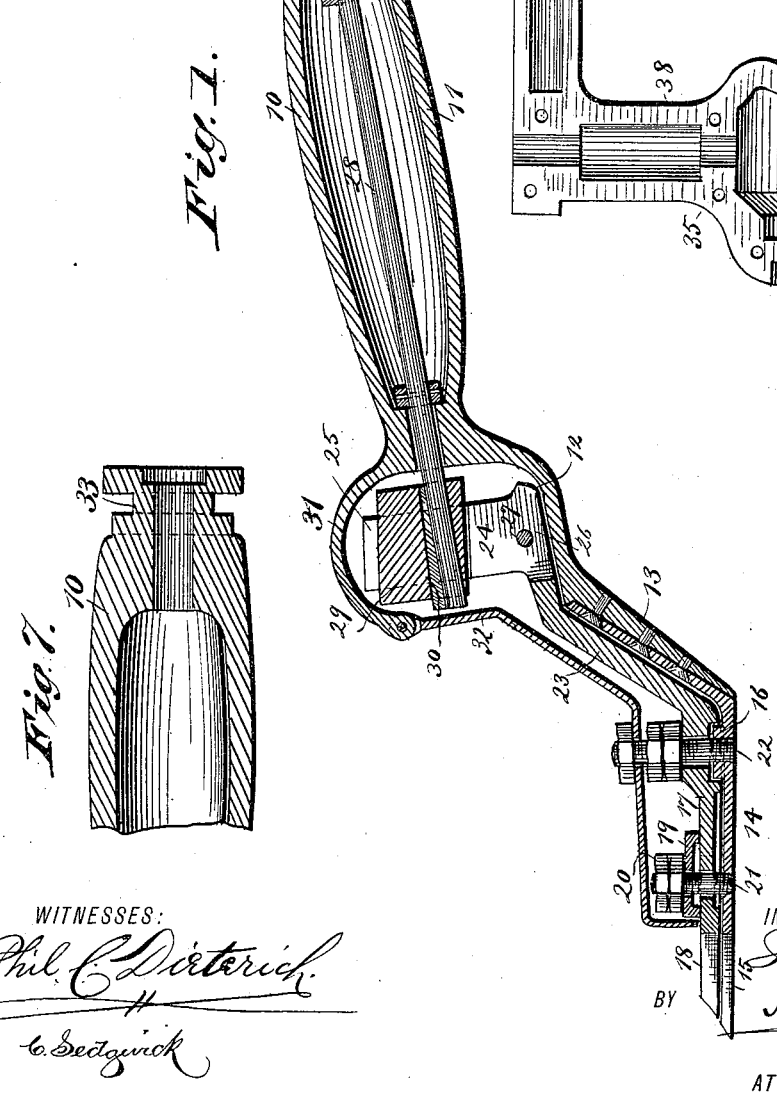


Fig. 8.



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(No Model.) 3 Sheets—Sheet 2.

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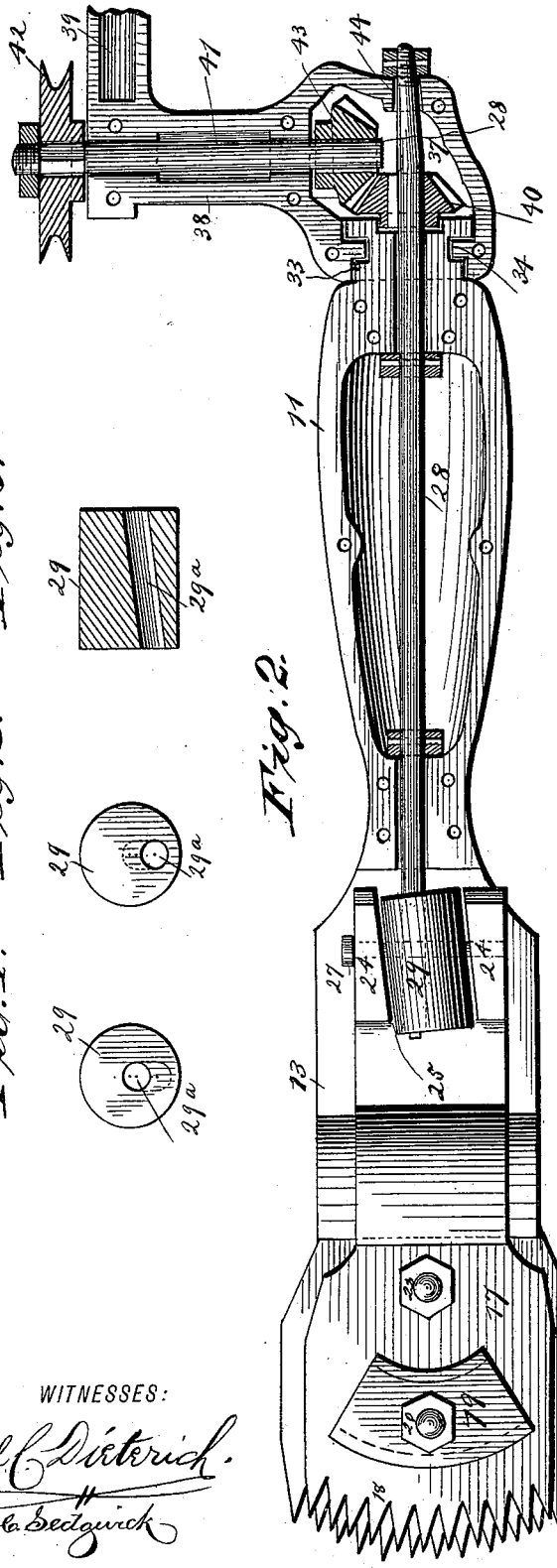

Fig. 2.

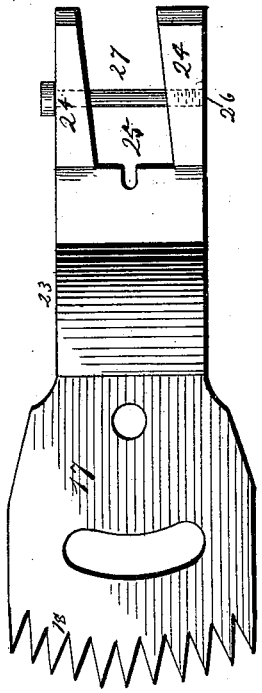

Fig. 3.

Fig. 6.

Fig. 5.

Fig. 4.

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CLIPPING MACHINE.

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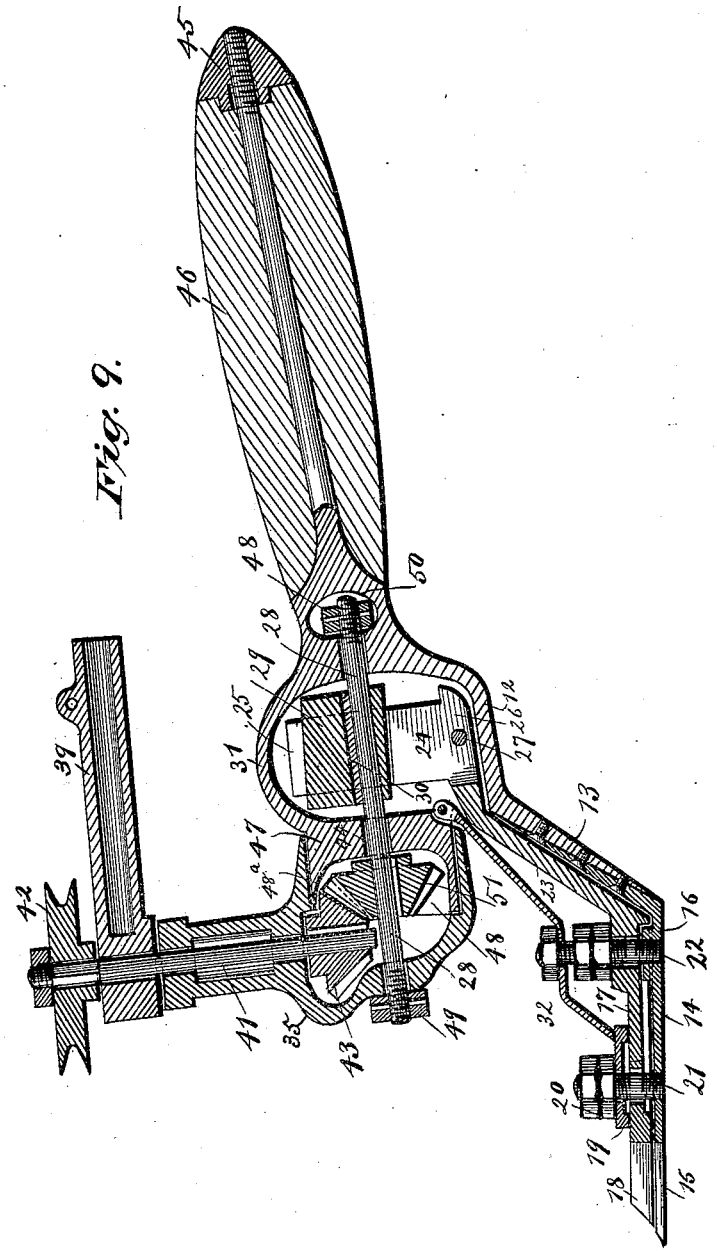
Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN W. EISENHUTH, OF SAN FRANCISCO, CALIFORNIA.

CLIPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 419,323, dated January 14, 1890.

Application filed April 16, 1889. Serial No. 307,445. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. EISENHUTH, of San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Clipping-Machines, of which the following is a full, clear, and exact description.

My invention relates to an improvement in clipping-machines or hair-cutters, and especially to an improvement upon two machines, for one of which I have received Letters Patent No. 402,727, dated May 7, 1889, the other being the subject of an application filed June 2, 1888, Serial No. 275,806; and the object of the invention is to simplify the construction of said machines, reduce the number of parts, and provide for greater durability of the means for the application of power.

A further object of the invention is to provide a machine adapted for heavy shearing purposes, and also to so construct the machine that the operator may skillfully handle the same, and wherein the operator's hand will at all times be kept out of contact with the parts of the animal being sheared. The attachment of the handle to the body of the machine is adapted to be so effected as to insure a proper clearance under all conditions of manipulation, whereby the clipping or shearing around the fetlock, the hips, the legs, or any other parts of the horse or other animal where there is a depression or an uneven surface is rendered very effective.

A further object of the invention is to so locate the driving-pulley that it will not interfere with the operator nor be brought in contact with the animal when the machine is placed in the many positions which it must necessarily assume when in operation.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central longitudinal section through one form of the machine. Fig. 2 is a plan view of the same with the upper handle-plate and rear drive-shaft plate removed. Fig. 3 is a plan view of the upper cutting-blade and attached forked post detached from the machine. Figs. 4 and 5 are opposite end views of the eccentric roller. Fig. 6 is a longitudinal section through the said roller. Fig. 7 is a sectional view of the rear extremity of the handle. Fig. 8 is an inner face view of one section of the rear drive-shaft plate or casing, and Fig. 9 is a central vertical and longitudinal section through a modified form of the machine.

The handle of the machine is preferably tubular a greater portion of its length, and consists of two plates, an upper plate 10 and a lower plate 11, united by screws, bolts, or equivalent fastening devices. The forward end of the under handle-section 11 is carried downward a slight distance and at an inclination forward, forming a step 12, and again downward at a greater inclination forward to constitute a lower inclined shank 13. A lower cutting-blade 14 is provided with a rear upwardly-inclined extension, which extension is secured rigidly to the forward face of the handle-shank section 13, as best illustrated in Figs. 1 and 9.

The forward end of the lower blade 14 is provided with the necessary spaced cutting-teeth 15 and a transverse guide-rib 16 upon the upper face, near the rear. The upper blade 17 is also provided with the usual cutting-teeth 18 and a recess upon the under surface adapted to receive the guide-rib 16 of the lower blade. A curved transverse slot is produced in the upper blade near the cutting-teeth, covered by an adjusting-plate 19, and the two blades are brought to the desired contact by screwing down lock-nuts 20 upon the said adjusting-plate, which lock-nuts are carried by a post 21, secured to the lower blade and projecting upward through the slot in the upper blade and through a suitable opening in the adjusting-plate. A second post 22 is projected upward from the lower blade through the rib 16 and through the slot or aperture in the upper blade, which latter post is provided with a lock-nut adapted to bear upon the upper surface of the upper blade. The post 22 is of greater length than the post 21, because it requires to pass through

the casing in order that it may be held firm while the blade vibrates. The upper blade 17 is provided with a rear integral extension 23, shaped for contact with the rear extension of the lower blade and the inner surface of the step-section 12 of the handle.

An essentially vertical post 24 is preferably formed integral with the rear extremity of the upper-blade extension, which post is provided with a longitudinal slot 25, extending from the top downward nearly to the base of the post, and an intersecting slot 26, a bolt 27 being made to pass through the post and through the latter and lower slot, as best shown in Fig. 3, whereby the upper members of the post may be made to approach one another when occasion may demand.

A shaft 28 is passed longitudinally through the handle, the said shaft being journaled in each end of the said handle in any approved manner, the forward end of the shaft being made to project through the slot 25 in the post, and upon the said forward end of the shaft 28 a cylindrical roller 29 is eccentrically secured by means of a key 30 or in any other approved manner, the said roller being bored to receive the shaft and adapted for contact with the walls of the slot.

It will be observed that the post 24 is at a right angle to the shaft 28, but not at a right angle to the blades; also, that the said shaft is out of parallelism with the blades.

In order to compensate for the irregularities in the movements of the contacting surfaces of the slot and the eccentric roller caused by the lack of or non-parallelism of the shaft and blades, the slot in the post is made slightly diagonal, as best illustrated in Fig. 2, and the roller is bored diagonally, as shown in the same figure in dotted lines, so that the said surfaces will contact without slip or friction.

The forward end of the upper section 10 of the handle is provided with an overhang or hood 31, adapted to cover the post 24 and the eccentric roller 29, and in order to exclude the clippings from the blades one end of a front casing 32 is hinged to the extremity of the overhang, as illustrated in Fig. 1, which casing is carried downward, essentially following the contour of the upper blade to a contact with the said blade in advance of the adjusting-plate and to the rear of the cutting-teeth 18, the casing 32 being retained in position by screwing a nut upon the post 22, which projects through the casing to a contact with the upper surface of the latter. The interior of the handle may be made to constitute an oil-chamber, and suitable means may be employed for feeding the oil from the chamber to the bearings of the eccentric drive-shaft 28. For instance, apertures may be made in the bearings leading into the chamber.

In the rear of the handle an annular groove 33 is produced, adapted to receive an interior annular rib 34, formed upon the rear casing 35, whereby the said casing is swiveled upon the said handle. The casing is made in two central sections, one of which is illustrated in detail in Fig. 8, the said sections being bolted together in any approved manner. The casing consists of a hollow body 37, swiveled upon the handle of the machine, as aforesaid, from one side of which body a tubular neck 38 is projected, and from the said neck a sleeve 39 is carried outward at a right angle. The eccentric shaft 28 is made to extend within the chamber of the body, and is provided within the said chamber with an attached bevel-gear 40. In the neck of the rear casing 35 a short drive-shaft 41 is journaled, the lower end of which shaft is held in the body of the casing and the upper end is made to project beyond the neck. Upon the upper end of the said shaft 41 a grooved pulley 42 is keyed or otherwise secured, and upon the lower end, within the chamber of the body of the casing, a bevel-gear 43 is securely attached, adapted for contact with the similar gear 40 upon the eccentric shaft 28, as best illustrated in Fig. 1. The sleeve 39 is adapted for attachment to any suitable machine for transmitting motion, and the pulley 42 is belted to said machine in any suitable manner. The form of machine preferred for use in connection with my device is that for which I have made application for Letters Patent of an even date herewith.

Instead of swiveling the drive-shaft casing 35 to the handle in the manner illustrated in Fig. 1, it may be swiveled thereto by projecting the eccentric shaft 28 through the body-chamber of the said casing, which casing, to that end, is provided with a suitable aperture 44, and screwing a nut or nuts upon the projecting end of the shaft. That portion of the casing contacting with the handle when the shaft is projected through the casing may be simply made to overlap; or, if desired, the swivel-connection illustrated in Fig. 1 may also be employed.

In Fig. 9 I have illustrated a form of machine in which the drive-shaft casing is located at the front of the machine, essentially above the blades. The handle in this construction is preferably made solid, consisting of a body-bar 45, enlarged at the forward end with bone, ivory, or a composition material 46, held in engagement with the said body-bar to cover the same, which covering may be shaped as found most desirable. The support for the blades is similar to the support illustrated in Fig. 1, and is attached to or formed integral with the body-bar also in a similar manner.

The overhang 31, which is carried upward from the enlarged or forward end of the body-bar of the handle, is provided with a cylindrical extension 47, projected vertically downward in front of the slotted post 24, which cylindrical extension is preferably provided with a concave outer face 48ª. The body portion of the drive-shaft casing 35 is pro-

vided with an opening at one end, and the wall of the body-chamber at the opening is so formed as to snugly fit upon the cylindrical projection 47. The eccentric shaft 28 is journaled at the rear end in the enlargement of the handle of the body-bar 45 in any approved manner, and the said eccentric shaft, passing through the eccentric roller 29, is carried forward through the central aperture in the cylindrical extension 47 and through the equivalent or aligning aperture in the body of the casing 35 beyond the same, which end of the eccentric shaft 28 is threaded to receive suitable lock-nuts 48 and 49. A recess 50 is provided in the body-bar of the handle 45 to permit of the revolution of the inner nut 48. Within the body-chamber of the drive-shaft casing 35 a bevel-gear 51 is keyed to the eccentric shaft, corresponding to the bevel-gear 40 in Figs. 1 and 2. The drive-shaft 41 is journaled in the neck of the casing 45 in like manner as illustrated in Figs. 1 and 2, being also provided with a gear 43 at one end, which meshes with the gear 51, and a grooved pulley at the opposite end. In the form of construction illustrated in Fig. 9 the the sleeve 39, instead of constituting an integral portion of the neck of the casing, is independent thereof and journaled upon the drive-shaft between the upper end of the neck and the grooved pulley 42. When the driving mechanism is located in the front of the machine instead of at the rear, the machine can be used equally as well by a left-hand as by a right-hand operator.

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

1. In a clipping-machine, the combination, with the vibratory blade and a post projected from the same having a diagonal slot, of a shaft inclined toward the blade and a roller held within the slot of the post, provided with a diagonal bore to receive the shaft, substantially as shown and described.

2. In a clipping-machine, the combination, with the vibratory blade and a shaft above the blade, inclined in the direction thereof, of a post secured to the rear end of the blade at a right angle to the shaft and provided with a vertical diagonal slot, and a cylindrical roller held in said slot, having a longitudinal diagonal eccentric bore adapted to receive the said shaft, all combined for operation substantially as specified.

3. In a clipping-machine, the combination, with the vibratory blade, a post secured to the blade, having a vertical diagonal slot, and a cylindrical roller held in said slot, provided with a longitudinal diagonal eccentric bore, of a shaft inclined in the direction of the blade and extending through the bore of the roller, a bevel-gear secured upon one end of said shaft, a drive-shaft at right angles to the roller-shaft, and a bevel-gear secured upon the drive-shaft, meshing with the pinion upon the roller-shaft, substantially as shown and described.

4. In a clipping-machine, the combination, with the vibratory blade, a handle at an elevation above and inclined toward said blade, a vertical post secured to the rear end of the blade, provided with a diagonal slot, and a roller held in said slot and having an eccentric diagonal bore, of a shaft journaled in the handle, inclined in the direction of the blade, and passing through the bore of the roller, a casing swiveled upon one end of said handle, a drive-shaft journaled in said casing at a right angle to the roller-shaft, and a connection between the two shafts, substantially as shown and described.

5. In a clipping-machine, the combination, with the vibratory blade, a handle provided with an interior oil-chamber at an elevation above the blade and inclined thereto, a post secured upon the rear of the blade, provided with a diagonal slot, and a roller held in said slot, having an eccentric diagonal bore, of a shaft journaled in the handle, inclined therewith, and having one end secured in the bore of the roller, a casing swiveled upon one end of the handle, a drive-shaft journaled in said casing at a right angle to the roller-shaft, gears connecting the two shafts, and a second casing hinged to the handle covering the vibratory blade, substantially as shown and described.

JOHN W. EISENHUTH.

Witnesses:
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J. C. MACY.