No. 623,670. Patented Apr. 25, 1899.

W. F. HUTCHINSON.

BRANDING IRON.

(Application filed Mar. 24, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

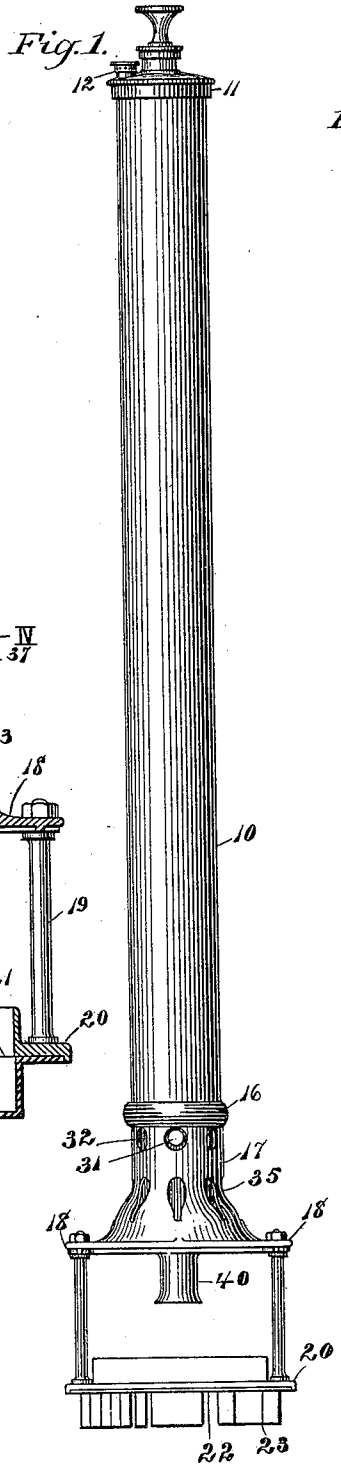


Fig. 2.

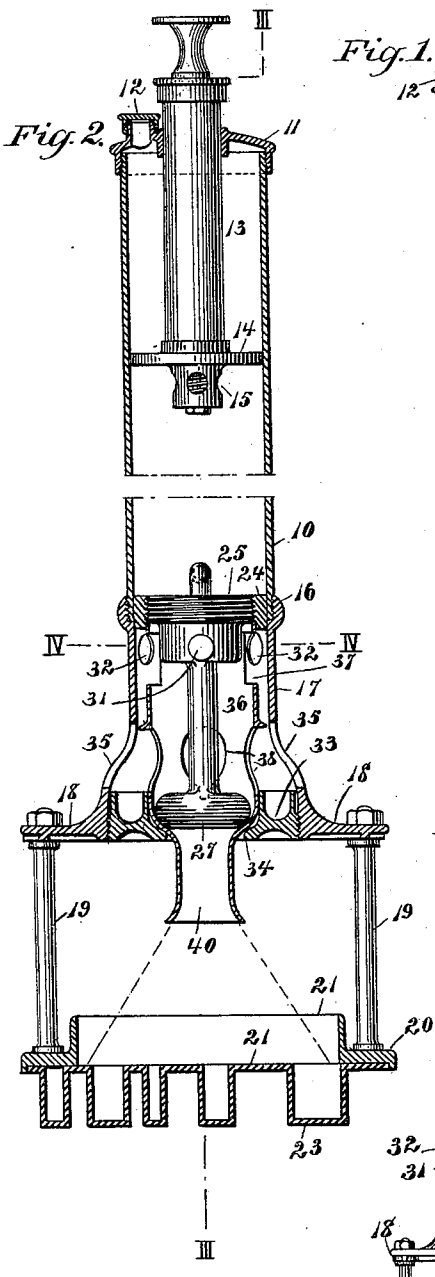
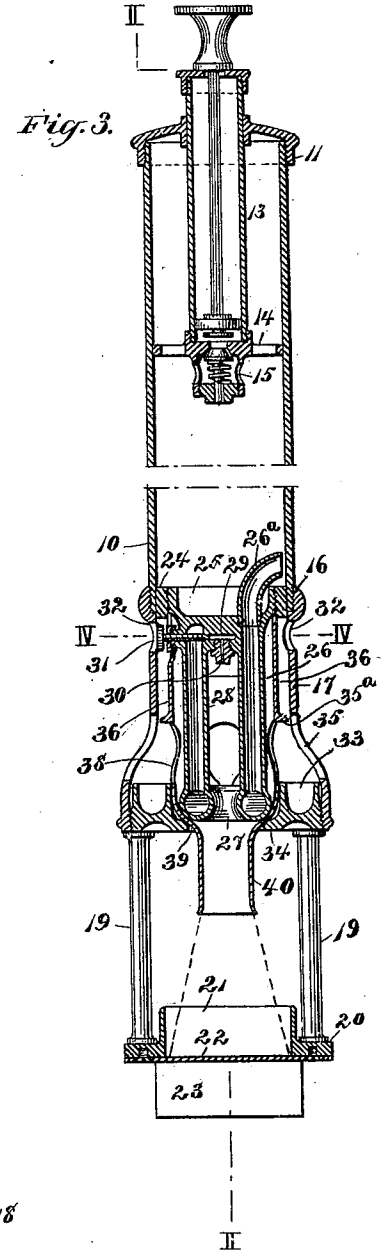


Fig. 3.



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Fig. 4.

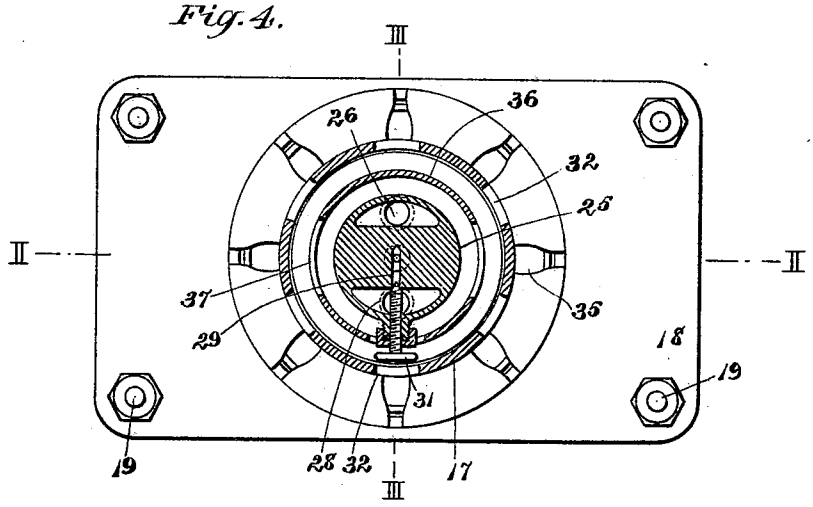
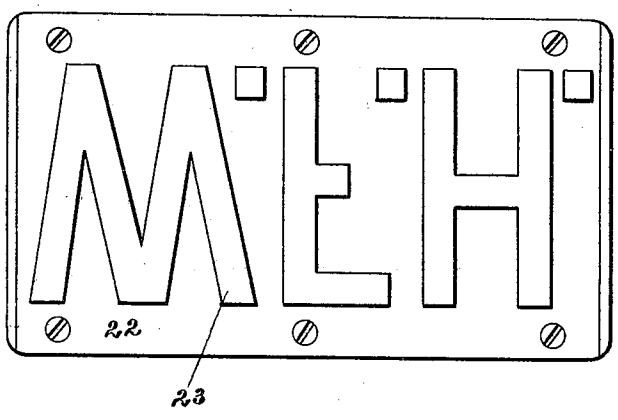


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM F. HUTCHINSON, OF NEW YORK, N. Y., ASSIGNOR TO THE NATIONAL BRANDING-IRON COMPANY, OF OKLAHOMA TERRITORY.

BRANDING-IRON.

SPECIFICATION forming part of Letters Patent No. 623,670, dated April 25, 1899.

Application filed March 24, 1898. Serial No. 674,987. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. HUTCHINSON, of New York, in the county and State of New York, have invented certain new and useful Improvements in Branding-Irons, of which the following is a full, clear, and exact description.

In branding cattle the work is carried on, of course, out of doors, frequently on an open prairie and usually at a point where it is difficult to get material for a fire. Moreover, the cattle have to be quickly branded, as they are constantly on the move, this being done usually by driving them through a chute, although they are sometimes thrown for the purpose. In any event the operation has to be quickly done and the brand must be promptly applied. It follows that a self-heating branding-iron must therefore be strong to stand the strain; light, to be easily portable; compact, so that it can be readily handled, and the brand must be rigid and capable of accurate and quick application to the creature to be branded. The object of my invention is to produce a self-heating brand fulfilling the above conditions and also to make the branding-iron simple and inexpensive and capable of easy assembling or separation.

To these ends my invention consists of a branding-iron the construction and arrangement of which will be hereinafter fully described and claimed.

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 side elevation of my improved branding-iron. Fig. 2 is a broken longitudinal section on the line 2 2 of Fig. 3. Fig. 3 is a broken longitudinal section on the line 3 3 of Fig. 2. Fig. 4 is a cross-section on the line 4 4 of Fig. 3, and Fig. 5 is an inverted plan of the tool.

The iron has a tubular handle 10, which is preferably made of standard tubing and of a size convenient to be grasped, this handle having at the top a cap 11, suitably fastened to the handle, being, as illustrated, screwed thereto. In the top of the handle and extending through the cap is the usual covered filling-hole 12, through which the oil is inserted. In the top of the handle is also secured an air-pump 13 of the usual or any preferred form, the lower end of the pump being supported in a spider 14 and delivering through ports 15 into the handle or tube 10. The object of the air-pump is to introduce air under pressure into the handle 10, so that the air-pressure will force out the oil and cause the vaporized oil to be delivered with sufficient force to properly heat the branding-plate, as hereinafter described.

The lower end of the handle 10 is attached, preferably by screwing, to the thickened end 16 of the open outer casing 17, which has at the bottom a flange 18, preferably, though not necessarily, rectangular, and to the flange are secured bolts 19, which at their lower or outer ends are attached to the base-plate 20, which has an inner and upwardly-extending flange 21, which serves as a guide to prevent the flames from touching and burning the animal being branded, and if necessary this flange 21 can be carried up still farther. The branding-plate 22 is secured to the bottom of the base-plate 20 and extends across the central opening of the base-plate and has the letters 23 or other characters forming the brand secured to it, the letters or characters being preferably hollow and integral with the plate, as best illustrated in Fig. 2, so that the heat from the burner will enter and quickly and thoroughly heat the said characters.

In the lower end of the handle or tube 10 is preferably secured a collar 24, which serves as an abutment for the inner guide or shield 36, hereinafter referred to, but the chief function of which is to strengthen the handle at this point, thus rendering it possible to use thin standard tubing. Within the collar 24 is screwed a plug 25, forming the bottom of the handle, and the burner depends from the plug, the burner, as illustrated, comprising the downflow-tube 26, the circular tube 27 at the bottom of the downflow-tube, the return-tube 28, the port 29, extending into the plug at right angles to the downflow and upflow tubes, the nozzle 30, discharging from the bottom of the plug 25, parallel with the aforesaid tubes, and the needle-valve 31, controlling the discharge from the port 29. The discharge from the main tube or handle 10 into the downflow-tube 26 is preferably through

the curved pipe 26^a, arranged in the bottom of the handle 10, this arrangement enabling the device to be held if necessary in a nearly-horizontal position without permitting the air to blow out through the burner, as the pipe 26^a is curved toward the bottom of the face of the brand. Obviously the pipe 26^a can be dispensed with without affecting the principle of the invention, and attention is called to the fact that a desirable form of burner is shown without being claimed, and that, on the other hand, any other suitable oil-burner can be substituted without affecting the principle of the invention, as the burner *per se* is not claimed. The casing 17 is provided with holes 32 near the top, one of which is adapted to come opposite the valve 21 to permit the latter to be easily regulated.

At the bottom of the outer casing 17 and encircling the lower part of the burner is an open-top trough 33, which has an inwardly-projecting flange 34, adapted to encircle and steady the lower part of the burner, and in this trough oil is placed and lighted to furnish the initial heat for the burner, so as to volatilize the oil which flows through the latter, and after the burner is once started the heat from the flame of the burner proper will keep the tubes 26, 27, and 28 hot enough to volatilize the oil. Above the trough 33 are openings 35 through the outer casing, which permit the trough to be easily filled and the oil lighted therein and which also permit the outer air to rush through and supply the burner. The burner is surrounded by an inner shield 36, which has an outer annular flange 35^a, coming opposite the upper edges of the holes 35, and this flange serves as a deflector to cause the air to pass to the burner in the proper direction and to prevent the flame from the oil in the trough 33 from passing into too close contact with the main oil-supply in the top of the handle 10. The inner guide or shield 36 has its upper edge held in abutment with the inner and lower part of the collar 24, already referred to, and near the top the guide is cut away, as shown at 37, to permit access to the valve 31, and it also has openings 38 near the bottom to permit the inflow of air to the burner. The shield is reduced below the openings, as shown at 39, at which point it rests on the flange 34, and it terminates in a mouth or nozzle 40, through which the burning vapor is directed and delivered against the branding-plate 22, the flames being guided by the protective flange 21. It will be noticed that by removing the nuts from the bolts 19 the base-plate and branding-plate 22 can be removed. It will be observed that after this is done the trough 33 can be readily unscrewed and the guide 36 removed, and that the burner and plug 25 can be easily unscrewed and removed, so that all of the parts of the apparatus are very easily removed or assembled, and the whole affair is thus rendered simple to build and easy to adjust.

In operation after the tube 10 is filled and a sufficient pressure of air introduced into it by means of the air-pump 13 oil is placed in the trough 33 and lighted and the valve opened to permit the oil to flow down and out from the handle 10, and as the oil flows through the tubes 26, 27, and 28 it volatilizes and issues in a jet from the nozzle 30, and the flames are directed by the mouth or nozzle 40 against the branding-plate. As the air-pressure becomes reduced it can be renewed to any necessary extent by the air-pump 13. It will be seen that the branding-plate will be kept constantly heated so long as the oil-supply lasts and that the tool can be repeatedly and rapidly used.

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

1. A device of the kind described comprising a tubular oil-containing handle having an air-pump in its upper end, a burner held in the lower end of the handle, means for discharging oil under pressure through the burner, a casing at the lower end of the handle, a base-plate having a central opening rigidly secured to the casing and a branding-plate secured to the base-plate and extending across the aforesaid central opening, substantially as described.

2. A device of the kind described comprising a hollow oil-carrying handle having an air-pump at its upper end, a burner held in the lower extension of the handle below the oil-supply, means for discharging oil through the burner, a detachable open framework rigidly secured to the lower end of the handle, a branding-plate attached to the framework and extending across the lower part thereof, and means for directing the burner-flame against the plate, substantially as described.

3. A branding-iron comprising an elongated oil-containing handle having an air-pump in its upper end and a burner in its lower end, said handle merging at its lower end into a flanged casing, a base-plate having a flanged central opening, said base-plate being detachably but rigidly secured to the flange of the casing and spaced from the casing, a branding-plate secured to the base-plate and extending across the opening thereof and means for directing the burner-flame against the branding-plate, substantially as described.

4. In a branding-iron, the combination of the oil-containing handle, the casing secured thereto, the branding-plate supported by the casing, the burner held within the casing, the oil-trough encircling the burner and detachably secured to the casing, and a guide between the burner and oil-trough, said guide discharging against the branding-plate, substantially as described.

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