No. 717,019. Patented Dec. 30, 1902.

A. A. PHIPPS.

BRANDING IRON.

(Application filed Feb. 1, 1902.)

(No Model.)

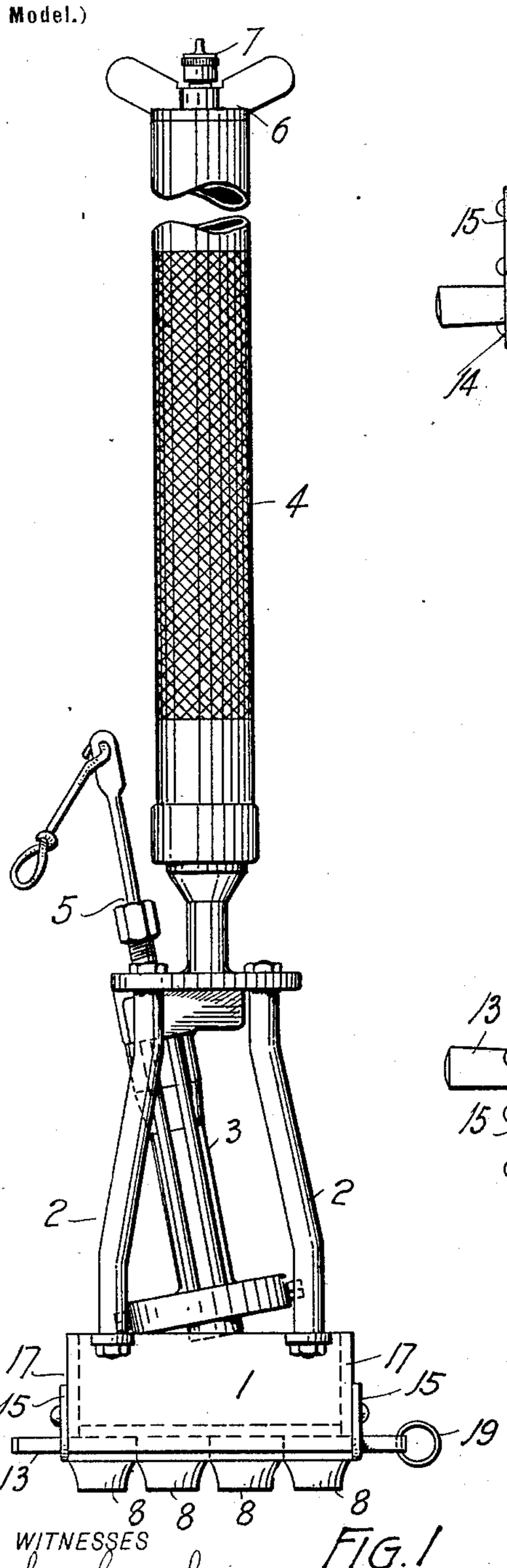

FIG. 1

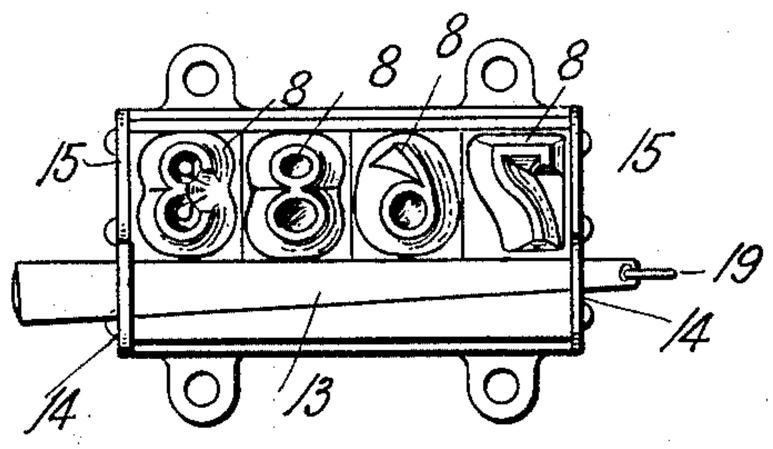

FIG. 2

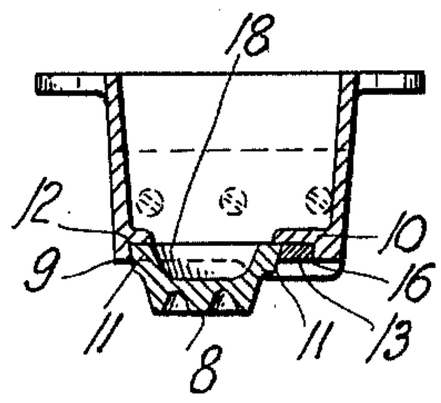

FIG. 3

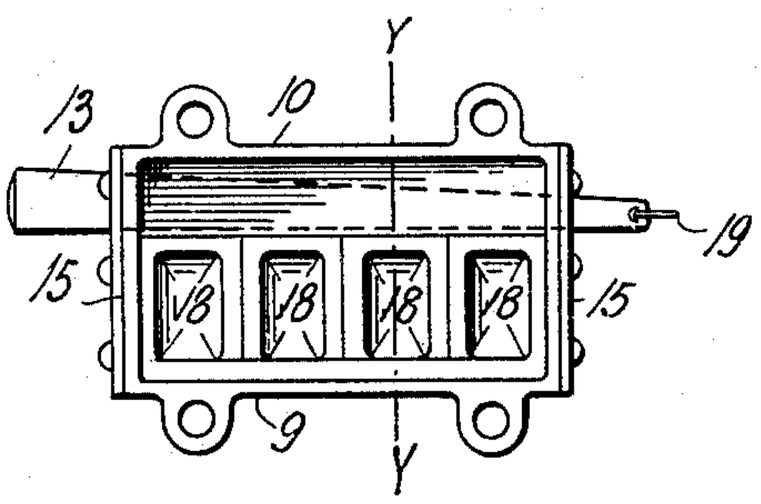

FIG. 4

WITNESSES

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BRANDING-IRON.

SPECIFICATION forming part of Letters Patent No. 717,019, dated December 30, 1902.

Application filed February 1, 1902. Serial No. 92,114. (No model.)

To all whom it may concern:

Be it known that I, ABNER A. PHIPPS, of the city, 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.

My invention relates to improvements in branding-irons for hoof-branding cattle and horses, and is designed for use with and as a part of my improved portable self-heating branding device herein shown and described and which forms the subject of certain applications for patents filed by me of even date herewith.

In branding it is often desirable to give the animal in addition to its hide-brand a hoof-brand which will designate its individuality, and for this purpose I have produced a branding-iron the type of which are removable and interchangeable, so that the characters or numbers of the brand may be relatively changed.

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 refer to similar parts throughout the several views.

Figure 1 is a side elevation of the portable branding device. Fig. 2 is a plan view of the branding-iron, showing the faces of the types. Fig. 3 is a transverse vertical section taken on the line *y y* of Fig. 4, and Fig. 4 is a top view of the branding-iron.

The branding-iron 1, which is a hollow box-like or cup-shaped casting, is supported by the rods 2 below a burner 3, which projects its flame into the hollow of the branding-iron. A reservoir 4 is secured at the top of the burner and supplies the burning fluid to the burner through its stem or neck part. The reservoir is preferably tubular, as is shown, and forms a handle for the manipulation of the device. A valve 5 controls the flow of burning fluid to the burner. The burning fluid is inserted into the reservoir through the top, which is closed by the thumb-screw plug 6. Through a central bore in the screw-plug 6 air-pressure is created in the reservoir to force therefrom the burning fluid to the burner. Such air-pressure is supplied by a pump of any well-known construction, which is connected with the nipple on which fits the sealing-cap 7.

The bottom of the box-like brand-casting is cut away throughout the length of the brand, and in this opening are secured the types 8, which extend from one side or edge 9 across said opening to the other side 10 and form the bottom of the box-like brand-casting. The top and bottom edges 11 of the bodies of the types are beveled inward, so that the greatest length of the type is the line of the back between the two edges. The angle of the beveled edge as seen in cross-section is acute to the surface of the back of the bodies. The types fit by one beveled edge into an undercut groove 12, the angle of which groove in cross-section is identical with the angles of the beveled edges of the types. The opposite edge of the type fits in like manner into an undercut groove or way formed by the beveled edge of a wedge-block 13 and the wall of the slide or guideway in which the wedge moves. The wedge-block passes through slots 14 in the end plates 15, which are shown as bolted to the ends of the brand-box, and thus when the wedge is driven home it will be impossible for the types to fall out. The edge of the wedge which bears against the bodies of the types lies parallel with the side of the undercut way 12 in the box side 9; but the opposite edge of the wedge is at an angle to said box side and bears against the shoulder 16 on the bottom of the box. The shoulder 16 lies through its length at such angle to the undercut way in the box side 9 as corresponds to the angular edge of the wedge, so that as the wedge is driven into the way formed by the edges of the type-bodies and the shoulder 16 it will tightly bind or crowd the types against the box side 9, and thus securely fasten them across the opening in the bottom of the box to close said opening. The side edges of the types, which bear one against another, are smoothly ground, so that there may be the least possible opening between them.

The ends 17 of the box-casting are cut away at their bottom edges, so that the types when inserted will bear against the end plates 14

for the purpose of preventing the passage of the flame between the end types and the ends of the box.

The backs of the types are hollowed out and form cups 18. In these cups are hollows 18 in the types, into which the unvaporized oil from the burner falls and is ignited to supply the initial heat for the volatilizer or generator of the burner.

A ring 19 in the narrow end of the wedge prevents the escape of the wedge during the operation of changing the types.

All the meeting edges of all the parts which form the bottom of the brand-box are smoothly ground and fit tightly one against another when the wedge is driven home, so that when the flame from the burner is directed against the inside of the brand-box none of said flame can escape or leak out between said meeting edges. The flame rebounds from the inside of the brand-box and furnishes the necessary heat for the generator or volatilizer.

The types of the proper characters being tightly set and sufficient heat being obtained, the branding-iron is applied to the hoof and rocked around the hoof from one end of the branding-iron to the other, and thus consecutively burns in the characters on the types.

I have shown the brand-box as being rectangular and the faces of the types as being in the same horizontal plane, and this of course necessitates the rocking of the brand and that the types are consecutively burned or imprinted, and this construction I prefer, because it is adapted for use upon any-sized hoof, whether it be the small hoof of the mule or the large hoof of the draft-horse; but it is obvious that I may make the box-brand of various forms and that the line of the faces of the types may be concave or convex upon the arcs of circles whose axes stand parallel to the plane of the faces of the types.

It is equally obvious that the types being in the same horizontal plane they may be disposed on the arc of a circle whose axis stands at right angles to the plane of the faces of the types. This may be done by merely varying the shapes of the parts herein shown and described without in any way changing the function of the relative parts and without departing from the spirit of my invention.

The types may be types of numerals, as shown, letters, characters, or symbols, and a brand built to hold only four types is capable of nine thousand nine hundred and ninety-nine different combinations of numerals, of a multitude of combinations of characters and symbols. Some of the types will be blanks or spaces.

While I have described my improved brand with reference to its use in branding cattle and horses on the hoof, it is quite obvious that it is equally as well adapted for branding upon the horn, the ear, or the hide and also for marking hams, boxes, or any other article whereon it is desirable or customary to place a permanent mark.

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

1. In a device of the character described, the combination with a box-like casing open at its top and bottom, an undercut groove or way along the inner bottom edge of one side of said bottom opening, a shoulder along the inner bottom edge of the other side of said bottom opening, of movable and interchangeable types fitting in said undercut groove on their one edge and spanning said opening and a wedge interposed between said shoulder and the other edge of the types, and binding or crowding the types away from said shoulder, substantially as described and for the purpose specified.

2. In a device of the character described, a box-like casing open at its top and bottom, an undercut groove or way along the inner bottom edge of one side of said bottom opening, a shoulder along the inner bottom edge of the other side of said bottom opening, movable and interchangeable types fitting in said undercut groove on their one edge and spanning said opening, a wedge interposed between said shoulder and the other edge of the types and binding or crowding the types away from said shoulder, end plates or abutments at the ends of the box to secure the types against lateral displacement, and slots in said end plates holding the wedge against displacement.

3. A device of the kind described, consisting of a reservoir forming the handle of the device, a hydrocarbon-burner supplied from the reservoir, a casing at the outer end of the burner, a series of interchangeable impervious types mounted in the casing and adapted to receive the heat of the flame, and a wedge to hold said types in engagement with one another and the inner edges of the casing to prevent the escape of flame between the types, or between them and the casing.

4. A device of the kind described, consisting of a reservoir forming the handle of the device, a hydrocarbon-burner supplied from the reservoir, a casing at the outer end of the burner, a series of interchangeable types adapted to be mounted in the casing, said types having hollow backs and beveled edges, and a wedge with a beveled edge to engage the beveled edge of the type to force and hold the types in engagement with one another and the inner edges of the casing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABNER A. PHIPPS.

Witnesses:
WARREN B. HUTCHINSON,
EDWARD P. CLARK.