

March 22, 1932.

W. C. HAYNES

1,850,280

ELECTRICAL BRANDING DEVICE

Filed Oct. 5, 1928

2 Sheets-Sheet 1

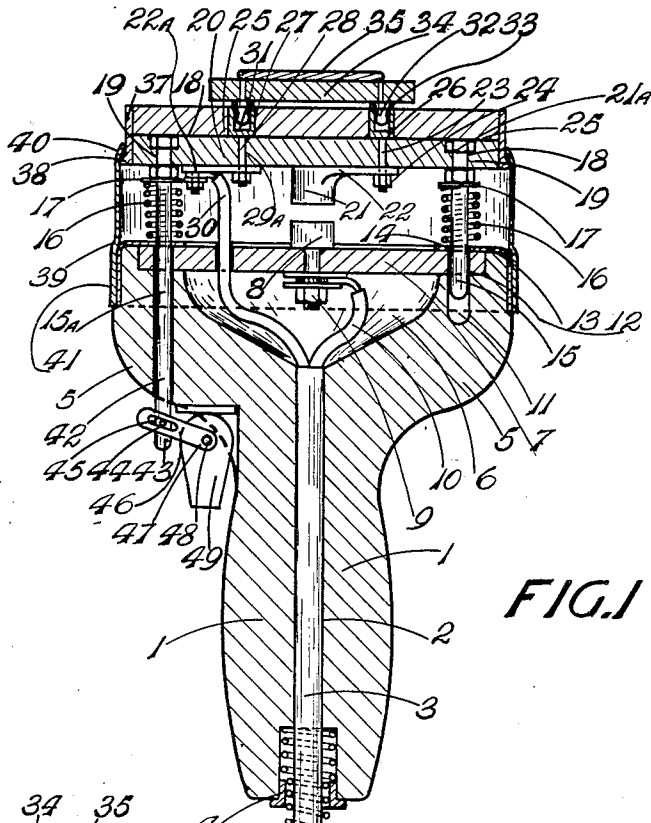


FIG. 1

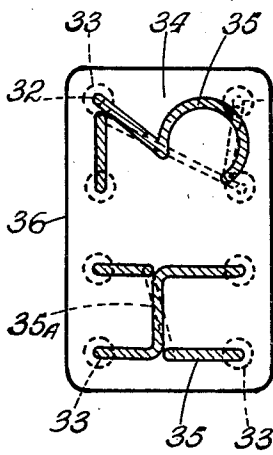


FIG. 3

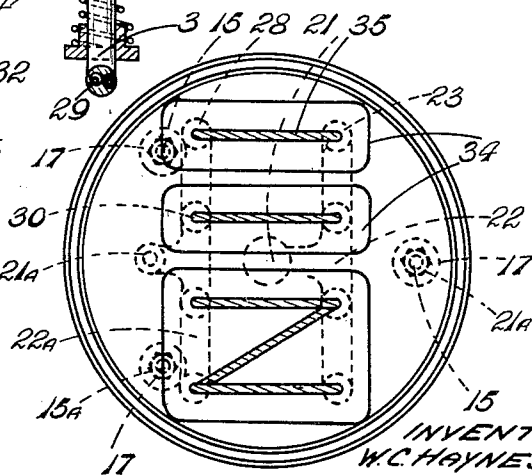


FIG. 2

INVENTOR
W. C. HAYNES

W. C. Haynes
BY *W. C. Haynes* ATT.

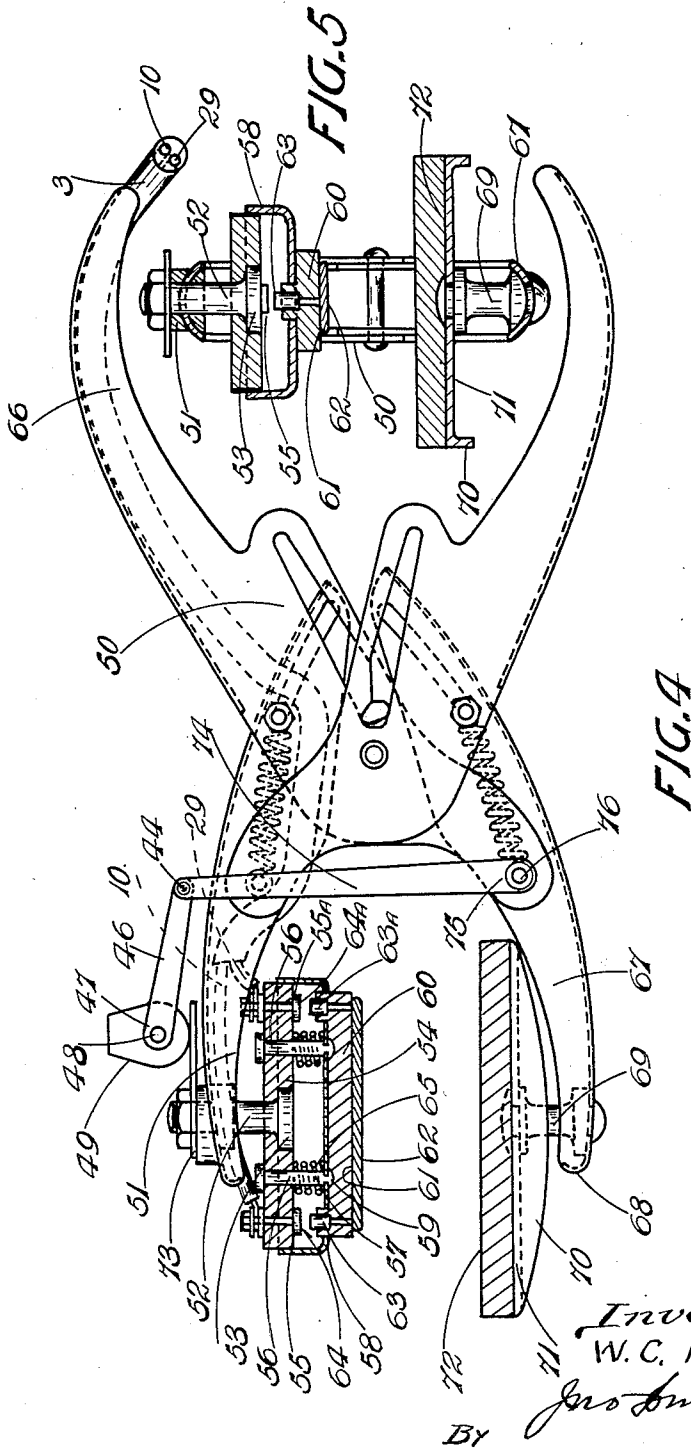
March 22, 1932.

W. C. HAYNES
ELECTRICAL BRANDING DEVICE

1,850,280

Filed Oct. 5, 1928

2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

WILLIAM CHARLES HAYNES, OF HASTINGS, NEW ZEALAND

ELECTRICAL BRANDING DEVICE

Application filed October 5, 1928. Serial No. 310,636.

This invention relates to devices of the type employing heat as a medium for branding or marking live stock, articles or objects so as to effect thereon a clear and distinctive mark or brand of identification.

Devices of this nature are known but they fail in the essential feature that they cannot effect a combination colour marking and branding operation simultaneously, and the temperature of the brand cannot be regulated to and kept at the desired heat. This is an important feature when marking or branding live stock, as the present method of fire branding is cumbersome, risky, and it is often necessary to overbrand.

A further disadvantage with the present known methods is that there is no means for counting or keeping a tally of the marks or brands made, such as for instance when using the device on live stock.

It is the object of my present invention to provide apparatus of the character herein specified in which the mark or brand can be either continuously or intermittently automatically heated by a supply of electricity suitably controlled so as to allow the operator of the apparatus to regulate the heat to the branding apparatus.

A further object of the invention is to provide means whereby the mark or brand may be combined with a distinctive colour to denote ownership as well as for identification purposes.

A still further object of the invention is the employment of a tabulating attachment operable when using the brand so that the user of the apparatus may keep an accurate tally of the number of brands or marks applied; this is particularly useful when marking and branding live and/or dead stock.

With these objects in view the invention consists of the following combination and arrangement of parts which will hereafter be described and more particularly pointed out in the claims.

In this specification I describe the apparatus for use in live stock marking and branding, but this does not preclude the use of such apparatus for branding or marking vari-

ous types of articles such as dead stock, timber work, or objects.

In the drawings:—

Figure 1 is sectional view of a surface brander as used for marking of stock on the rump, shoulder or such like places, or for marking other articles or objects.

Figure 2 is an end elevation of Figure 1 showing the combination of hot dies or ribbon elements used with such type of branding apparatus.

Figure 3 is an end elevation of the hot wire or ribbon element for a permanent form of brand attachable to and removable from the type of apparatus shown in Figure 1.

Figure 4 is an elevation and part sectional view of a clamping type of combined colour marking and branding apparatus used principally for ear marking of stock and the like, and with tabulating attachment.

Figure 5 is a sectional view through the branding apparatus of Figure 4.

Referring to the construction shown in Figure 1 which is a surface branding type of my invention wherein a switching device is provided within the apparatus operable on the influence of pressure upon the application of the brand, there is a handle 1 of some form of insulated material or of metal or the like made suitable to meet the requirements to act as a mount and with a hole 2 therein through which the electric current is conveyed by means of an insulated twin wire cable 3, and the upper extremity of this handle 1 is provided with the usual known means 4 for supporting the wire 3. The handle 1 is enlarged at the lower end 5, and a cavity 6 is formed therein to receive an insulated disc 7 which carries a contact stud 8 suitably retained therein and with provision thereon by means of a screwed end and bolt 9 for the attachment of a circuit wire 10 of the said cable 3.

Suitably positioned in the enlarged portion 5 of the handle 1 are holes 11 with corresponding holes 12 in insulated disc 7 which is held in place by a flanged metal member 13 with holes 14 to correspond with said holes 11 and 12. Into these holes 11, 12 and 14 and slidable therein are placed plunger members 15 and 15A, and surrounding each of these

plunger members 15 and 15A are springs 16 which bear against a washer 17 at the lower extremity 18 of said plunger members 15. These plunger members are secured into holes 19 in an insulated disc 20 by means of suitable nuts 21A at the lower extremity 18 of plunger member 15. Upon this insulated disc or plate 20 is mounted a contact stud 21 with a bus bar 22 to make connections with an inner contact stud 23 by means of the usual bolt and nut connections 24.

A further insulated disc or plate member 25 is provided with holes 26 to receive the said contact studs 23, and with holes 27 to receive contact studs 28 which also pass through holes 29A in the said insulated disc 20 for making connection to the other wire 30 of the type of connection similar to that shown at 24. These contact studs 28 are connected together by means of bus bars 22 and 22A. Referring now to these studs 23 and 28, they contain a hole 31 into which a projection 32 of a contact stud 33 engages; this contact stud 33 may be embedded in some non-inflammable and heat resisting material or built up to any desired shape in metal mountings or frames 34, and passes through same and connects with the built up branding element 35 upon the lower surface 36 of this heat resisting material or built up metal mounting 34.

Referring to Figure 2 this shows the arrangement of a combination of figures, signs and/or letters in a rectangle, but the combination may be arranged otherwise and may be obtained by contact studs 28 arranged upon the insulated surface 25 in pairs or sequence, and by plugging in or otherwise attaching the various designs or any other shape desired, and in such a manner as will permit of the use of any desired brand or combination of brands and/or markings.

Fitting into these contact studs 28, are the contacts 31, of branding element 35, which are likewise arranged in pairs or sequence to register, thus providing a removable element. The insulated discs 20 and 25 are banded at their periphery by a suitable metal strip 37 with a projection 38 which fits inside a metal case 39, is slidable within same, and is retained therein by means of a lip 40 and the said projection 38; the upper portion 41 of the metal case 39 is secured by means of screws (not shown) to the enlarged portion 5 of handle member 1.

The plunger member 15A is extended as at 42 and is slidable within one of the through holes 11 in the handle member 1, and near its extremity 43 is a pin 44 slidable within a slot 45 of the lever member 46 connected at 47 to the shaft 48 of a tabulator or counting device 49.

Referring now to Figure 3 which indicates the hot wire or ribbon element for a permanent form of brand, the view shows the arrangement of the element 35 on the frame or

support 34, and also indicates the foundation of the letters on the lower surface 36 of said frame or support. It will be noticed that the upper and lower contact studs are on the one hand connected directly across with the element 35, and on the other side or formation of the letter are formed partly across, then connected and stepped within the member 34 as at 35A to avoid contact with wire 35, and then again brought to the surface 36 where the said wire continues to form the remainder of the letter terminating in lower contact studs 33.

By this method of construction uniform heating is obtained throughout the shape of the letter.

In operation, the current is switched on from a suitable source and conveyed through the twin cable 3, but is interrupted until the application of the branding apparatus under pressure takes place, by means of handle 1 which is held and the branding elements 36 are placed upon the object to be branded, and upon application of pressure to handle 1 the springs 16 compress and the plunger members 15 and 15A together with the insulated discs 20 and 25 carrying elements 36, slide within that containing apparatus and the contact stud 21 makes contact with stud 8 whereby the electrical circuit is closed and the branding elements 36 begin to heat up and are held sufficiently long in contact with the object to be branded so as to leave a distinct mark thereon.

After this operation the apparatus is removed, and pressure being removed from handle 1 the springs 16 cause the insulated disc members 20 and 25 to slide outwards and break contact between studs 8 and 21 and thus again interrupt the electric circuit.

As already fully described part of my invention is for the purpose of branding live stock on the rump, shoulder or such like places, or for marking other articles or objects, and now referring to Figures 4 and 5 which indicates a type of apparatus suitable for ear branding and/or marking of live stock, and in which any known type of wide jaw self-opening pliers 50 is employed to which is fitted on jaw 51 a suitable size branding head attached by a suitable collar bolt 52 the lower extremity 53 of which is secured to an insulated plate or disc 54, in which at suitable positions are contact studs 55 and 55A. The collar bolt 52 may be arranged to serve as a contact stud using the construction similar to that shown in Figure 1.

Suitably positioned in this insulated disc 54 are holes 56 in which are slidable the bolts 57 which act as a guide and support to a metal case 58 rigidly attached thereto at 59. Upon this metal case is mounted a disc of non-inflammable heat resisting material 60, the lower face 61 of which carries the brand-

ing element 62. This element may be of the plain bar type (as shown) or as previously described and illustrated with reference to Figure 1 of the drawings.

6 The extremities of this element 62 are returned through the member 60 to form contact studs 63 and 63A, which coincide and commutate with the contact surfaces 64 and 64A of the contact studs 55 and 55A. Disposed around the bolt 57 are spring members 65 between the lower face of the insulated disc 54 and the upper surface of metal case 58; the purpose of these springs 65 is to separate the contacts 63, 63A, 64, and 64A and so interrupt the electric circuit.

10 Electric power is conveyed to the heating element 62 by means of a wire or cable 3 suitably housed within the handles 66 of the pliers 50 and the wires 10 and 29 are separated at a suitable point, the wire 10 on one side being connected to contact stud 53 on jaw 51 and the wire 29 being connected to contact stud 55A.

15 The lower jaw 67 of pliers 50 has attached at its extremity 68 a support 69 which carries a metal plate 70 forming a table 71 upon the upper surface of which is securely fixed a pad member 72 made of suitable compressible material. If desired an alternative absorbent material enclosed in the rubber pad 72 or other waterproof container may be provided and the inking surface of the pad member applies a permanent colour mark to the alternative side of the ear of the animal which at the moment is being branded by means of the electric element 62 on the jaw 51.

20 The container may be filled with any desired colour by the provision of a hole through the support 69 being directly connected at the upper end to the container, and connected at the lower end by means of a nipple through which the inking material is forced (this construction is not shown).

25 Suitably mounted on a bracket 73 may be attached a counting or tabulating member 49 with its operating lever 46 and its connecting link 74 connected and hinged by a pin 44 to the said lever 46 and the lower extremity of the link 75 is connected to the jaw 67 of the plier member 50 by means of a pin 76.

30 In operation, to use this type of branding apparatus the electrical current obtained from any suitable source is switched on to the twin wire cable 3, the pliers are then taken in the hand of the operator and the ear or object to be marked and/or branded is laid upon the compressible and/or colour absorbent pad 72. Pressure is now applied to the handles 66 of said pliers 50 closing the jaws 51 and 67 thereof, thus bringing the element 62 into contact with the object to be colour marked and/or branded, and upon further pressure being applied to the said handle, the 35 springs 65 are compressed and the contacts

63 and 63A engages with contact surface 64 and 64A and thus closes the electrical circuit thereby heating the element 62 and burning the brand upon the object.

It is understood that pressure to the handles 66 will be maintained for such a period of time as will permit of the element 62 becoming sufficiently heated to efficiently brand the object, and at the same time the link 74 connected to the said lower jaw 67 through pin 76 operates the lever 46 of the before mentioned counting or tabulating device 49.

Upon releasing pressure on handle 66 the electrical circuit is broken by the action of the springs 65 separating the contacts 63, 63A, 64 and 64A and the jaws of the pliers accordingly return to their normal open position. For colour marking the object simultaneously with branding thereof, the compressible and colour absorbent pad contains suitable and distinct colour or colours.

A commutation switch (not shown) may be connected to the wire of the twin cable and used for closing the electrical circuit by means of a plunger caused to operate upon the application of pressure to the handles of the pliers, the switch being held in the "off" position by means of a spring.

Although not shown, applied to any of the types of my invention, any known automatic electric "cut-off" controller device can be applied to the branding elements of the apparatus thereby controlling the period of branding should the said brand be inadvertently indefinitely applied, thus preventing obliteration or destruction of the brand through over-burning.

As will be understood from the description of my invention various combinations of letters, numerals, or signs may be used when branding or marking, and it is believed that such operation will be of considerable value in the identification of cows which have been the subject of herd tests and further in preventing the spread of the dreaded foot and mouth disease amongst live stock from one country to another provided each country will adopt its down particular letter or sign for branding, which sign would form part of the ownership or identification brand.

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

1. An electric branding device comprising a handle, an insulated disc carried by said handle, a second disc adjacent said first disc adapted to move reciprocally in said handle, electric contacts carried on each of the discs in opposed relation, means for normally holding the contacts in spaced relation, other contact studs carried by said second disc, a branding element, contact studs carried by said element, said element carried studs removably engaging said disc carried studs and means for energizing to thereby heat said element.

2. An electric branding device comprising a handle, an insulated disc carried by said handle, a second disc adjacent said first disc adapted to move reciprocally in said handle, 5 electric contacts carried on each of the discs in opposed relation, means for normally holding the contacts in spaced relation, other contact studs carried by said second disc, an electric resistance forming a branding element, 10 contact studs carried by said element, said element carried studs removably engaging said disc carried studs and means for energizing to thereby heat the element.

15 In testimony whereof I affix my signature.
WILLIAM CHARLES HAYNES.

20

25

30

35

40

45

50

55

60

65