Dec. 28, 1926. 1,612,220

J. RAVELLA

ELECTRICALLY HEATED BRANDING IRON

Filed Nov. 28, 1925

Fig. 1

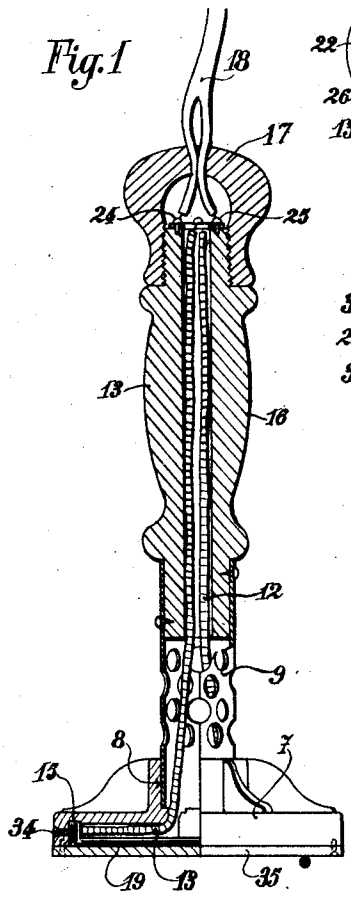


Fig. 2

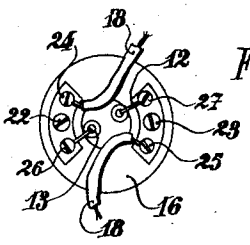


Fig. 3

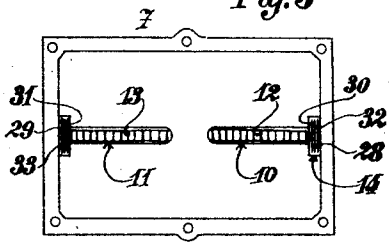


Fig. 5

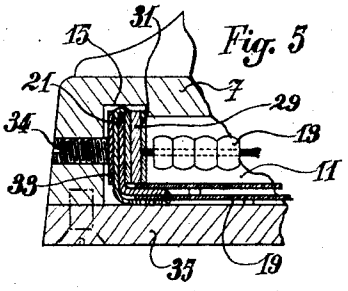


Fig. 6

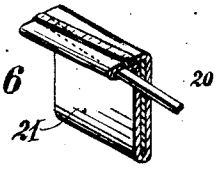
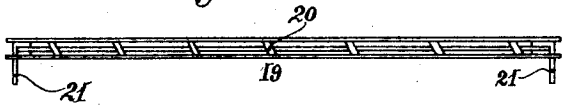


Fig. 4



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UNITED STATES PATENT OFFICE.

JEAN RAVELLA, OF LYON, FRANCE.

ELECTRICALLY-HEATED BRANDING IRON.

Application filed November 28, 1925, Serial No. 71,943, and in France December 5, 1924.

The present invention refers to branding irons which are used for making letters or figures on pieces of wood, generally on wooden chests. Such irons have usually consisted up to the present time of iron plates fixed to suitable handles, and which had to be heated in a furnace, a highly unsafe method in rooms in which such materials as paper and wood chips are dealt with. On the other hand these irons cool rapidly as a consequence of their working and by convection in the air. They must be often re-heated and this causes a great loss of time and labor.

In the improved iron according to the present invention, the branding plate is heated by a heating plate in which are arranged one or several electric resistances, and the device needs no separate heating. On the other hand, the branding plate may be easily removed and replaced, if desired, by another one.

The annexed drawing represents by way of example a branding iron according to the invention.

Fig. 1 is a part-sectional side elevation.

Fig. 2 shows the terminals of the device.

Fig. 3 is a bottom plan view of the frame.

Fig. 4 is a longitudinal section of the heating plate.

Figs. 5 and 6 represent one terminal of the heating plate and its connection with the electric conductor.

The frame 7 may be made of cast-iron or any other appropriate metal. This frame has in its lower part a rectangular recess for housing the heating plate; its upper face is ribbed and is provided with a tubular boss 8 in which is placed a tube 9 which forms the lower end of the handle. Two grooves 10 and 11 in the frame recess act as ways for the electric wires 12 and 13. As may be seen in Fig. 3, these grooves are opposite each other and they lead into the boss 8. The terminals of the conductors are housed in two small recesses 14 and 15 at the ends of grooves 10 and 11.

The tube 9 is provided with four rows of holes for effecting an efficient air-cooling; said tube being fixed by any appropriate means in boss 8 of the frame.

The handle 16 is made of wood or of any other heat insulating material, and is fixed in the upper end of tube 9. This handle is hollow and the conductors 12 and 13 are run through its bore; and it also has a hollow cover 17 provided with a hole through which the flexible electric cable 18 is passed. This two-conductor cable is connected with the electric supply.

The heating plate 19 consists of a mica plate on which is wound a resistance wire or strip 20 of appropriate cross-sectional area and length. This winding is covered by two mica sheets. Each end of resistance 20 is pressed between a folded copper strip 21, the shape of which is clearly illustrated in Fig. 6. Resistance 20 and strip 21 are besides soldered or welded together. These strips 21 are the terminals of the heating plate.

The flexible cable 18 is connected with terminals 22 and 23 on the upper part of the handle 16 by screws 24 and 25 (see Figs. 1 and 2). Two other terminals 26 and 27 are connected with conductors 12 and 13, which are insulated by means of hollow porcelain insulating beads through which they are individually passed. These conductors are run through handle 16 and grooves 10 and 11 and each one is soldered or welded to a copper plate 28 or 29 (see Fig. 5) which is placed in recess 14 or 15 and is throughly insulated from frame 7 by means of insulating plates 30 and 31. The heating plate is put in the rectangular recess of the frame, each strip 21 being placed between a copper plate 28 or 29 and an insulating plate 32 or 33 in a recess 14 or 15, as clearly shown in Fig. 5. A screw 34 presses against insulating plate 32 or 33 and insures good contact between strip 21 and plate 28 or 29.

An asbestos plate is inserted between the heating plate and the lower face of the frame.

The branding plate 35 is made in the ordinary manner and is fixed on the frame by six screws; the same device may be used with any number of different branding plates.

The device works as an ordinary branding iron, but it needs no pre-heating when in use, the necessary heat being given by the electric current passing through resistance 20.

The connection between plate and leading-in wire is a perfect one; provision is made for a great contact area; and besides, any play is prevented by binding screw 34.

A great advantage of the device is that the branding plate is kept at the same tem-

perature during the work without any reheating. This is of course a considerable gain of time and labor.

The invention may be applied to any kind of branding iron. Should the branding plate area be too great for permitting an easy manual handling of the device, the latter could be worked mechanically by levers or the like.

It must be understood that the above explained drawing is given merely as an example. The details may be varied in each case, provided the action of each part remains the same and that the final result is unchanged.

What I claim as my invention and desire to secure by Letters Patent of the United States is:

1. A branding iron, comprising an open-bottomed, hollow frame; a handle therefor; a heating plate disposed in the interior of the frame and having a resistance element wound around it; contact strips fastened to the ends of the resistance element; conductors extending into said frame and provided at their ends with contact strips to engage the first-named contacts; clamping screws for maintaining the two sets of contacts engaged; and a branding plate attached to the frame to close its bottom.

2. A branding iron, according to claim 1, in which the clamping screws pass through openings in the side walls of the frame and bear at their inner ends directly against insulating strips disposed against one set of contacts.

3. A branding iron, comprising an open-bottomed, hollow frame; a handle therefor; a heating plate disposed in the interior of the frame and provided with contact strips at its opposite ends; conductors extending into said frame and provided at their ends with contact strips to engage the first-named contacts; clamping screws passing through the frame and bearing against one set of contacts, but insulated from the same, to maintain the two sets of contacts engaged; and a branding plate attached to the frame to close its bottom.

4. An electrically heated branding iron comprising in combination a metallic frame having a recess therein, a handle, a heating plate provided with terminals, a branding plate and insulated leading-in wires also provided with terminals; said frame being provided with two small recesses for housing the terminals of said heating plate and of said leading-in wires, and with two grooves, said grooves extending from said small recess to a tubular boss on the center part of said frame, and said leading-in wires being run through said grooves.

5. An electrically heated branding iron, comprising in combination a metallic frame having a recess therein, a handle, a heating plate, a branding plate and insulated leading-in wires; said handle comprising a hollow heat insulating part, and a metallic tubular part fixed to said frame, said tubular part being provided with a number of holes for insuring an efficient air-cooling of the same, and said leading-in wires being run through said tubular part and hollow heat insulating part.

In witness whereof I have signed this specification.

JEAN RAVELLA.