Dec. 22, 1925. 1,566,674

F. J. HORTA

ELECTRIC BRAZING APPARATUS

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Fig. 1.

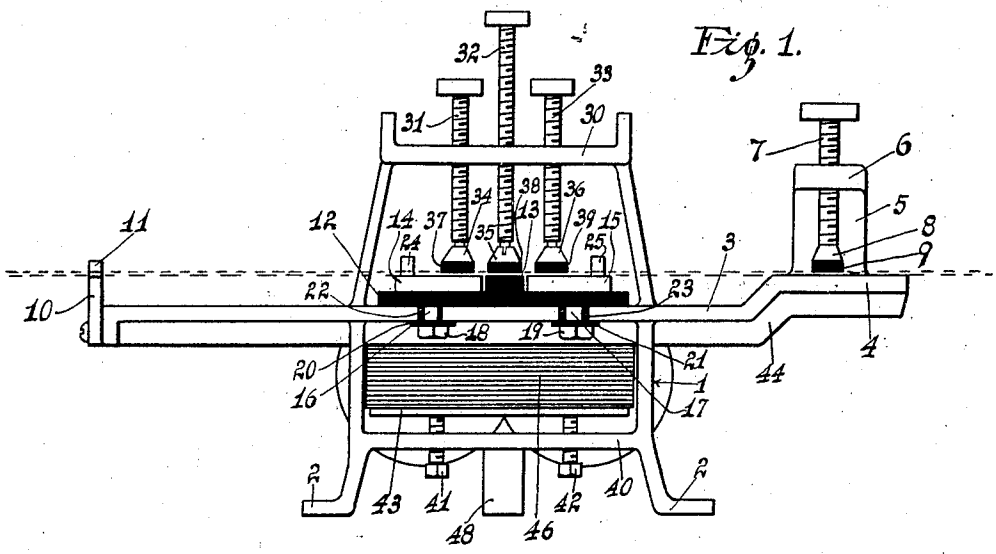
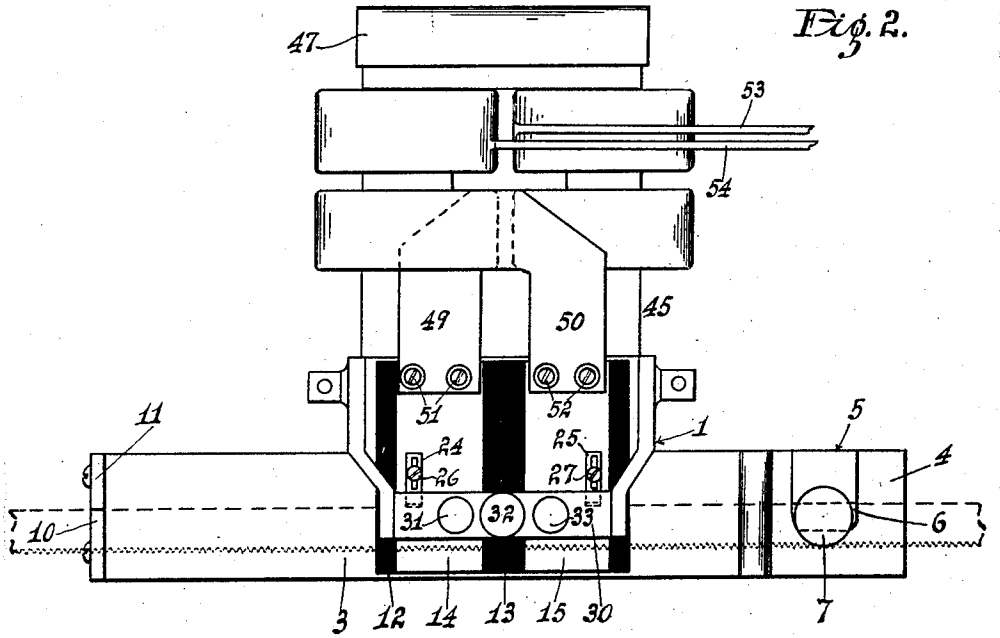


Fig. 2.



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Fig. 3.

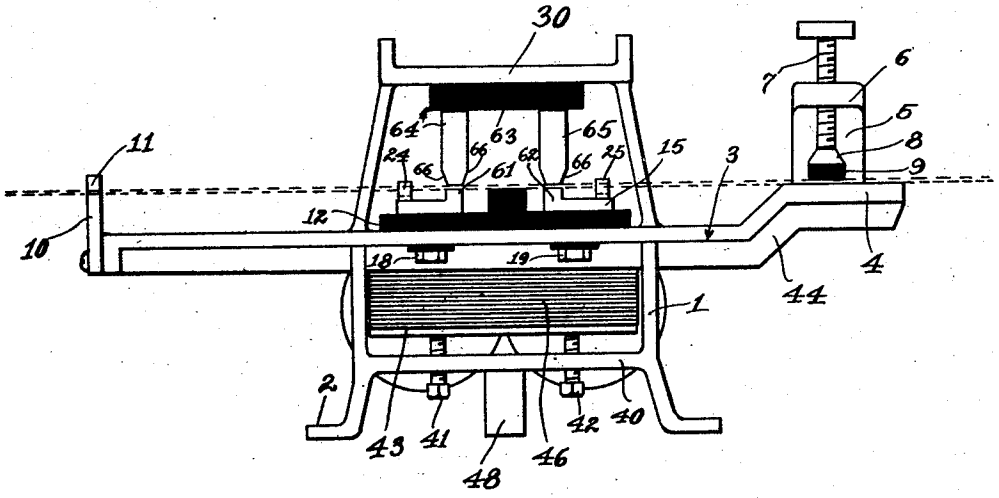
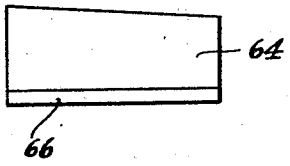


Fig. 4.



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UNITED STATES PATENT OFFICE.

FELIX J. HORTA, OF OAKLAND, CALIFORNIA.

ELECTRIC BRAZING APPARATUS.

Application filed February 11, 1922. Serial No. 535,722.

To all whom it may concern:

Be it known that I, FELIX J. HORTA, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Electric Brazing Apparatus, of which the following is a specification.

My invention is an improved method and apparatus for electrically brazing together the lapped ends of articles.

Referring to the annexed drawing in which my invention is illustrated and which forms a part of this specification:

Figure 1 is a front elevation of my invention.

Figure 2 is a plan view of my invention.

Figure 3 is a front elevation of a modified form of my invention.

Figure 4 is a side view of one of the clamping wedges used in said modified form.

In the drawing 1 indicates a supporting frame formed with legs 2 which rest on the floor. About midway of the height of the frame in the forward part thereof is formed an elongated table 3 extending transversely of the frame and beyond the sides thereof. The right end of the table 3 is elevated into an article rest 4, on the rear of which is a standard 5 formed at the top with a forwardly projecting lug 6 in which is screw seated a vertical clamp screw 7, on the end of which is a grip 8 with an insulated gripping surface 9. On the left end of the table 3 is secured an upstanding rest 10 on a level with rest 4, and formed with a shoulder 11 at the rear. A plate 12 of insulation rests on the table 3 within the frame 1, which plate has an upstanding rest 13 extending from front to rear of the plate. Two copper plates 14 and 15 rest on the plate 12 at the sides of the rest 13 respectively. Studs 16 and 17 depend from the plates 14 and 15 respectively through the plate 12 and the table 3 and nuts 18 and 19 screw on the lower ends of said studs against washers 20 and 21 of insulation on the under side of the table 3 whereby the plates 14 and 15 and the plate 12 are detachably secured on the table 3. The studs 16 and 17 are insulated from the table 3 by bushings 22 and 23 of insulation. On the plates 14 and 15 adjustable slotted guides 24 and 25 are secured by means of screws 26 and 27 respectively. A horizontal frame member 30 extends across the top of the frame 1, in which member are screw seated three vertical clamp screws 31, 32, and 33 directly over the plate 14, rest 13 and plate 15 respectively on the lower end of which screws are grips 34, 35, and 36 provided with gripping faces 37, 38 and 39 of insulation. A horizontal member 40 extends across the lower part of the frame 1 in which are seated two vertical screws 41 and 42 which bear against a plate 43. The table 3 has a depending flange 44 at its rear edge. A transformer 45 is secured at its forward end in the frame 1, the forward end of the core 46 of said transformer being clamped in the frame between the flange 44 and the plate 43 by the screws 41 and 42. The rear end of the transformer coil 46 is secured in a casting 47 which has a leg 48 resting on the floor. The terminals 49 and 50 of the transformer 45 are respectively secured to the plates 14 and 15 by screws 51 and 52. Leads 53 and 54 connect the transformer to an electric generator. The above described apparatus is designed especially for band saws, but applicant's invention is, of course, capable of general application to various articles.

A broken band saw is placed on the table 3 upon the rests 4, 5, and 13 and the plates 14 and 15 with the break in the saw directly over the rest 13 and the back of the saw against the standard 5, shoulder 11 and guides 24 and 25, and the saw is clamped in such position by the screws 7, 31, 32 and 33. Brazing material is placed on the butted edges of the saw and an electric current is sent through the transformer which heats the ends of the saw until the break is brazed together.

In the modified form of my invention shown in Figure 3 the clamp screws 31, 32 and 33 are eliminated; the plates 14 and 15 are formed with raised seats 61 and 62 at their opposite inner edges; a block of insulation 63 is secured to the under side of the frame member 30 and clamp wedges 64 and 65 with beveled lower edges 66 are provided in place of the clamp screws 31, 32 and 33. Otherwise the construction of this form of my invention is the same as shown in Figures 1 and 2.

The broken saw band is placed upon the table 3 upon the rests 4, 10 and 13 and the seats 61 and 62 with the break in the saw directly over the rest 13 and the back of

the saw against the standard 5, shoulder 11 and guides 24 and 25, and the saw is clamped in such position by the wedges 64 and 65 which are driven between the saw and the block 63, the lower beveled edges of said wedges engaging the saw directly over the seats 61 and 62.

Having described my invention I claim:

1. In electrical brazing apparatus, a frame, a table mounted on said frame, said table including a pair of terminal plates mounted thereon and insulated therefrom, an insulated supporting element mounted on said table between said terminal plates, clamping means located above said terminal plates for holding the two pieces of a broken article in position, and means connected to said terminal plates for conducting an electric current through said plates for brazing said article.

2. In electrical brazing apparatus, a frame, horizontally alined elements secured to said frame for supporting the parts of a broken article in position for brazing, a pair of plates constituting electric terminals mounted upon and insulated from said frame, wedges cooperating with the frame for clamping the broken parts of said article in proper position for brazing with the broken parts meeting between said terminal plates, a transformer, and electrical conductors for connecting said terminal plates and said transformer to cause an electric current to pass through the broken parts.

In testimony whereof I affix my signature.

FELIX J. HORTA.