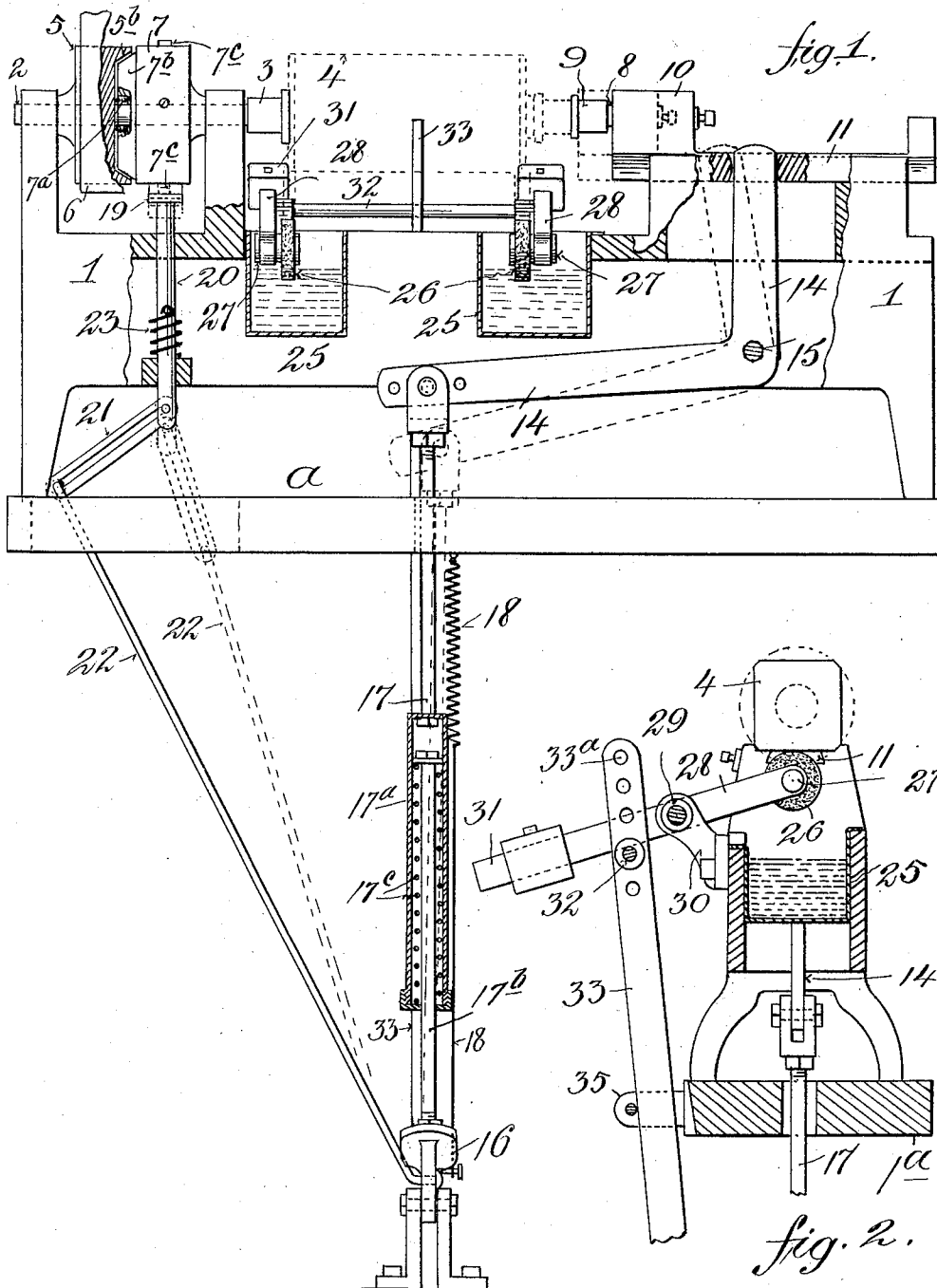


M. KARP.
 MEANS FOR APPLYING FLUX TO ARTICLES TO BE SOLDERED.
 APPLICATION FILED APR. 2, 1912.

1,058,439.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.



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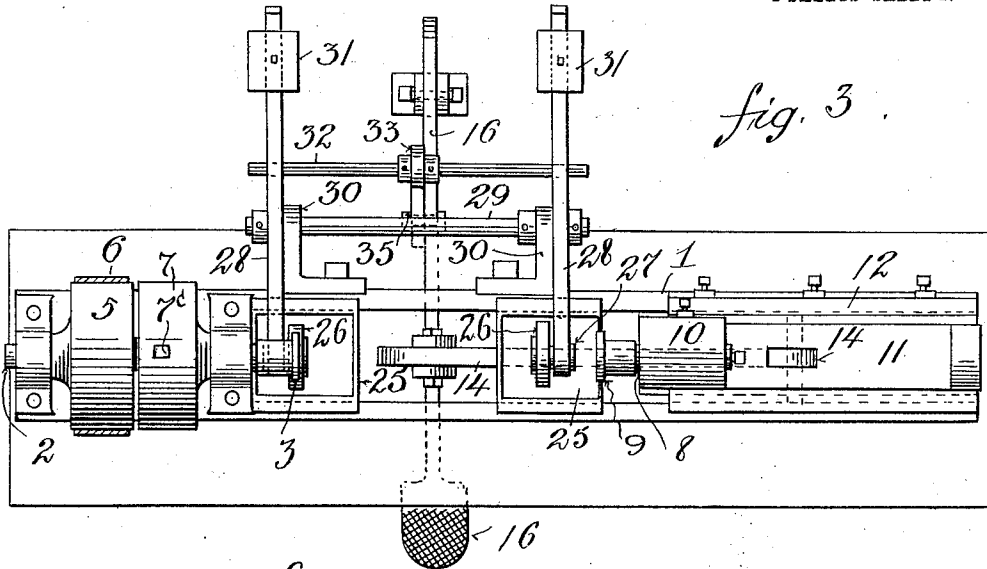


fig. 3.

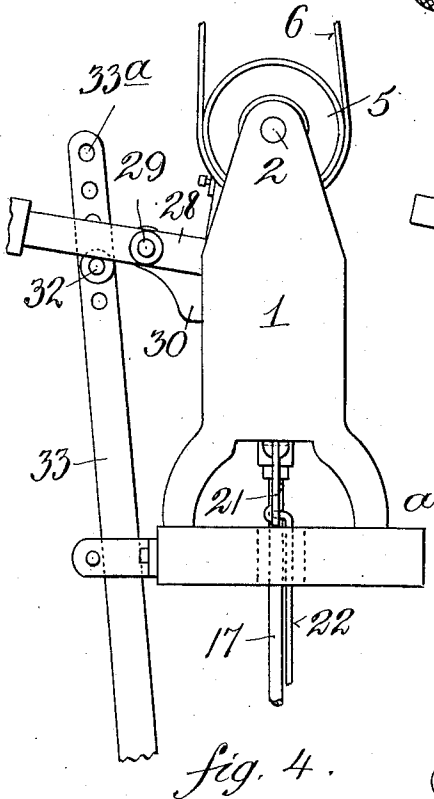


fig. 4.

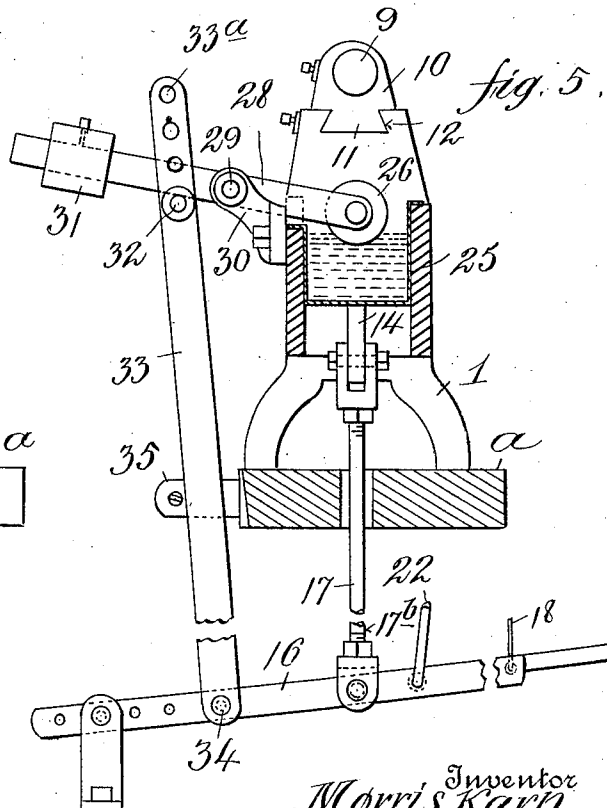


fig. 5.

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UNITED STATES PATENT OFFICE.

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MEANS FOR APPLYING FLUX TO ARTICLES TO BE SOLDERED.

1,058,439.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed April 2, 1912. Serial No. 688,023.

To all whom it may concern:

Be it known that I, MORRIS KARP, a citizen of the United States, and resident of Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Means for Applying Flux to Articles to be Soldered, of which the following is a specification.

My invention has reference to applying soldering flux to articles to be soldered, and has particular reference to applying flux or acid to the ends of tin cans and analogous articles, such as to the top and bottom thereof, preparatory to soldering the same.

In carrying out my invention I provide means for rotatively supporting a can or analogous article, a flux or acid bath beneath the can, a brush or roll to dip into the bath and to engage the can seam, and means for operating said brush and to permit the latter to freely follow the contour of the can body.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1 is a partly sectional front view of a machine embodying my invention; Fig. 2 is a cross section thereof; Fig. 3 is a plan view of the machine; Fig. 4 is an end view looking from the left in Fig. 1, and Fig. 5 is a section substantially similar to Fig. 2, showing parts in a different position.

Similar numerals of reference indicate corresponding parts in the several views.

At 1 is a suitable frame which may be supported upon a table or bench *a*. Said frame has bearings supporting a slidable spindle 2 provided at the inner end with a head 3 adapted to bear against the end of a can 4. Spindle 2 is shown provided with a loose pulley 5, and a drum or the like 7. A spring 7^a between pulley 5 and drum 7 normally separates them. Pulley 5 and drum 7 have coacting friction faces 5^b, 7^b. 6 indicates a driving belt on pulley 5. In line with spindle 2 is a spindle 8 having a head 9 normally spaced from head 3 to engage can 4 at its end opposite head 3. Spindle 8 is journaled in a block or head 10 slidably supported upon frame 1. For this purpose block or head 10 is shown carried by slide 11 supported in ways 12 on frame 1, whereby block 10 and head 9 may be moved to the left in Fig. 1 to engage the end of a can, and to the right to release the can. For this purpose I have shown a bell-crank lever 14, pivoted upon frame 1 at 15, and connected

with a treadle 16. I have shown rod 17 connected with a tube 17^a receiving a rod 17^b connected with treadle 16, and a spring 17^c within said tube bearing at one end against the bottom of said tube and at the upper end against a head on rod 17^b, whereby the connection between lever 14 and treadle 16 may be lengthened as required. A spring 18 connected with the frame and with treadle 16 normally tends to raise the treadle. When the treadle is depressed lever 14 will be rocked to push head 9 against can 4, and when the treadle is released head 9 is moved back from the can, spring 18 raising the treadle and restoring the parts. At 19 is a catch adapted to engage one or more projections 7^c on drum 7 to positively stop the rotation of head 3 and can 4. Catch 19 is shown carried by a rod 20 guided upon frame 1, and connected by link 21 and rod 22 with treadle 16. A spring 23 serves normally to press catch 19 toward drum 7 when treadle 16 is raised. The arrangement of the parts is such that when head 9 is moved back to release the can the catch 19 will engage a projection 7^c and stop the rotation of head 3 on the can, and when the treadle is depressed catch 19 will be removed from projection 7^c and head 9 will be moved against can 4 that is placed between the heads 3 and 9.

Below heads 3 and 9 are one or more baths 25, adapted to contain soldering fluid, such as suitable flux or acid, and into such flux or acid rotative brushes or rolls 26 are adapted to dip and to be elevated into contact with the seams of the rotating can. Said brushes 26 may be of suitable stiff felt or other absorptive material, and are shown mounted to rotate upon spindles 27 carried by arms 28, the latter being shown carried by rod 29 supported in brackets 30 upon frame 1, to cause the brushes 26 to be raised and lowered. Counter-weights 31 on arms 28 serve normally to raise brushes 26 against can 4. Means are connected with treadle 16 to cause brushes 26 to dip into the flux or acid when the treadle is raised and to allow said brushes to rise and have free movement against the can when the treadle is lowered. For this purpose I have shown a transverse rod 32 adapted to bear beneath arms 28 beyond their pivotal support 29, rod 32 being shown connected with an upwardly extending bar 33 shown pivotally connected at its

lower end to treadle 16 by the pivot 34. Bar 33 is shown guided for vertical movement by the guide 35 shown projecting from table *a*. Bar 33 is shown provided with spaced holes 33^a adapted to receive rod 32 in different positions of elevation to accommodate cans of different sizes.

The operation may be described as follows: With the parts in the normal positions shown in Figs. 1 and 5, head 9 will be drawn to one side to permit the insertion of can 4 between heads 3 and 9, and bar 33 will be elevated to cause rod 32 to tilt arms 28 so that the brushes 26 will dip into the flux or acid (see Fig. 5), and catch 19 will stop the rotation of head 3. The can 4 is then inserted between heads 3 and 9, and treadle 16 is depressed, whereupon head 9 will be pushed against the can and the latter will thus be pushed against said head and will be rotatively supported, and further downward movement of treadle 16 is permitted by the compression of spring 17^c when the head of rod 17^b is drawn farther downwardly by treadle 16; catch 19 will then be released from projection 7^c, and by the depression of treadle 16 rod 32 will be lowered and weights 31 will cause arms 28 to tilt and raise the brushes 26 into engagement with the seams of the can (see Fig. 2). When catch 19 is released from projection 7^c of drum 7 and can 4 is pressed by head 9 against head 3, the latter is moved laterally, causing the friction faces 7^b and 5^b to engage, thereby frictionally uniting pulley 5 with drum 7 and causing rotation of the latter, head 3, can 4 and head 9. The rotation of the can in contact with the brushes will cause the latter to apply flux or acid to the can seams and when treadle 16 is released catch 19 will rise and stop the rotation of drum 7 and the can by engaging a projection 7^c of said drum, the attendant will grasp the can, head 9 will move back from the can, and the raising of bar 33 causes the insertion of brushes 26 in the flux or acid ready for another operation, and so on. As arms 28 are free to rock above rod 32, it will be understood that cans of varying polygonal shape may rotate in contact with the brushes 26, arms 28 rocking to accommodate such action as required. Also, cans of circular shape will rotate in contact with brushes 26 to apply flux or acid to the cans.

Changes may be made in the details of construction shown and described, within the scope of the appended claims, without departing from the spirit of the invention. By the term "can" herein I mean any article to which the flux is to be applied.

Having now described my invention what I claim is:—

65 1. The combination of means to rotatively

support a can, a bath below the said means, an arm mounted to be tilted and provided with a brush adapted to dip into the bath, a bar having means beneath the arm and otherwise disconnected therefrom to tilt the arm to dip the brush into the bath when the bar is raised and to leave the arm free to rock when the bar is lowered to cause contact of the brush with the can when the latter rotates.

2. The combination of means to rotatively support a can, a bath below said means, a brush to dip into the bath and engage the can, an arm movably supporting the brush, and means to simultaneously release the can and cause the brush to enter the bath, said means permitting the arm and brush to rock when the brush is in contact with the can.

3. The combination of a head to engage a can, means to rotate said head, another head to engage the can, one of said heads being movable toward and from the other, a bath below said heads, a brush to dip into the bath, a lever to operate the movable head, a treadle to operate said lever, an arm carrying the brush, and means operated by the treadle to actuate the arm to cause the brush to engage the can when the movable head engages the can.

4. The combination of a head to engage a can, means to rotate said head, another head to engage the can, one of said heads being movable toward and from the other, a bath below said heads, a brush to dip into the bath, a treadle, means operated by the treadle to cause the movable head to engage and release the can, and means operated by the treadle to cause the brush to engage the can when the movable head engages the can.

5. The combination of a head to engage a can, means to rotate said head, another head to engage the can, one of said heads being movable toward and from the other, a bath below said heads, a brush to dip into the bath, a treadle, means operated by the treadle to cause the movable head to engage and release the can, an arm carrying the brush, a bar connected with the treadle and coacting with said arm to cause the brush to enter the bath when the treadle is in one position, and means to cause the brush to engage the can when the treadle is in another position.

6. The combination of a head to engage a can, means to rotate said head, another head to engage the can, one of said heads being movable toward and from the other, a bath below said heads, a brush to dip into the bath, a treadle, means operated by the treadle to cause the movable head to engage and release the can, an arm carrying the brush, a bar connected with the treadle and having a rod below the arm to cause the brush to engage the can when said arm is released from said bar.

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7. The combination of a head, means to rotate the head, another head spaced from the first named head, a slide carrying the second named head, a lever to operate said slide, a treadle to operate said lever, a bath below said heads, a brush to dip into the bath, and means operated by the treadle to permit the brush to rise from the bath into engagement with a can when said heads engage the can.

8. The combination of a head, means to rotate the head, another head spaced from the first named head, a slide carrying the second named head, a lever to operate said slide, a treadle to operate said lever, a bath below said heads, a brush to dip into the bath, an arm carrying said brush, and means connected with the treadle to tilt the brush into the bath when the treadle is in one position and to release the brush to engage a can when the treadle is in another position.

9. The combination of a head, means to rotate the head, another head spaced from the first named head, a slide carrying the second named head, a lever to operate said slide, a treadle to operate said lever, a bath below said heads, a brush to dip into the bath, an arm carrying the brush, a bar con-

nected with the treadle, a guide for the bar, and a rod connected with the bar to tilt the arm and place the brush in the bath when the treadle is in one position and to release the arm when the treadle is in another position.

10. The combination of a head, means to rotate the head, another head spaced from the first named head, a slide carrying the second named head, a lever to operate said slide, a treadle to operate said lever, a bath below said heads, a brush to dip into the bath, an arm carrying the brush, a bar connected with the treadle, a guide for the bar, a rod connected with the bar to tilt the arm and place the brush in the bath when the treadle is in one position and to release the arm when the treadle is in another position, and a weight connected with the arm to cause the brush to engage a can when said bar descends.

Signed at Passaic, in the county of Passaic and State of New Jersey, this twenty first day of March, A. D. 1912.

MORRIS KARP.

Witnesses:

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FRED W. GASTON.