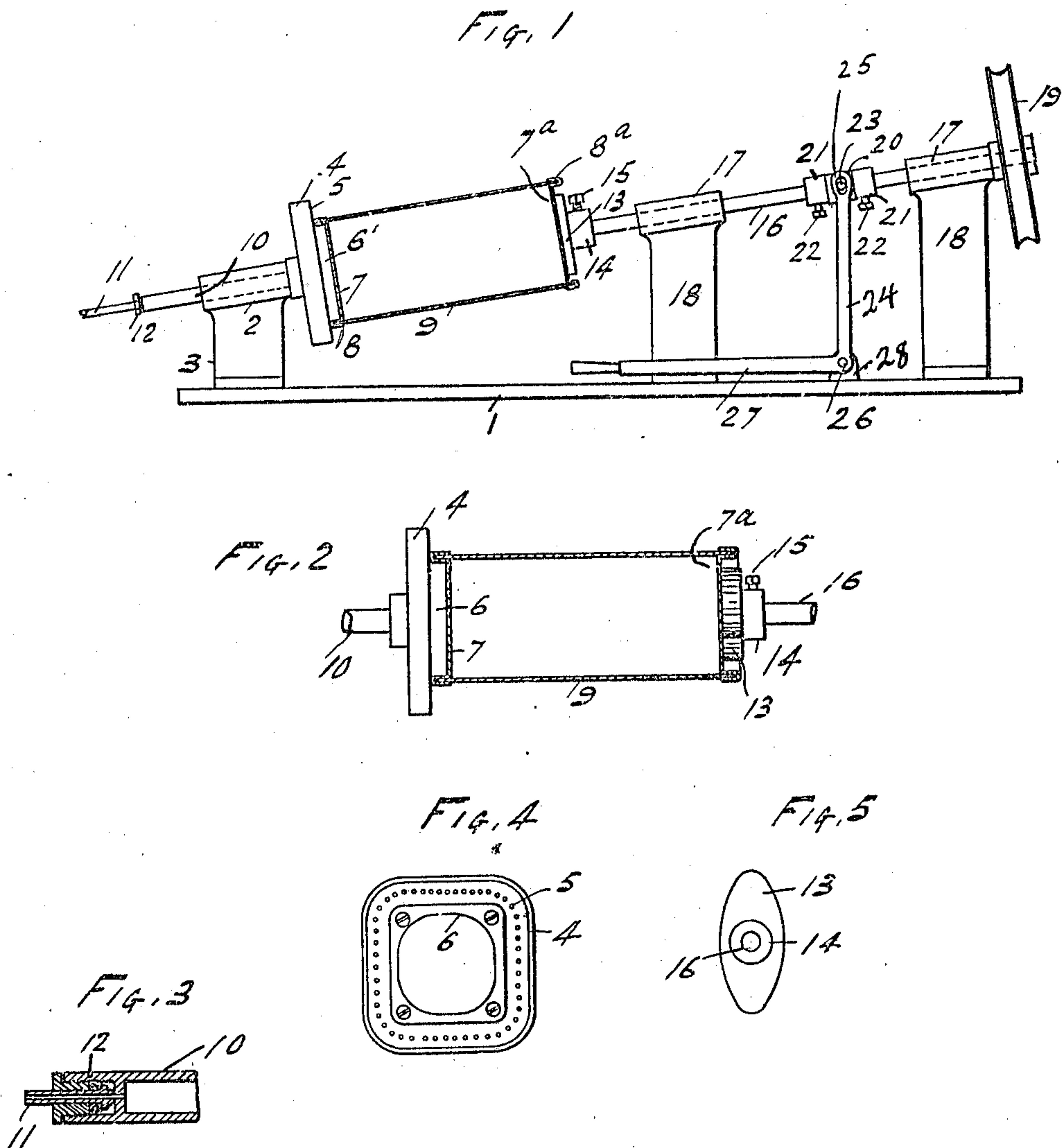


F. J. HETCHLER.  
CAN SOLDERING MACHINE.  
APPLICATION FILED MAY 18, 1909.

953,143.

Patented Mar. 29, 1910.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRANK J. HETCHLER, OF FRANKLINVILLE, NEW YORK.

CAN-SOLDERING MACHINE.

953,143.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed May 18, 1909. Serial No. 496,762.

*To all whom it may concern:*

Be it known that I, FRANK J. HETCHLER, a citizen of the United States, residing at Franklinville, in the county of Cattaraugus and State of New York, have invented new and useful Improvements in Can-Soldering Machines, of which the following is a specification.

This invention relates to can soldering machines, and consists in certain improvements therein as will be hereinafter fully described and pointed out in the claims.

More particularly the invention is designed for soldering the heads of cans to the bodies thereof, and while applicable to all shapes of cans, is particularly desirable in forming cans of rectangular shape in cross section.

The invention is illustrated in the drawings as follows:

Figure 1 shows a side elevation of the machine with a can in section in the machine. Fig. 2 is an enlarged view of the burner and clamp with an interposed can in section. Fig. 3 shows a section of the swivel joint leading from the gas supply to the burner. Fig. 4 shows an end elevation of the burner. Fig. 5 shows an elevation of the head of the clamp.

1 marks the frame of the machine; a bearing 2 is carried by a post 3, extending upwardly from the frame.

The burner 4 has the jet openings 5 extending entirely around the head holding form 6. The can head 7 is placed on this form. The head has the usual turned edge 8 into which the body 9 of the can is placed. The opposite head 7<sup>a</sup> has the usual turned edge 8<sup>a</sup> into which the body extends.

The burner is mounted on the stem 10, the stem being journaled in the bearing 2. A gas connection 11 extends into the end of the stem. The stuffing box 12 is arranged in the end of the stem so as to permit of the swivel connection between the stem and the gas supply.

A clamp head 13 has the hub 14 and this is secured by means of a set screw 15 on the shaft 16. The shaft 16 extends through the bearings 17—17, these bearings being supported by the posts 18—18, extending upwardly from the frame.

A drive pulley 19 is arranged on the shaft 16 by means of which it is constantly rotated. A sleeve 20 is journaled on the shaft, but locked against axial movement on the

shaft by the collars 21—21. These collars are fixed on the shaft by set screws 22—22. Pins 23 extend from the sleeve 20 into the slots 25 in the throated arm 24 of a bell cranked lever. The other arm 27 of the bell cranked lever is arranged in convenient position to be grasped by the operator, and is pivoted at 26 on the lug 28, extending upwardly from the frame 1.

The operation of the device is as follows: The gas is supplied through the gas connection and the burner is constantly burning at the jets 5. A can head is placed on the holding form 6. This form 6 is constantly heated and the head being in proximity to the burner, is also heated. The burner preferably extends entirely around the form so that the body is uniformly heated thereby. The can is placed in position with the head arranged in the opposite end and the clamp 13 is thrown forward. The clamp head 13 is of such size and shape that it will readily enter the can head, but of such size and shape as to prevent its rotation in the can head. As soon as the clamp enters the can head, it drives the can, and consequently drives the burner. The solder is then applied to the joint formed between the head and the body adjacent to the burner. As the can is rotated by the machine, all parts of the joint are brought with uniform speed to a point of application of the solder. The operator applies the solder at this point of application, and as the speed of rotation is uniform and the heat uniform, a uniform amount of solder is applied to the joint simply by holding the solder in place. By reason of the uniform heat and a uniform speed of rotation resulting in a uniform application of the solder, a very small amount of solder accomplishes the purpose, and also it prevents any excess deposits of solder, which make the can unsightly. One of the reasons for this is that the uniform heat assures the proper distribution of the solder in the joint and also prevents the cooling of portions of the solder outside the joint so as to deposit the excess outside the joint.

I prefer to arrange the burner and clamp at a slight inclination, so that the solder will readily run into the joint formed between the head and the body. Of course, the clamp and the burner must be arranged in axial alinement.

By forming the burner, so as to surround the head holding form, and arranging it ad-



jacent to this form, a very small amount of gas is required to practically operate the machine as compared with other machines for this purpose.

5 What I claim as new is:

1. In a can soldering machine, the combination of a rotating annular burner formed with a series of jet openings; and means within the burner for holding a can head on  
10 the burner and in position to be heated thereby, and in fixed relation to the burner.

2. In a can soldering machine a rotating burner, having a head formed thereon adapted to hold a head in fixed relation thereto,  
15 the burner edges surrounding the form.

3. In a can soldering machine, the combination of a rotary burner; a rotating clamp having a common axis with the burner; and means for driving the parts with a can in  
20 place.

4. In a can soldering machine, the combination of a rotary burner; a rotating clamp having a common axis with the burner; and means for driving the clamp to rotate the  
25 burner, while holding a can in place.

5. In a can soldering machine the combination of a rotating burner having a head holding form thereon; a rotating clamp having a common axis with the burner and adapted to engage a can head, while rotating, and means for driving the clamp. 30

6. In a can soldering machine the combination of a rotating burner surrounding a head holding form on the burner and adjacent thereto; means for supplying gas to  
35 the burner; a swivel connection between the gas supply means and rotating burner; a clamp having a common axis with the burner; means for rotating the clamp; and a lever operating upon the means for moving the clamp axially to and from the clamping position. 40

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK J. HETCHLER.

Witnesses:

FLOYD C. FAY,

EDGAR J. GRIERSON.