N. MUSHER.

SOLDERING MACHINE.

APPLICATION FILED JAN. 5, 1914.

1,131,726.

Patented Mar. 16, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

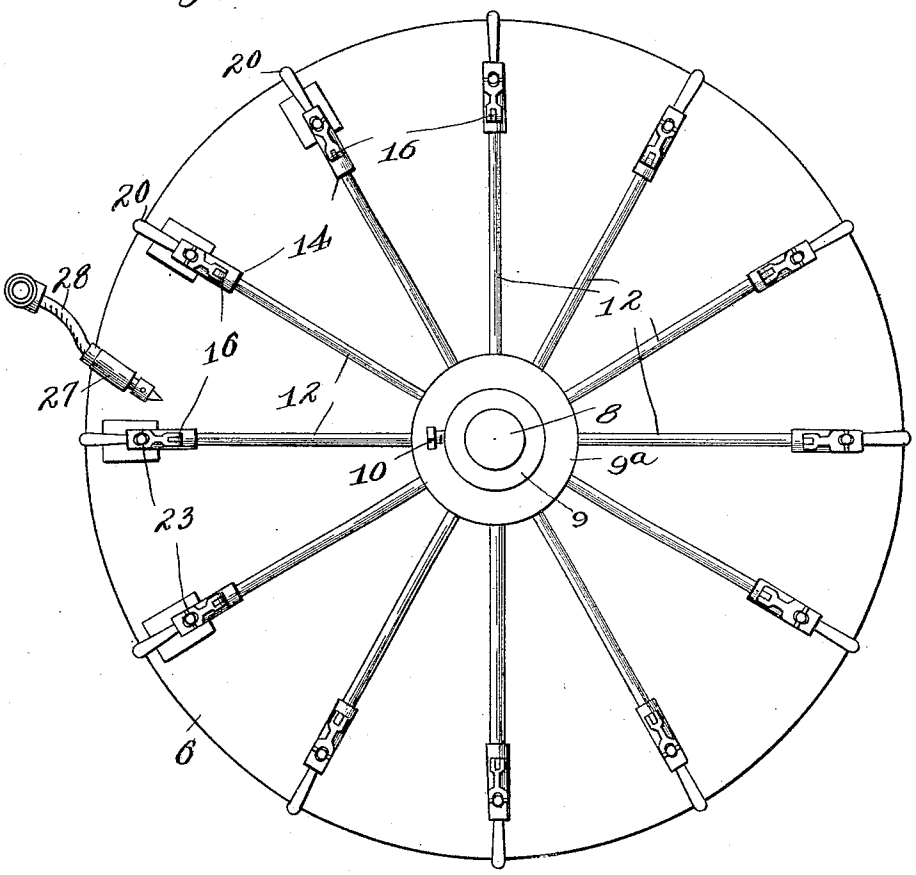
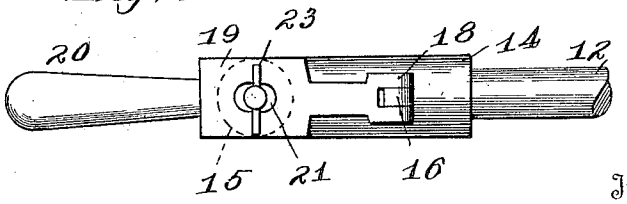


Fig. 4.



Witnesses

G. A. Rauberschmidt.

F. W. Cleary.

Inventor

Nathan Musher,

By A. M. Wilson

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

N. MUSHER.

SOLDERING MACHINE.

APPLICATION FILED JAN. 5, 1914.

1,131,726.

Patented Mar. 16, 1915.

2 SHEETS—SHEET 2.

Fig. 2.

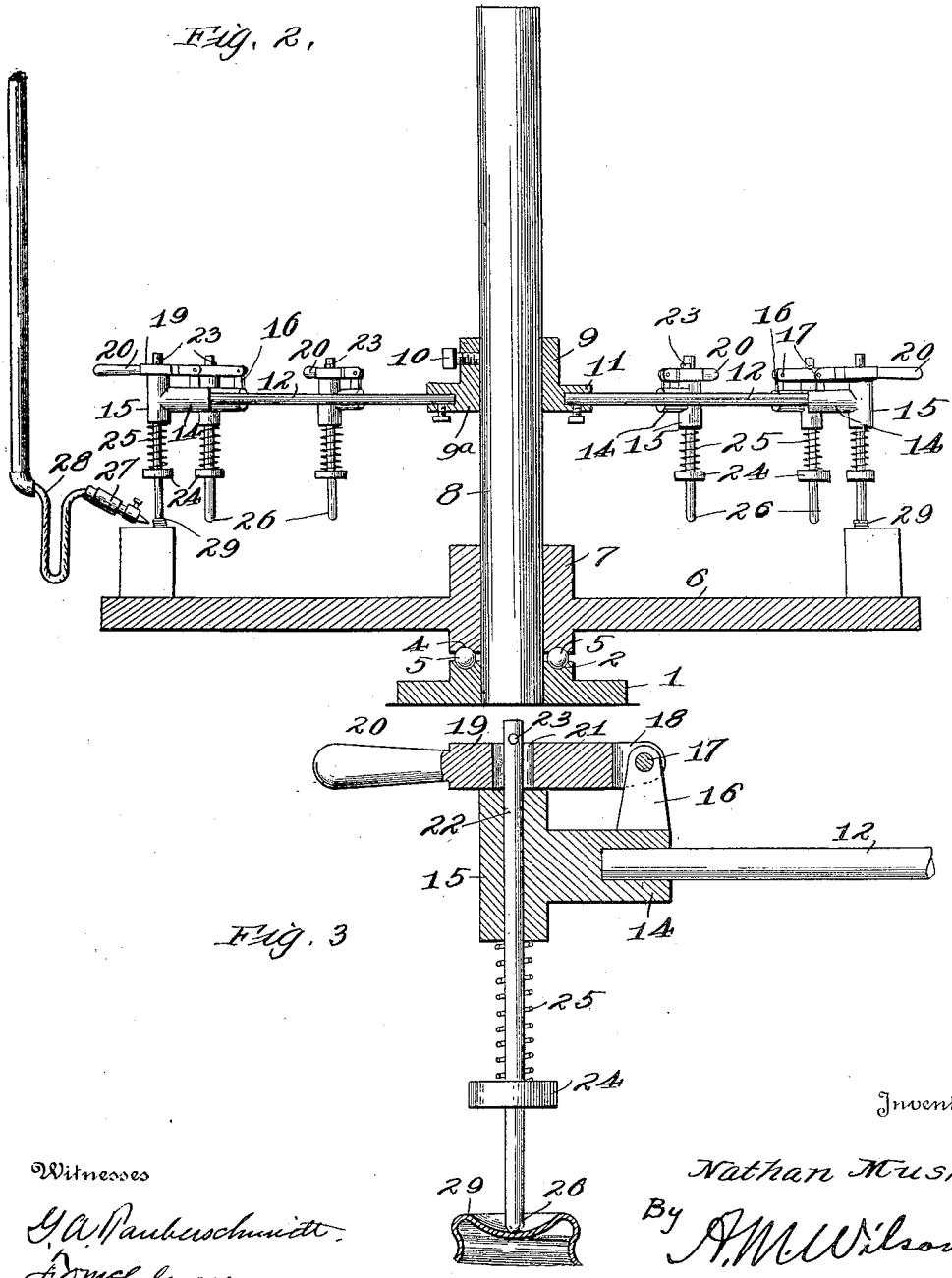


Fig. 3

Witnesses

G. A. Paulsenschmidt.

F. D. McCleary.

Inventor

Nathan Musher

By A. M. Wilson

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NATHAN MUSHER, OF WASHINGTON, DISTRICT OF COLUMBIA.

SOLDERING-MACHINE.

1,131,726. Specification of Letters Patent. Patented Mar. 16, 1915.

Application filed January 5, 1914. Serial No. 810,499.

To all whom it may concern:

Be it known that I, NATHAN MUSHER, a citizen of the United States, and residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Soldering-Machines, of which the following is a specification.

This invention relates to soldering machines, and its object is to provide an inexpensive and durable machine for effectively soldering closures on filled cans.

The improved machine comprises a revoluble circular table for supporting the cans, a series of radially-disposed rods secured to a central shaft, and clamping devices carried by said rods, and adapted to center the closure upon the can and support it yieldingly in such manner as to permit the can to be conveniently handled while being soldered.

The construction of the improved machine will be fully described hereinafter, in connection with the accompanying drawings which constitute a part of this specification, and its novel features will be defined in the appended claims.

In the drawings: Figure 1 is a top plan view of a soldering machine embodying the invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a vertical section on an enlarged scale taken through one of the plunger guides, and, Fig. 4 is a detail plan view of one of the plunger levers and its support.

The reference numeral 1 designates a circular base provided with a ball race 2 to receive ball bearings 5 fitting a complementary race-way 4 found on the under side of a boss depending centrally from a circular table 6 provided with a central sleeve 7 secured to a shaft 8.

A collar 9 is adjustably secured upon the shaft 8 by a set screw 10, and provided with an annular base flange 9^a formed with a series of peripheral sockets 11 to receive the inner ends of a series of equi-distant rods 12, the outer ends of which are secured within sockets 13 formed in the inner ends of a series of arms 14 projecting inward from a series of tubular guides 15.

Upon the inner end of each of the arms 14 is an upwardly projecting lug 16 perforated to receive a pivot pin 17, the ends of which project into registering openings formed in parallel ears 18 projecting from the inner ends of levers 19, each of which is provided with a handle 20 and an elongated slot 21 through which extends the upper end of a plunger rod 22, said rods extending through the guides 15 and being secured at their upper ends by cross pins 23, the ends of which overlie the levers 19. Upon the plunger 22 is a fixed collar 24, against which bears the lower end of a coil spring 25 encircling the plunger, with its upper end bearing against the guide 15.

The lower end 26 of the plunger is preferably rounded to better adapt it to engage the closure cap of the can as shown in Fig. 3, and to permit the filled can to have a limited rotary movement in applying solder.

A suitable hand-operated soldering iron 27 connected to a flexible gas tube 28 as shown in Figs. 1 and 2 is adapted to be used in connection with the improved machine.

The utility and operation of the machine will be readily understood. Filled cans are supplied by an attendant stationed at one side of the revoluble table 6, who places the filled cans with their closures over the filling openings of the cans. The closures are soldered by the iron in one hand of the operator, leaving his other hand free to grasp the can and manipulate it so that the solder is evenly and properly applied. The table is revolved by hand, and the soldered can removed by the feeder attendant or another.

It will be apparent that the filled cans can be expeditiously soldered, the operations being successive, and the speed only limited by the skill and deftness of the operator.

The spring 25 holds the rounded end of the plunger in contact with the cap 29 of the can, which is preferably of slightly concave form on its upper surface as shown, and the cap is thus held firmly but yieldingly to permit the can to be turned and manipulated as may be required for the proper application of the solder.

The levers 19 are readily lifted by their handles to allow the cans and their caps to be placed in position, such lifting serving to compress the spring 25, and the expansion of the spring after the lever is released supplies the necessary downward pressure upon the plunger to accurately center the cap and hold it firmly in place over the can-filling opening during the soldering process.

The slots 21 in the levers allow the necessary play at the upper end of the plunger

without affecting the vertical alinement of the latter.

As the table 6 is supported on the ball bearings 3 it may be easily turned by hand even when of considerable weight and diameter.

The adjustability of the collar 9 adapts the machine for use with cans or other packages of varying height.

Having thus fully described my invention, what I claim as new is:—

1. In a can soldering machine, the combination with a central shaft, of a flat imperforate circular table revolubly mounted thereon and adapted to support cans in upright positions, a collar adjustably secured upon said shaft co-axial with said table and provided with an annular base flange formed with a plurality of equi-distant peripheral radial sockets, a series of radial rods removably secured at their inner ends in said sockets, a plurality of clamping devices, each consisting of a tubular guide having a horizontal arm bored to form a socket, to receive the outer end of one of said rods, a perforated lug projecting upward from the inner end of said arm, a spring-pressed plunger extending through said guide, and a lever fulcrumed on said lug and having an elongated slot to receive the upper end of said plunger.

2. In a can-soldering machine, the combination with a central vertical shaft and a flat circular table revolubly-mounted thereon adapted to support and revolve cans in upright position, of a series of equi-distant radial rods, means for supporting the inner ends of said rods comprising a collar adjustably secured to said shaft, and having at its lower end an annular flange formed with peripheral sockets to receive said inner ends of the rods, an independent supporting means for the outer end of each of said rods, consisting of a vertically-disposed tubular guide formed on its inner side with a horizontal arm bored to form a socket alining with one of the collar flange sockets, a lug projecting upward from the inner end of said arm, a plunger extending through said guide, and rounded at its lower end, a stop on said plunger, a coil spring encircling the plunger between said stop and said guide, and a lever fulcrumed on said lug and slotted to receive the upper end of the plunger.

In testimony whereof I affix my signature in presence of two witnesses.

NATHAN MUSHER.

Witnesses:
MILTON STRASBURGER,
F. O. MCCLEARY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."