(No Model.) 3 Sheets—Sheet 1.

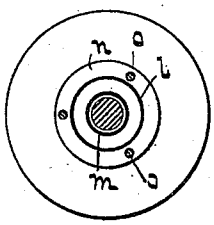
F. P. & I. GOODE.

CAN CAPPING MACHINE.

No. 501,334. Patented July 11, 1893.

Fig 1.

Fig 8.



WITNESSES

Dan'l Fisher

Howard A. Kroh

INVENTORS

Frances P. Goode,

Ignatius Goode,

by Gifford & Mack, atty.

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F. P. & I. GOODE.

CAN CAPPING MACHINE.

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Fig 2.

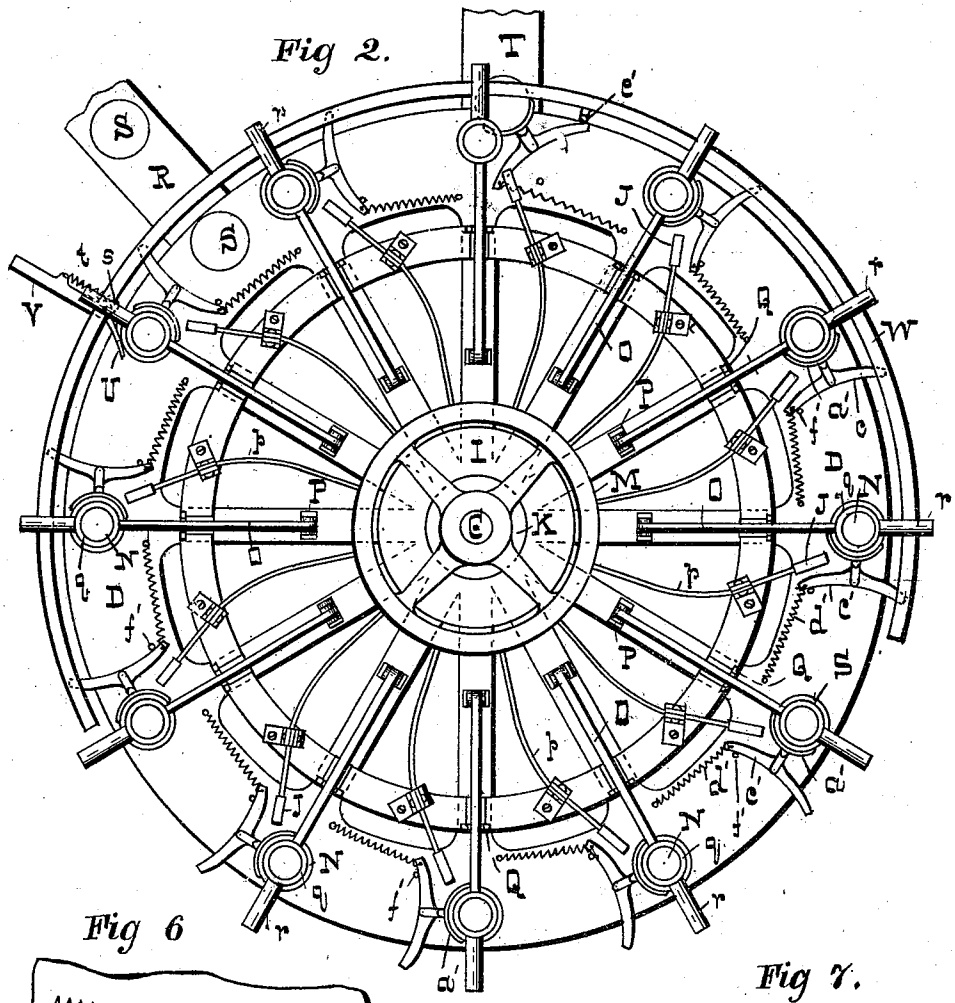


Fig 6

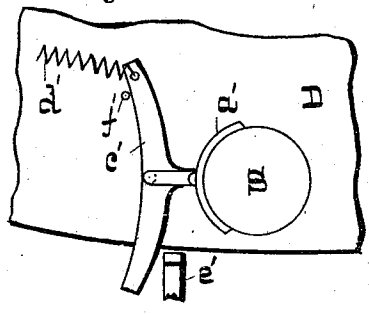
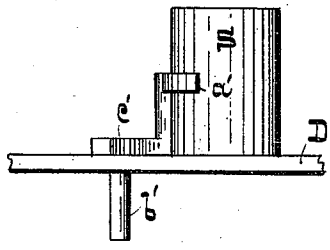


Fig 7.



-WITNESSES-

Dan'l Fisher

Howard R. Kroh

-INVENTORS-

Francis P. Goode,

Ignatius Goode,

by Gifford & Howard Atty.

(No Model.) 3 Sheets—Sheet 3.

F. P. & I. GOODE.

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Fig 4.

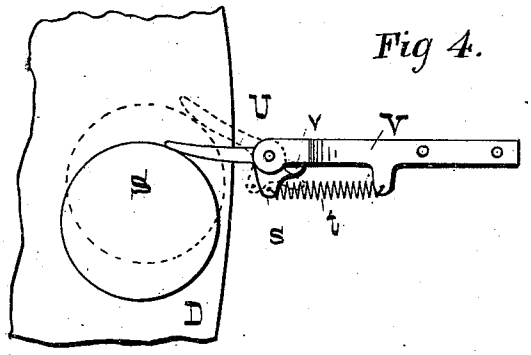


Fig 5.

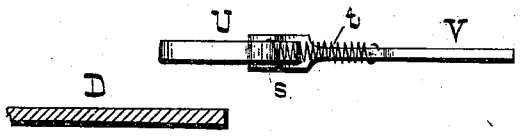
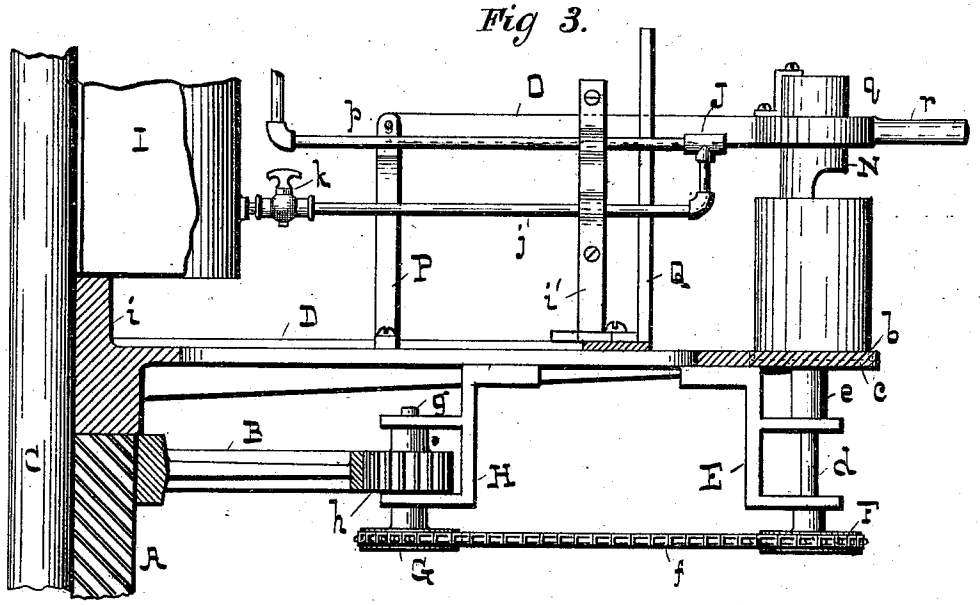


Fig 3.



WITNESSES

Dan'l Fisher

Howard L. Kroh

INVENTORS

James P. Goode

Ignatius Goode,

by G. H. & H. T. Woodward atty.

UNITED STATES PATENT OFFICE.

FRANCIS P. GOODE AND IGNATIUS GOODE, OF FREDERICK, MARYLAND.

CAN-CAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 501,334, dated July 11, 1893.

Application filed March 11, 1892. Serial No. 424,514. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS P. GOODE and IGNATIUS GOODE, both of Frederick, in the State of Maryland, have invented certain Improvements in Can-Capping Machines, of which the following is a specification.

In the description of the said invention which follows, reference is made to the accompanying drawings forming a part hereof and in which—

Figure 1 is a side elevation of the improved can capping machine, and Fig. 2 a plan of the same. Figs. 3, 4, 5, 6, 7 and 8 are details of the machine on an enlarged scale.

Referring to the drawings, A is a stationary column having a base consisting of a flange *a* which is bolted to the floor.

Referring particularly to Fig. 3 which is a vertical enlarged section of a part of Fig. 1, it will be seen that to the upper end of the column A is secured the immovable master gear B.

C is a revoluble shaft stepped and adapted to turn in the column A. On this shaft is keyed a table D having a series of circular holes, *b*, in which are situated plates *c* which constitute can seats and have stems *d* which pass through and are sustained by brackets E fastened to the under side of the table. To prevent the stems with the can seats from falling, the said seats have hubs *e* which rest on a portion of the bracket. To the lower end of each of the stems *d* is secured a sprocket wheel F and this is connected by a chain belt *f* to a similar sprocket wheel G on the lower end of a spindle *g* confined in a bracket H also fastened to the under side of the table D. On the spindle *g* is a pinion *h* in gear with the stationary master wheel B. With this arrangement, when the table is rotated the pinions *h* are revolved, and through the medium of the sprocket wheels and chain belts, the can seats are also revolved.

I is an annular tank for gasoline, fastened in any suitable manner to the shaft C and resting on the hub *i* of the table.

J J are burners arranged with one at each can seat, see Figs. 2 and 3. These burners which may be of any suitable form are connected to the annular gasoline tank I by pipes *j* provided with controlling cocks *k*.

K is an annular compressed air reservoir on the shaft C formed by two pipes or circular shells *l* and *m* fitted with heads *n* which are drawn together by bolts *o* see Figs. 1 and 8, the latter showing a section taken on the dotted line *x*—*x*, Fig. 1. Each burner J has a pipe *p* which connects it to the air reservoir K which pipes have ordinary controlling cocks not shown. It will be seen that the central shaft C, table D, gasoline tank I, air reservoir K and the pipes which connect them to the burners all move together.

L is a pipe for conveying compressed air to the reservoir K and it leads from any suitable air compressing device.

M is a pulley on the central shaft C for driving the machine.

N N are soldering tools which may be of any suitable construction. They are shown in the drawings as consisting of cylindrical blocks, and they are held within rings *q* formed in bars O the inner ends of which bars are pivoted to stands P erected on the table D. The outer ends *r* of the bars O are used to elevate the bars and soldering blocks as hereinafter described.

Q Q are slotted stands to guide the bars O which carry the soldering tools, in their vertical movement and thereby keep the soldering blocks directly over the can seats.

R is an endless belt to deliver the cans represented by S to the upper surface of the table D, and T another endless belt to carry off the soldered or capped cans.

The device for seating the uncapped cans as delivered to the table by the endless belt R consists of a finger U hinged to some stationary part of the machine, and provided with a lug *s* which is connected by a spiral spring *t* to a portion of the device which sustains the finger. In Figs. 4 and 5 which are respectively a top and a side view of these parts, the support for the finger U consists of a bar V adapted for attachment to a stand situated exteriorly of the table and not shown. A spur *v* on the rear end of the finger U comes in contact with the face of the bar V when it is in the position shown by the full lines. At each can seat is a bar *a'* curved to suit the cans. This curved bar has a foot with a pin *b'* which passes through the table of the machine and projecting from this foot is a curved cross arm *c'* with one of its ends connected to

the table by means of a spring d'. The other end of the curved cross arm extends beyond the circumference of the table and is adapted to strike a lug e' projecting from some stationary part of the machine not shown. A pin f' serves to limit the movement of the cross arm c' see Figs. 2 and 6.

W is a circular rail situated above the table and extending a little more than half around the same. This rail is for the purpose of lifting the soldering blocks from the can heads and rendering them inoperative. The lifting of the soldering blocks is effected by the riding of the extensions r of the bars O which carry the soldering blocks, on the rail, the forward end of which is thrown down as shown in Fig. 1. The extensions r pass up the inclined surface to the horizontal portion, and the soldering blocks are maintained in an elevated position until the extensions fall over the other end of the rail which is bent down in a manner similar to the forward end. The object in inclining the rear end of the rail is to prevent the soldering blocks falling suddenly.

The burners before described are arranged so as to make the flames issuing from them, play on the soldering blocks, and it will be understood that the elevation of the soldering blocks is not sufficient to interfere with the heating as even when elevated the flames still strike the blocks.

By reference to Figs. 2 and 3 it will be seen that the pipes j and p are held by means of stands i' and the burners thereby prevented from shaking.

The machine being in motion, the operation of capping cans consists as follows: The cans with their caps in position are placed on the endless belt R and by it are delivered to the upper surface of the table. Each can in succession is carried around with the table until it strikes the finger U when it is pushed into the first can seat that comes to it. The can in seating is forced against the curved arm a' which is concentric with the said seat. The can resting against a fixed support, the curved arm, is carried with such force that the finger has to give way and allow the can to pass it, when it, the finger, assumes its original position ready for the next can to be seated. At this time the extension r of the bar O is resting on the elevated rail W which has the effect of keeping the soldering block which is over the can, from contact with the cap. The soldering block is retained in an elevated position until the extension r passes the end of the rail when the soldering block falls into contact with the cap and the soldering operation is begun. It will be seen that the soldering operation continues until the extension r of the bar O reaches the other end of the elevated rail W when the soldering block is lifted and the cooling of the solder takes place. When the can reaches the endless belt T the curved cross arm c' strikes the stop e' which causes the curved arm a' to pass out of its path, and in this change in position the can is turned out from its seat and onto the belt which carries it away from the machine.

We claim as our invention—

1. In a can soldering machine, a revoluble shaft, a table keyed to said shaft to revolve therewith, and a series of axially rotating can seats in said table, combined with an annular gasoline tank fastened to the shaft and supported by the table, an annular compressed air reservoir also fastened to said shaft to revolve with it, a series of burners arranged one at each can seat, pipes leading from the gasoline tank and compressed air reservoir to the burners, and a soldering block situated over each seat, substantially as and for the purpose specified.

2. In a can capping machine, a series of rotating can seats, each seat being provided with a curved sustaining arm which is pivoted to the table and adapted to be turned so as to throw the can sustained by it from its seat at the completion of the capping operation, substantially as specified.

3. In a can capping machine, a revoluble can seat combined with a curved arm for sustaining the can on the seat, the said arm being pivoted to a table and provided with a curved cross arm one end of which is attached to the said table by means of a spring and the other adapted to strike a stop and thereby alter the position of the same and its curved arm so as to eject the can from its seat, substantially as specified.

4. In a can capping machine, the combination of a revoluble table having can seats therein, a conveying belt for the uncapped cans, and a yielding finger which projects over the table and serves to push the cans on the table into the seats and yield when the cans are carried forward by the rotation of the table, substantially as specified.

FRANCIS P. GOODE.
IGNATIUS GOODE.

Witnesses to the signature of Francis P. Goode:

C. B. STALEY,
CHAS. W. ROSS, Jr.

Witnesses to the signature of Ignatius Goode:

C. R. GALLAGHER,
WM. T. HOWARD.