

2 Sheets—Sheet 1.

No. 464,007.

Patented Dec. 1, 1891.

*Fig. 1.*

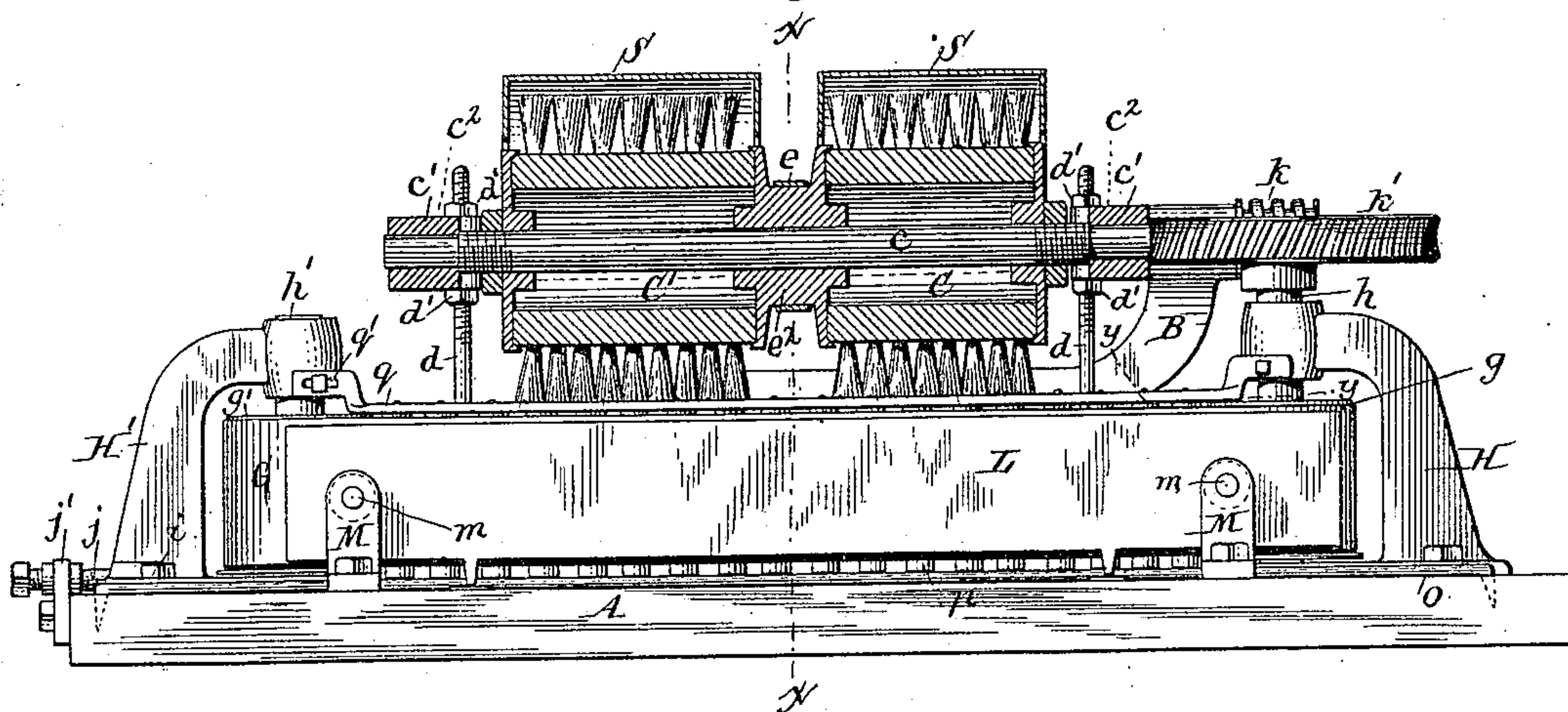
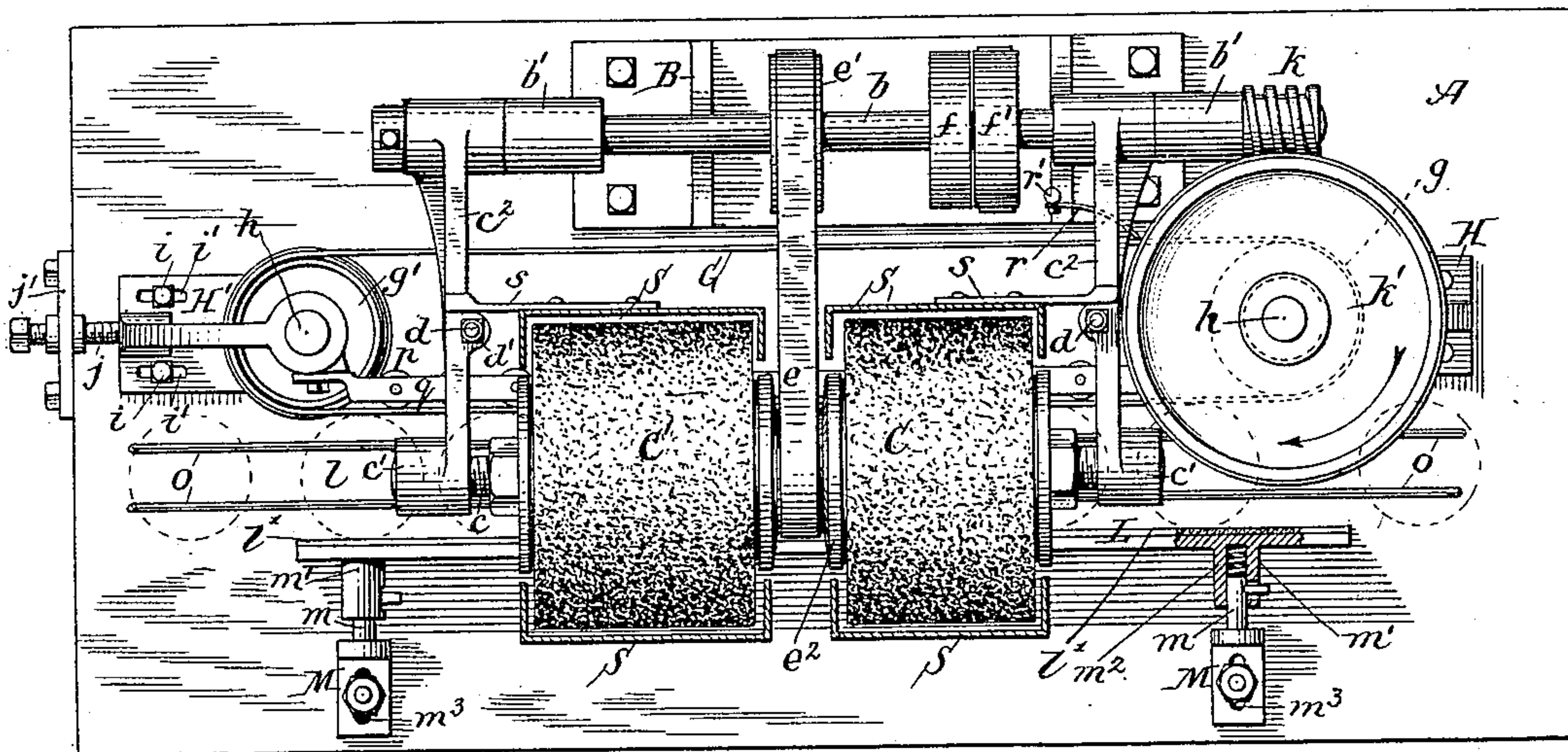


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

C. A. BURT.  
CAN WIPING MACHINE.

No. 464,007.

Patented Dec. 1, 1891.

Fig. 3.

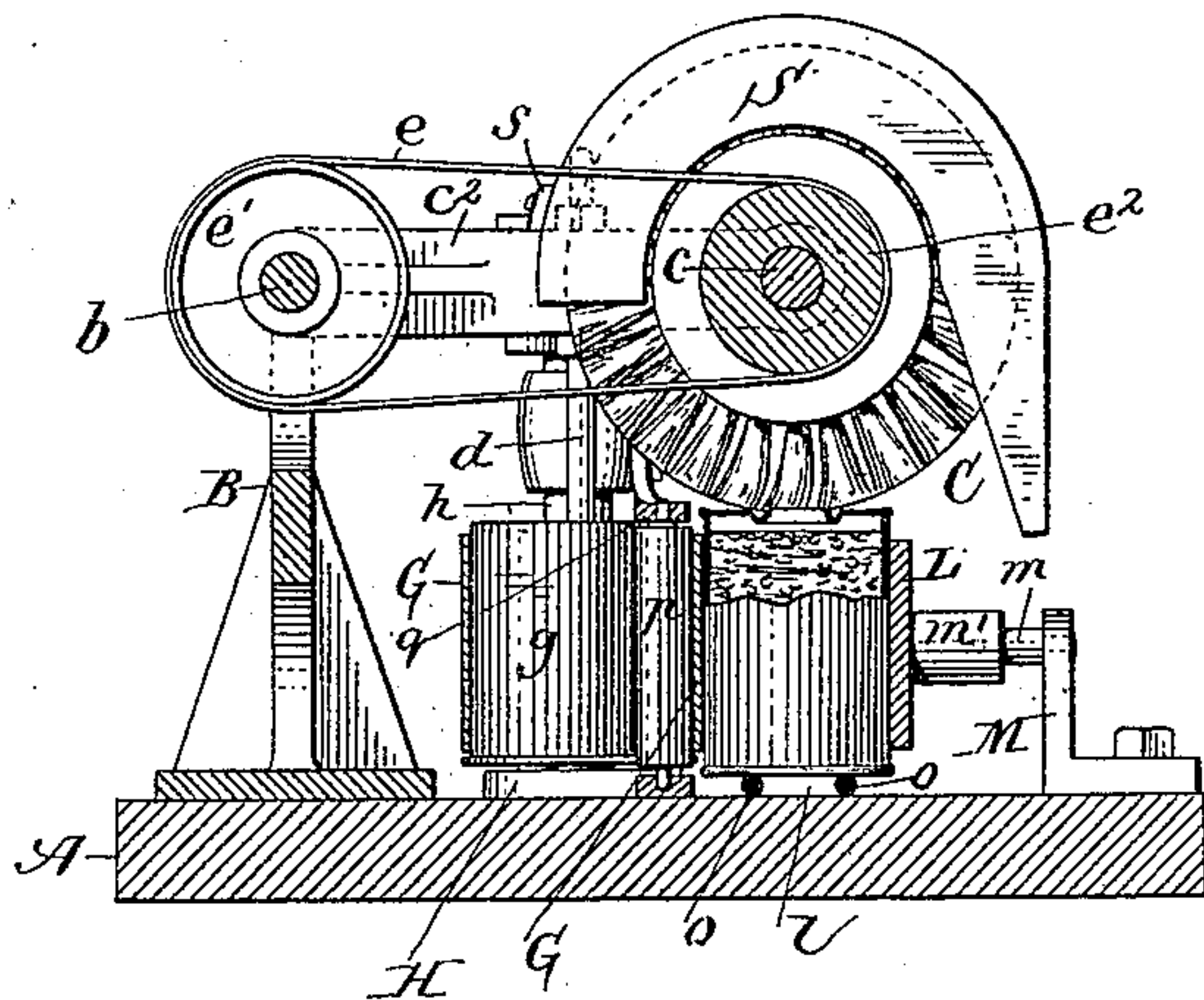
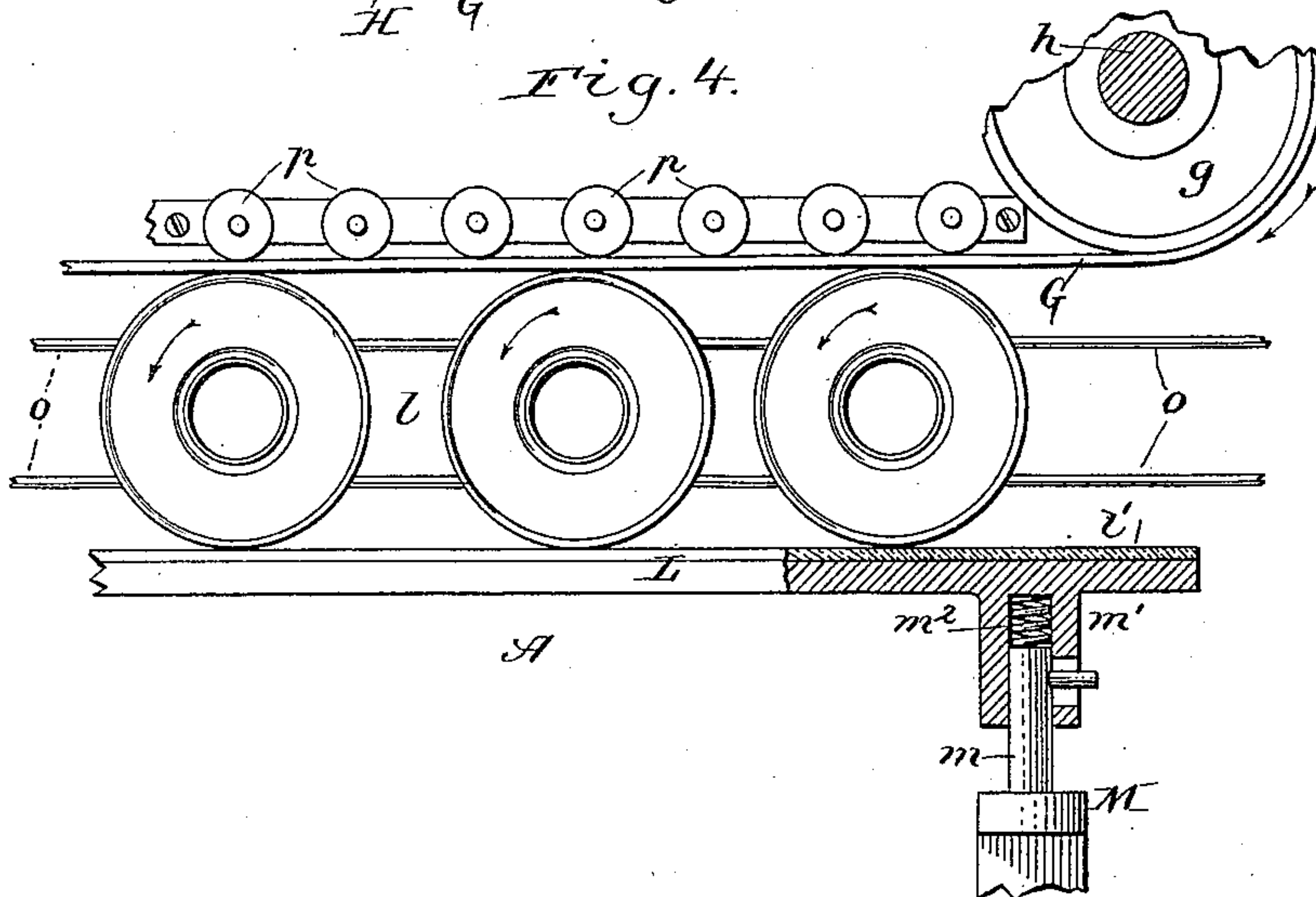


Fig. 4.



Chas. J. Buckheit.  
Thos. L. Popp. } witnesses

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# UNITED STATES PATENT OFFICE.

CHARLES A. BURT, OF ROCHESTER, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE BURT MANUFACTURING COMPANY, OF SAME PLACE.

## CAN-WIPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 464,007, dated December 1, 1891.

Application filed March 25, 1889. Serial No. 304,659. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. BURT, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Can-Wiping Machines, of which the following is a specification.

This invention relates to the machines which are used in canning-factories for cleaning the tops of the cans after filling them and preparatory to soldering the caps thereto, and more especially to machines of this class which are provided with a rotary cleaning-brush.

The object of my invention is to construct a simple machine whereby the tops of the cans are thoroughly cleaned and whereby the cans are automatically presented to the cleaning mechanism, so as to dispense with an intermediate handling of the cans between the operations of filling and capping and thereby save time and labor.

The invention consists to that end of the improvements which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of the machine, with the upper portion thereof in section. Fig. 2 is a top plan view of the machine with the upper portions of the brush-housings removed. Fig. 3 is a cross-section thereof in line  $x x$ , Fig. 1. Fig. 4 is a fragmentary horizontal section, on an enlarged scale, in line  $y y$ , Fig. 1.

Like letters of reference refer to like parts in the several figures.

A represents the base or bed of the machine, which may rest upon a table or be supported on suitable legs.

$b$  represents the horizontal driving-shaft, which turns in bearings  $b'$ , arranged at the upper ends of a standard B, secured to the bed-plate A.

C C' represent revolving brushes or wipers, and  $c$  is a horizontal spindle or shaft, to which the brushes are secured. The brush-spindle  $c$  is journaled at its ends in bearings  $c'$ , formed at the outer ends of overhanging arms or brackets  $c^2$ , which are pivoted at their inner ends upon the driving-shaft  $b$ , so that the brushes can be raised and lowered. The

brushes are held in a depressed position by upright screw-threaded rods  $d$ , secured to the bed-plate A and passing through openings in the pivoted arms  $c^2$ . These rods are provided with screw-nuts  $d'$ , bearing against the upper and lower sides of the pivoted arms, and whereby the latter are held against movement on the rods. By screwing the nuts  $d'$  up or down on the rods  $d$  the arms  $c^2$ , with the brushes, may be adjusted vertically to accommodate cans of different height or be depressed to take up wear. Motion is transmitted from the driving-shaft to the brush-spindle by an endless belt  $e$ , running around a pulley  $e'$ , secured to the driving-shaft, and a grooved pulley  $e^2$ , secured to the brush-spindle between the brushes C C'. The driving-shaft is provided with tight and loose pulleys  $f f'$ .

G represents an endless can-propelling band or belt arranged lengthwise of the machine or in the direction of the axis of the revolving brushes with its front portion underneath the brushes C C' and running around horizontal pulleys  $g g'$ , arranged at opposite portions of the machine. The pulleys  $g g'$  are mounted upon upright shafts  $h h'$ , which are journaled at their upper ends in standards H H' and at their lower ends in the base-plates of said standards. The standard H' is made lengthwise adjustable on the bed A, so that the traveling belt may be tightened when the same becomes loose.

The adjustable standard H' is attached to the bed A by clamping-bolts  $i$ , passing through longitudinal slots  $i'$  in the base of the standard, as represented in Fig. 2, and is shifted by means of a horizontal adjusting-screw  $j$ , engaging in a threaded socket formed on the standard and held against longitudinal movement in a lug or plate  $j'$ , secured to the adjacent end of the bed A.

The endless propelling-band is driven from the main shaft  $b$  by a worm  $k$ , mounted on one end of said shaft and meshing with a worm-wheel  $k'$ , secured to the upper end of the adjacent upright shaft  $h$ .

L represents a guide or presser-plate arranged parallel with the front portion of the endless propelling-band G at a distance there-



from, so as to form with the band a channel or guide-passage  $l$  for the cans to be wiped. This channel extends along the entire front portion of the propelling-band underneath the brushes  $C C'$ . The bottom of the channel  $l$  is formed by the bed  $A$  of the machine. The presser-plate  $L$  bears against the cans placed in the channel  $l$  and presses the same against the adjacent front portion of the traveling band. The cans, by their frictional contact with the traveling band, are propelled onward through the channel past the wiping-brushes  $C C'$  and are at the same time rotated on their axis during their passage through the channel. The guide or presser-plate  $L$  is preferably yielding; so as to exert a continuous pressure upon the cans passing through the channel and keep the cans in close contact with the propelling-band. The guide is supported upon horizontal pins or studs  $m$ , arranged on brackets or standards  $M$ , secured to the bed  $A$ , which pins enter sockets  $m'$ , formed on the outer side of the presser-plate. These sockets are held upon the studs  $m$  by lateral pins secured to the studs and passing through slots in the sockets, as represented in Figs. 2 and 4.

$m^2$  represents spiral springs arranged in the sockets  $m'$  and bearing against the ends of the studs  $m$ , whereby the follower is rendered yielding and pressed toward the traveling band.

The brackets or standards  $M$  are preferably made adjustable on the bed  $A$ , so that the presser-plate may be adjusted toward and from the propelling-band to increase or reduce the width of the guide-channel  $l$  in accordance with the size of the cans to be cleaned. The standards  $M$  are adjustably secured to the bed  $A$  by clamping-bolts passing through longitudinal slots  $m^3$  in the base-plates of the standards.

The guide or presser-plate  $L$  is preferably provided with a facing  $l'$  of rubber, as represented in Fig. 4, to increase the frictional contact between the cans and the presser-plate and prevent slipping of the cans.

$o$  represents longitudinal rods or tracks arranged upon the bottom of the guide-channel  $l$  and upon which the cans are supported. By supporting the cans upon tracks in this manner an air-space is left under the cans, which prevents the creation of a suction between the bottom of the cans and the liquid accumulating upon the bed-plate, which suction would retard the movement of the cans through the channel.

$p$  represents a series of guide-rollers arranged on the inner side of the front portion of the propelling-band  $G$  and forming anti-friction supports or abutments, which prevent the front portion of the band from being deflected inwardly by the cans. These rollers are journaled at their lower ends in a longitudinal bar resting on the bed  $A$ , as represented in Figs. 1, 3, and 4, and at their upper ends in a horizontal bar  $q$ , secured with its

ends to the upper portions of the standards  $H H'$ . One end of the bar  $q$  is provided with a longitudinal slot  $q'$ , through which a fastening-bolt passes, as represented in Fig. 1, and which permits the adjustable standard  $H'$  to be moved upon loosening said fastening-bolt.

$r$ , Fig. 2, represents a scraper or wiper bearing against the outer face of the traveling belt  $G$  at the rear portion thereof, and which removes any liquid or vegetable substance that may adhere to the belt. This scraper is attached to an upright rod  $r'$ , secured to the bed  $A$ .

$S$  represents guards or housings, which incase the upper portions of the brushes  $C C'$ , and whereby splashing of the liquid is prevented. The guards  $S$  are supported by arms or brackets  $s$ , secured to the pivoted arms  $c^2$ .

The filled cans to be wiped are placed upon the tracks  $o$  at the front end of the guide-channel  $l$  and pressed between the front end of the yielding presser-plate  $L$  and the traveling band  $G$ , so as to be seized by the latter. The traveling band moves in the direction of the axis of the rotating brushes and carries the cans with their open upper ends across the cylindrical faces of the brushes, which latter wipe the tops of the cans. The brush  $C$  serves as a preliminary wiper, which removes the greater portion of the liquid and vegetable particles adhering to the cans, while the second brush  $C'$  removes the remaining moisture and thoroughly wipes the cans. A single brush may, however, be employed, if desired. In passing through the channel  $l$  the cans are given a rotary motion by the traveling belt, whereby all portions of the capping-groove formed in the top of the can are presented to the action of the cleaning-brushes and effectually and completely cleaned. The brushes, having their bristles or wipers on their cylindrical faces, throw off by centrifugal force the material which they have removed from the cans, and thus keep themselves clean and in good working condition, while brushes which have their bristles on the flat face of a disk are liable to fill up and become inefficient in course of time. As the cleaned cans emerge from the rear end of the guide-channel they are removed from the machine by an attendant.

I claim as my invention—

1. In a can-cleaning machine, the combination of a support for supporting the cans top uppermost, a feed for frictionally engaging the cans, and a movable guide arranged opposite to the feed, substantially as set forth.

2. In a can-cleaning machine, the combination of a support for supporting the cans top uppermost, a feed which frictionally engages against the cans on one side thereof, a movable guide arranged opposite the feed, and a revolving brush arranged above the channel formed between the feed and guide, substantially as set forth.

3. In a can-cleaning machine, the combina-



tion of a support for the cans, a feed for feeding the cans, a guide movable toward said feed, and a spring for tensioning said guide toward the feed, substantially as set forth.

5 4. In a can-wiping machine, the combination, with a can-support and a traveling brush arranged above the same, of a traveling band arranged on one side of said support, and a yielding guide or presser-plate made movable  
10 toward and from the traveling band, and whereby the cans are pressed against the band, substantially as set forth.

5 5. In a can-wiping machine, the combination, with the can-support and the brush arranged above the same, of a traveling band, a presser-plate, and an abutment or support against which the unsupported portion of the traveling band rests, substantially as set forth.

20 6. In a can-wiping machine, the combination, with the can-support and the brush arranged above the same, of a traveling band, a presser-plate, and guide-rollers against which the unsupported portion of the belt rests, substantially as set forth.

25 7. In a can-wiping machine, the combination, with a stationary frame and a can-support, of a brush arranged above the can-support, a traveling band whereby the cans are

moved on said support, a movable guide or presser-plate whereby the cans are pressed  
30 against the traveling band, and a spring bearing against the presser-plate, substantially as set forth.

8. The combination, with the can-support, the traveling band, and presser-plate, of the  
35 revolving brush arranged above the can-support, a vertically-movable frame carrying said brush, upright supporting-rods to which the brush-carrying frame is attached, and screw-nuts arranged on said supporting-rods and  
40 bearing against the brush-carrying frame, substantially as set forth.

9. The combination, with the can-support, the traveling band, and the presser-plate, of the revolving brush arranged above the can-  
45 support, a vertically-adjustable frame carrying the brush, and a guard or housing attached to the brush-carrying frame and inclosing the revolving brush, substantially as set forth.

Witness my hand this 19th day of March, 50  
1889.

CHARLES A. BURT.

Witnesses:

GEO. A. ALLEN,  
A. D. CLOSE.