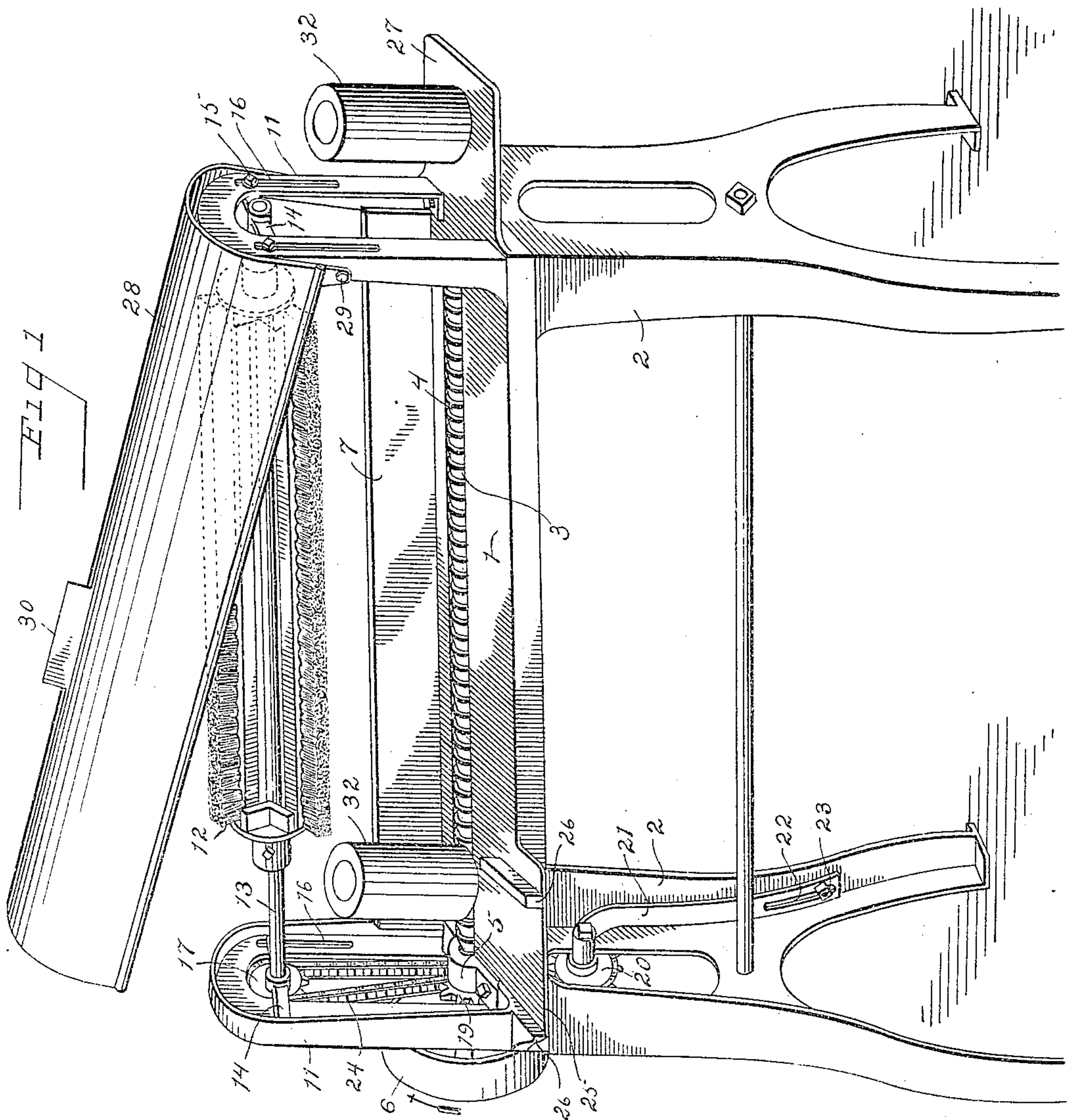


No. 801,257.

PATENTED OCT. 10, 1905.

S. E. MORRAL.
CAN WIPING MACHINE.
APPLICATION FILED JAN. 30, 1904.

2 SHEETS—SHEET 1.



Inventor

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Witnesses

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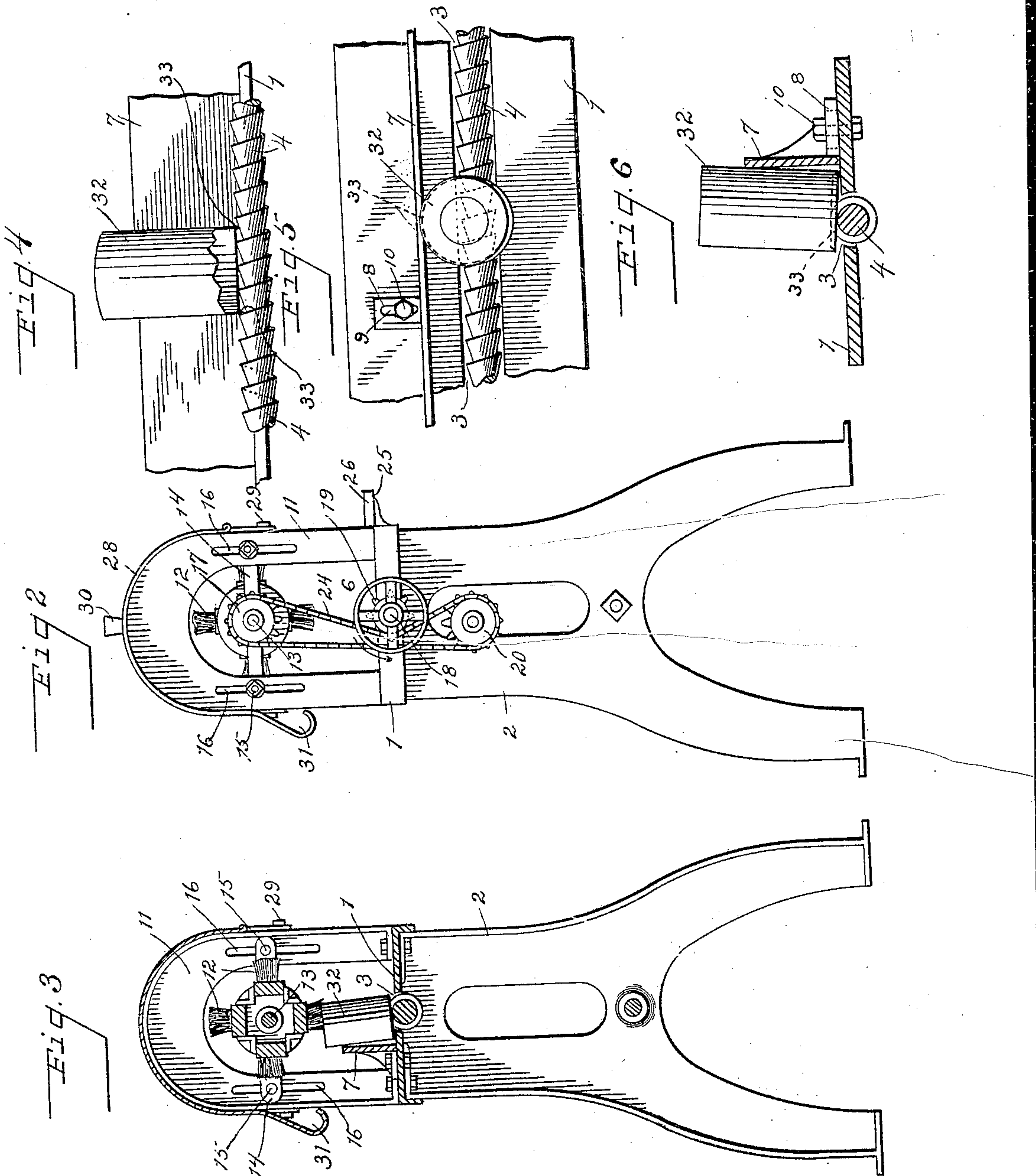
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UNITED STATES PATENT OFFICE.

SAMUEL E. MORRAL, OF MORRAL, OHIO, ASSIGNOR OF ONE-HALF TO
WILLIAM W. MORRAL, OF MORRAL, OHIO.

CAN-WIPING MACHINE.

No. 801,257.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed January 30, 1904. Serial No. 191,254.

To all whom it may concern:

Be it known that I, SAMUEL E. MORRAL, a citizen of the United States, residing at Morral, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Can-Wiping Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to can-wiping machines, and has for its object to provide a simple and efficient mechanism whereby the tops or upper parts of cans may be automatically wiped clean after being filled.

To this end my invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a machine embodying my invention in one form, the brush-cover being shown slightly raised at one end in order to show the interior construction. Fig. 2 is an end elevation. Fig. 3 is a central vertical transverse sectional view. Fig. 4 is a fragmentary elevation illustrating the relations of the feed-screw, abutment, and supporting-table to the can. Fig. 5 is a fragmentary plan view of the same, and Fig. 6 is an end view of what is shown in Figs. 4 and 5.

Referring to the said drawings, 1 indicates a table or support mounted on legs 2 and having a longitudinal slot or opening 3, in which is mounted a feed-screw 4, which projects partially above said slot, preferably to an extent greater than the depth of its thread. This screw has its shaft at one end of the machine extended through a suitable bearing 5, beyond which it projects and receives a driving-pulley 6, to which a driving-belt may be applied from any suitable source of power. By this means rotary motion is imparted to the feed-screw in a direction such that its upper or exposed portion turns toward the back of the machine.

On the table or support 1 there is located an abutment 7, which is normally stationary and which extends along the table 1 parallel with the feed-screw 4. This abutment preferably consists of an upright plate and is adjustable toward and from the feed-screw to adapt the machine for operating upon cans of different diameters. For effecting this adjustment I prefer to employ the construction

shown, in which the abutment 7 is provided at its back with brackets 8, having horizontal portions resting on the table 1, and slotted, as indicated at 9, to receive bolts 10, by means of which the abutment may be secured in position after adjustment.

At each end of the table 1 there is mounted an upright or standard 11, preferably arch-shaped, as shown, these standards serving to support the revolving brush 12, which is thus located above and parallel with the feed-screw 4. This brush may be of any suitable construction—such, for instance, as that shown—and provision is made for adjusting it toward and from the table 1 and feed-screw 4, so as to adapt the machine to cans of different heights. To this end the shaft 13 of the brush has its bearings at each end in a cross-head 14, and each cross-head is connected to the corresponding standard 11 by means of bolts 15 passing through vertical slots 16 in the standard. By this means the height of the brush above the table may be readily adjusted, so as to cause it to operate efficiently upon the particular size of can in connection with which the machine is used. The brush is driven by means of a sprocket-wheel 17, mounted on that end of the shaft 13 adjacent to the pulley 6, said end being extended for the purpose of receiving said sprocket-wheel. The shaft of the screw 4, which is indicated by the numeral 18, has mounted on it a sprocket-wheel 19, lying below the sprocket-wheel 17 and in the same plane therewith. 20 indicates a sprocket-wheel journaled in the free end of a spring 21, secured to the leg 2 by means of a slot 22 in the attached end of the spring, through which a clamping-bolt 23 passes to secure the spring to the frame-leg. A sprocket-chain 24 passes around the sprocket-wheels 17 and 20 and is deflected between said wheels, so as to engage and partially pass around the sprocket-wheel 19 at the rear thereof. In this way the brush and feed-screw are driven in opposite directions, so that the upper part of the screw and the lower part of the brush move toward the back of the machine. The spring-supported sprocket-wheel 20 serves in an obvious manner as a tightener or tensioning device for the sprocket-chain 24 and permits the adjustment of the brush hereinbefore referred to.

The machine is provided at the front with a forward extension 25 of the table 1, provided

with guides 26 to aid in properly delivering the cans to the feed-screw. At the discharge end of the machine the table 1 is provided with a lateral extension 27, onto which the
5 wiped cans are discharged.

In order to prevent the action of the brush from scattering about the material wiped from the cans and the water with which it is supplied, I provide a hood or cover 28, which fits
10 over the upper part of the brush and over the upper ends of the standard 11, to one of which it is hinged, as indicated at 29, so that it may be readily swung up, as indicated in Fig. 1, to give access to the brush. This cover is pro-
15 vided at the top near the front end of the brush with the usual water-cup 30 to supply water to the brush. This cup has a perforated bottom and is located above the end of the brush which first operates upon the cans, so that the
20 water is sprayed by gravity on said end of the brush, and the cans passing longitudinally under the brush distribute the water along the full length of the brush. The rear lower edge of the hood or cover is formed into a
25 trough 31, which catches the material thrown from the brush against the hood or cover and prevents it from dropping upon the machine or floor.

In practice the machine is adjusted to the
30 size of cans constituting the particular batch to be operated upon, this adjustment being effected by moving the abutment 7 to a distance from the central vertical plane of the feed-screw somewhat greater than the diameter of
35 the can-body and by moving the rotating brush 12 to a position where its lower portion will properly engage and wipe the tops of the cans. The cans are then successively placed upon the receiving extension 25 and moved
40 backward onto and over the feed-screw until they come in contact with the abutment. The feed-screw projects above the table 1 in such a manner that the can is tilted somewhat to the rear at the top, as indicated in Fig. 6,
45 resting upon the feed-screw and abutment and on the portion of the table 1 lying between the two. When the cans are small or when the abutment 7 is adjusted sufficiently close to the screw 4, the cans may be supported en-
50 tirely by the screw and abutment without contacting with the table, since the center of gravity of the can lies between the screw and abutment, the screw supporting the can ver-
55 tically and the abutment supporting it laterally, while the direction of rotation of the screw is such as to hold it against the abutment. It is maintained in this position owing to the fact that its contact with the feed-screw is in front of its center of gravity and
60 also by the fact that the portion of the feed-screw on which the can rests revolves toward the abutment. The can is indicated by the reference numeral 32 in Figs. 4, 5, and 6, and is provided with a downwardly-extending
65 flange 33 around its lower end, this being the

usual construction of such cans. This downwardly-extending flange is engaged by the thread of the feed-screw at the rear of the can, and by this engagement the can is carried along the table 1 toward the discharge
70 end of the machine. At the same time the action of the feed-screw keeps the can pressed against the abutment 7, and there results from this contact of the can with the abutment during its longitudinal travel a move-
75 ment of rotation of the can around its own vertical axis. By this means the can is passed along under the brush from one end thereof to the other and is at the same time rotated,
80 so that all parts of the upper end of the can are thoroughly exposed to the cleaning or wiping action of the brush, and when each can is discharged by the feed-screw onto the extension 27 it has been thoroughly wiped
85 clean.

It will be seen that the machine is not only efficient, but exceedingly simple, the moving parts consisting only of the revolving brush and feed-screw. It is therefore inexpensive to construct and easy to maintain, being less
90 liable to get out of order than more complicated structures and is at the same time readily adjustable for operation upon cans of different sizes.

I do not wish to be understood as limiting
95 myself strictly to the precise details of construction hereinbefore described, and shown in the accompanying drawings, as the same may obviously be modified without departing
100 from the principle of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a can-wiping machine, the combination, with a feed-screw supporting and engag-
105 ing the cans, of an abutment extending parallel with the feed-screw, and located on that side of said feed-screw toward which its upper or can-supporting portion rotates, and a revolving brush located above said feed-screw,
110 and rotating in the opposite direction thereto, substantially as described.

2. In a can-wiping machine, the combination, with a feed-screw supporting and engag-
115 ing the cans, of an abutment extending parallel with the feed-screw and located on that side of said feed-screw toward which its upper or can-supporting portion rotates, and a revolving brush located above said feed-screw
120 and revolving in the opposite direction thereto, said abutment and said brush being adjustable toward and from said feed-screw, substantially as described.

3. In a can-wiping machine, the combination, with a table or support, of an abutment
125 mounted on said table, a feed-screw for supporting and engaging the cans extending along said table parallel with the abutment and projecting above the table sufficiently to engage the cans, said abutment being located
130

on that side of said feed-screw toward which its upper or can-supporting portion rotates, and a revolving brush located above said feed-screw and rotating in the opposite direction thereto, substantially as described.

4. In a can-wiping machine for wiping the heads or upper ends of cans after filling, the combination, with a longitudinally-extending upright abutment with which the cylindrical surface of the can contacts for lateral support and along which the can travels with a rolling contact, of a feed-screw arranged parallel with said abutment at one side of and below the same, said feed-screw supporting the can from below and being provided with a thread to engage the flange on the lower end thereof, the engaging portion of said screw moving toward the abutment so as to maintain the can in contact therewith, and a revolving brush located above said feed-screw and rotat-

ing in the opposite direction thereto, substantially as described.

5. A can-wiping machine, comprising a longitudinally-slotted table, a feed-screw mounted in the slot and projecting above the table, an abutment mounted on said table parallel with the feed-screw, and adjustable toward and from said screw, standards located at the ends of said table, a revolving brush having its shaft adjustable on said standards toward and from the feed-screw, and means for so revolving said brush and feed-screw that their can-engaging portions move toward the abutment, substantially as described.

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

SAMUEL E. MORRAL.

Witnesses:

C. J. SCHULTZ,
W. W. MORRAL.