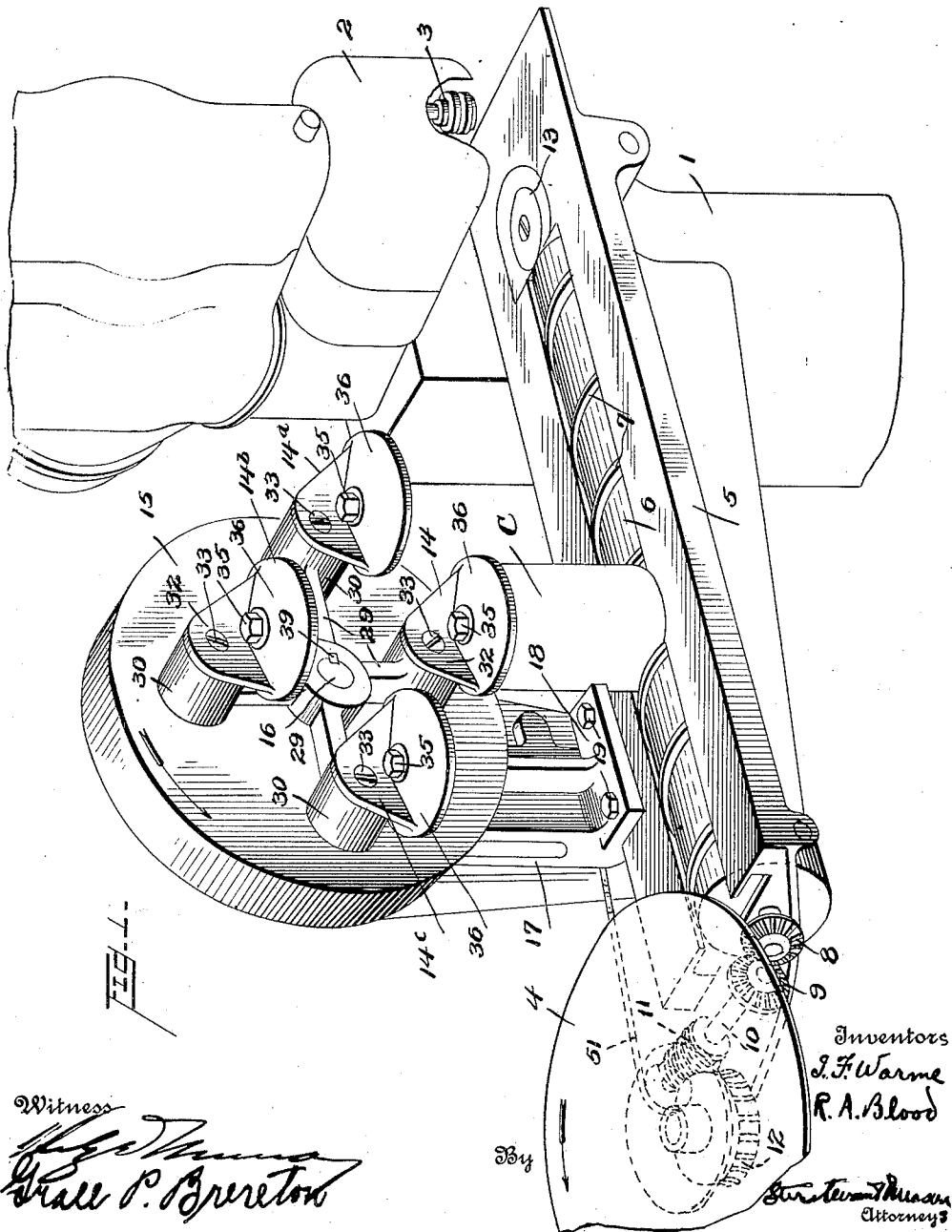


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 APPLICATION FILED JULY 18, 1916.

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4 SHEETS—SHEET 1.

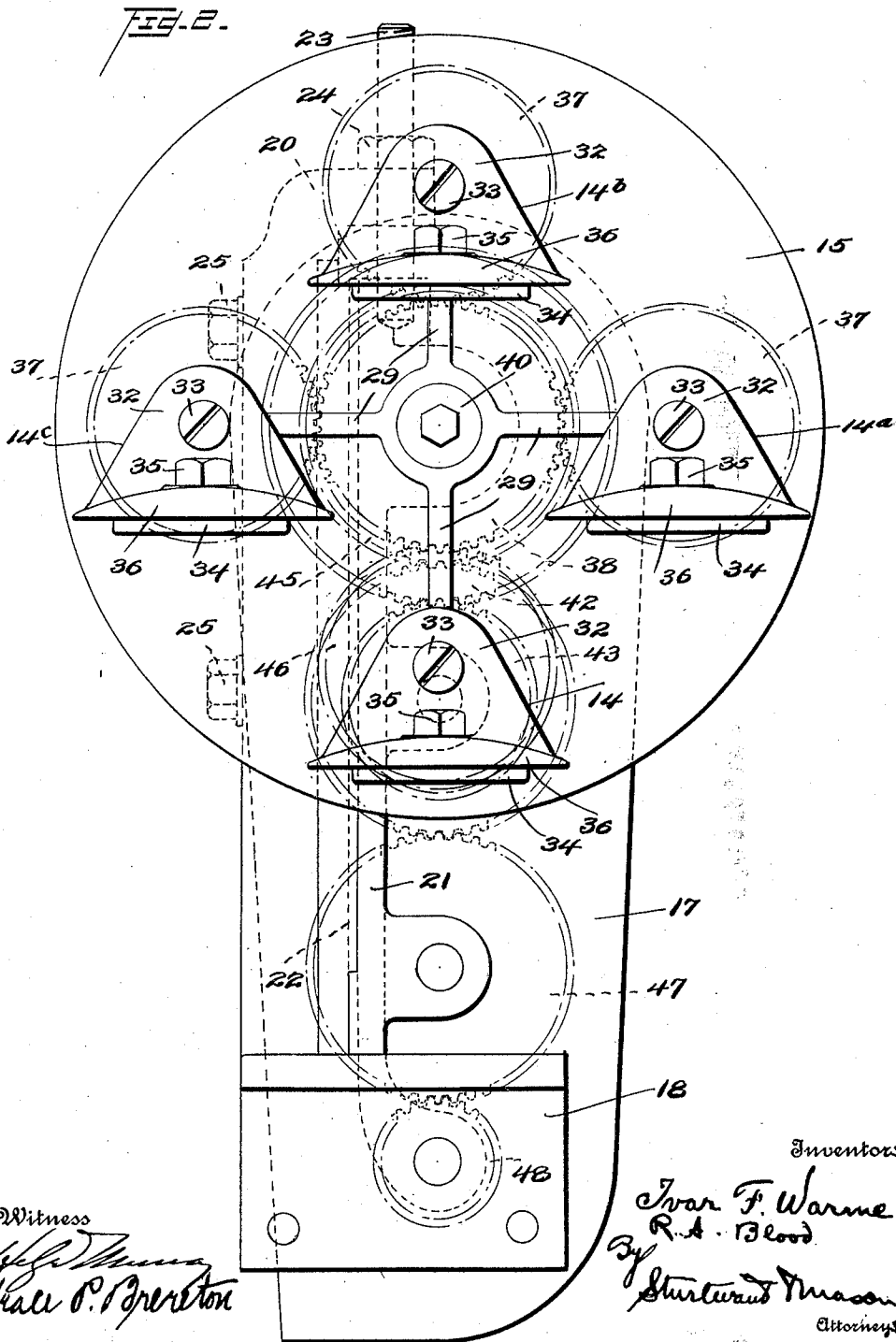


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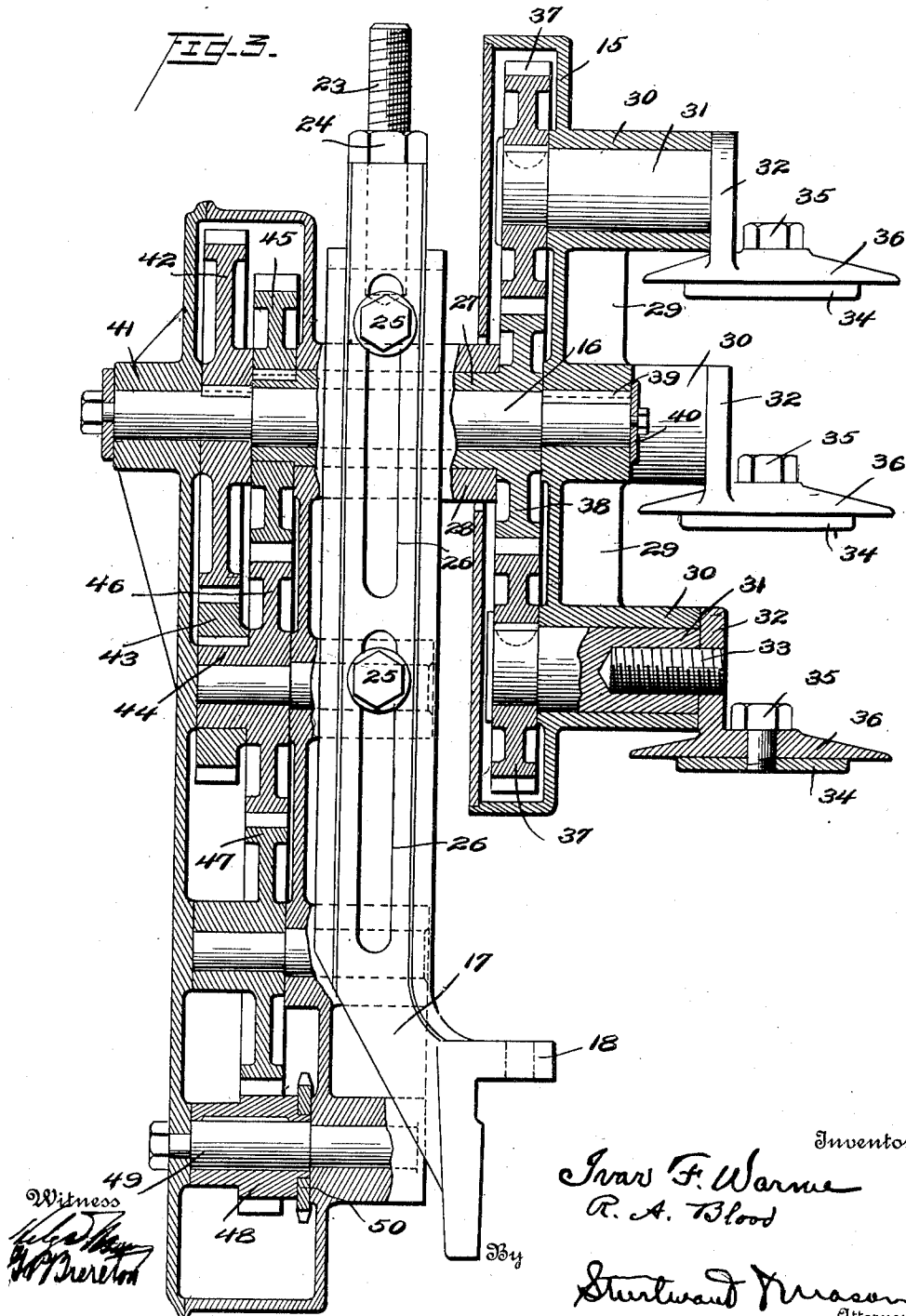


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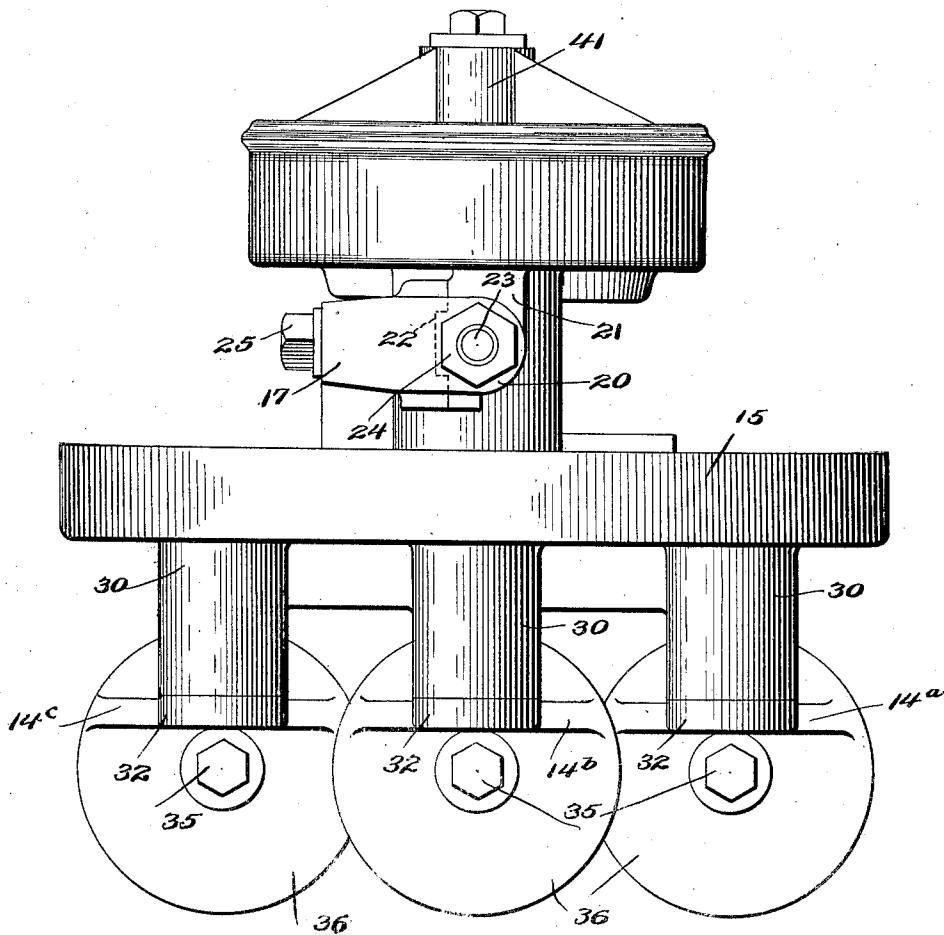
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4 SHEETS—SHEET 4.

FIG. 4.



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UNITED STATES PATENT OFFICE.

IVAR F. WARME AND ROBERT A. BLOOD, OF SYRACUSE, NEW YORK, ASSIGNORS TO
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CORPORATION OF NEW YORK.

PACKER FOR FILLED-CAN-CLOSING MACHINES.

1,341,487.

Specification of Letters Patent.

Patented May 25, 1920.

Application filed July 18, 1916. Serial No. 109,970.

To all whom it may concern:

Be it known that we, IVAR F. WARME and ROBERT A. BLOOD, citizens of the United States, residing, respectively, at Syracuse, in the county of Onondaga, State of New York, have invented certain new and useful Improvements in Packers for Filled-Can-Closing Machines, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in a packer for a filled can closing machine, and more particularly to a packer in the form of a pad which comes down on top of the can and presses the floating contents thereof down into the body of the can and uniformly overflows the can.

An object of the invention is to provide a packer mechanism wherein a plurality of packers may be used which are successively operative for depressing the floating contents in a filled can and overflowing the same.

A further object of the invention is to provide a device of the above character wherein the pads may be caused to travel with the can bodies while depressing the contents in the can.

These and other objects will in part be obvious and will in part be hereinafter more fully disclosed.

In the drawings, which show by way of illustration one embodiment of the invention:—

Figure 1 is a perspective view of a portion of a closing machine showing the improved packer applied thereto;

Fig. 2 is an enlarged front elevation of the packer;

Fig. 3 is a vertical sectional view through the packer, showing the operating gears for the pads; and

Fig. 4 is a top plan view of the packer.

The invention consists generally in a packer for a closing machine, which closing machine includes feeding mechanism for conveying the filled cans to devices for applying a can end or cover to the filled can body and securing the same thereto, preferably by rotating seaming rolls.

Coöperating with this closing machine is the improved packer mechanism, which consists of a plurality of pads mounted over the

feeding mechanism which presents the filled can bodies to the closing head of the machine. These pads are supported and operated so as to come one after the other into effective relation to the cans passing along the feeding mechanism. Said pads are mounted on a rotating member, and each pad is rotatably mounted thereon, and suitable gears are used so that, as the supporting member rotates, the individual supports for the pads may be turned sufficiently to keep the pads level or horizontal. This insures that the pads one after the other will come down into engagement with the filled can to press the floating contents thereof into the can body, overflowing the same, and then rise from the can, and during the engagement of the pad with the can said pad is moving in the same direction as the can and at the same speed or rate of travel.

Referring more in detail to the drawings:—

The improved packer is shown as applied to a closing machine having a standard 1 on which is mounted a rotating seaming head 2 having a suitable chuck and seaming rolls 3. The can bodies, after being filled, are placed on a rotating disk 4 which is mounted in a suitable bracket carried by the projecting table 5 which is mounted on the standard 1. The table 5 is formed with a feed drum 6, and said feed drum has a thread 7 formed thereon. The filled cans, one of which is indicated at C in the drawings, are fed along this table by means of the drum, the thread 7 engaging the can and sliding it along the table. This closing machine and the feeding drum which coöperates therewith forms no part of the present invention *per se*, but is well-known in this art.

The shaft which rotates the drum 6 is provided with a beveled gear 8 which meshes with the beveled gear 9 on a cross shaft 10. The cross shaft 10 carries a worm gear 11 which meshes with a worm gear 12 attached to a short shaft carrying the disk 4. The cans, placed on the disk 4, which rotates in the direction of the arrow in Fig. 1, are brought onto the table 5 and the drum slides these cans along the table underneath the closing head of the machine. A support 13, directly underneath the head, receives the filled cans and raises the same to the closing head. Prior to the raising of the can, how-

ever, the can end or cover is fed underneath the seaming head, in the manner well-known in this art, and this cover or end is secured to the filled can, thus closing the same.

5 In order that the cans may be properly treated after being closed without injury thereto, it is essential that they be uniformly filled. It is also essential that the solid contents of the can be pressed down into the can.
 10 For this reason, it is desirable to uniformly overflow each can and depress the floating contents of the can down into the syrup just before the filled can passes underneath the seaming head.
 15 This is accomplished by the improved packer which consists of a series of pads 14, 14^a, 14^b and 14^c. These pads are supported by a rotatable member 15 which is fixed to a shaft 16. A standard 17 is clamped
 20 to the table 5. Said standard has a forwardly projecting shoulder 18 through which securing bolts 19—19 pass, and this firmly clamps the standard to the table. This standard, as clearly shown in Fig. 2, extends vertically and is formed with an
 25 overhanging portion 20 at its upper end. Mounted to slide vertically on the standard 17 is a bracket 21 which carries the rotating pads for pressing the floating contents of the cans. This bracket 21 has a project-
 30 ing tongue 22 which fits in a corresponding groove in the standard 17, as shown in dotted lines in Fig. 4. Extending through the overhanging portion 20 of the standard is a threaded bolt 23, this bolt being threaded
 35 into the end of the bracket 21 and firmly secured thereto. A nut 24, turned onto the bolt 23, engages the upper face of the overhanging portion 20 of the standard. This
 40 threaded bolt 23 serves as a means for raising and lowering the bracket 21 which may be accomplished by turning the nut 24. Clamping bolts 25—25 passing through the slots
 45 26—26 in the standard serve as a means for clamping the bracket to the standard in various adjusted positions.

The shaft 16 to which the rotating member 15 is attached is mounted in a sleeve 27
 50 which in turn is mounted in a bearing 28 in the bracket 21. This sleeve is supported so as to turn free of the shaft 16. The rotating support 15 is in the form of a casing having radial webs 29 to strengthen the
 55 same, and at the end of each web 29 there is a bearing sleeve 30. Mounted in each bearing sleeve 30 is a short shaft 31. Each pad is formed with a shank 32 which is clamped to the sleeve 31 by a screw 33. On
 60 the under face of each pad is a head 34 which is secured thereto by a bolt 35. These heads 34 are interchangeable and are preferably of a diameter slightly less than the diameter of the can which is being closed so that the
 65 head moves down into the can, pressing the

floating contents well into the can body, while the portion 36 of the pad which projects beyond the head 34 lightly engages the upper edge of the can body.

At the other end of the sleeve 31 which
 70 carries the pad, there is a gear wheel 37, there being a gear wheel for each sleeve. These gear wheels mesh with a common gear wheel 38 which is formed integral with or
 splined onto the sleeve 27. The supporting
 75 member 15 is keyed to the shaft 16 by a suitable key, as shown in dotted lines in Fig. 3 at 39, and a cap plate 40 holds the key in place. The shaft 16 at its extreme rear end is supported by a bearing 41 which is formed
 80 as a part of the bracket 21. Splined to the shaft 16 adjacent its rear end is a gear wheel 42. This gear wheel 42 meshes with a gear wheel 43 which is splined to a sleeve
 85 44 mounted to turn freely on a short shaft carried by the bracket 21. Also splined to the sleeve 27 is a gear wheel 45 which meshes with a gear wheel 46 formed integral with the sleeve 44. The gear wheel 46
 90 likewise meshes with a gear wheel 47 which is mounted to turn freely on a short stub shaft and this gear 47 meshes with a driving
 gear wheel 48 on a shaft 49. A sprocket
 95 wheel 50 is secured to the gear wheel 48, and a sprocket chain 51 engages with the sprocket wheel 50 and with a sprocket wheel 52 carried by the end of the shaft 10.

From the above description, it will be apparent that as the shaft 10 rotates, the
 100 sprocket chain 51 will rotate the gear 48 which will be driven in time with the rotation of the drum which feeds the filled cans to the closing machine. The gear wheel 48 operates the gear wheel 47, thus turning the
 105 sleeve 44, and through the gear 43 rotating the shaft 16 and the support 15, so that the pads carried thereby will be caused to travel bodily about the center of the shaft as an
 110 axis. The rotation of the sleeve 44 also causes a rotation of the sleeve 27, and this in turn rotates each gear 37 which rotates the sleeves 31 carrying the pads so that each
 115 pad has a rotation about its own axis as well as a bodily travel about the axis of the rotating support. The gears are so proportioned and timed that the pads are kept
 horizontally positioned as they travel, as clearly shown in the figures of the drawings.

In Fig. 1, we have shown a filled can, indicated at C, being carried along by the
 120 drum. The pad 14 has descended onto the can and the head supported thereby has pressed the floating contents down into the can. The can is moving along the table
 125 and the pad is traveling at the same rate as the can. A little farther along the table, the pad begins to rise from the can, and finally takes the position of the pad 14^a, which is just ahead of the pad 14, the sup-
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port rotating in the direction of the arrow in Fig. 1. The pad 14^a will cooperate with the next filled can provided it is placed between the next two lifts of the thread on the drum. Then the pad 14^b comes into the operation and so on.

It will be apparent, therefore, that we have provided a plurality of pads, each of which, when in effective position, travels with the can, and these pads become operative in succession one after the other, so that, when one pad is leaving a filled can, another is moving down into engagement with the next can on the drum. By this arrangement, the pads will operate upon the cans carried along by the drum rapidly and without in any way disturbing the position of the cans on the table or their travel to the seaming head.

While we have shown the invention as applied to a can closing machine having seaming rolls for double seaming the can end to the can body, it will be obvious that the improved packer may be used in connection with any type of machine which places the cover on the can body and clenches the same thereto so as to hold the can end on the can body.

It will also be obvious that minor changes in the details of construction and the arrangement of parts may be made without departing from the spirit of the invention, as set forth in the appended claims.

Having thus described the invention, what is claimed as new is:—

1. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a supporting bracket, a rotating support carried by said bracket, a series of pads mounted on said support and movable in a vertical plane, and means for rotating said support and for moving said pads as the support travels so as to maintain the pads in horizontal position.

2. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans, said packer mechanism including a plurality of pads, a support for the pads mounted to rotate in a vertical plane, and means for turning the support for each pad as the rotating support travels so as to maintain the pads in horizontal position, said pads being disposed relative to the feeding devices whereby one pad after the other becomes active in engaging the contents of the cans and overflowing the same.

3. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a supporting bracket, a rotating

support carried by said bracket, a series of shafts carried by the support and equally spaced thereon, a pad mounted on each shaft, and means for rotating the shafts as the support travels so as to maintain the pads in horizontal position.

4. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a supporting bracket, a rotating support carried by said bracket, a series of shafts carried by the support and equally spaced thereon, a pad mounted on each shaft, and means for rotating the shafts as the support travels so as to maintain the pads in horizontal position, and means whereby said bracket may be adjusted vertically for positioning the pads relative to the filled cans.

5. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a supporting bracket, a rotating support carried by said bracket, a series of shafts carried by the support and equally spaced thereon, a pad mounted on each shaft, each pad having a detachable head secured thereto, means for rotating the shafts as the support travels so as to maintain the pads in horizontal position, and means whereby said bracket may be adjusted vertically for positioning the pads relative to the filled cans.

6. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a supporting bracket, a rotating support carried by said bracket, a series of shafts carried by the support and equally spaced thereon, a pad mounted on each shaft, and means for rotating the shafts as the support travels so as to maintain the pads in horizontal position, means whereby said bracket may be adjusted vertically for positioning the pads relative to the filled cans, said means including a threaded bolt, a nut carried by the bolt for supporting and adjusting the bracket, and means for holding the bracket in adjusted position.

7. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a standard, a bracket adjustably attached to said standard, means for moving the bracket vertically on the standard and for holding said bracket in adjusted position, a rotating shaft mounted in the bracket, a support secured to the shaft, a series of shafts mounted on the support, a pad having a shank secured to each shaft,

a gear carried by each shaft, a sleeve mounted to rotate about the shaft carrying the support, a gear carried by the sleeve and meshing with the gears traveling with the support, and means for rotating the shaft carrying the support and the sleeve whereby said pads are caused to travel bodily in a vertical plane and are held in horizontal position during their bodily movement.

8. The combination with devices for feeding filled cans, of a packer mechanism for uniformly overflowing the filled cans during the travel thereof, said packer mechanism including a standard, a bracket adjustably attached to said standard, means for moving the bracket vertically on the standard and for holding said bracket in adjusted positions, a rotating shaft mounted

in the bracket, a support secured to the shaft, a series of shafts mounted on the support, a pad having a shank secured to each shaft, a gear carried by each shaft, a sleeve mounted to rotate about the shaft carrying the support, a gear carried by the sleeve and meshing with the gears traveling with the support, means for rotating the shaft carrying the support and the sleeve whereby said pads are caused to travel bodily in a vertical plane and are held in a horizontal position during their bodily movement, and a detachable head secured to each pad.

In testimony whereof, we affix our signatures.

IVAR F. WARME.
ROBERT A. BLOOD.