Aug. 26, 1930. J. M. HOTHERSALL 1,774,010

COMPOUND LINING MACHINE

Filed Oct. 1, 1927 5 Sheets-Sheet 1

Fig. 1

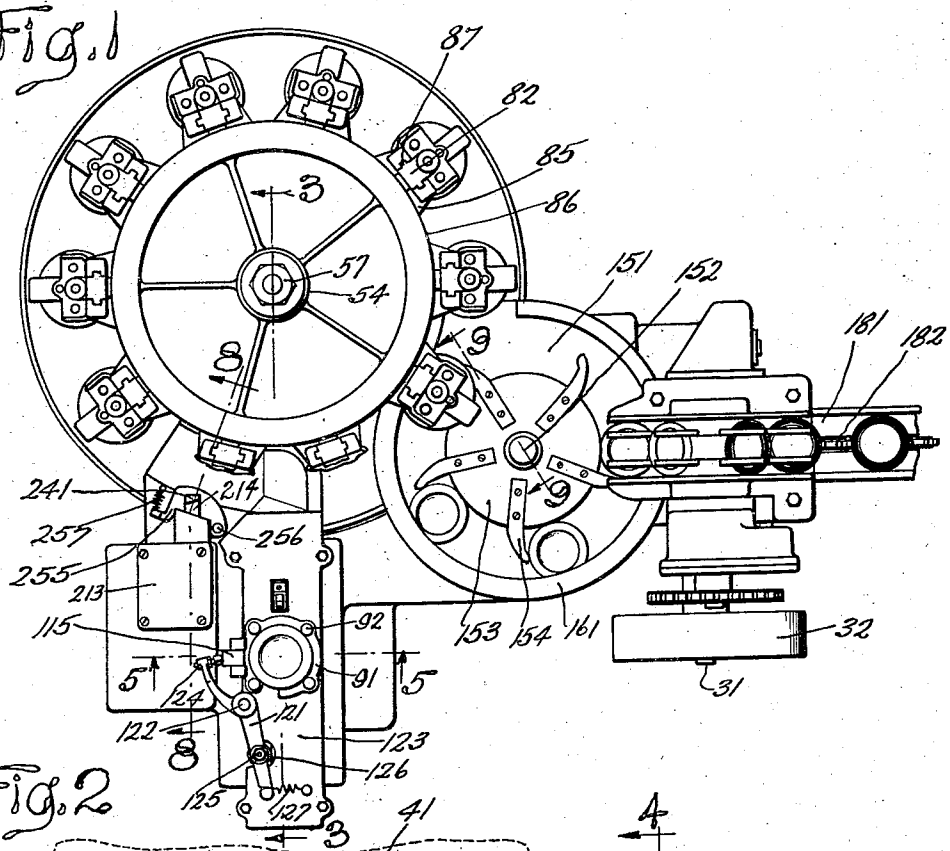
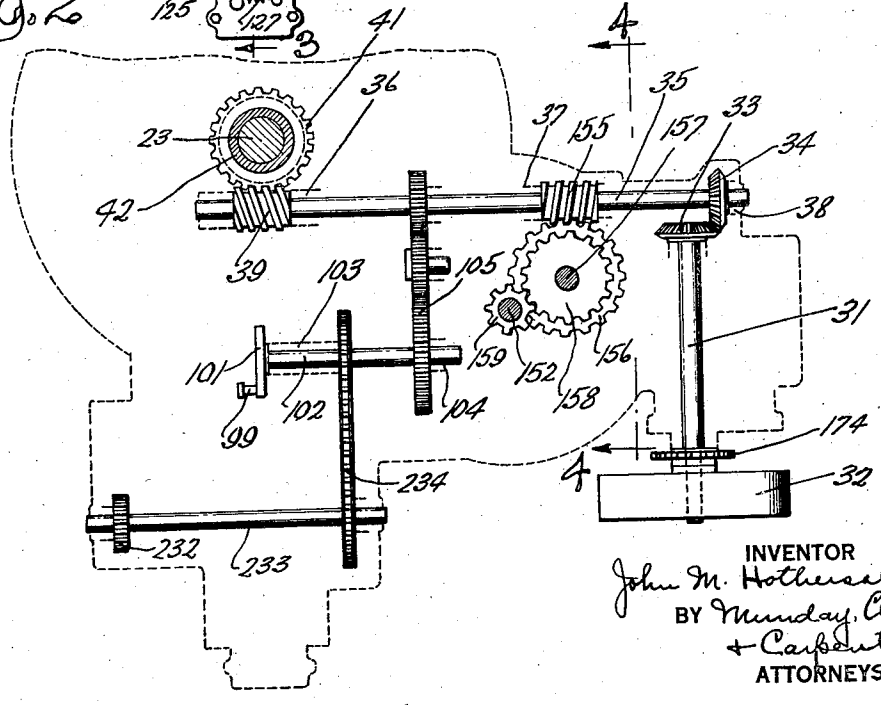


Fig. 2



INVENTOR
John M. Hothersall
BY Munday, Clarke
+ Carpenter
ATTORNEYS

Aug. 26, 1930. J. M. HOTHERSALL 1,774,010

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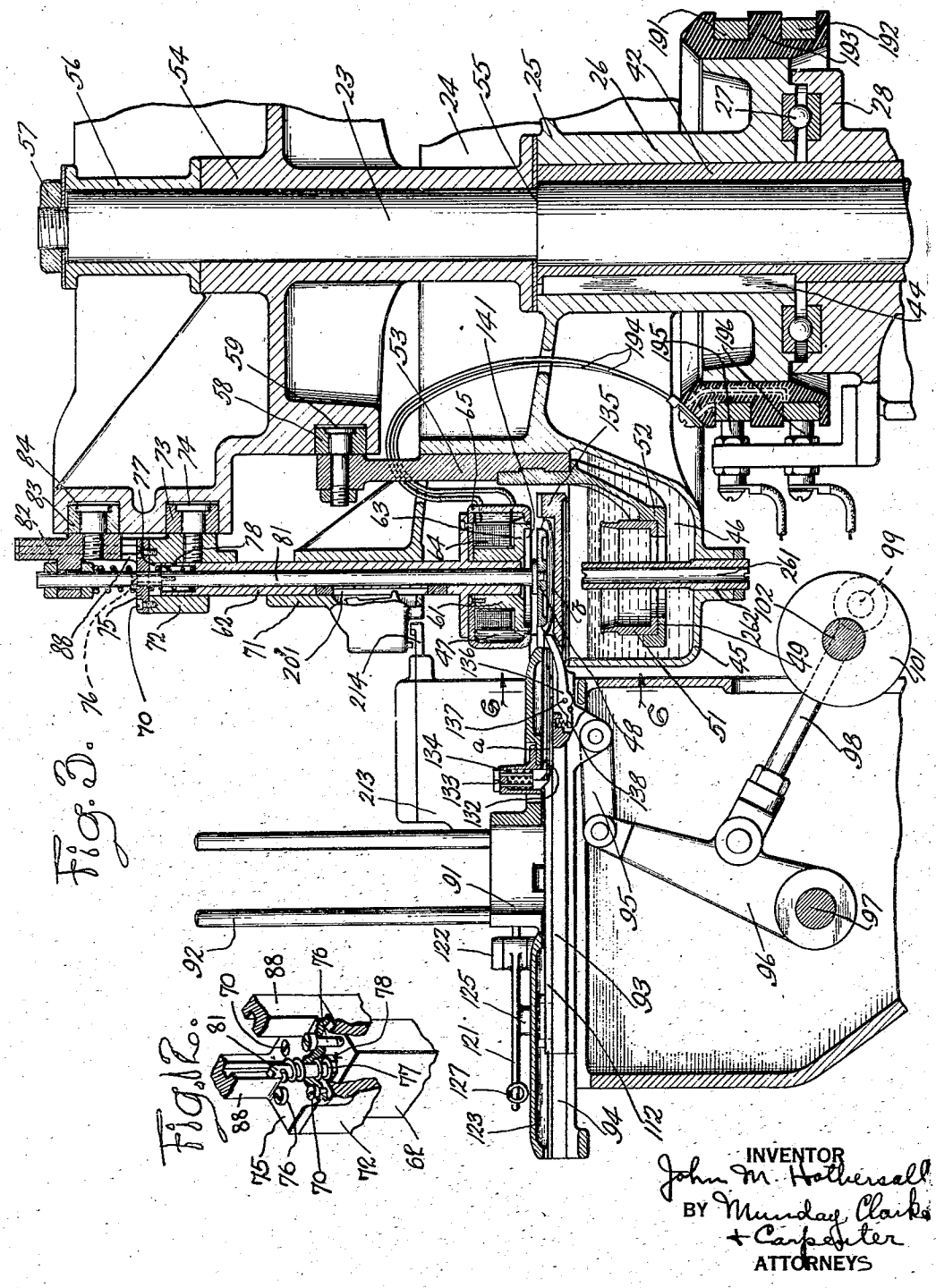


Fig. 9.

Fig. 10.

INVENTOR
John M. Hothersall
BY Munday, Clarke & Carpenter
ATTORNEYS

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COMPOUND LINING MACHINE

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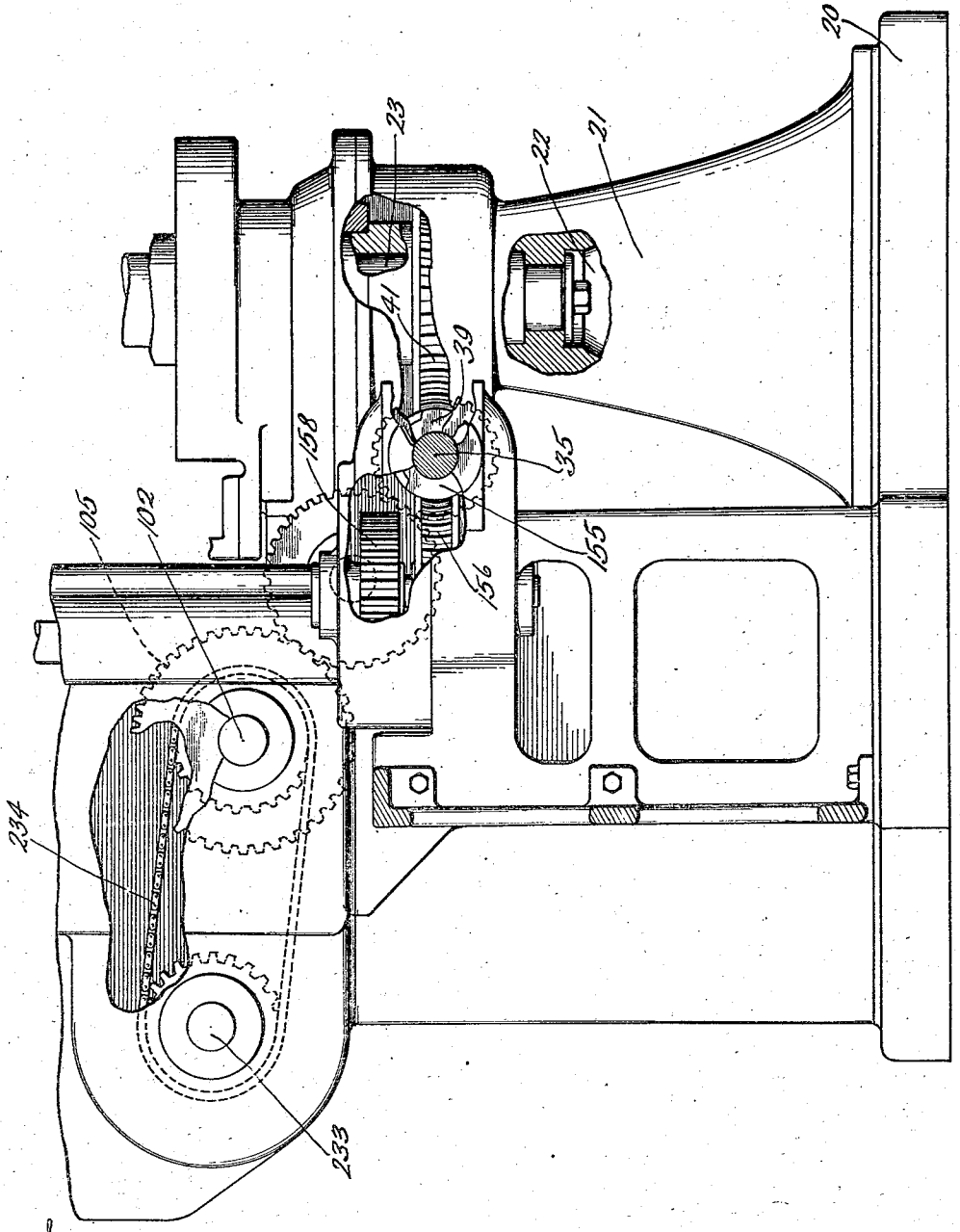


Fig. 4

INVENTOR
John M. Hothersall
BY Munday, Clarke & Carpenter
ATTORNEYS

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COMPOUND LINING MACHINE

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Fig. 5

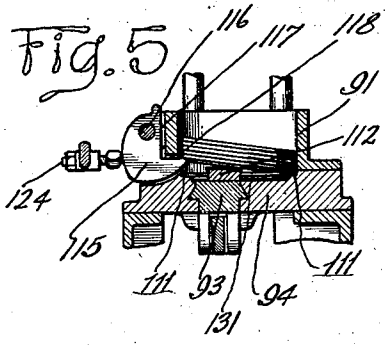


Fig. 6

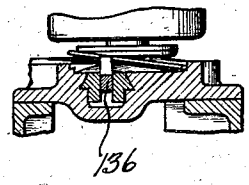


Fig. 7

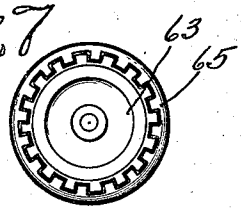
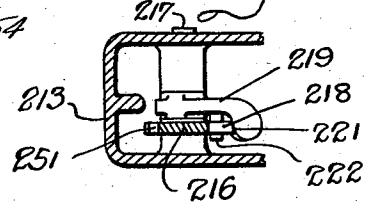


Fig. 8

Fig. 13.



INVENTOR
John M. Hothersall
BY Munday, Clarke
+ Carpenter
ATTORNEYS

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COMPOUND LINING MACHINE

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Fig. 9

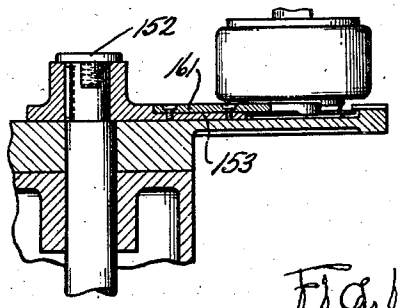


Fig. 10

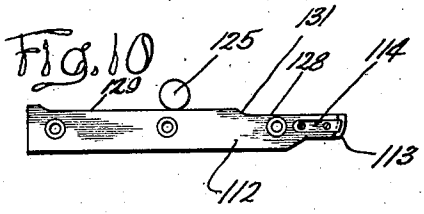
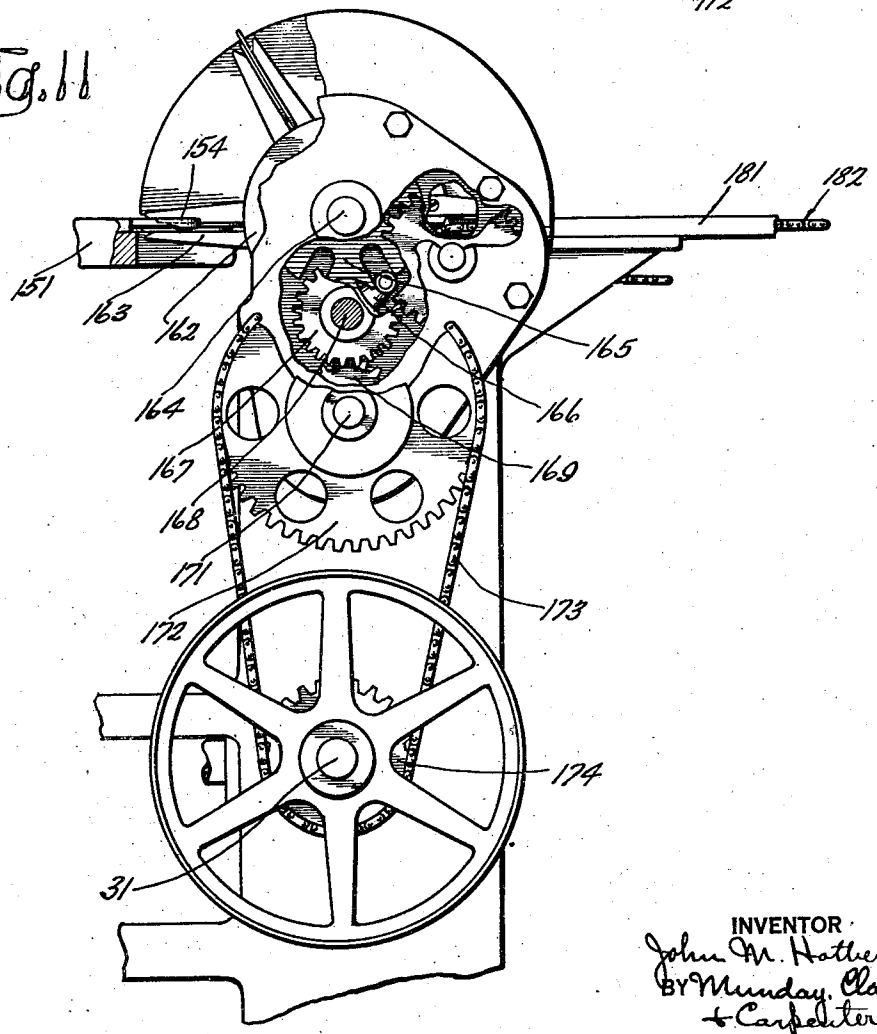


Fig. 11



INVENTOR
John M. Hothersall
BY Munday, Clarke & Carpenter
ATTORNEYS

Patented Aug. 26, 1930 1,774,010

UNITED STATES PATENT OFFICE

JOHN M. HOTHERSALL, OF BROOKLYN, NEW YORK, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY

COMPOUND-LINING MACHINE

Application filed October 1, 1927. Serial No. 223,282.

This invention relates to the preparation of can ends for double seaming to can bodies to provide the ordinary tin can of commerce and has more particular reference to the provision of a gasket of compound lining material upon the flange of a can end to provide a tight, hermetic seam when the can body, with its flange, is seamed with the flange at the adjoining end of the body. From certain standpoints, the invention is particularly related to the provision of a thick or semisolid lining material which is applied by die action, although it will be readily understood that from certain other standpoints the invention is applicable to the lining of can ends where the material is of greater fluidity and permits of nozzle application.

A principal object of the present invention is the provision of new and improved means for effectively holding the can end during the application of the liner and for moving it to and from the gasket applying station. The invention contemplates the provision of a magnetic chuck and associated parts for presenting a can end to a lining station with its flange arranged in proper relation to the compound applying devices.

A somewhat more specific object of the invention is the provision of a magnetic chuck which will present the can end in inverted position, with its compound-receiving surface on its underside, in order that a die, moving up from a source of lining compound, may imprint a gasket upon the flange of the can end, together with devices of certain action closely synchronized with the movement of the chuck to receive the end and invert it so that the lined flange opens upwardly for delivery to a drying machine or for other disposition.

Another important object of the invention is the provision of a continuously operating die lining machine of multiple units of high efficiency and certain action and which is equipped with effective and positively acting devices to prevent the dies from imprinting gasket material upon companion parts when can ends are omitted.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

In the drawings:

Figure 1 is a top plan view of a machine embodying my present invention;

Fig. 2 is a transverse, partial section showing schematically the power transmission of the machine;

Fig. 3 is a section taken substantially on the line 3—3 of Figure 1;

Fig. 4 is a partial section taken substantially on line 4—4 of Fig. 2, parts being broken away and removed to disclose certain internal features of construction;

Figs. 5 and 6 are sections taken, respectively, on lines 5—5 of Fig. 1 and 6—6 of Fig. 3;

Fig. 7 is a bottom plan view of one of the magnetic chuck assemblies;

Fig. 8 is a section taken substantially on line 8—8 of Figure 1;

Fig. 9 is a section taken substantially on line 9—9 of Figure 1;

Fig. 10 is a top plan view of the body of a can end feed bar provided to remove the can ends from the magazine, and

Fig. 11 is a detail of the device provided to invert the can end after receiving the lining compound on its flange.

Fig. 12 is an enlarged perspective fragmentary view of an upper end of one of the magnetic units.

Fig. 13 is a fragmentary sectional detail taken substantially along the line 13—13 in Fig. 8.

The apparatus shown on the drawings and illustrating in the present preferred embodiment of the invention in general comprises a fixed, annular tank or source of compound above which is arranged a rotating turret carrying a plurality of units, each consisting of a die which moves around with the bath and a magnetic chuck arranged thereabove which carries the can end in axial registration with the die. The die of the unit is normally disposed beneath the surface of the compound in the tank and as the parts ap-

proach the compound applying station, the die moves up out of the material and the chuck moves down so that the compound is imprinted upon the flange of the can end.

The can ends are fed from a magazine in processional order onto a small table, and each unit above-mentioned has a centering or engaging device which encounters the presented can end; is moved down onto its countersunk center and, in the rotation of the turret, slides the can end transversely from its received position. This same device is employed to separate the can end from the chuck after the lining has been accomplished, and the chuck may therefore be continuously energized.

Devices are provided in this apparatus to prevent the downward movement of the chuck should the supply of can ends fail and no can end be received by the preliminary engaging device. It will be noted that the can ends are lined with the can ends opening downwardly, and after they have been separated from the chuck by the knock-out or engaging member they are carried about a transfer turret which brings them to an intermittently operating rotating device, which picks up the lined can ends with the flanges opening downwardly and carries them up and over through an arc of 180 degrees, depositing them upon a conveyor in an inverted position.

The whole apparatus is mounted upon a base 20, which supports the main frame, generally indicated at 21, of suitable shape and construction. This frame provides at 22 a support for a fixed post 23 about which the main turret of the apparatus is continuously rotated, as will be presently described. The turret in the present instance comprises an outer rim or supporting portion 24 connected by a web 25 with a central hub and supporting part 26 having ball bearing support at 27 upon a frame part 28 arranged about the post 23.

The turret is caused to continuously rotate by the power mechanism and transmission to be now described, reference being had particularly to Figures 1, 2 and 11. A power shaft 31, carrying a pulley 32, has suitable bearing in the frame of the apparatus. A beveled pinion 33 is fixed upon shaft 31 and this engages the beveled pinion 34 upon a cross shaft 35 suitably journalled at 36, 37 and 38 in the main frame. This cross shaft is provided with a worm 39, which drives a worm gear 41 fixed upon a sleeve 42, which is disposed about the post 23 (Fig. 3) and which is keyed at 44 within the hub 26 of the turret. The turret is provided with an annular tank or source of liner supply, this being formed in the present instance by casting the trough 45 to extend down, out and then up from the rim or body of the turret. This trough is adapted to contain lining compound 46 of heavy viscous or semi-liquid character.

The turret carries also a plurality of units for applying the compound to the can ends and each of these comprises generally a magnetic chuck 47, a receiving and ejecting device 48 and a compound applying die 49, all arranged in axial alignment and for independent and controlled vertical movement, accomplished, as will be later explained, in the desired sequence and timing.

The dies of the various units are normally submerged in the compound and each comprises a die body 51 mounted in a die carrier 52, which is supported in a vertical slide 53 adapted to be raised and lowered on the turret 24 to move the die up and down as the action of the die requires. This vertical movement of the dies is accomplished by a fixed cam member or body 54 arranged above the turret and carried by the post 23. The post is reduced in its cross section at 55 to provide support for the cam body which has a central sleeve arranged about the post. A lock sleeve 56 is threaded over the upper end of the post and a nut 57 clamps the locked sleeve and cam member in rigid, fixed position. Each slide 53 is provided with a cam roller 58 engaging in a cam groove 59 formed about the cam body 54 and having a configuration to cause the dies to lift and lower in timed relation with companion parts.

The magnetic chuck of each unit comprises a core 61 arranged about a supporting sleeve 62 and having an enlarged lower or plate portion 63. The core is surrounded by a winding 64, and the core and winding are enclosed within a housing 65, open at its bottom, and the adjacent edges of the plate 63 and housing 65 are castellated or toothed and arranged in matched spaced relation (shown in Fig. 7) to increase the holding or magnetic power of the chuck.

The sleeve 62 has bearing at 71 in an upward and outward extension of the body or rim 24 of the turret and enters at its top into a block 72, which carries a cam roller 73 entering into a cam groove 74 in the cam member 54 already mentioned. A plate 75 is secured to the top of the block 72 (Figs. 1, 3 and 12) by screws 70, and bolts 76 extend through this plate and are threadedly secured to the sleeve 62. A spring 77 is interposed between the base of a recess 78 in the upper end of the sleeve and the plate 75. This construction provides a yielding connection between the sleeve 62 and the block 72 to which plate 75 is secured. The plate 75 provides therefore for positive lifting of the magnetic chuck under action of the cam roller 73, by the heads of the bolts 76 engaging the upper surface of the plate 75 and, through the spring 77, having a yielding action so that the chuck may move slightly with the die in the gasket imprinting action.

As will presently be more fully explained, the member 48 is adapted to receive the can end in advance of its engagement by the magnetic chuck and before the cam member has moved the magnetic chuck down to bring the can end within its effective magnetic field. It is also adapted to act as a knock-out and move the can end from the chuck after lining.

The member 48 consists of a body adapted to enter into the countersunk or central part of the can end and an upwardly extending rod or stem 81, arranged for free sliding engagement in the sleeve 62, and it extends also through a center aperture in the plate 75. At its upper end it is engaged in a cam head 82 sliding in grooved extension posts 88 and carrying a cam roller 83 engaging in a cam groove 84 in the cam member 54, the cam being adapted to impart the desired reciprocation of this member required by the action of this apparatus. The cam head 82 (Fig. 1) is provided with side wings 85 bearing upon a cylindrical portion 86 of the cam member 54 to hold the cam roller to its groove, and this head is slidably engaged by a tongue and groove 87 with cam body 54. The sleeve 62 having bearing at 71 is preferably of non-circular form (as shown in Fig. 12) so that the magnetic chuck is held against independent rotation.

The can ends are supplied to a magazine comprising a sleeve 91, from which posts 92 extend upwardly. Can ends, successively presented at the bottom of the stack, are adapted to be removed by a slide 93 which reciprocates therebeneath in guides 94, this slide having link connection at 95 with an oscillating arm 96 pivoted at 97 in the machine. This arm receives its reciprocation from a pitman or crank arm 98, connected at 99 to a crank disc 101 mounted upon a continuously rotating shaft 102. Referring to Fig. 2, it will be noted that shaft 102 is suitably journalled at 103 and 104 within the frame of the apparatus, and a train of gears 105 is provided to receive power from shaft 35.

Can ends are normally supported in the magazine (Fig. 5) by resting upon ledges 111 formed in the top of the guides 94, and a device is provided to engage above the lowermost can end at each reciprocation of the slide and to lift the remaining can ends away so that the can end engaging portions of the slide may have free opportunity to move it. A can end removing member 112 (see Figs. 3 and 10) is fixed upon the upper face of the slide and this member is provided with a beveled lip 113. A plate 114 is arranged above this lip to extend out and over it and to form a can end engaging groove therewith. One side of this member 112 is formed into a cam to control the action of a stack lifting member 115, which is of hooked form (Fig. 5) and pivoted at 116 to wings 117 on the magazine part 91. A recess 118 is provided through this magazine part so that the hook 115 may engage below the stack above the lower can end and raise it as shown in Fig. 5. The raising movement of this hook is accomplished by a lever 121 pivoted at 122 (Fig. 1) upon a plate 123 arranged above the slide and can end feeding members. One end is provided with a set screw 124 adapted to bear against the hook 115 and the other arm of the lever carries a roller 125 arranged through an opening 126 in plate 123 where it bears against the presented side of the member 112 under the action of a spring 127, as will be readily observed.

The member 112 is provided with two flat side parts or surfaces 128 and 129 connected by an inclined portion 131. The side edge thus constructed forms a cam for moving the hook into stack raising position when the slide is retracted and about to feed a can end toward the turret. The weight of the stack itself removes the hook after a feeding action to let another can end down into the feeding position. As the slide reaches the end of its return stroke, the roller 125 passes onto the surface 128 and the hook moves out from the position shown in Fig. 5. As the slide returns, the rollers ride up the incline 131 just before the forward edge of the member 112 engages the can end, and thereafter throughout the reciprocation and until the return stroke is nearly finished the stack is supported for the free feeding of the bottom end. The forward stroke of the slide carries the can end, indicated at 132, to the position indicated at *a* in which it has passed beneath two spring-pressed detents 133 and 134. The first of these engages behind the can end and the second on top of it, preventing its return movement with the slide and holding it at the idle station. The next reciprocation of the slide carries the can end onto an extension plate 135 arranged over the tank or source of compound and disposed between the magnetic chuck and die parts as they pass. The position of the can end is indicated at *b* in Fig. 3, and the movement is accomplished by a spring finger 136, pivoted at 137 in the slide body 93, and having a tail 138 spring-pressed to raise the forward end of the finger. On the return movement of the slide, it passes under the can end, arranged at *a*, and on the forward stroke engages behind it and slides it onto the plate extension 135. The surface of this plate is inclined upwardly in the direction of travel of the applying units, and the can end resting on it assumes the position indicated in Fig. 3, where it is in position for engagement by the centering, pick-up and ejecting member 48.

The can end thus positioned is engaged by this member 48 and is swept along the plate, the magnetic chuck moving down along the stem 81 of this member and finally picking up the can end and carrying it on along the orbit of die unit travel, the member 48 in the meantime moving up into a recess 141 in the core.

After the can ends leave the plate extension 135, the cam 54 causes the chuck to move down and the die to move up to imprint the gasket of the die onto the flange of the presented face of the can end. The die thereafter recedes back into the material, and when the parts have arrived above a transfer disc 151 (Fig. 1), the member 48 pushes the can end down away from the magnetic chuck through relative movement of the chuck and member under the cam action, depositing it upon the transfer disc 151 where it is swept around to an inverting mechanism which turns it from the arrangement with the flanges opening downwardly into one with the flanges opening upwardly. A shaft 152 extends through this disc and carries a second disc 153 from which propelling fingers 154 extend out at regular intervals. This shaft is caused to continuously rotate from shaft 35 by a worm 155 arranged on the shaft and driving a worm wheel 156 fixed upon an upright stub shaft 157 within the frame of the apparatus. This shaft 157 carries a gear 158 which engages a pinion 159 on shaft 152. The disc 153 and outer fixed guide 161 provide a pass to guide the can ends to the inverting device.

This inverting device is best shown perhaps in Fig. 11 and comprises a turret or central body 162, which carries slotted arms 163 into which can ends are swept by the fingers 154 just described. This turret is given an intermittent or step-by-step movement about its axis 164 through a Geneva wheel 165 on the shaft or axis 164. The Geneva wheel is adapted for actuation by a Geneva arm 166 moving with gear 167 upon a cross shaft 168 mounted in suitable bearings below the shaft 164. The gear 167 meshes with a pinion 169 upon a second stub shaft 171, which shaft carries a sprocket wheel 172 driven by a sprocket chain 173 from a sprocket wheel 174 upon power shaft 31.

The can ends thus received in the slots of the arms 163 are carried up and over throughout an arc of 180 degrees and are then brought down upon a support or guide-way 181 along and through which moves a conveyor chain 182, which takes them out of the apparatus for suitable disposal. It will be noted that in this inverting device, the can ends are received at the left hand of Fig. 11 with the flanges in the downwardly opening position they have assumed during the imprinting of the gasket and are arranged in reversed position with the flanges opening upwardly by being turned for a half circle to the right hand of said figure, so that throughout the drying the compound is held against flowing however sluggish.

It will be noted that the magnetic chucks, accompanied as they are by the centering, advancing and ejecting action of the members 48, may be continuously energized. The hub 26 of the turret is provided with two insulated conducting rings 191 and 192 mounted in an insulating carrier 193 which rings are connected by suitable wires 194 with the coils 64. Current is supplied to the rings 191 and 192 by brushes 195 and 196, respectively, connected to the line wires of an electric circuit.

Means is provided for preventing contact of the magnetic chuck with the compound applying dies upon failure of can end supply or upon the absence of a can end upon a particular chuck. The mechanism for preventing contact of the chuck and die of a unit is best shown in Figs. 3 and 8, reference being also had in this connection to Fig. 1.

The sleeve 62 of the magnetic chuck is slotted at one side at 201 and hardened plates 202 are set into the sleeve at the ends of this slot. The bearing for this sleeve is extended outwardly to provide a chamber 203 adjacent this slot 201 and in this a dog 204 is pivoted at 205. The dog has an operative projection 206 adapted to enter into the slot and engage the upper hardened plate 202 unless a can end be presented for lining, the entry of this dog into the slot limiting the downward movement of the magnetic chuck and holding it above possible contact with the compound applying die when it rises out of the compound material to imprint a gasket. The dog 204 is provided with a tail 207 adapted to engage the lower hardened plate 202 and move out of the slot after each failure of a can end. The dog 204 is normally locked in operative position by a latch 208 pivoted at 209 in the bearing extension and pressed toward the dog by a spring 211. During the normal operation of the apparatus and while can ends are being regularly presented, the latch 208 retains the dog in the position shown in Fig. 8, spring 212 being provided to move the dog into the slot when the latch 208 is released by the absence of a can end at the can end feeding station.

This latch is adapted to be disengaged from the dog upon failure of can end supply, as will now be described. A housing 213 is mounted upon the frame adjacent the travel of the lining units and just beyond the feeding station. A slide 214 (Figs. 8 and 13) has bearing through a side of this housing and is connected by a link 215 to a lever 216 pivoted on a shft 217 in the housing. The other arm 218 of this lever is arranged beneath an arm 219 of a companion lever also mounted on the shaft 217 and the two arms are normally held separated by a spring 221. The arms 218 of the one lever and 219 of the other are further connected by a pin 222 of the one lever arm passing through an enlarged opening or slot 223 of the other lever arm. An arm 224 connecting with the arm 219 of the second mentioned lever is provided with a cam roller 225 which enters into a cam groove 226 of a cam 227 mounted upon a shaft 228 which shaft carries a gear 229.

This gear receives motion and power through a pinion 231 from a gear 232 upon a shaft 233 (Fig. 2) journalled in the frame of the apparatus and driven by a sprocket drive 234 from the shaft 102 already described.

Unless restrained, the two levers just described oscillate as a single lever, and the slide 214 reciprocates with them. This slide, referring now to Figs. 1 and 8, has an inclined and upwardly extending forward beveled lip 241, adapted when retracted from the position shown in Fig. 8, and when held in retracted position, to be engaged when a lining unit carried by the main turret moves thereover by a tail or extension 242 of the latch 208 and this moves the latch out of the latching position shown in Fig. 8 and permits the dog 204 to enter into the slot 201 and limit downward movement of the magnetic chuck. When, however, a can end is presented, as in the normal position for engagement by the member 48, and is carried around with the travel of the turret, reciprocation of the slide 214 takes place. The lever 216 is provided with a shoulder 251 adapted for engagement by a hooked latch 252 pivoted at 253 in the housing 213. The latch 252 is connected by a linkage organization 254 with a lever 255 (see Fig. 1) pivoted at 256 to extend across the path of travel of the can end, being pulled in the direction of the turret by a spring 257. When this spring 257 holds the parts shown in Fig. 8 toward the left, this being when no can end is present, the latch 252 engages the shoulder 251 and the slide 214 is held in its retracted position.

The timing of the parts is such that the cam 227, through the system of levers just described, moves the slide 214 into position to disengage the latch 208 before arriving at the can end receiving station and in this position the hooked latch 252 engages over the shoulder 251 holding the slide 214 in latch engaging position, and at this time it will be remembered that the magnetic chuck is lifted so that the tail piece 207 of the dog 204 is lifted by the lower hardened plate 202 in the sleeve 62. If no can end is presented, the parts remain in this position, the cam action on lever arm 219 being accommodated by the spring 221 since lever arm 218 is held against movement. Upon the presentation of a can end at the can end receiving station, the lever arm 255 is swung about its fulcrum and the latch 252 disengages from the shoulder 251. This permits the rearrangement of the slide 214 and the latch 208, shown in Fig. 8, in which condition the sleeve 62 may move in accordance with the intended action and freely under the influence of its cam.

During the normal feeding of can ends, the latch 204 of each chuck is engaged by the dog 208. Rotation of the turret occurs in such timed relation with the normal reciprocation of the slide 214 as to cause the dogs 208 to pass back of the upwardly extending beveled end 241 of the slide 214 so that no engagement occurs between the beveled end 241 of the slide and the tail piece 242 of the dogs 208 while can ends are being fed. When, however, there is a failure of can end supply or an interruption of the can end feeding, the latch 252 engages the shoulder 251 of lever 216 and holds the slide 214 in its retracted position, i. e., to the left of that shown in Fig. 8. In this position, the upwardly extending beveled end 241 of the slide is in position to engage the tail 242 of the next presented dog 208 so that the latch 207 of the particular lining unit or assembly of the turret is released and its upper end moved into position to limit downward reciprocation of the sleeve 62 and prevent contact of the die with its charge of compound contacting with the chuck.

In order that the die may part freely from the can end after the imprinting of a liner, I have provided a hollow stem 261 (Fig. 3) mounted in a boss 262 in the bottom of the tank and centrally of each die member, which stem is freely open to the atmosphere at its lower end and to the space above the compound, and which is adapted to be otherwise closed by the die in its compound applying upward movement. This hollow stem 261 prevents the formation of any suction tending to hold the parts together as a result of the contact of the die with the flange of the can end and slots.

It is thought that this invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that many changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a compound applying device, a magnetic chuck associated therewith, and means moving said magnetic chuck and said applying device about a common vertical axis arranged off the axis of said chuck.

2. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a chuck adapted to rotate about an axis eccentric of the die, a source of compound beneath the path of movement of said chuck, a die normally immersed in said source and having rotative movement with said chuck, and means moving said die out of said compound and towards said chuck to apply compound lining material to the flange of a can end secured in said chuck.

3. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a plurality of chucks adapted to rotate about a common axis, an annular source of compound arranged beneath the path of movement of said chucks and a plurality of dies for applying said compound in said source and mounted for movement with the chucks and normally arranged beneath the surface of compound in said source, and means progressively elevating said dies towards said chuck to apply compound to can ends secured therein.

4. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a magnetic chuck adapted to support a can end, a source of compound, a die receiving compound from said source, and means moving said magnetic chuck towards said die in the compound applying action.

5. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a chuck for supporting a can end, a source of compound lining material, a die receiving compound from said source and imprinting it upon the flange of a can end in said chuck, and means causing the approaching movement of both said chuck and die as an incident to the applying of said composite.

6. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a magnetic chuck adapted to receive a can end on its under side, a source of compound beneath said chuck, a die normally submerged in said compound, and means producing conjoint movement of the chuck and die, the chuck moving down to bring the can end into gasket receiving position and the chuck moving out of said material to imprint the gasket upon the can end flange.

7. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a magnetic chuck for supporting a can end with its flange opening downwardly, a die for applying compound lining material to the flange of said end, means removing said end from said chuck after its flange has received its compound, and an intermittently operating turning device for receiving the end and reversing its position to arrange the lined flange opening upwardly.

8. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a magnetic chuck for supporting a can end with its flange opening downwardly, a compound lining die applying compound to the can end thus arranged, and a rotating device for receiving the lined end and turning it through 180 degrees to arrange it with its lined flange opening upwardly.

9. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a magnetic chuck rotating about a remote axis and adapted to support a can end with its flange opening downwardly, a die applying compound to the flange of a can end thus supported, and an intermittently rotating device for receiving a can end after the application of compound and turning it through 180 degrees to arrange said end with its lined flange opening upwardly.

10. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a can end feeding mechanism and support onto which the can ends are successively fed, a rotating head, can centering devices carried by said head and adapted to engage a can end on said support and to slide the same from received position, a chuck thereafter engaging the end moved by said centering device, and a die for applying compound lining material to the flange of an end held in said chuck.

11. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a can end feeding mechanism and support onto which the can ends are sucessively fed, a rotating head, can centering devices carried by said head and adapted to engage a can end on said support and to slide the same from received position, a magnetic chuck thereafter engaging the end moved by said centering device, and means for applying compound lining material to the flange of an end held in said chuck.

12. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a magnetic chuck continuously energized, a device for feeding a can end to adjacent said chuck, a member associated with the chuck for arranging the device in proper relation to said chuck, and means thereafter moving the chuck into magnetic engagement with said can end, and a die for applying compound to a flange of an end engaged by said chuck.

13. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a continuously energized magnetic chuck, means arranging a can end adjacent said chuck, a mechanical members for engaging said can end and moving it to a chuck engaging station, devices for producing relative movement of the can end first into and later out of the effective magnetic field of said chuck, and means for applying compound lining material to said can end while held magnetically by said chuck.

14. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a compound applying device, a magnetic chuck for holding a can end during the action of said device, a

mechanical member engaging and moving the can end prior to the action of said chuck, means for carrying said chuck around an axis, and a controlling device preventing the compound applying action in the absence of a can end and operable prior to the above-mentioned action of said chuck.

15. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a movable chuck adapted to support a can end at a lining station, a compound applying device arranged at said lining station, and means for preventing movement of the chuck to the lining station in the absence of a can end.

16. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a source of compound lining material, a die normally arranged beneath the surface of the material in said source and movable out of said material in its compound applying action, a magnetic chuck arranged above said die and adapted to support a can end and movable downwardly towards said die to arrange the can end to receive the compound lining material upon its flange, and means preventing movement of said chuck to lining receiving position in the absence of a can end.

17. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a source of lining material, lining applying devices associated with said source, a magazine for receiving can ends, devices for moving can ends out of said source and in processional order to said compound applying devices, a rotating mechanism including can end engaging members movable across the above-mentioned processional path of said can ends and engaging and sliding the can ends out of received position, and a magnetic chuck associated with each said device and adapted to support the can end and transmit it to a compound lining applying station.

18. In a machine for applying compound gasket lining material to the flanges of can ends, the combination of a source of lining material, lining applying devices associated with said source, a magazine for receiving can ends, devices for moving can ends out of said source and in processional order to said compound applying devices, a rotating mechanism including can end engaging members movable across the above-mentioned processional path of said can ends and engaging and sliding the can ends out of received position, a magnetic chuck associated with each said device and adapted to support the can end and transmit it to a compound lining applying station, and means permitting the action of said chuck in the absence of a can end, said means acting in advance of the movement of a chuck to receive its can end.

19. The combination of means for applying compound lining material, and means for holding a can end to receive said material consisting of a chuck comprising windings, a core arranged within said windings and extending therebeyond, a magnetic housing embracing said windings and spaced from said core, adjacent edges of said core and housing being of castellated form and arranged in spaced relation.

20. The combination of a series of chucks for holding can ends, a series of dies corresponding with said chucks and arranged under the chucks, means for rotating said series of dies and chucks, a compound tank enclosing the path of said dies when they are lowered, and means for raising a die to imprint compound on a can end and for lowering it into said tank.

JOHN M. HOTHERSALL.