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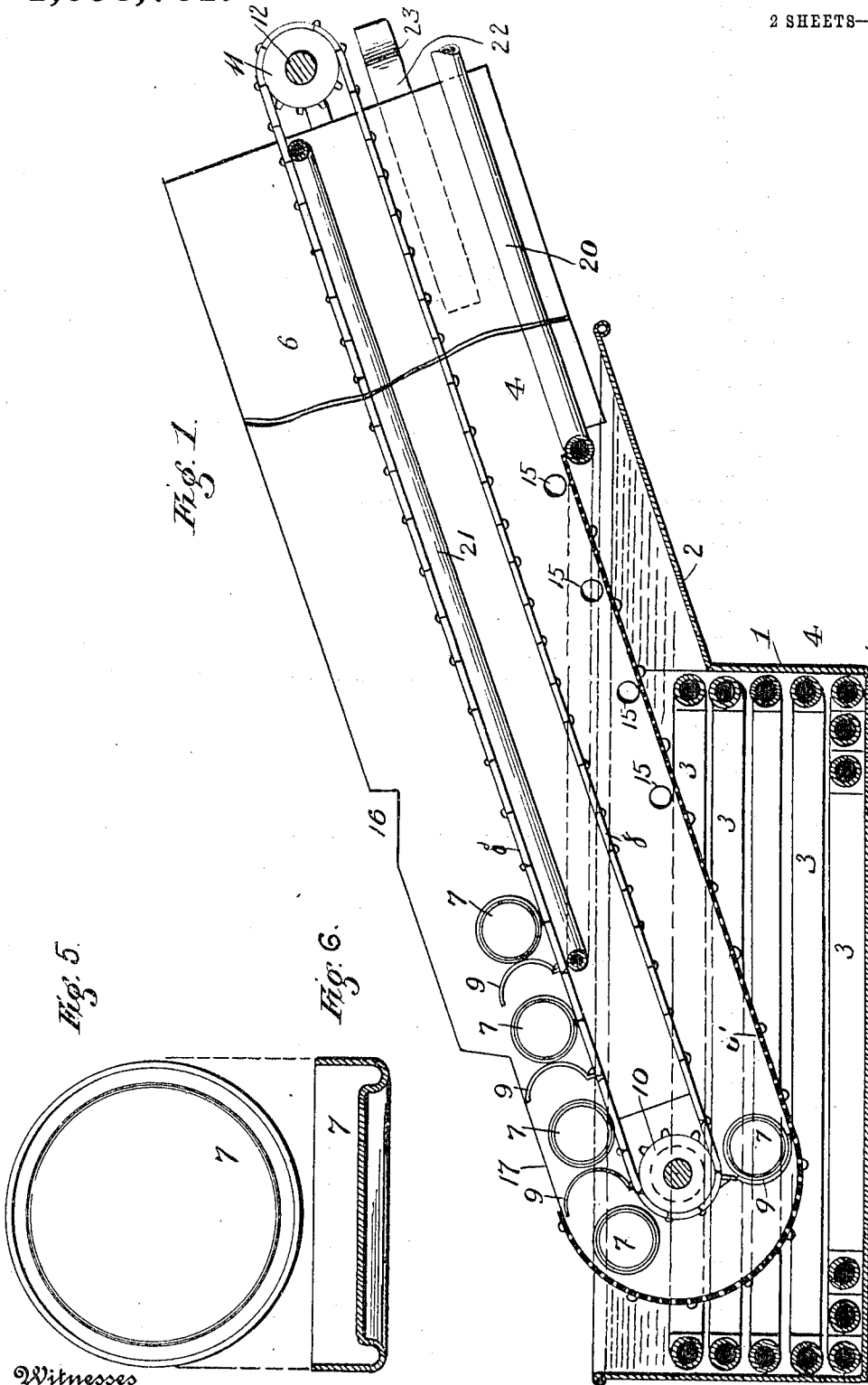
MEANS FOR PARAFFINING CLOSURES OR CAPS FOR PAPER RECEPTACLES.

APPLICATION FILED FEB. 17, 1911.

1,053,701.

Patented Feb. 18, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

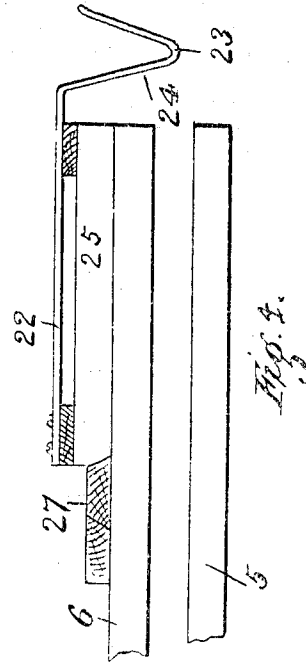
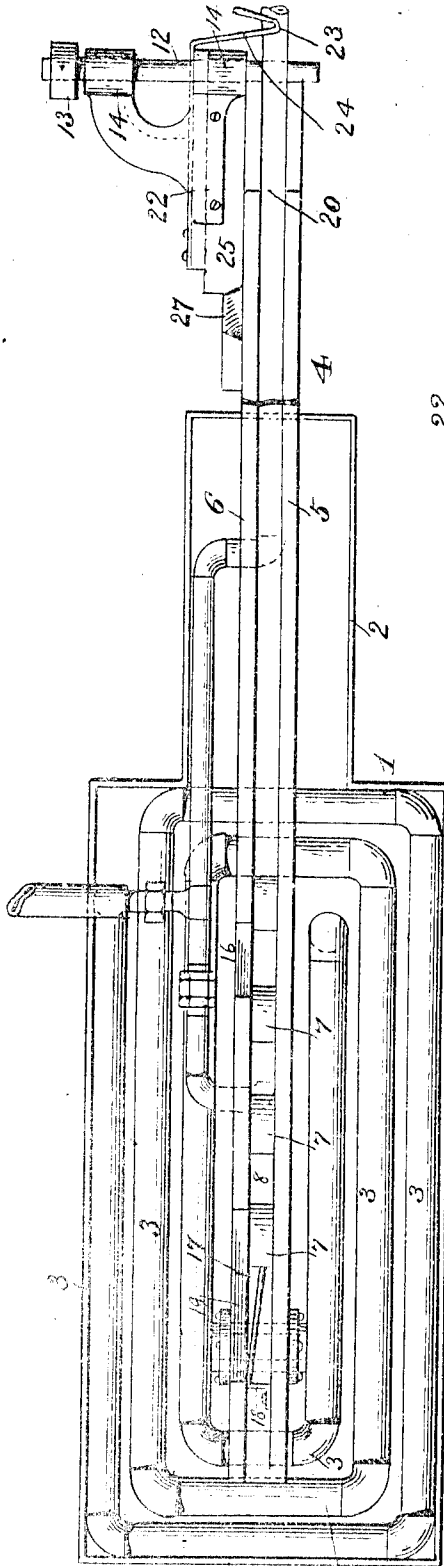


Fig. 4.

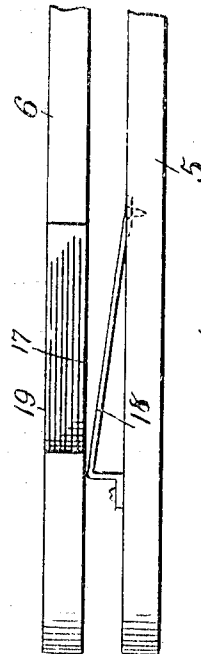


Fig. 6.

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UNITED STATES PATENT OFFICE.

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MEANS FOR PARAFFINING CLOSURES OR CAPS FOR PAPER RECEPTACLES.

1,053,701.

Specification of Letters Patent.

Patented Feb. 18, 1913.

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To all whom it may concern:

Be it known that I, JOSEPH T. BOND, a citizen of the United States, residing at Spencerville, in the county of Montgomery and State of Maryland, have invented certain new and useful Improvements in Means for Paraffining Closures or Caps for Paper Receptacles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates primarily to packing or storage vessels or paper receptacles, such as shown in patent of the United States, numbered 935,918, bearing date of October 5th, 1909, in which the ends of the vessel or receptacle are made of a paper closure or cap which is connected to the body and the cover respectively by an interlocked liquid proof crimped joint.

The invention has especial reference to means for treating such closures or caps with paraffin to render them impervious to liquid and facilitate the crimping of the flange of the closure and make a lock-joint with a portion of the body and the cover of the receptacle respectively.

The invention has for its object economy in the treatment of the closures, and consists in certain improvements which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form a part of this specification:—Figure 1 is an elevation partly in section showing the device with one side of the conveyer inclosing member removed. Fig. 2 is a top plan view of the same. Fig. 3 is an enlarged detail of the means for ejecting an excess of closures from the conveyer. Fig. 4 is a plan view of part of the upper end of the device, showing means for displacing caps from the conveyer. Fig. 5 a plan view of a closure on an enlarged scale, and, Fig. 6 a transverse section of the same.

Reference being had to the drawings and the designating characters thereon, the numeral 1 indicates a vat for paraffin or the like, is preferably rectangular in form, is provided with an inclined drain-extension 2, for returning any excess of paraffin ad-

hering to or carried by the closures, and 3 are coils of pipe for heating the paraffin by steam or other heating medium.

4 is a hollow elongated member or casing whose lower end extends into the vat, and to the ends of the sides 5, 6, of said member is attached a perforated metallic guard 6', within which the closures travel and whose lower side extends out beyond the inner end of the vat and over the drain-extension 2, to admit hot paraffin to the caps or closures 7 which are immersed therein consecutively by an endless conveyer 8, provided with carriers 9, preferably of resilient material, such as spring steel and concavo convex in form to engage and carry the closures 7 through the paraffin and to the upper or discharge end of the casing. The carriers 9 extend throughout the entire length of the conveyer, as is usual in endless conveyers, but part of the carriers have been omitted from the drawings, as their function is well known.

The conveyer is preferably of conventional link-belt form, and is mounted on a drum or pulley 10 at its lower end, between the sides 5, 6 of the member 4, and on a like drum or pulley 11 at its upper end, provided with a shaft 12 and driving pulley 13, supported in a suitable bracket 14.

In the sides 5, 6 are openings 15, within the range of the vat 1 and the drain-extension 2 for allowing lateral discharge of the liquid paraffin displaced by the closures 7 as they are drawn through the vat by the conveyer 8 and the carriers 9, and to produce circulation of the paraffin.

16 is a supply passage for closures conducted thereto from a cap or closure forming press, not shown, preferably by a blast of air, and in one of the sides is an opening 17 and an ejector 18 for throwing out of the channel between the sides 5, 6 any excess of closures, or more than compare with the carriers 9, to prevent crushing the extra closures and choking the machine, as the closures travel around the lower end of the member 4 between the conveyer 8, and the guard 6'.

19 is an inclined seat on which ejected closures fall and from which they are discharged by gravity.

20 indicates a track consisting of a pipe supplied with a heating medium, such as steam, over which the closures 6' engaged by the carriers 9 travel and are dried thereon before they are discharged from the conveyer.

21 is a like track on which the empty conveyer travels and is heated thereby to prevent chilling of the paraffin in the vat.

22 indicates an ejector for discharging dried closures from the conveyer, and consists of a spring or resilient member secured at one end to the side 5 of the member 4, extends upward, is bent at 23, where it crosses the path of the conveyer, and as the closures engage the incline 24, they are deflected and fall out of the conveyer, preferably into a conduit, not shown, for conveying them to a suitable storage place for use in making receptacles. The bent part 23, is pushed laterally by the carriers 9, to allow them to pass and automatically resumes its normal position in time to eject the next consecutive closure, on the conveyer.

The shaft supporting bracket 14 is secured to a bar 25 supported on the side 5 and is held in position by cleats 26, 26, to slide on the side, and is adjusted by a wedge 27, to take up slack in the conveyer 8 and keep it taut on the pulleys 10 and 11.

Steam or other heating medium is supplied to the coil 3, the pipes 20 and 21, through laterally extending branch 28 and constant circulation thereof is maintained.

The device constructed as shown and described operates automatically, the supply of closures being delivered from the capping press and the discharge is made into a suitable conduit without the assistance of an attendant.

It is obvious that changes may be made in details of construction without departing from the spirit of the invention.

Having thus fully described my invention, what I claim is—

1. In a device of the class described, a casing, a vat, means for heating the contents of the vat, a conveyer within the casing and adapted to travel through the vat, flights or carriers secured to the conveyer, and a perforated guard at the lower end of the conveyer and within the vat.

2. In a device of the class described, a casing, a vat, means within the vat for heating the contents thereof, an endless conveyer within the casing and adapted to travel through the vat, flights or carriers secured to the conveyer, a perforated guard at the lower end of the conveyer and within the vat, means for admitting caps to the conveyer within the range of the vat, and means for discharging caps.

3. In a device of the class described, a casing, a vat, means for heating the contents

of the vat, an endless conveyer within the casing, resilient flights or carriers secured to the conveyer and adapted to travel through the vat, means for admitting caps to the conveyer, means within the casing for drying the caps, and a discharge for dried caps.

4. In a device of the class described, a casing, a vat, means for heating the contents of the vat, a conveyer within the casing and adapted to travel through the vat, means for heating the conveyer, means for admitting caps to the conveyer, means within the casing for drying the caps, and means for discharging the caps laterally from the conveyer.

5. In a device of the class described, a casing, a vat, means for heating the contents of the vat, a conveyer within the casing, a guard within the vat, a drain extension to the vat, means for admitting caps to the conveyer, means for ejecting an excess of caps from the conveyer before entering the vat, means for drying the caps, and a discharge for caps.

6. In a device of the class described, a vat, a hollow member communicating with said vat, a conveyer in said member, a perforated guard at the lower end of the conveyer, lateral paraffin passages in the walls of the hollow member within the range of the vat, means for drying the caps within said member, and a discharge for caps.

7. In a device of the class described, a vat, a hollow member communicating with said vat, a conveyer in said member, means for admitting caps to the conveyer, an opening in one wall of said member, means for ejecting an excess of caps from the conveyer through said opening, a drain-extension for the vat, a perforated guard at the lower end of the conveyer, and extending over part of said drain-extension, means for drying the caps, a discharge for caps, and means for heating the conveyer while in transit to the vat.

8. In a device of the class described, a casing, a vat, a conveyer within said casing, means for admitting caps or closures to said casing and conveyer, a lateral discharge opening in the casing, and means for expelling an excess of caps through said opening.

9. In a device of the class described, a casing, a vat, a conveyer within said casing, means for admitting caps or closures to said casing and conveyer, a lateral discharge opening in the casing, and an ejector opposite said opening for expelling an excess of caps through the opening.

10. In a device of the class described, a casing, a vat, a conveyer within said casing, and constructed to travel through the vat, means for admitting caps or closures to said casing and conveyer at the lower end of the

casing, and means for displacing the caps from the conveyer at the discharge end of the casing.

11. In a device of the class described, a casing, a vat, a conveyer within said casing, means for admitting caps or closures to said casing and conveyer, and a resilient member at the discharge end of the casing for removing the caps from the conveyer.

10 12. In a device of the class described, an inclined casing, a horizontal vat, means for heating the contents of the vat, an endless conveyer provided with concavo-convex car-

riers within said casing, means for operating said conveyer, means for admitting caps 15 at the upper edge of the casing, means on one side of the casing for ejecting an excess of caps, means within the casing for drying caps, and means for discharging caps at the upper end of the casing.

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

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Witnesses:

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