No. 828,381. PATENTED AUG. 14, 1906.

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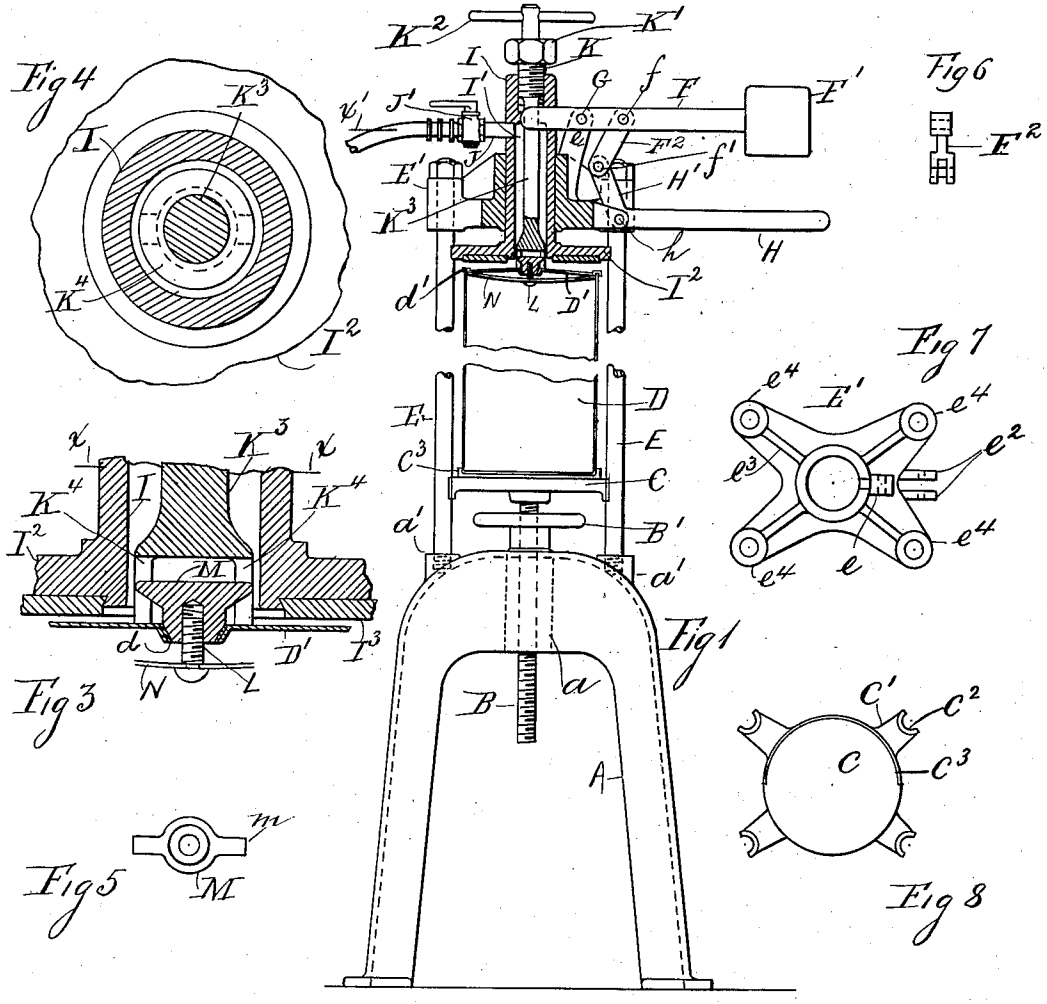
MACHINE FOR CLOSING RECEPTACLES.

APPLICATION FILED JUNE 18, 1903.

2 SHEETS—SHEET 1.



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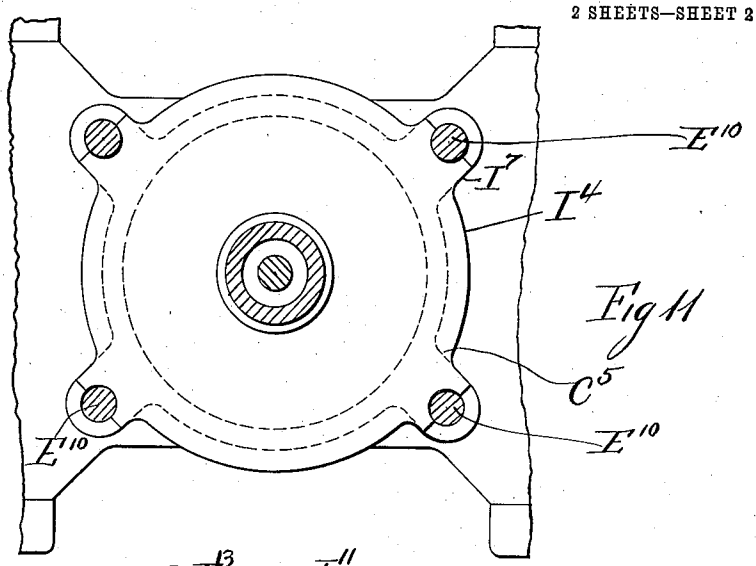

Fig 11

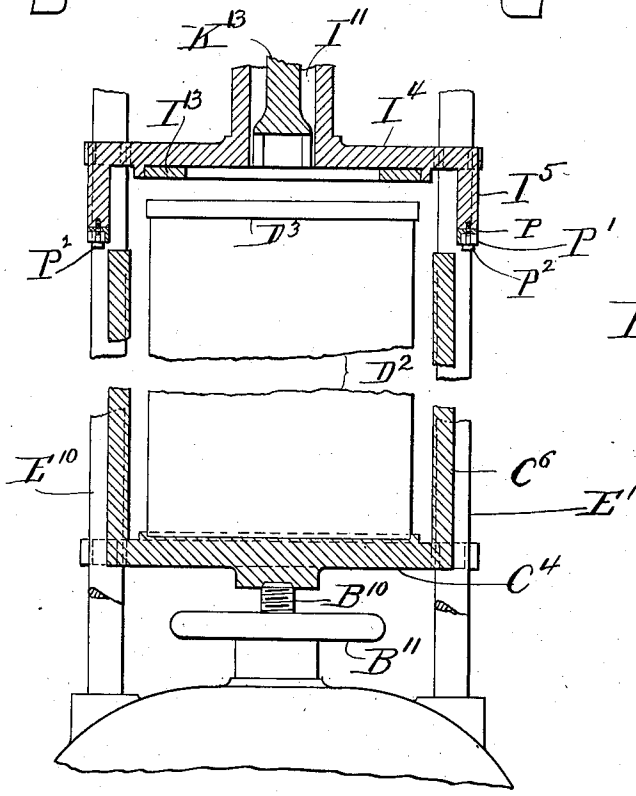

Fig 10

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CHARLES HENRY BURCKETT, OF GLENRIDGE, NEW JERSEY; MARY M. BURCKETT ADMINISTRATRIX OF SAID CHARLES HENRY BURCKETT, DECEASED.

MACHINE FOR CLOSING RECEPTACLES.

No. 828,381. Specification of Letters Patent. Patented Aug. 14, 1906.

Application filed June 18, 1903. Serial No. 162,092.

To all whom it may concern:

Be it known that I, CHARLES HENRY BURCKETT, a citizen of the United States, and a resident of Glenridge, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machines for Closing Receptacles, of which the following is a specification.

This invention relates to means for closing receptacles; and its object is the production of a machine by means of which receptacles, cans, bottles, and the like can be closed and sealed with their charges of material and the receptacles having a vacuum therein or having a gas or vapor in addition to their charges of material.

Referring to the drawings, Figure 1 shows an elevation and partial axial section of my invention. Fig. 2 is a plan view of Fig. 1. Fig. 3 represents an enlarged axial section of a portion of Fig. 1. Fig. 4 is a plan view of Fig. 3 and section on the line x x thereof. Fig. 5 shows the plan view of a wing-nut. Fig. 6 is a side view of a link. Fig. 7 represents a plan view of a supporting-bracket. Fig. 8 represents a plan view of a platform. Fig. 9 shows a partial section of Fig. 1 on the line x'. Fig. 10 represents a partial axial section of a modification of my invention. Fig. 11 represents a plan view of Fig. 10 with a portion in section.

The machine is shown to comprise a foundation-frame A, containing a threaded boss a for a screw B, having a hand-wheel B′ and a platform C for supporting a receptacle D. The platform C has wings C′, in which are formed bearings C^2, that fit on the columns and guides E, and a half-collar C^3 extends from the upper face of the platform to hold the receptacles D centrally thereon. Threaded bosses a' extend from the frame A and support columns E, on the upper end of which is secured a supporting-bracket E′. On a barrel I, fitting loosely in the supporting-bracket E′, there is journaled the forked lever F, having the counterweight F′, that is fulcrumed on a pin G, supported in a lug e, extending from the bracket E′. A lever H, with an arm H′, is fulcrumed on a pin h, secured in lugs e^2, projecting from the bracket E′. A link F^2 is pinned to the end of the lever H′ and connects with the lever F by means of the pin f. The supporting-bracket E′ contains a central opening for the barrel I and has the ribs e^3 running to the hubs e^4, that secure the ends of the columns E. The barrel I is internally threaded at its upper end for the stem K, which carries the nut K′ and cross-bar K^2. The said stem is decreased in diameter below its threaded portion, as shown at K^3, after which it swells out to form jaws K^4, that grip the wings m of a wing-nut M, which is carried on the bolt L, extending from the cross-bar N, secured in the upper end of a receptacle D. The said nut M jams the packing d against the cover D′ of the receptacle, the cover fitting over the edges of the receptacle, as shown at d'. The barrel I terminates in cap I^2, recessed for a disk of pliable material I^3, and its chamber I′ is connected with the piping J, which leads to a three-way cock J′, having the piping J^2, which may be connected to a vacuum-receiver, and the piping J^3, which leads either to the atmosphere or a reservoir of a special gas or vapor.

To operate my invention, the receptacle D is charged with the material it is to hold, the cross-bar N and cover D′ are placed in position, and the wing-nut M partially screwed on the bolt L to leave an opening between the face of the packing d and the beveled face of the wing-nut M. The platform C is next raised to the proper position by means of the hand-wheel B′, so as to allow the receptacle D, with the cover D′, to about fill the space between platform C and the said pliable disk I^3. The receptacle is then placed upon the platform C, being held in position by the half-collar C^3 thereon.

Various tables C with different diameter of half-collars C^3 are provided for the apparatus so that each size of receptacles when placed against the half-collar C^3 will center directly under the center of the barrel I. The lever H is then pulled down, which forces the cap I^2 down, which in turn forces the pliable packing I^3 against the outer top rim of the cover D′, and thereby forces the cover D′ down into position on the receptacle D, jamming the pliable disk I^3 between the cap I^2 and the cover D′ and making an air-tight joint between the cover D′ of the receptacle D and the said disk at the outer top edge of the said receptacle. The operation also makes an air-tight joint between the receptacle and its

cover and grips the said receptacle and cover between the platform C and the cap I^2. The jaws K^4 of the stem K are made to straddle the wings *m* of the nut M, and the three-way cock J′ is then opened to make a connection through the piping J^2 between a vacuum-receiver and the chamber I′, by which the air is exhausted from the said chamber I′ and the receptacle D, thereby forming a vacuum therein. The hand-wheel K^2 is then turned to screw down the nut M, thereby jamming it against the packing *d* and closing the central opening in the cover of the receptacle. The cock J′ is next turned to close the connection with the vacuum-receiver and is opened to the atmosphere through the piping J^3 to admit air to the chamber I′ and to secure atmospheric pressure on the top of the receptacle before the mechanical pressure exerted by the cap I^2 is released, after which the receptacle is removed.

A modification of my apparatus is made by connecting the piping J^3 of the three-way cock J′, which ordinarily admits air to chamber I′, to a receiver holding a gas or vapor. With this modification the apparatus works exactly as before described up to the point where a vacuum is formed in the receptacle. Then instead of the nut M being screwed in place at once the piping J^3 of the cock J′, which connects with a receiver holding a gas or vapor, is opened, and the gas or vapor allowed to pass through the chamber I′ and into the receptacle through the opening around the bolt L to take the place of the vacuum in the said receptacle. The hand-wheel K^2 is then turned to screw down the nut M, thus sealing the receptacle with the gas or vapor therein, after which the lever H is raised and the receptacle removed.

Another modification of my invention consists in substituting for the platform C the platform C^4, having lugs C^5 to maintain them on the guides E^{10} and side walls C^6, and instead of the cap I^2, I use a cap I^4, which has extending therefrom the walls I^5. A packing-ring P is held in place by a ring P′ and bolts P^2. Lugs I^7 extend from the cap I^4 to maintain it on the guides E^{10}. The walls C^6 are of a diameter to fit on the inside of the walls I^5, the packing P making tight joints between them. To operate this last modified form, the screw B^{10} is lowered, a receptacle D^2, with cover D^3 loosely thereon, is placed on the platform C^4, and then the said platform is raised, by means of the screw B^{10}, until an air-tight joint is made between the sides C^6 of the said platform and the packing-ring P of the sides I^5 of the cap I^4. Then the air is exhausted from within the space inclosed by the platform and cap, as well as from the receptacle. Next the lever H is pulled down, which jams the pliable disk I^{13} against the cover D^3 of the receptacle, forcing the said cover into proper position upon the receptacle D^2. If only the atmospheric pressure is used to force the cover in place, it is liable to be improperly placed thereon. Next the three-way cock J′ is opened to the atmosphere and the cover D^3 is firmly secured to the receptacle by the atmosphere first pressing against the central portion of the said cover D^3.

Having described my invention, I claim—

1. In a machine for closing receptacles, the combination of an adjustable platform, an adjustable cap having a hollow barrel over the platform, guides for the platform and cap, a stem with jaws in the hollow barrel, means to turn the said stem, piping with a cock connected with the hollow barrel.

2. In a machine for closing receptacles, the combination of an adjustable platform, an adjustable cap having a hollow barrel over the platform, guides for the said cap and platform, a supporting-bracket secured to the top ends of the guides, a lug extending from the supporting-bracket, a pair of lugs extending from the said bracket below said lug, a forked lever having a counterweight fulcrumed to said lug and one end of the lever journaled to the barrel of the cap, a second lever journaled to the pair of lugs on the supporting-bracket, a link connecting the said second lever and the forked lever.

3. In a machine for closing receptacles, the combination of an adjustable platform, an adjustable cap having a hollow barrel over the platform, a stem in the barrel, jaws on the end of the stem, means to turn the stem and jaws, piping connected with the hollow barrel, a three-way cock connected with the piping.

4. In a machine for closing receptacles the combination of a platform, means to move the platform, a cap with a hollow barrel above the platform, means to move the said cap with its barrel, a threaded stem arranged to turn in the hollow barrel, jaws at the end of the stem, the platform carrying a receptacle having a cover, the latter being jammed against the receptacle by the said cap bearing thereon, and the jaws tightening a nut in place which fits in an opening of the cover of the receptacle to close the said opening.

5. In a machine for closing receptacles, the combination of a frame, guides extending from the frame, a platform fitting in said guides, a screw extending from and below the platform, a threaded boss on the frame supporting said screw, a hand-wheel on the screw, a half-collar on the platform for securing a receptacle thereon, a supporting-bracket secured to the upper ends of the guides, a cap with a hollow barrel above the platform, the cap fitting on the guides and the barrel arranged to move through the supporting-bracket, a threaded stem fitting in the hollow barrel, jaws on the lower end of the stem, a nut and cross-bar on the upper

end of the stem, means to raise and lower the cap with its barrel, and piping connected to the said barrel.

6. In a machine for closing receptacles the combination of a platform, an adjustable cap having a hollow barrel over the platform, a stem in the barrel, jaws on the end of the stem, means to turn the stem and jaws, piping connected with the hollow barrel, a three-way cock connected with the piping, an outlet on the three-way cock connected with the exhaust-receiver, and a second outlet of the said three-way cock connected with a gas-supply.

Signed at New York, in the county of New York and State of New York, this 17th day of June, A. D. 1903.

CHARLES HENRY BURCKETT.

Witnesses:
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