No. 625,665. Patented May 23, 1899.

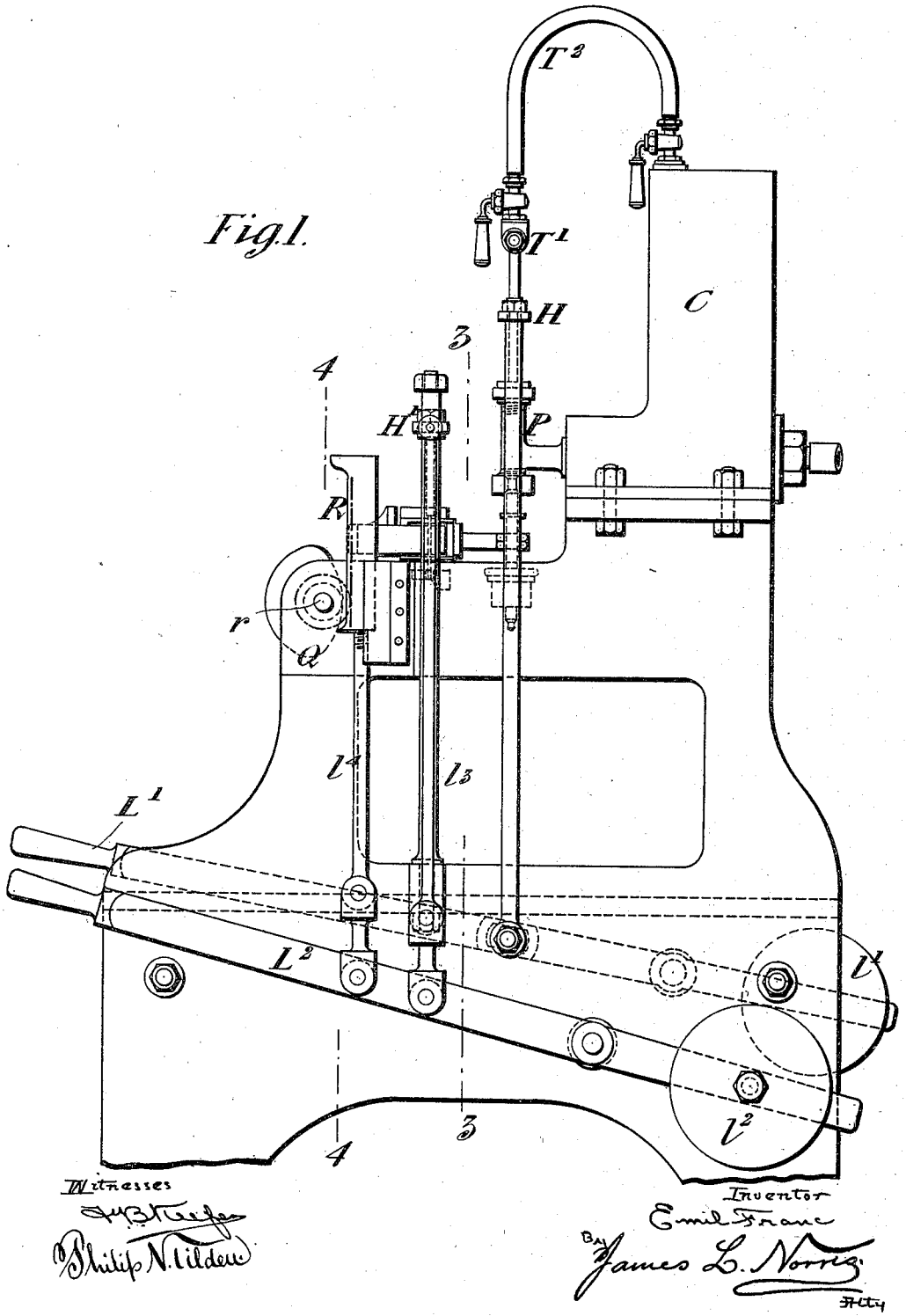
E. FRANC.

APPARATUS FOR BOTTLING AND CORKING.

(Application filed Feb. 12, 1898.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



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Fig. 3.

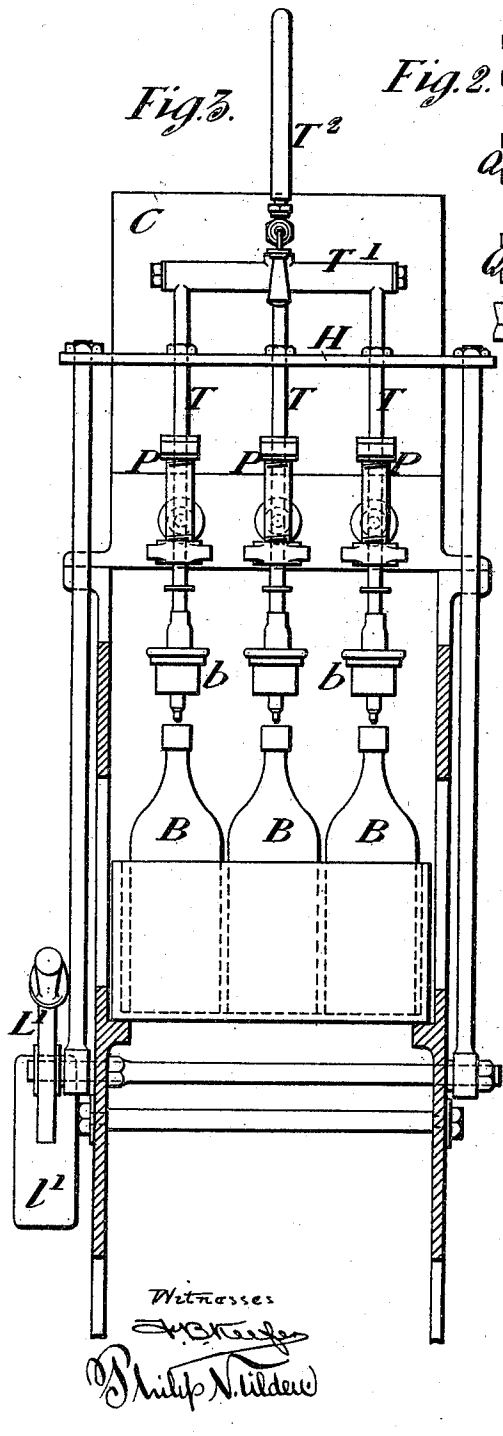


Fig. 2.

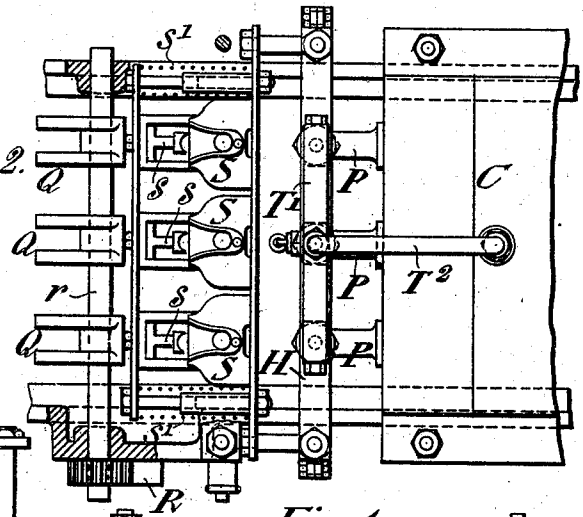
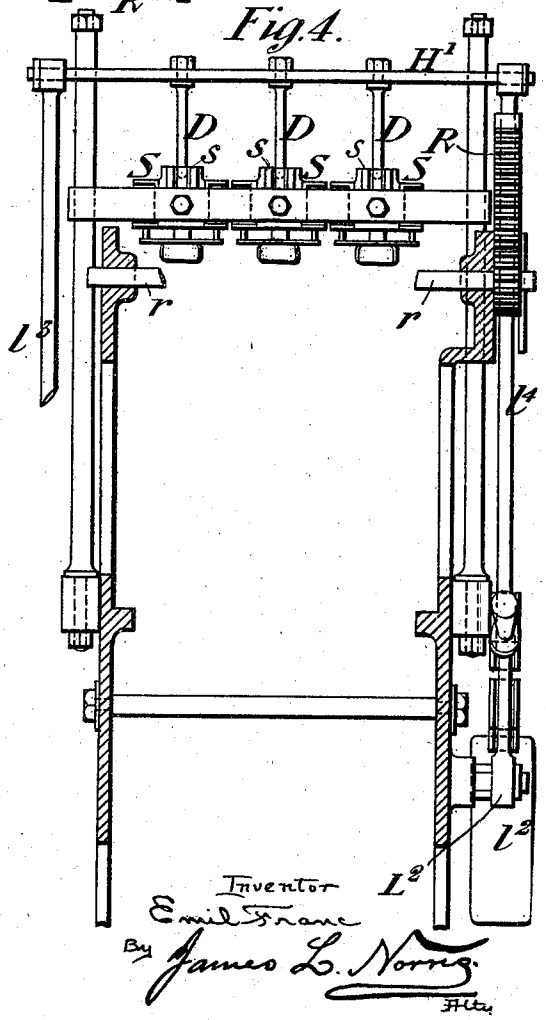


Fig. 4.



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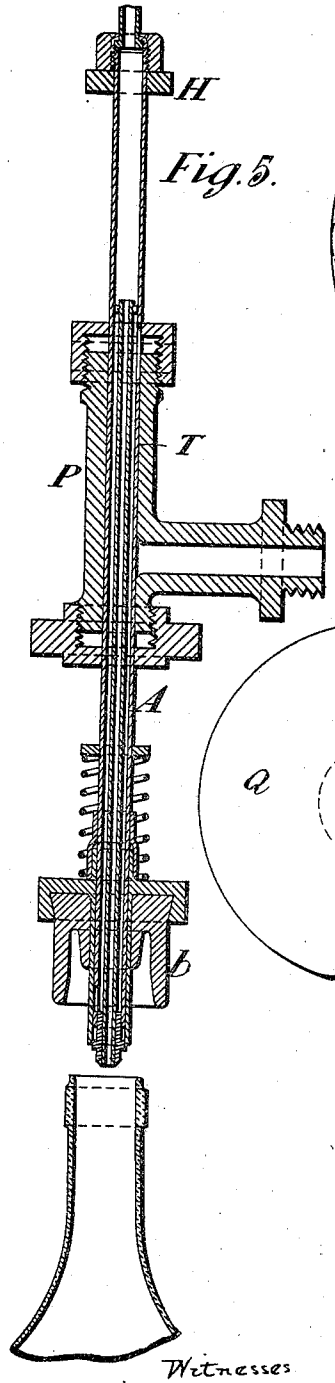


Fig. 5.

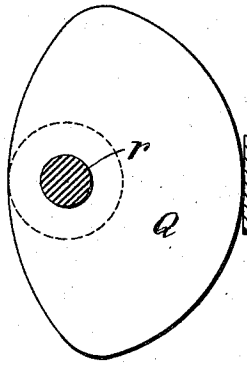


Fig. 7.

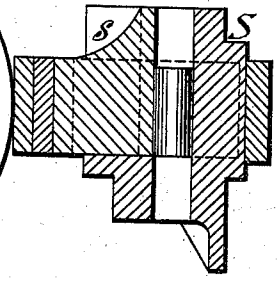
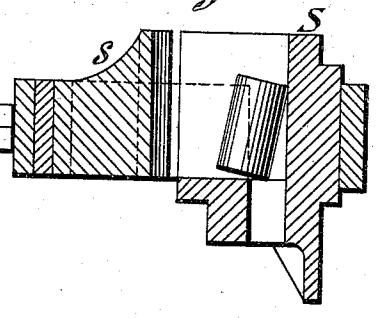


Fig. 8.



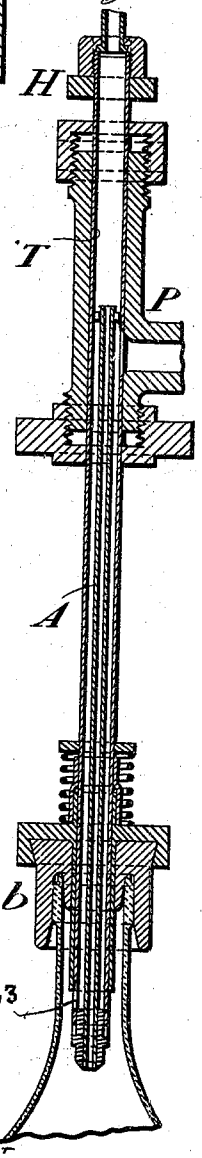


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

EMIL FRANC, OF LONDON, ENGLAND.

APPARATUS FOR BOTTLING AND CORKING.

SPECIFICATION forming part of Letters Patent No. 625,665, dated May 23, 1899.

Application filed February 12, 1898. Serial No. 670,096. (No model.)

To all whom it may concern:

Be it known that I, EMIL FRANC, a subject of the Queen of Great Britain, residing at 107 Charing Cross road, in the city of London, England, have invented certain new and useful Improvements in Apparatus for Bottling and Corking, of which the following is a specification.

The object of the present invention is to provide a new and improved apparatus or machine for charging bottles with beer or other liquid and for corking the charged bottles. This object is accomplished in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 is a plan, partly in section, of apparatus according to my invention. Fig. 3 is a vertical section on the line 3 3 of Fig. 1, showing the filling devices; and Fig. 4 is a vertical section on the line 4 4 of Fig. 1, showing the corking devices. Figs. 5 and 6 are vertical sections, to an enlarged scale, of the filling-pipes in their two positions. Figs. 7 and 8 are vertical sections, to an enlarged scale, of the cork-compressors in their two positions.

I place a number of empty bottles B in a row upon a tray under a corresponding number of branch pipes P, which lead from a cistern C above. Each branch pipe has a vertical tubular portion P^2, having within it a sliding filling-tube T, all these tubes connected to a cross-head H above, which can be lowered by a lever L′ and is raised by a counterweight l' on the lever. Within each sliding tube there is an inner air-tube A, open at the bottom, and at the top it opens into the upper part of the sliding tube T. The tops of all the sliding tubes T are connected to a cross-tube T′, which communicates by a flexible tube T^2 with the top of the cistern C, which is closed. The sliding tubes T are each provided near the lower end with a lateral hole or holes T^3, Figs. 5 and 6, so arranged that when the tube is pulled down by the lever L′, the lower end of the tube being then in the bottle, which is closed by a spring caoutchouc socket *b* brought down by the tube, the lateral hole or holes T^3 establish communication through the tube T between the interior of the bottle and the cistern-pipe T^2. The liquid from the cistern C then flows through the branch pipes P, orifices P′ and tubes T, and hole T^3 into the bottles, while the air from the bottles passes up the central air-tubes A to the upper part of the cistern. When the liquid rises in the bottles and seals the lower ends of the air-tubes A, the passage of the liquid to the bottles ceases. In actual practice when the liquid rises in the bottles and seals the lower ends of the air-tubes the liquid will ascend some distance up within the air-tubes, and then the passage of liquid to the bottles will cease. When the filling-tubes are raised, there will be certain spaces in the necks of the bottles into which the liquid that has risen in the air-tubes will descend. It will be obvious that when the lateral orifices P′ communicate with the branch pipes P, as in Fig. 6, the lateral hole or holes T^3 communicate with the interior of the bottles, so that the liquid can flow from the cistern through the branch pipes P and tubes T into the bottles. It will also be obvious that when the air-tubes T are raised the orifices P′ and holes T^3 are closed. As before stated, the branch pipes P are formed or provided with the vertical tubular portions P^2, within which the vertically-sliding tubes T move. The vertical tubular portions P^2 of the branch pipes P serve to guide the sliding tubes and to close the lateral orifices P′ of the tubes when the latter are raised, and a sleeve-like part T^4, Fig. 6, of the socket *b* serves to close the lateral holes T^3 when the tubes T are raised. When the tubes T are raised, the orifices P′ and holes T^3 will be closed, and the tray, with the bottles B, is then moved under a series of plungers D, which are also worked by a lever L^2, having a counterweight l^2. The plungers D are all attached to a cross-head H′, which is connected to the lever L^2 by two side links l^3. By another link l^4 to the lever is connected a rack R, gearing with a pinion on a cross-spindle *r*, on which there are fixed cams Q, one for each bottle. Corks being placed in sockets S, arranged over the bottles, the lever L^2 is pulled down. This causes the cams Q to revolve, and they advance pressers *s* into the sockets, so as to compress the corks, which are then pushed into the bottles by the descent of the plungers D. The pressers *s* are retracted by springs *s*′. When the plungers

ascend, the charged and corked bottles can be removed, another row of empty bottles being placed on the tray to be charged and corked in like manner.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

1. The combination, in an apparatus for charging bottles, of a cistern, a vertically-sliding tube carrying a socket to fit the bottle-mouth, a flexible pipe connection between the upper part of the cistern and the upper end of the vertically-sliding tube, an air-tube fixed within the vertically-sliding tube for conducting air from the bottle to the upper part of the cistern, and means for placing the vertically-sliding tube in communication with the lower part of the cistern and with the bottle when the tube is depressed, substantially as described.

2. The combination, in an apparatus for charging bottles, of a cistern having branch pipes at its lower portion, filling-tubes extending entirely through and movable vertically in parts of the branch pipes and having lateral orifices which are closed by the walls of parts of said branch pipes when the tubes are raised and communicate with the branch pipes when the tubes are lowered, air-tubes fixed, respectively, in the sliding tubes, and pipe connections between the sliding tubes and the upper part of the cistern for conducting the air from the air-tubes into said cistern, substantially as described.

3. The combination, in an apparatus for charging bottles, of a cistern having branch pipes provided with vertical tubular portions, vertically-sliding tubes moving in the vertical portions of the branch pipes and provided with lateral orifices at their upper and lower ends, the orifices in the upper ends of the tubes being closed by the tubular portions of the branch pipes when the said tubes are raised, air-tubes fixed, respectively, in the sliding tubes, pipe connections between the sliding tubes and the upper part of the cistern for conducting the air from the air-tubes into said cistern, and sockets carried by the said sliding tubes and having sleeves which close the orifices in the lower ends of the sliding tubes when the latter are raised, substantially as described.

4. The combination with a cross-head carrying a vertical cork-driving plunger, a cork-holding socket, and a sliding cork-compressor working in said socket, of a pivoted lever, a cross-shaft having an attached pinion and a cam for operating the cork-compressor, a rack engaging said pinion to turn the latter, its shaft and the cam, a link connecting the rack with the pivoted lever and links connecting the plunger-carrying cross-head with said lever, substantially as described.

5. The combination, in an apparatus for filling and corking bottles, of bottle-filling mechanism, a cross-head carrying a series of cork-driving plungers, a series of cork-holding sockets, a series of cork-compressors working in said sockets, a pivoted lever, a cross-shaft having an attached pinion and a series of cams for operating the cork-compressors, a vertically-movable rack engaging the pinion, a link connecting the rack with the pivoted lever, and connections between the plunger-carrying cross-head and said lever, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EMIL FRANC.

Witnesses:
OLIVER IMRAY,
JNO. P. M. MILLARD.