

(No Model.)

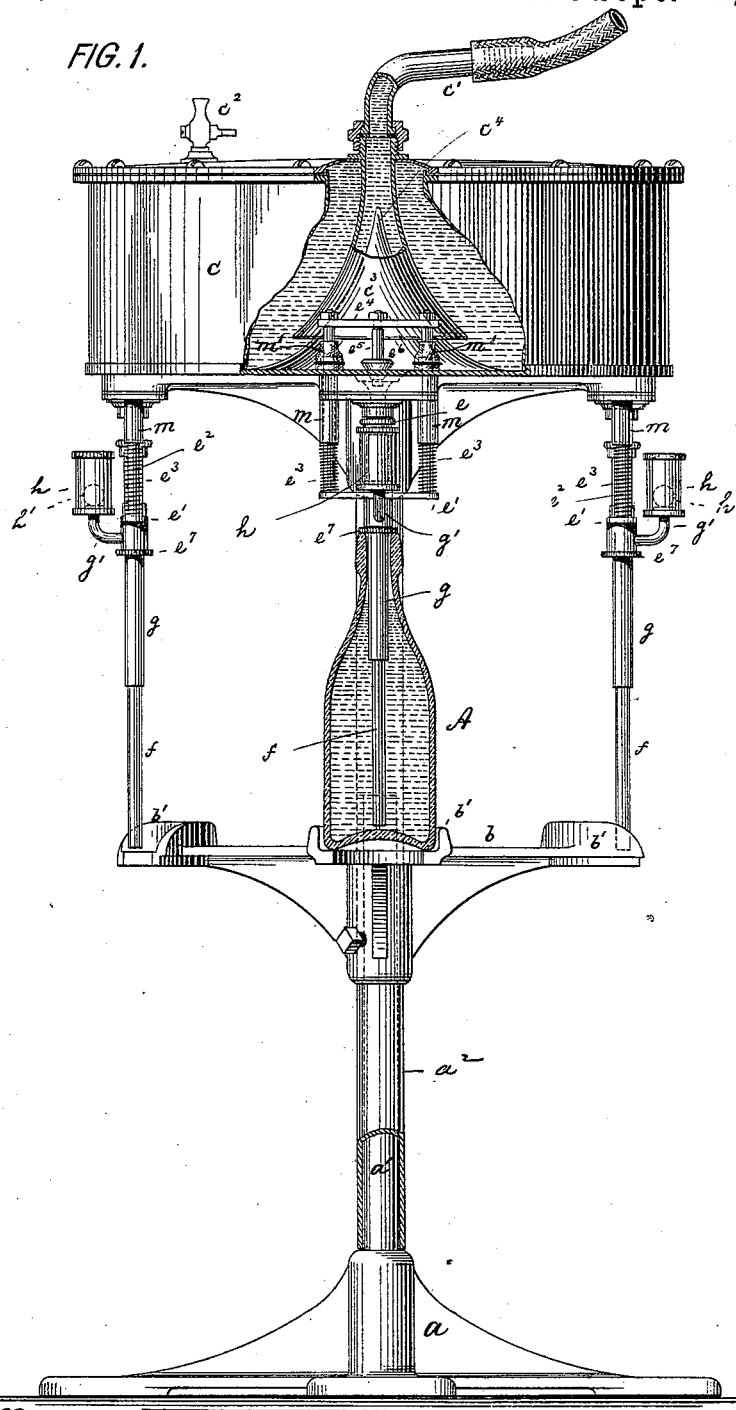
2 Sheets—Sheet 1.

E. STAHL.
BOTTLING MACHINE.

No. 525,869.

Patented Sept. 11, 1894.

FIG. 1.



Witnesses:

John Becker

William Schubert

Inventor:

Emil Stahl

by his attorneys
Roeder & Priesner

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

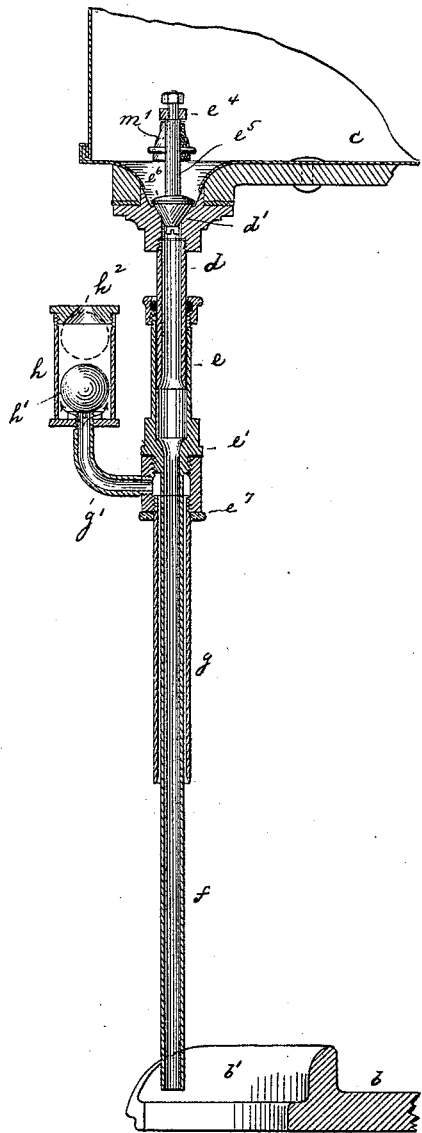
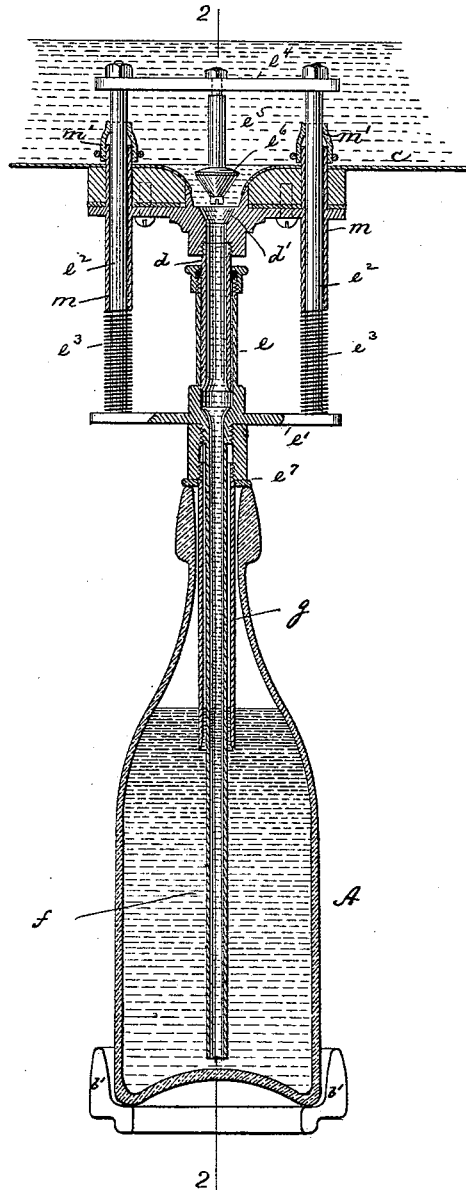


FIG. 3.



Witnesses:

John Becker
William Schulz

Inventor:

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UNITED STATES PATENT OFFICE.

EMIL STAHL, OF NEW YORK, N. Y.

BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 525,869, dated September 11, 1894.

Application filed April 4, 1894. Serial No. 506,256. (No model.)

To all whom it may concern:

Be it known that I, EMIL STAHL, of New York city, New York, have invented an Improved Bottling-Machine, of which the following is a specification.

This invention relates to an improved machine for rapidly bottling beer and other beverages without producing waste or foam.

In the accompanying drawings: Figure 1 is an elevation, partly in section, of my improved bottling machine. Fig. 2 is a longitudinal section on line 2, 2, Fig. 3, and Fig. 3 an enlarged longitudinal section taken through one of the filling tubes.

The letter *a*, represents a foot having a fixed shaft *a'*, which is embraced by a tubular revolving shaft *a''*. To this shaft there is keyed a plate *b*, having at its periphery four, more or less, flanged seats *b'*, of which each is adapted to support a bottle. To the upper end of shaft *a''*, there is secured a tank *c*, which is provided with an inlet pipe *c'*, and a vent *c''*. The inlet pipe has a flaring mouth *c'''*, that incloses a conical horn *c''''*. The beer admitted from the barrel into the tank through the pipe *c'*, will thus not be subjected to a sudden fall and will be properly subdivided so as to prevent splurring or foaming.

Over each seat *b'*, the tank *c*, is perforated and provided with an outlet tube *d*. The tube *d*, is embraced by a vertically movable charging slide *e*, to which the filling tube *f*, is connected. This tube reaches nearly to the bottom of the bottle *A*, to be filled. The slide *e*, is provided with a cross-arm *e'*, to which are connected two rods *e''*, surrounded by springs *e'''*, and reaching into the tank. The rods *e''*, pass through the tubular guides *m*, and a stuffing box *m'*. At their upper ends the rods *e''*, are connected by a cross arm *e''''*, from which depends the stem *e'''''*, of valve *e''''''*, adapted to engage seat *d'*.

The tube *f*, is surrounded by a shorter tube *g*, which extends into the bottle *A*, to a short distance beneath the bottle neck. The tube *g*, connects on top by an arm *g'*, having a slitted upper end, with a valve chamber *h*, containing a ball valve or float *h'*. This float is adapted to be lifted against a vent or valve

seat *h''*, so as to prevent egress of liquid from the valve chamber.

The tank *c*, being properly filled, a bottle *A* is placed upon one of the seats *b'*. The upper edge of the bottle-neck will thus be made to bear against a collar on the lower edge or flange *e''''*, of the sleeve *e*, so as to raise such sleeve, against the action of the springs *e'''*, and to open the valve *e''''''*, (Fig. 3). Beer will now flow freely through tubes *d*, and *f*, into the bottle, while the air is simultaneously discharged from the bottle through tube *g*, arm *g'*, chamber *h*, and opening *h''*. The beer will continue to rise in the bottle until it has fairly covered the mouth of tube *g*, Fig. 3, when the further discharge of air is prevented. Thus the beer, if under pressure, will compress the air within the bottle neck, and when this pressure has been equalized, the flow of beer will stop. During this last stage of the filling operation, the beer will rise in tube *g*, but will be prevented from becoming discharged at the upper end of the tube by the float *h'*, which will be lifted by the beer against its seat *h''*. After the bottle has been filled, it is slipped off its seat *b'*, and lowered to clear the tube *f*, during which time the few drops of beer within tube *g*, will flow into the bottle. At the same time, the springs *e'''*, will draw the valve *e''''''*, upon its seat to automatically close the mouth of tube *d*, until the next bottle is put into position. While the bottler in this way removes a full bottle from one of the seats *b'*, and replaces it by an empty one, the bottles on all the other seats will become charged automatically in the manner described. Thus the bottler's entire work consists in revolving the frame *b*, and exchanging the bottles, while the bottles will always become filled to exactly the proper height, whether the bottler works fast or slow. The principal advantages connected with my improved machine are that it works rapidly and without producing waste or foam.

What I claim is—

1. A bottling machine composed of a tank, a charging tube *d*, leading therefrom, a charging slide having a valve adapted to close said tube, a filling tube *f*, connected to said charg-

ing tube, and an air tube adjacent to said tube *f*, substantially as specified.

2. A bottling machine composed of a tank, a charging tube *d*, leading therefrom, a charging slide having a valve adapted to close said tube, a filling tube *f*, connected to the charging tube, an air tube *g*, adjacent to the filling tube, a valve chamber connected to the air tube and an inclosed float, substantially as specified.

3. The combination of shaft *a*², with plate *b*, having seats *b'*, a tank *c*, having inlet pipe *c'*, and vent *c*², a charging tube *d*, leading from the tank, a charging slide *e*, valve *e*⁶, filling

tube *f*, connected to the charging tube, and an air tube *g*, adjacent to the filling tube, substantially as specified.

4. The combination of shaft *a*², with plate *b*, having seats *b'*, a tank *c*, having flaring inlet tube *c'*, and conical horn *c*⁴, a charging tube *d*, leading from the tank, a charging slide *e*, a filling tube *f*, connected to the charging tube, and an air tube *g*, adjacent to the filling tube, substantially as specified.

EMIL STAHL.

Witnesses:

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