

(No Model.)

H. C. WALTER.
BOTTLING MACHINE.

No. 330,178.

Patented Nov. 10, 1885.

Fig 1

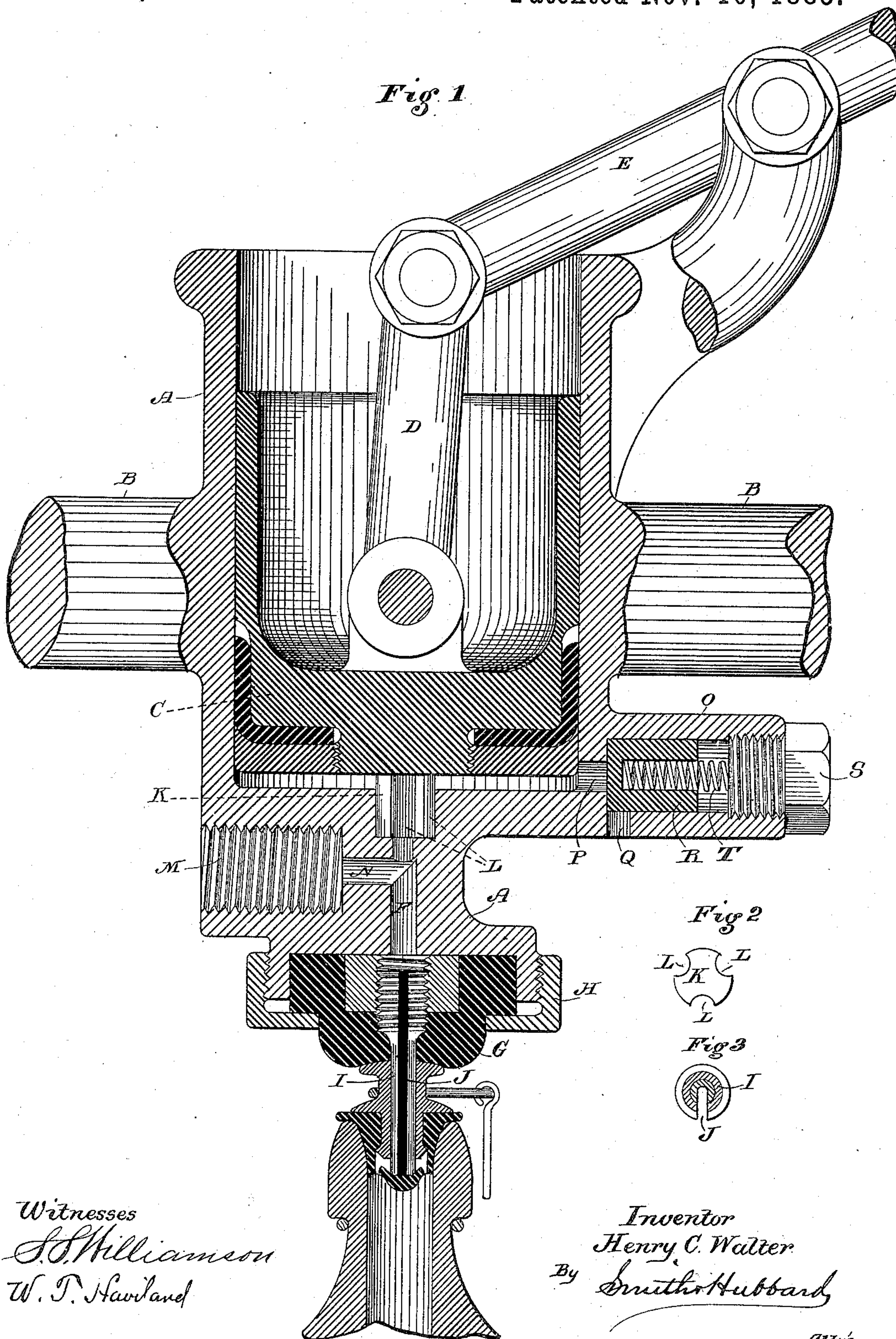


Fig 2

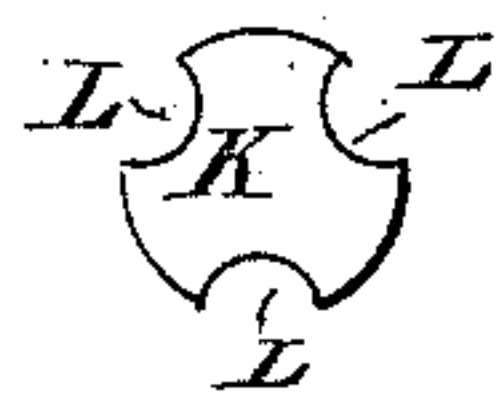
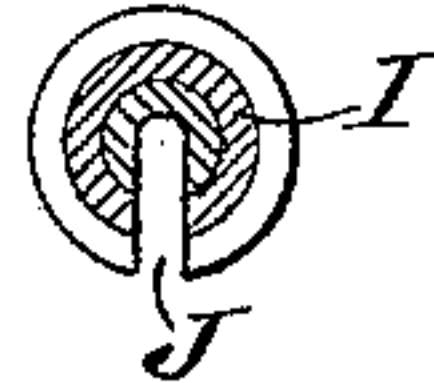


Fig 3



Witnesses
S. Williamson
W. T. Hawland

Inventor
Henry C. Walter
By *Smith & Hubbard*

Atty's.

UNITED STATES PATENT OFFICE.

HENRY C. WALTER, OF BRIDGEPORT, CONNECTICUT.

BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 330,178, dated November 10, 1885.

Application filed December 8, 1884. Serial No. 149,747. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. WALTER, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Bottling-Machines; 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.

My invention relates to certain novel and useful improvements in machines for bottling liquids under pressure and has for its object to greatly facilitate the operation of filling bottles and to save the liquid which is continually wasted in the present process; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter fully and in detail explained, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may more fully understand how to make and use my improvement, I will proceed to describe the same in detail, referring by letter to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central vertical section; Fig. 2, a cross-section of the gravity-valve, and Fig. 3 a cross-section of the stem.

Similar letters denote like parts in the several figures of the drawings.

In bottling-machines as at present constructed the liquid is forced into the bottle, by any desired means; but the great difficulty arises from the fact that the air in the bottle, being compressed by the entrance of the liquid, some vent for the air or some independent means for allowing the same to escape must be used; but a great amount of the liquid is thereby carried out with the air and consequently wasted, and also much time is lost in filling a bottle.

My improvement is designed to obviate these difficulties.

A is a head having arms B, by which it may be attached to any suitable upright or standard. This head is hollow, and within the same is arranged an ordinary air-pump pis-

ton, C. This piston closely fits the head, so as to exclude the air, and is operated by means of any suitable toggle-jointed levers, D E.

F is a channel extending vertically through the lower portion of the head A, and threaded at the bottom part.

G is a packing-ring, of rubber or any suitable material, secured to the bottom of the head by a nut, H.

I is a stem threaded at the upper portion. This stem has a slot extending throughout its entire length, as shown at J, (see Figs. 1 and 3,) and is screwed within the threaded portion of the channel F. In constructing my improvement the stem is first fixed in position, and the ring G then forced over and around said stem, and secured as hereinbefore set forth. It will thus be seen that the ring affords a perfect packing around the stem.

K is a gravity-valve, provided with vents L, (see Figs. 1 and 2,) and seated within a recess in the head directly over the channel F.

M is a threaded opening in the side of the head, communicating directly with the channel F by means of the duct N. Within this opening may be secured any suitable pipe, through which the liquid to be bottled may be introduced.

O is a valve-box made integral with the head and threaded interiorly at its outer end.

P is a vent leading from the piston-chamber within the box, and Q a vent leading from the box to the outside air.

R is a valve, which fits closely within the box O.

S is a nut, which is run within the valve-box, and T a coil-spring placed between said valve and nut, and which serves to keep the valve seated in its normal position against the head, so as to completely close the vents P Q, as seen at Fig. 1. By manipulating the nut S the tension of the spring T may be regulated, thereby causing the valve R to offer a greater or less resistance, as the case may be.

The operation of my improvement is as follows: The bottle is provided with a rubber valve-stopper. The stem I is introduced within the usual opening in the stopper, so as to force the said valve down, as shown in Fig. 1. The piston is now raised and a vacuum created within the piston-chamber. The

pressure of the air within the bottle raises the valve K, and the latter remains in this position until the pressure of the air in the said chamber, combined with the weight of the valve, is sufficient to overcome the pressure of the air in the bottle, when the valve seats itself. The piston is now brought down against the valve, as shown in the drawings. The liquid is forced through the opening M, under pressure by means of any ordinary pump. When the bottle is filled, it is simply withdrawn, and the stopper-valve closes automatically. The piston is now raised, after another bottle is placed in position for filling, and the operation continued, as above set forth.

At every downward stroke of the piston the residue air and any liquid which may be in the piston-chamber are forced against the valve R, thereby opening the same, and flowing out through the vents P Q.

I do not wish to be confined to any particular style of valves or to their exact location as shown, as this is immaterial.

My improvement may be utilized in filling bottles which are stopped by the ordinary cork, in which case the chamber and piston would be arranged in a position at right angles to that shown, in order to allow the usual cork-pushing mechanism to operate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for filling bottles under pressure, the head A, containing an air-pump for exhausting the air from the bottle before filling the same, in combination with the slotted stem I, adapted to open and retain open the valve of said bottle while the air is being exhausted therefrom, as specified.

2. In a machine for bottling liquids under pressure, the head A, supported by the arms B, and containing an air-pump for exhausting the air from the bottle to be filled, in combination with the stem I, having the slot J, through which the air is exhausted and the bottle filled, the duct N, channel, and packing-ring G, substantially as described.

3. In a machine for bottling liquids under pressure, the air-pump, in combination with the valve K, duct N, channel F, slotted stem J, the upper end of which is threaded, the packing-ring G, and nut H, substantially as and for the purpose set forth.

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

HENRY C. WALTER.

Witnesses:

S. S. WILLIAMSON,
W. T. HAVILAND.