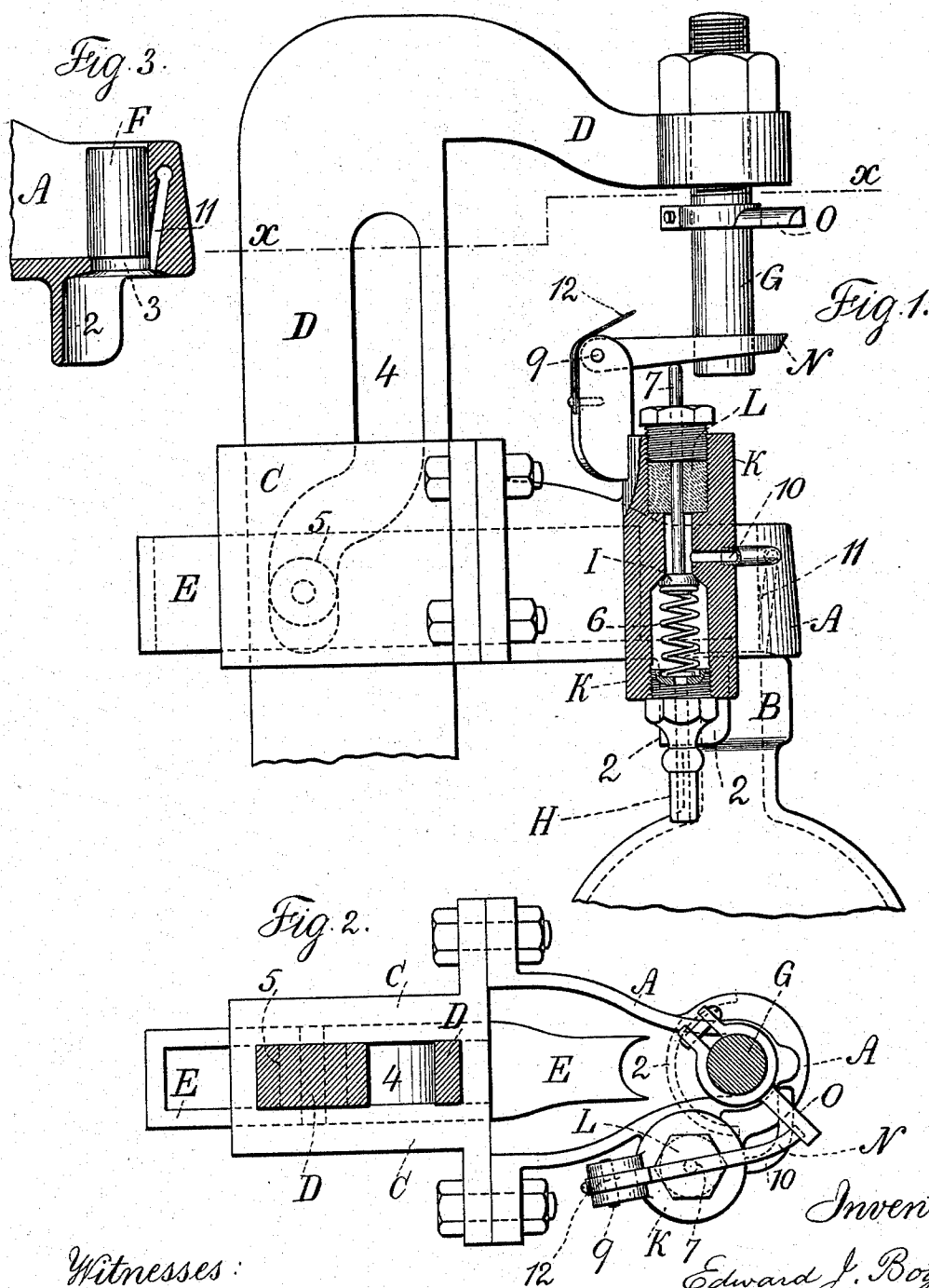


(No Model.)

E. J. BOYD.
BOTTLE CORKING APPARATUS.

No. 527,477.

Patented Oct. 16, 1894.



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UNITED STATES PATENT OFFICE.

EDWARD J. BOYD, OF NEW YORK, N. Y.

BOTTLE-CORKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 527,477, dated October 16, 1894.

Application filed July 9, 1894. Serial No. 516,907. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. BOYD, a citizen of the United States, residing in the city and State of New York, have invented an Improvement in Bottle-Corking Apparatus, of which the following is a specification.

Devices have heretofore been constructed in which a cork is received into a socket and pressed laterally so as to reduce its diameter, and a plunger has been brought down to act upon the upper end of the cork to drive it into the bottle, and in other instances machines have been made in which soda water or other liquid under pressure has been passed into a bottle, and the cork has been inserted without the pressure upon the liquid being materially reduced.

The present invention applies especially to liquids that are not effervescing, and in which it is desirable to apply carbonic acid gas at the neck of the bottle to displace the atmosphere previous to the insertion of the cork, in order that the contents of the bottle may not be in any manner injured by the presence of oxygen.

In my improved apparatus I employ a bottle cork-receiving socket and a compressing device somewhat similar to devices of the general character that have heretofore been used, and I combine with the same a pipe for the introduction of carbonic acid gas under pressure, and a valve that is operated automatically to admit the gas to flow into the neck of the bottle and displace the atmospheric air immediately before the cork is driven into the bottle, thus insuring the complete displacement of the atmosphere in the bottle above the liquid, and the apparatus is easily regulated so as to admit more or less gas and little or no additional attention is required by the workmen in performing the corking operation.

In the drawings, Figure 1 is an elevation partially in section representing the present improvement. Fig. 2 is a sectional plan view at line X X, Fig. 1, and Fig. 3 is a section vertically through the socket that receives the cork at the opening for said cork.

The socket A is made with a flange, 2, against which the side of the bottle neck, B, is placed, so that the mouth of the bottle comes immediately below the circular open-

ing 3, through the bottom of the socket, A, and this socket A is supported by a suitable head, C, of the ordinary bottle corking machine, and through this head, C, passes the vertical bar, D, that receives a vertical movement from a treadle or lever as common in bottle stopping machines; and in this bar D, is a slot, 4, that acts upon a roller, 5, in the presser E, such presser being slotted for the passage of the vertical bar, D, and the presser has a half cylindrical end for acting upon the cork, F, and compressing the same between the half cylindrical end of the socket, A, and its own end, so that the cork is ready to be driven down through the hole, 3, into the neck of the bottle, B, by the action of the plunger, G, that is upon an arm extending outwardly from the vertical bar, D. These parts being known in bottle stopping machinery do not require further detailed description.

My improvement relates to the combination with the foregoing devices of a supply pipe, H, preferably flexible, through which carbonic acid gas passes from a suitable reservoir or holder, and this pipe, H, is connected with the lower end of a valve case, K, in which is a valve, I, opening downwardly against the action of the spring, 6, and the stem, 7, of the valve, I, passes up through a suitable packing, L, to the lever, N, pivoted at 9 and extending out toward the plunger G, upon which plunger, G, is an adjustable finger O, that acts upon the end of a lever, N, as the plunger is moved downwardly, and said finger O opens the valve I to admit the carbonic acid gas to pass by the lateral opening or tube, 10, and the branch 11, that goes down through the socket A, to the opening 3, so that as the valve, I, is opened, a jet of carbonic acid gas is directed downwardly through the tube 11, into the neck of the bottle, and displaces the atmospheric air in the bottle in consequence of the superior weight of the carbonic acid gas.

It is to be understood that in using this apparatus the bottle is placed with the neck B, against the flange, 2, and with the mouth of the bottle immediately below the opening, 3, in the socket, A; and the cork F, is placed within the socket adjacent to said opening, 3, and as the vertical bar, D, is brought down by the action of the treadle, the presser, E,

acts against the cork to reduce its diameter, and then the finger O, acts upon the lever, N, to admit carbonic acid gas, by the valve, I, to flow through the tube, 10, and opening, 11, 5 into the neck of the bottle and displace the atmospheric air, which rises and passes by the cork which is loose in the holder and by the time this has been accomplished, the lower end of the plunger, G, is adjacent to the upper end of the cork, F, and said cork, F, is 10 then bodily carried down into the neck of the bottle and the operations are complete, and upon liberating the treadle, the bar D, is carried up vertically, by a spring or other suitable means, and the parts are returned to their 15 normal condition.

The finger, O, is clamped upon the plunger, G, in the proper position, so that as it is carried down by the plunger and acts upon the 20 lever N, it opens the valve, and then the finger O, passes by the end of the lever, N, and the valve, I, is closed by the spring, 6, shutting off the supply of carbonic acid gas, and as the plunger, G, is raised along with the vertical bar, D, the finger, O, simply lifts the 25 lever, N, as it passes by, and the lever, N, drops back again by gravity or by the action of the spring, 12, into its normal position, ready to be acted upon again by the downward movement of the bar, D, and plunger, G. 30

I claim as my invention—

1. The combination with the cork receiving socket, having a flange for the bottle neck and an opening in line with the mouth of the bottle and a cork presser, of the vertically 35 sliding bar, a plunger carried by said bar, a spring valve and lever, and a pipe for supplying gas under pressure, and an opening leading from valve to the socket above the mouth of the bottle for supplying the gas automatically into the neck of the bottle to dis- 40 place the atmosphere, which rises and passes by the cork which is loose in the holder substantially as set forth.

2. In a bottling apparatus the combination 45 with the device for pressing and inserting the cork, of a spring valve, a lever, a finger for actuating the said valve, a supply pipe for a gas under pressure, there being an opening leading from the valve to the mouth of the 50 bottle, so that a gas under pressure is allowed to pass into the bottle above the liquid contents thereof and displace the air which rises and passes by the cork which is loose in the holder immediately before the cork is driven 55 into the bottle, substantially as set forth.

Signed by me this 6th day of July, 1894.

EDWARD J. BOYD.

Witnesses:

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