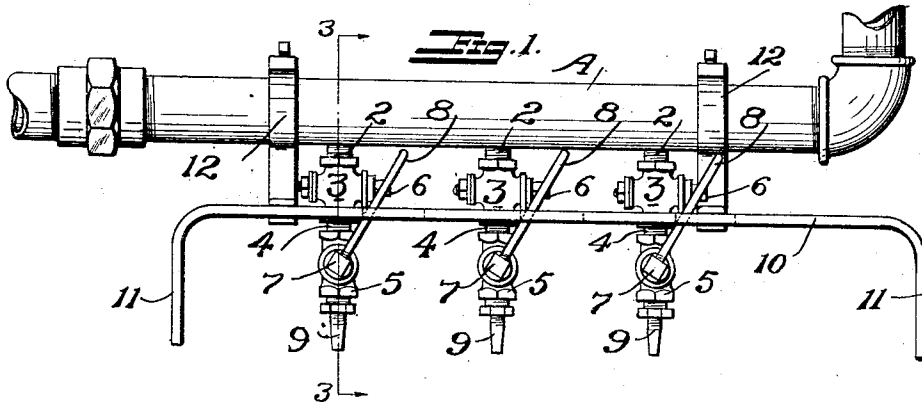
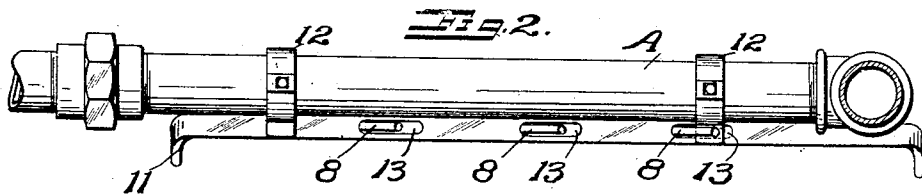
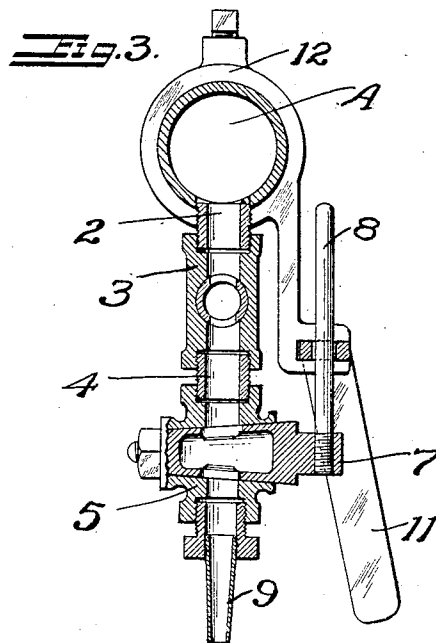


G. HUNT,
FILLING MACHINE.
APPLICATION FILED AUG. 13, 1919.

1,364,555.

Patented Jan. 4, 1921.



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UNITED STATES PATENT OFFICE.

GEORGE HUNT, OF SAN FRANCISCO, CALIFORNIA.

FILLING-MACHINE.

1,364,555.

Specification of Letters Patent.

Patented Jan. 4, 1921.

Application filed August 13, 1919. Serial No. 317,180.

To all whom it may concern:

Be it known that I, GEORGE HUNT, a subject of the King of England, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Filling-Machines, of which the following is a specification.

This invention relates to a filling machine and particularly to a valve mechanism whereby the flow of a liquid from a source of supply to a container to be filled may be regulated.

One of the objects of the present invention is to provide a simple, substantial and compact filling machine whereby a plurality of containers such as bottles, cans and the like may be filled in unison.

Another object of the invention is to provide a novel form of valve mechanism, whereby the flow of a liquid from a source of supply to a container may be varied and regulated.

Another object of the invention is to provide a series of valves of the character described to permit filling of a number of containers in unison and in conjunction therewith a mechanism whereby all the valves may be opened or closed in unison and which will permit opening or closing of any valve independently of the others.

Further objects will hereinafter appear.

The invention consists of the parts and the construction, combination and arrangement of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a filling machine.

Fig. 2 is a plan view of the same.

Fig. 3 is an enlarged vertical cross section on line 3—3, Fig. 1.

Referring to the drawings in detail, A indicates a pipe or manifold, the ends of which may be connected with a tank or other suitable source of supply. Connected with the manifold A by means of nipples 2 are a series of plug valves 3, and connected with each of said valves by means of nipples 4 are a series of valves 5, one for each valve indicated at 3. The valves 3 and 5 are arranged in pairs and in vertical alinement with relation to each other. Each pair of valves is adapted to cooperate to regulate the flow of a liquid to a container and they are also adapted to positively open or close the flow, as will hereinafter be described.

The valves in each pair, as arranged in Fig. 1, are of the tapered plug type, the plugs in the valves 3 being provided with square headed projections 6 to permit each valve to be turned to assume a certain position. The plugs in the valves 5 are also provided with square headed projections, as shown at 7 but they differ from the upper valves to the extent that each is provided with a lever projection 8.

Assuming that the machine is to be employed for the purpose of filling bottles with oil, it will only be necessary to provide a platform upon which the bottles may be placed in alinement with the respective valves 5. If desired, a filling spout such as shown at 9, may be placed in each valve which may be inserted in the necks of the bottles. The valves 3 are so adjusted that they are always open and they are furthermore adjusted so that a uniform flow through each valve will be secured. The valves 5 provided with the lever extensions 8 are adapted to be opened and closed in unison, this being accomplished in the present instance by means of a sliding bar 10 on opposite ends of which are formed handle projections 11. The bar 10 is slidably mounted in a pair of brackets 12 secured to the manifold A and slots are formed in the sliding bar, as shown at 13, to permit the valve levers 8 to project there-through.

By pulling the sliding bar 10 over in one direction until a position is obtained, as shown in Fig. 1, we may assume that all the valves 5 are closed. If the sliding bar is moved to the extreme opposite position, it can readily be seen that the valve levers 8 will be engaged and moved to positions opposite to that shown in Fig. 1 or to a position where all the valves 5 will be opened in unison. Again, by moving the sliding bar from the position shown in Fig. 1 to a position where the opposite ends of the slots 13 will just barely engage the valve levers without moving the same, it can be seen that any individual valve may be partially open without opening the remaining valves. This is an important feature of the present invention, as will be described. For instance, if a number of bottles be placed, one below each filling spout 9, and all the valves 5 are opened in unison by means of the sliding bar 10, liquid will flow from the manifold and through the respective valves into

the bottles. Now, it may happen, due to poor adjustment of the valves 3, that some bottles will fill up before others. It will therefore be necessary to retract the sliding bar to shut off the flow. All valves will therefore close in unison before some of the bottles will be completely filled. It is therefore only necessary to move the sliding bar until the opposite ends of the slots 13 just engage the levers 8. Any one of the levers may then be moved a sufficient distance to partially open the respective valve and it is therefore possible to completely fill any bottle which may require an additional quantity.

From the foregoing description it can readily be seen that I have provided a series of valves for opening or shutting off the flow of a liquid. Secondly, that I have provided means whereby the valves may be opened or closed in unison; third, said means being so constructed that any individual valve may be opened independently of the others or the mechanism whereby they are opened or closed in unison. Fourth, I have provided a regulating valve in conjunction with each shut-off valve, whereby the flow of liquid through the shut-off valves may be regulated, thereby insuring an even flow or discharge through each valve. The independent opening or closing of any shut-off valve would therefore only be required if some foreign matter should enter a valve and partially obstruct the flow.

While a more or less specific arrangement of valves and operating mechanism is here shown, I wish it understood that various changes in design and arrangement may be resorted to within the scope of the appended claims; similarly, that the materials and finish of the several parts employed may be such as the experience and judgment of the manufacturer may dictate or varying conditions may demand.

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

1. A filling machine of the character described including a supply manifold, a plurality of filling valves connected with the manifold, levers by which said valves may be opened and closed, regulating valves interposed between the manifold and the filling valves, and a transversely movable bar having slots through which the filling valve levers extend, said slots being of such length that a full reciprocation of the bar in either direction will fully open or close the valves, said bar being capable of intermediate positioning to allow the levers to be independently adjusted to vary the opening of the valves.

2. A filling machine comprising a mani-

fold connected with a source of liquid supply, a plurality of filling valves connected with the manifold, each carrying a rotatable valve member, means for rotating said valve members for simultaneously opening and closing, said means also permitting independent rotation of each valve member for independent opening or closing.

3. A filling machine comprising a manifold connected with a source of liquid supply, a plurality of filling valves connected with the manifold, means for opening and closing the valves in unison, said means also permitting independent opening or closing of any valve, and a regulating valve interposed between each filling valve and the manifold, said regulating valves being independently adjustable to regulate the flow through each filling valve.

4. A filling machine comprising a manifold connected with a source of liquid supply, a plurality of filling valves connected with the manifold, a valve lever on each filling valve, a sliding bar having a plurality of slots formed therein mounted adjacent the filling valves, said slots being formed for the reception of the valve levers and to permit the valve levers to project therethrough, and means for imparting a reciprocal movement to the sliding bar to open and close the filling valves in unison, the slots in said sliding bar being of sufficient length to permit opening and closing of any individual filling valve independent of the remaining valves.

5. A filling machine comprising a manifold connected with a source of liquid supply, a plurality of filling valves connected with the manifold, a valve lever on each filling valve, a sliding bar having a plurality of slots formed therein mounted adjacent the filling valves, said slots being formed for the reception of the valve levers and to permit the valve levers to project therethrough, means for imparting a reciprocal movement to the sliding bar to open and close the filling valves in unison, the slots in said sliding bar being of sufficient length to permit opening and closing of any individual filling valve independent of the remaining valves, and a regulating valve interposed between each filling valve and the manifold, said regulating valves being independently adjustable to regulate the flow of liquid through each filling valve.

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

GEORGE HUNT.

Witnesses:

W. W. HEALEY,
M. E. EWING.