No. 609,290. Patented Aug. 16, 1898.

T. NORTON.

BOTTLE FILLING MACHINE.

(Application filed Mar. 14, 1898.)

(No Model.)

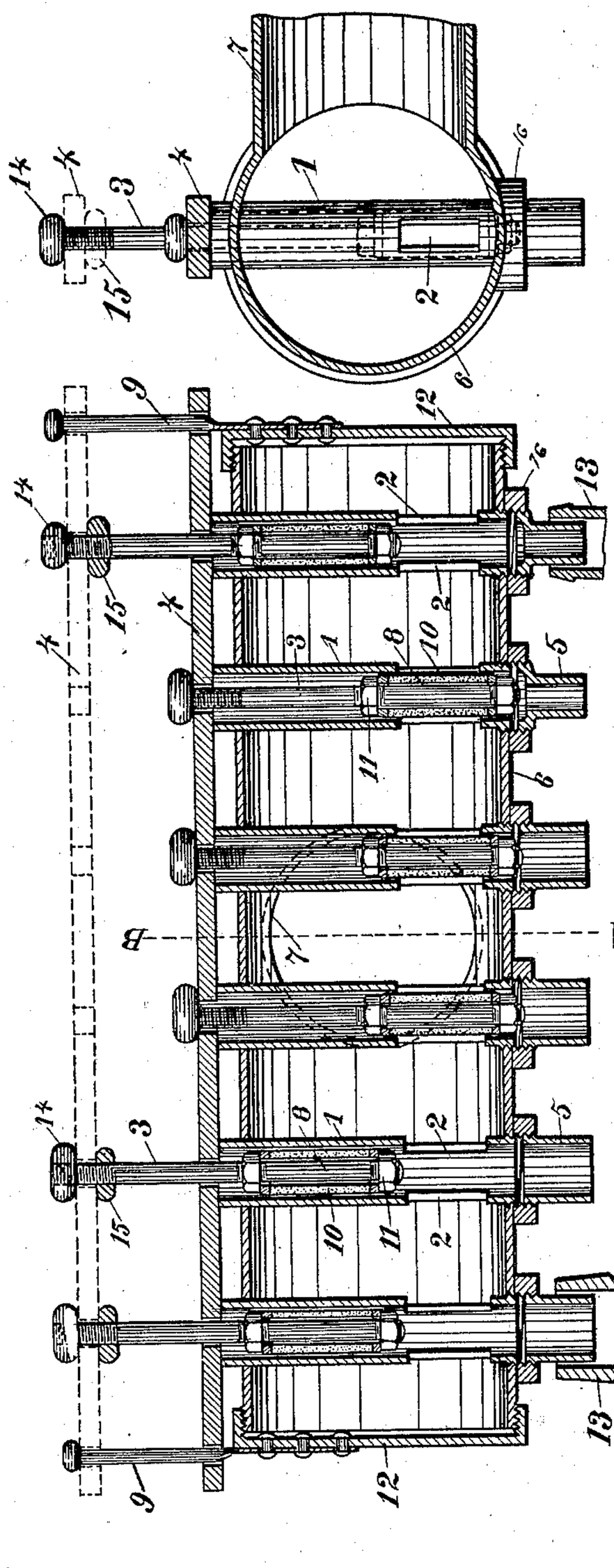

Fig. 2.

Fig. 1.

WITNESS

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THOMAS NORTON, OF NEW YORK, N. Y.

BOTTLE-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 609,290, dated August 16, 1898.

Application filed March 14, 1898. Serial No. 673,832. (No model.)

To all whom it may concern:

Be it known that I, THOMAS NORTON, of the city, county, and State of New York, have invented a new and Improved Bottle-Filling Machine, of which the following is a specification.

The object of my invention is to provide a machine simple in construction and operation for filling bottles with liquid.

The following description of my invention explains its parts, details, and combinations of the same, its manner of construction, use, and operation, reference being had to the accompanying drawings, which form a part of the specification.

Figure 1 is a longitudinal section of the machine. Fig. 2 is a transverse section of the machine, taken through the center on the line A B of Fig. 1.

In the accompanying drawings the numeral 6 designates a distributing-reservoir closed at each end by the cap designated by the numeral 12.

The numeral 7 designates an inlet which connects the distributing-reservoir 6 with a supply-reservoir containing the liquid. The distributing-reservoir 6 is preferably made of block-tin, but may be made of any other suitable material.

The numeral 1 designates a series of vertical tubes within the distributing-reservoir 6, made of the same material, with lateral openings designated by the numeral 2.

The numeral 8 designates a piston in each tube 1, movable vertically, provided with a piston-rod designated by the numeral 3, and with a packing designated by the numeral 10, of leather or any other suitable material, which packing 10 is kept in position by the nuts designated by the numeral 11.

The numerals 14 and 15 designate, respectively, upper and lower nuts, which screw onto the piston-rod 3 and are separated from each other at a distance equal to the thickness of the elevating-bar hereinafter described. The machine may be used with or without the lower nuts 15, as hereinafter explained.

The numeral 4 designates a horizontal elevating-bar provided with a series of holes through which the piston-rods 3 pass and to which elevating-bar 4 the piston-rods 3 are secured by the nuts 14 and 15. This elevating-bar 4 moves vertically upon the perpendicular posts designated by the numeral 9, which posts 9 are fixed to the caps 12.

The numeral 16 designates a series of stationary nuts with an internal thread fixed to the outside of the distributing-reservoir 6 directly underneath and in a line with the tubes 1.

The numeral 5 designates nozzles provided with an external thread of the same pitch as that of the nut 16. These nozzles 5 screw into the stationary nut 16 and meet the tubes 1, thereby forming continuous tubes. These nozzles 5 may be changed to larger or smaller ones as the size of the neck of the bottle may require, as shown in Fig. 1.

The operation is as follows: Bottles are placed in rows upon trays. The machine is connected with a supply-reservoir by a hose attached at one end to the inlet 7 and at the other end to the faucet of the supply-reservoir. The nozzles 5 are inserted into the necks of the bottles. The faucet in the supply-reservoir is opened. The pistons 8 are lifted simultaneously by raising the elevating-bar 4. The liquid flows through the inlet 7 into the distributing-reservoir 6, and from the distributing-reservoir 6 through the lateral openings 2 into the vertical pipes 1, and from thence through the nozzles 5 into the bottles. After the bottles are filled, by depressing the pistons 8 the lateral openings 2 are closed, thereby cutting off the flow of the liquid from the distributing-reservoir 6 into the bottle. This may be done by one of two ways. (*a*) When the machine is used with the lower nuts 15, the elevating-bar 4, after it has lifted the pistons 8, rests upon the lower nuts 15 and remains elevated with the pistons 8. By lowering the elevating-bar 4 all the pistons 8 are depressed simultaneously. (*b*) When the machine is used without the lower nuts 15, the elevating-bar 4, after it has lifted the pistons 8, falls back to its original position, leaving the pistons 8 elevated, thereby permitting the pistons 8 to be depressed separately. After each row of

bottles is filled the machine is lifted and placed, as above described, upon the next row of bottles.

Having thus described my invention and its operation, I claim—

In a bottle-filling machine, the combination with a distributing-reservoir and inlet; the vertical tubes with lateral openings; the pistons movable vertically in the said tubes to open and close the lateral openings; the movable elevating-bar and posts constructed to elevate the pistons simultaneously, and; either to depress them simultaneously or to permit them to be depressed separately; and the severable nozzles; substantially as shown and described.

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