F. T. RYBERG.

Bottling-Machine.

No. 160,720. Patented March 9, 1875.

Fig. 1.

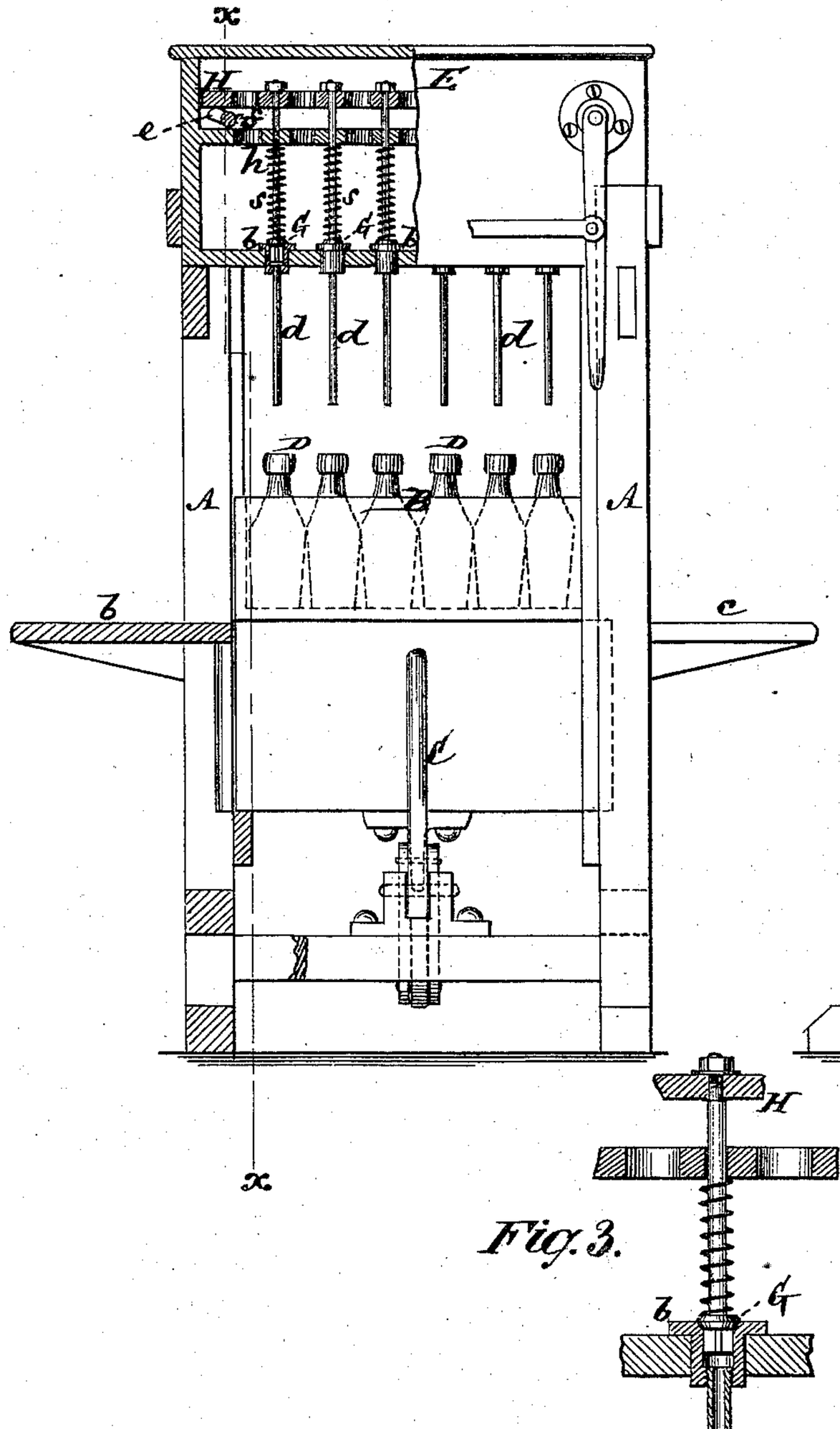


Fig. 2.

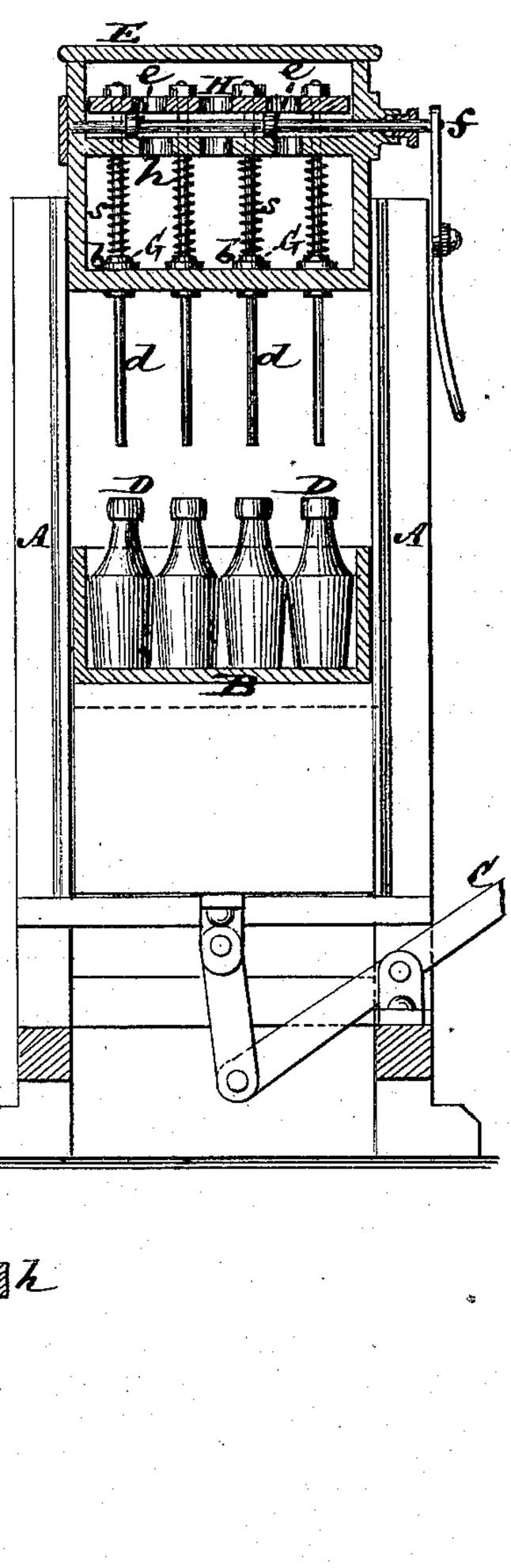
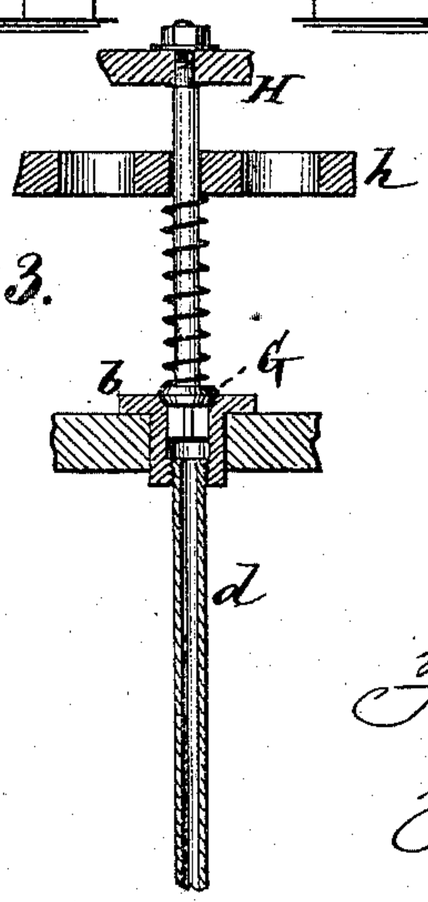


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDRICK T. RYBERG, OF NEW YORK, N. Y.

IMPROVEMENT IN BOTTLING-MACHINES.

Specification forming part of Letters Patent No. **160,720**, dated March 9, 1875; application filed February 4, 1875.

To all whom it may concern:

Be it known that I, FREDRICK T. RYBERG, of the city, county, and State of New York, have invented certain new and useful Improvements in Bottling-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a partly broken front elevation of a bottling-machine constructed in accordance with my invention; Fig. 2, a sectional side view thereof on the line *x x;* and Fig. 3, a view, upon a larger scale, of one of the valves, its seat, and the filling-tube connected therewith.

This invention relates to machines for bottling various beverages and liquids, including lager-beer, weiss-beer, medicines, and has for its object the production of a simple and efficient machine or apparatus for simultaneously and equally filling a number of bottles from their bottoms, whereby all the bottles under operation at a time may be wholly and rapidly filled without waste; also, air is excluded from the bottles, and frothing avoided.

To these ends the invention consists in a combination of a rising and falling bottle-rack with a filling-reservoir above, having a number of simultaneously-operating valves within it, and seats for said valves in its bottom; also, downwardly-projecting filling-tubes below it. The invention also consists in certain combinations with the rising and falling bottle-rack, and the filling-reservoir and its valves and tubes, of means for adjusting and operating the valves, and for raising the bottle-rack to enter the filling-tubes down within the bottles.

A is the frame of the machine, which may be fitted with tables or shelves, *b c*, on its opposite sides, to facilitate manipulation of the bottles in passing them to or from the machine. B is the rising and falling bottle rack or receiver, arranged to move up and down between the posts of the frame, and which may be raised by a treadle or hand-lever, C, when filling the bottles D.

Said rack or receiver may be constructed to hold any desired number of bottles, and may be made in sections and removable.

E is the filling-reservoir, arranged above, and fitted or provided with any number of valves, G, corresponding with the bottle-spaces in the rack, and closing against seats *b* in the bottom of the reservoir. Connected with these seats are downwardly-projecting filling-tubes *d*, of a sufficient length to pass down within, to or near the bottoms of, the bottles when the rack B is raised for the purpose of filling the bottles.

By this arrangement not only are the bottles filled from their bottoms, but the beverage or liquid is drawn from the bottom of the filling-reservoir, whereby charging the bottles with froth is more effectually prevented, and air is excluded from or driven out of the bottles.

The several valves G are opened or closed simultaneously, and the filling-tubes *d* are short and of equal length, thus avoiding waste, as when filling by branches of varying length from a main outlet or supply pipe. The equal and complete filling of the bottles may accordingly be insured.

To operate said valves quickly and simultaneously, their stems may be run upward through a guide-board, *h*, and are connected above with a follower, H, in the reservoir, and against which cams *e e* on a shaft, *f*, act to raise or open the valves by hand-power from the outside.

The guide-board *h* and follower H may both be perforated to allow of the beverage or liquid in the reservoir passing through them.

The valves are closed either by weights or springs *s* on removing the lifting force, and each valve G is separately connected with the follower H in an adjustable manner, as by nuts made to screw on the upper ends of the valve-stems. This separate adjustment of the collectively-operating valves provides for a close fit of all the valves when shut.

I claim—

1. The combination of a rising and falling bottle rack or receiver, B, with the filling-reservoir E, the valves G therein, connected

to operate in common, the valve-seats *b* in the lower portion of the reservoir, and the filling-tubes *d*, substantially as specified.

2. The combination of the follower H with the separately-adjustable valves G connected therewith, the cams *e* and springs *s*, or their equivalents, the valve-seats *b*, the reservoir E, and the filling-tubes *d*, essentially as described.

3. The combination of the treadle C or lever C, the rising and falling bottle-rack B, the filling-tubes *d*, and the collectively-operating valves G within the reservoir E, substantially as shown and described.

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Witnesses:

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