(No Model.) 3 Sheets—Sheet 1.

J. C. MAYRHOFER.

APPARATUS FOR DISPENSING LIQUIDS.

No. 405,846. Patented June 25, 1889.

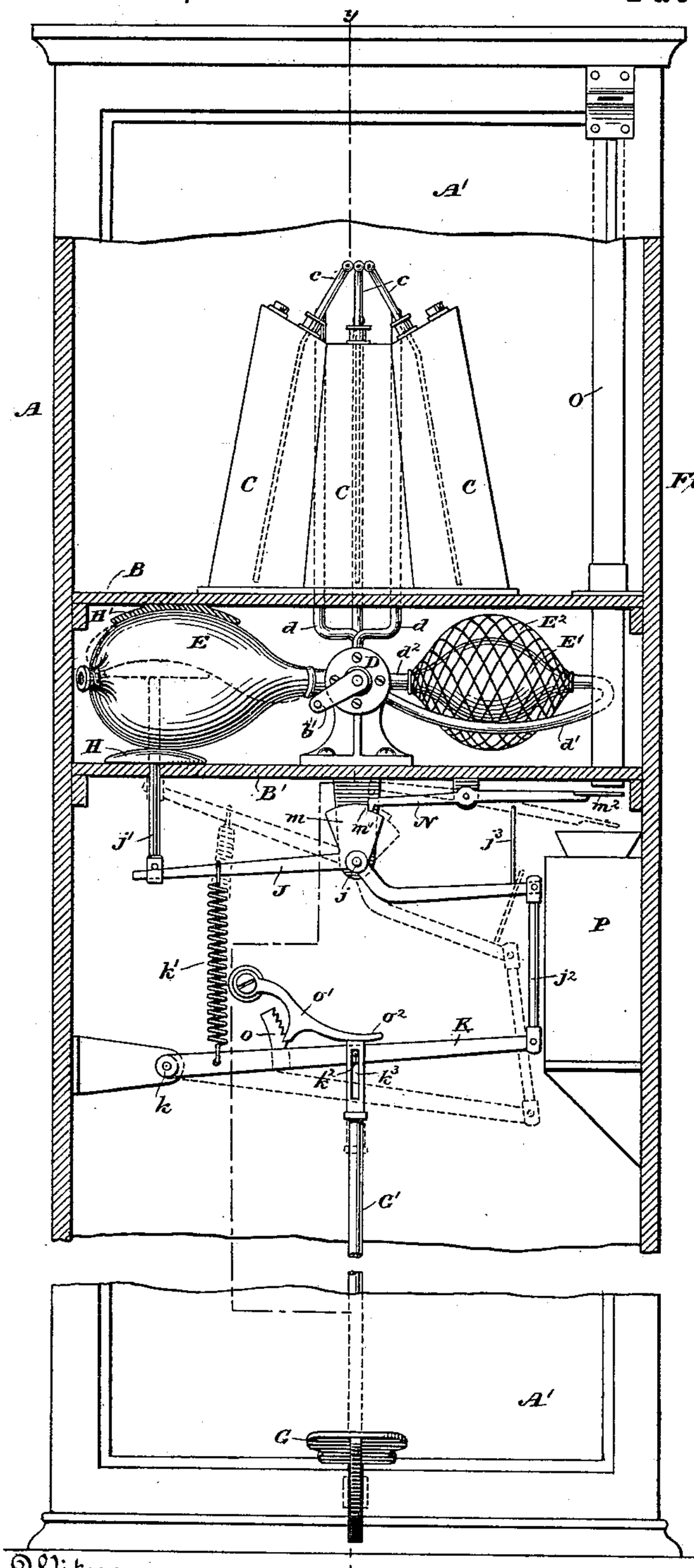

Fig. 1.

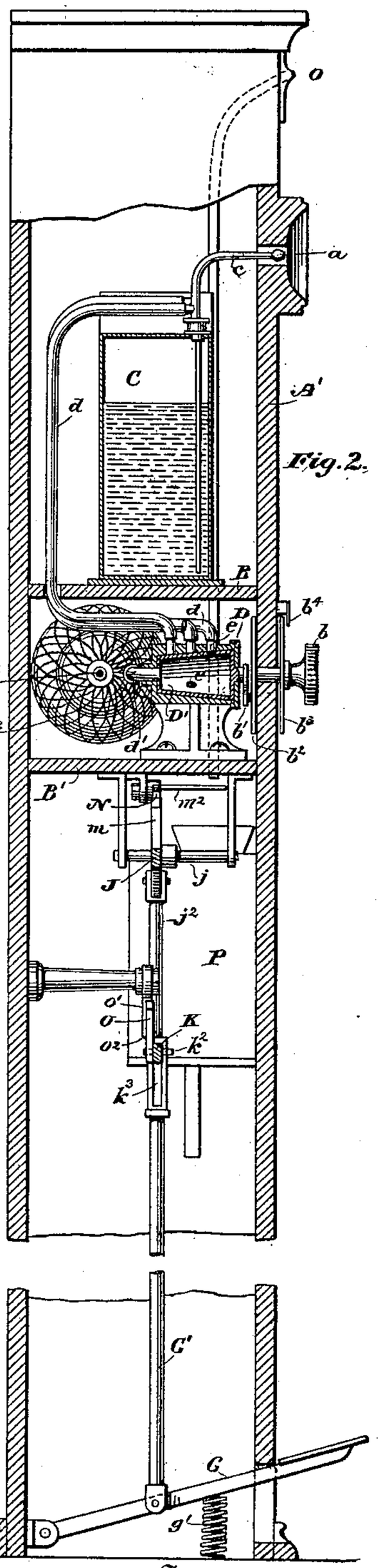

Fig. 2.

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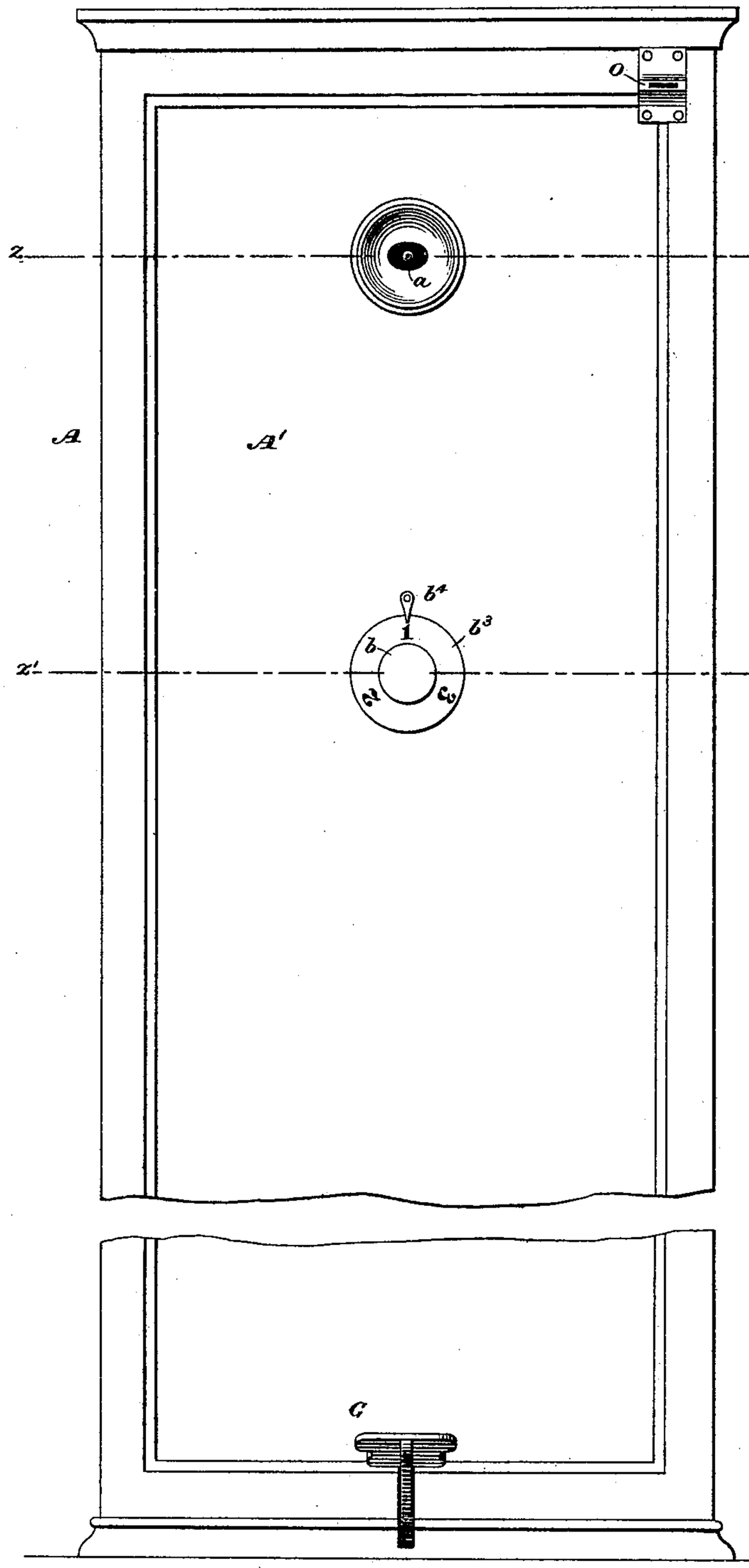

Fig. 3.

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Fig. 4.

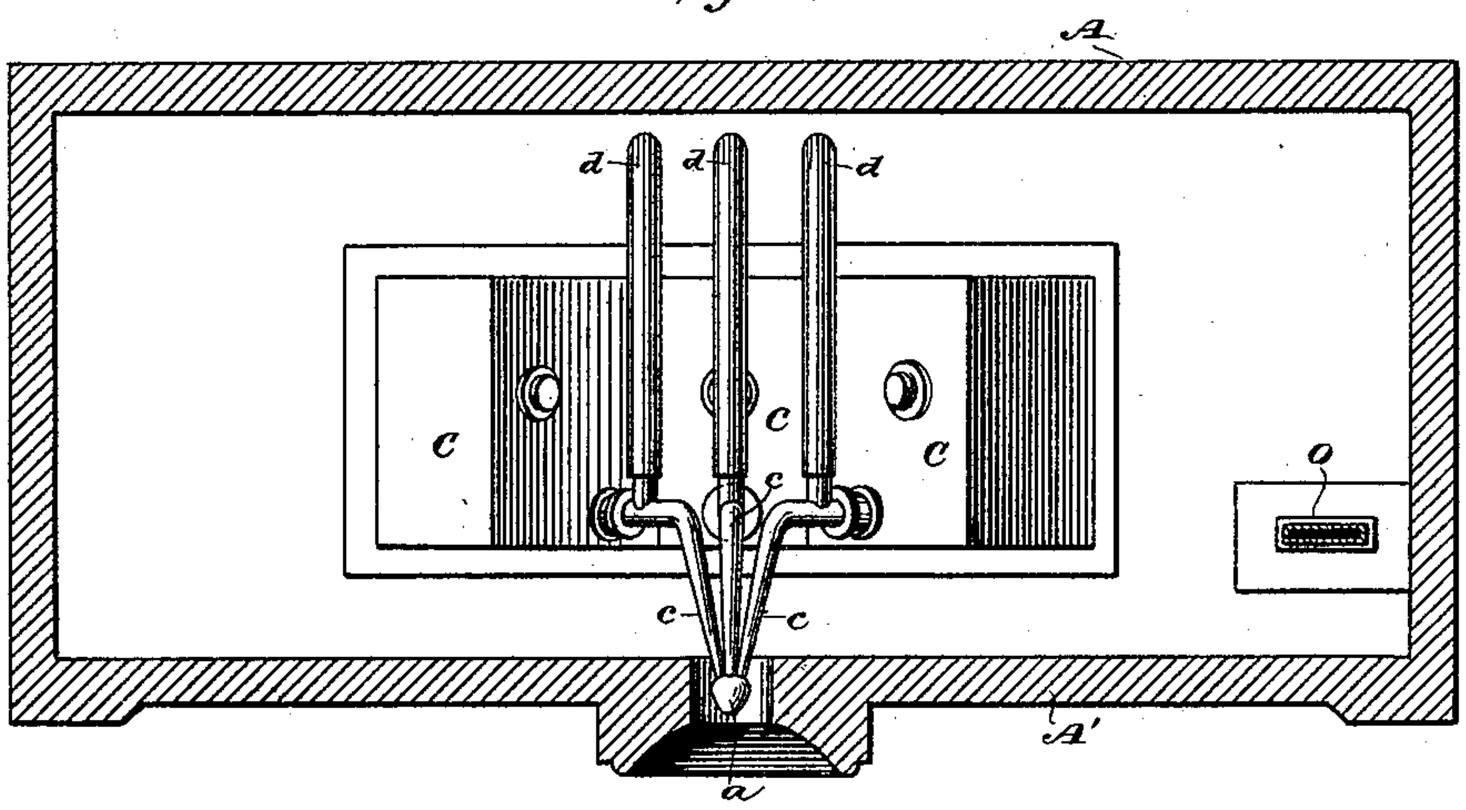
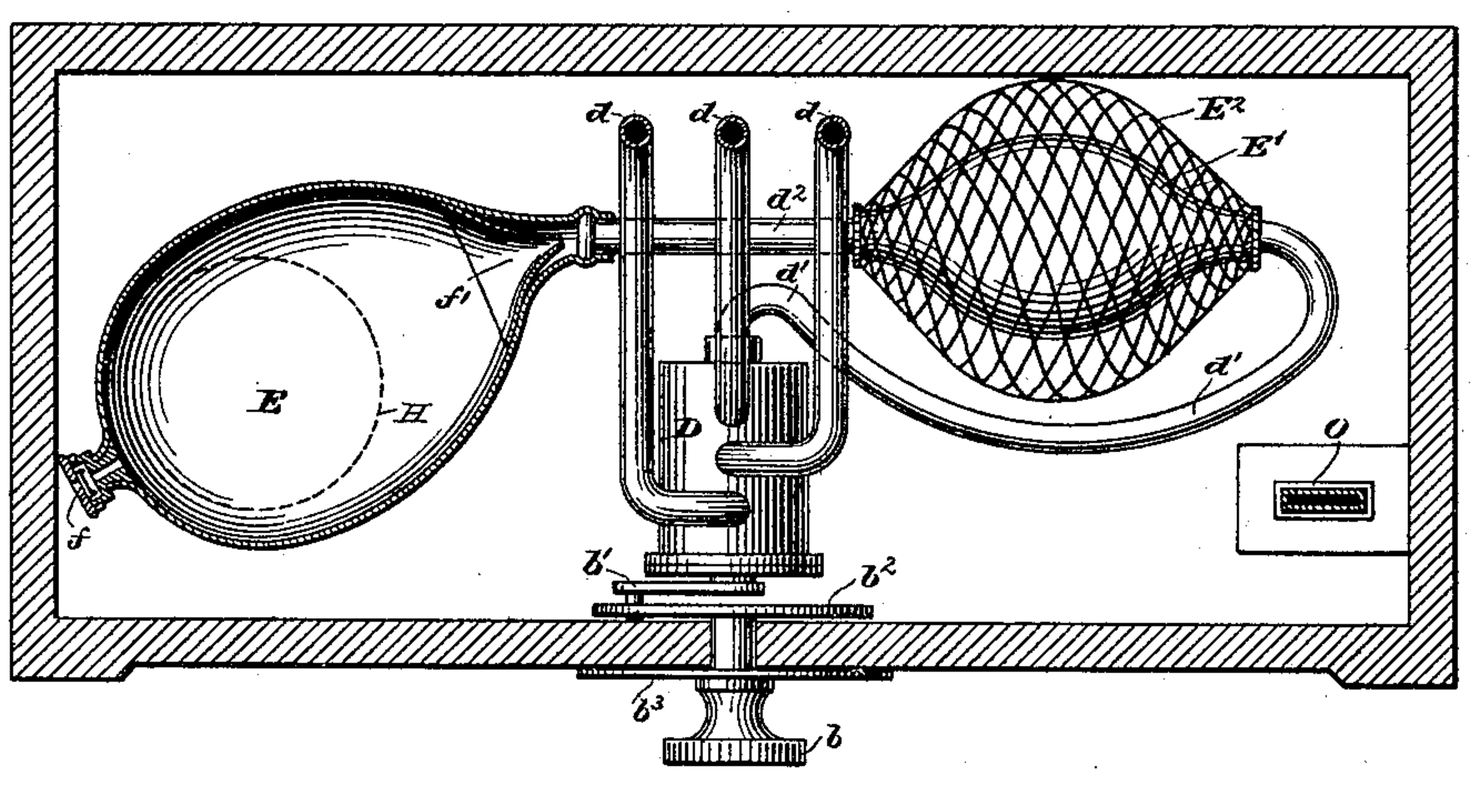


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH CARL MAYRHOFER, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE AMERICAN AUTOMATIC SPRAY PERFUME COMPANY, OF NEW YORK.

APPARATUS FOR DISPENSING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 405,846, dated June 25, 1889.

Application filed October 23, 1888. Serial No. 288,910. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CARL MAYRHOFER, of the city, county, and State of New York, have invented a new and Improved Apparatus for Dispensing Liquids, of which the following is a full, clear, and exact description.

The object of my invention is to provide a practical apparatus whereby, in exchange for a coin or token, a person may obtain a supply of perfumery or other liquid in the form of a spray; and to this end my invention consists principally of an air-compressing device and atomizer combined with a coin-tube to receive a coin, and mechanism between the coin-tube and the air-compressing device to operate the air-compressing device when a coin is dropped into the coin-tube, a lock for holding the said mechanism until released by a coin or token dropped into the coin-tube, and an auxiliary locking device for preventing more than one discharge for each coin.

The invention also consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation, partly in section, broken away at the bottom. Fig. 2 is a section on the broken line *y y* of Fig. 1. Fig. 3 is a front elevation. Fig. 4 is a sectional plan view on line *z z* of Fig. 3, and Fig. 5 is a similar view on line *z' z'* of Fig. 3.

A represents the main frame of the apparatus having horizontal partitions B B'. On partition B is placed one or more, preferably three, receptacles C C, for liquid perfumery. In the top of each receptacle C is fitted an ordinary atomizer-tip *c*, bent so that its discharge end stands in the opening *a* of the front board A' of the main frame of the apparatus. To each atomizer-tip *c* is attached the discharge-tube *d*, the lower end of which connects with the cylindrical casing D, in which is fitted a hollow cock D', having apertures *e* to coincide with the ends of the tubes *d* when turned to different positions.

E is a soft-rubber pump-bulb provided with induction check-valve *f* and eduction check-valve *f'*. This bulb E is connected by tube d^2 to the soft-rubber bulb or reservoir E', which is surrounded by netting E^2 to prevent too great expansion of the reservoir-bulb by compressed air forced into it by the pump-bulb E. The reservoir-bulb is connected to the interior of the hollow cock D' by a tube *d'*, so that the contraction of the reservoir-bulb upon the air contained therein will force a jet of air through one or the other of the tubes *d* when the cock D' is turned to bring one of the ports or passages *e* into line with one of the tubes *d*. This jet of air forced through the pipe *d* and atomizer-tip *c* will force liquid from the receptacles C in the form of spray, upon the principle of the ordinary hand-atomizers.

The pump-bulb E may be compressed and released by various mechanisms; but I prefer to employ a treadle G, to be operated by the foot. The bulb is held upon the compressing-plate H, adapted to be moved vertically for squeezing the bulb, the resistance being taken by the plate H'. The said plate H is operated by levers J K, treadle G, and connecting-rod G', all shown clearly in Fig. 1. Lever J is fulcrumed at *j* and connected to plate H by rod *j'*, and its rear end is connected to the free end of lever K below by rod j^2. Attached to the rear end of the lever J is a pawl stop or rest j^3. Lever K is fulcrumed at *k*, and is connected by coiled spring *k'* to lever J and by pin k^2 to connecting-rod G', which pin works in a slot k^3 of the said rod, so that said rod may have a movement upward, caused by spring *g'*, beneath the treadle G, independently of the said lever K, for the purposes hereinafter described. The lever J is provided at its pivot with a locking-segment *m*, formed with notch *m'*, with which the counterbalanced locking-pawl N is adapted to engage to hold the said lever in position to lock the bulb-compressing plate H at its lowermost position. The end of the counterbalanced pawl N is formed or provided with a plate m^2, which stands beneath the coin or token tube O, so that when a coin

is dropped into the slot it will fall upon the plate m^2 and lift the point of the pawl out of contact with the segment m, thus releasing the lever J. At the time the coin is dropped, or thereafter, the operator places his foot upon the treadle G and forces it down. This will draw down levers K J and force upward the plate H and compress the pump-bulb E, which will force air into the rubber reservoir E′. The operator will now place his handkerchief in front of the aperture a and then turn the knob b, which by crank and disk b' b^2 will turn the hollow cock D′ until one of the apertures e coincides with one of the tubes d, when the compressed air in the reservoir E′ will be forced out through the atomizer-tip c and cause a spray of perfumery to be deposited upon the handkerchief.

My apparatus is a convenient one to use, for the reason that it is not necessary to press down the treadle immediately upon dropping the coin in the slot. When the coin falls upon the plate attached to the counterbalanced pawl, the pawl is depressed sufficiently to unlock the lever J, but is prevented by the stop or rest j^3 from being depressed so far as to cause the coin to slip off from the plate. The coin remains on the plate, and thus keeps the lever J unlocked, until the treadle is depressed and the pawl-stop lowered, when the pawl sinks to its lowest position and the coin drops into the coin-box, releasing the pawl, which returns to its locking position. This is one important feature of my invention.

In order to prevent more than one operation for each coin, I provide the lever K with a locking-rack o, with which the pawl or dog o' engages, as shown in Fig. 1. When the lever K is drawn downward by the operation of the treadle, it and the lever J will be locked in that position by the pawl or dog o' until the foot is removed from the treadle. The point o^2 of the pawl or dog o' reaches over the top of the connecting-rod G′, so that when the treadle is released the spring g' will force said treadle and rod G′ upward the extent of slot k^3, thus tripping the pawl o', whereupon the spring k' will replace the levers J K, ready for another operation, the pawl N locking the lever J, as before. Thus the mechanism for operating the air-compressor must return to a position in which the locking-pawl can engage with it before it can be operated again to produce a second discharge. From the plate m^2 the coin dropped into the apparatus falls into the box P, and when two or more receptacles C are used I provide the knob b with a disk b^3, on which the names or numbers of the different perfumeries may be stamped in line with the apertures e, and I use a stationary pointer b^4 to indicate the position to which the disk should be turned to get the perfumery selected.

One advantage of my improved apparatus is that the discharge is steady and uniform, and is not affected by the varying force which is applied by different persons to the treadle or by the rate of speed with which the treadle is depressed. The discharge of air coming from the expanded reservoir, and being produced by the contraction of that reservoir, is always regular and uniform. It is obvious, however, that the discharge may take place in either of two ways. Before depressing the treadle the disk b^3 should preferably be turned to such a position that no one of the apertures e will be in line with any of the tubes d. After depressing the treadle let the disk b^3 be again turned so as so bring one of the apertures e in line with one of the tubes d. The discharge will then take place, and be produced and controlled entirely by the contraction of the reservoir E′, and will thus be perfectly regular. On the other hand, if the opening e and tube d be brought in line before the treadle is depressed, then the discharge will be, to a slight degree, directly influenced by the pressure of the plate H; but even then the discharge will be substantially regular.

While I prefer to use the rubber reservoir E′, I may dispense with it and take the current of air directly from the bulb E.

Various parts of my invention may be employed independently of one another or in other combinations, so that I do not limit my claims to the combination of all the parts shown and described.

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

1. The vending apparatus comprising the receptacles C, atomizer-tips c, tubes d, connected to the tips and to the casing D, the air-compressor E, flexible reservoir E′, the hollow cock D′, having openings e, to which the reservoir is connected, the levers J K, the treadle G, and a locking counterbalanced pawl N for locking the levers, and the tube O to receive the coin, substantially as described.

2. The vending apparatus comprising the chute O, to receive a coin or token, in combination with the locking counterbalanced pawl N, lever J, provided with the locking-segment, the air-compressor, the cock, the tubes d, and the receptacles C and atomizer-tips, and means for operating the lever J, substantially as described.

3. The vending apparatus comprising the lever J, having a locking-segment, the lever K, and the treadle and connecting-rod G G′, in combination with the counterbalanced pawl N, plate H′, and bulb E, one or more liquid receptacles, atomizer tips attached thereto, and tubes connecting the atomizer-tips with the bulb E, substantially as described.

4. In a vending apparatus, the combination of a lever J, having a locking-segment and a pawl-stop, a counterbalanced pawl, a coin-plate attached to the pawl, and a coin-tube, substantially as shown and described.

5. In an apparatus for vending liquids, in combination with a liquid-receptacle, an atomizer-tip connected with the receptacle,

and an air-compressor connected with the atomizer-tip, a device for operating the air-compressor, consisting of a plate bearing against the air-compressor, a pivoted lever having one end connected with the plate in any suitable way, a dog to engage with the lever, a treadle, a treadle-rod having a sliding connection with the lever, and a spring to raise the treadle, whereby the treadle-rod, after sliding upon the lever, will disengage the dog from the lever and permit the lever to return to its initial position, substantially as shown and described.

6. In an apparatus for vending liquids, in combination with a liquid-receptacle, an atomizer-tip connected with the receptacle, and an air-compressor connected with the atomizer-tip, a device for operating the air-compressor, consisting of a plate bearing against the air-compressor, a rod attached to said plate, a pivoted lever connected at one end with the rod and provided with a notched segment and a pawl-stop, a counterbalanced pawl to engage with the notched segment and lock the lever, a plate on the end of the pawl, a coin-tube, a second pivoted lever attached by suitable means to the other end of the first lever, a dog to engage with the second lever, a treadle, a treadle-rod having a sliding connection with the second lever, and a spring to raise the treadle, whereby the treadle-rod, after sliding upon the second lever, will disengage the dog from that lever and permit the lever to return to its initial position, substantially as shown and described.

7. In an apparatus for vending liquids, in combination with a liquid-receptacle, an atomizer-tip connected with the receptacle, and an air-compressor connected with the atomizer-tip, a device for operating the air-compressor, consisting of a plate bearing against the air-compressor, a rod attached to said plate, a pivoted lever connected at one end with the rod, a treadle connected with the other end of the pivoted lever, a shoulder on the pivoted lever, a counterbalanced pawl engaging with said shoulder, a pawl-stop on the lever, a coin-tube, and a plate below the end of the coin-tube and connected with the pawl, onto which the coin drops, thereby raising the pawl and unlocking the pivoted lever, substantially as shown and described.

8. In an apparatus for vending liquids, in connection with an air-compressor, a device for operating the air-compressor, consisting of the plate H, the rod j', the pivoted lever J, provided with the notched segment m, the rod j^2, the lever K, the treadle G, the rod G′, connecting the treadle and the lever K, and the spring g', substantially as shown and described.

9. The lever K, having segment o, in combination with the pawl o', having projection o^2, and the connecting-rod G′, treadle G, and spring g', the connecting-rod being attached to the lever K by slot k^3, substantially as described.

10. In a device for vending liquids, in combination with an air-compressor, a device for operating the air-compressor, consisting of the plate H, the rod j', the pivoted lever J, provided with the notched segment m, the rod j^2, the lever K, the spring k', the segment o, the pawl o', having projection o^2, the pin k^2, the rod G′, provided with the slot k^3, the treadle G, the spring g', the pawl N, the pawl-stop j^3, plate m^2, and the coin-tube O, substantially as shown and described.

11. A vending apparatus comprising receptacles C, atomizer-tips c, tubes d, casing D, hollow cock D′, having apertures e, knob b, connected with the cock, disk b^3, pointer b^4, reservoir E′, tubes d' and d^2, netting E^2, air-compressor E, connected with the reservoir-plates H and H′, rod j', lever J, notched segment m, rod j^2, lever K, spring k', segment o, pawl o', having projection o^2, pin k^2, rod G′, having slot k^3, treadle G, spring g', pawl N, pawl-stop j^3, plate m^2, and coin-tube O, substantially as shown and described.

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Witnesses:

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