

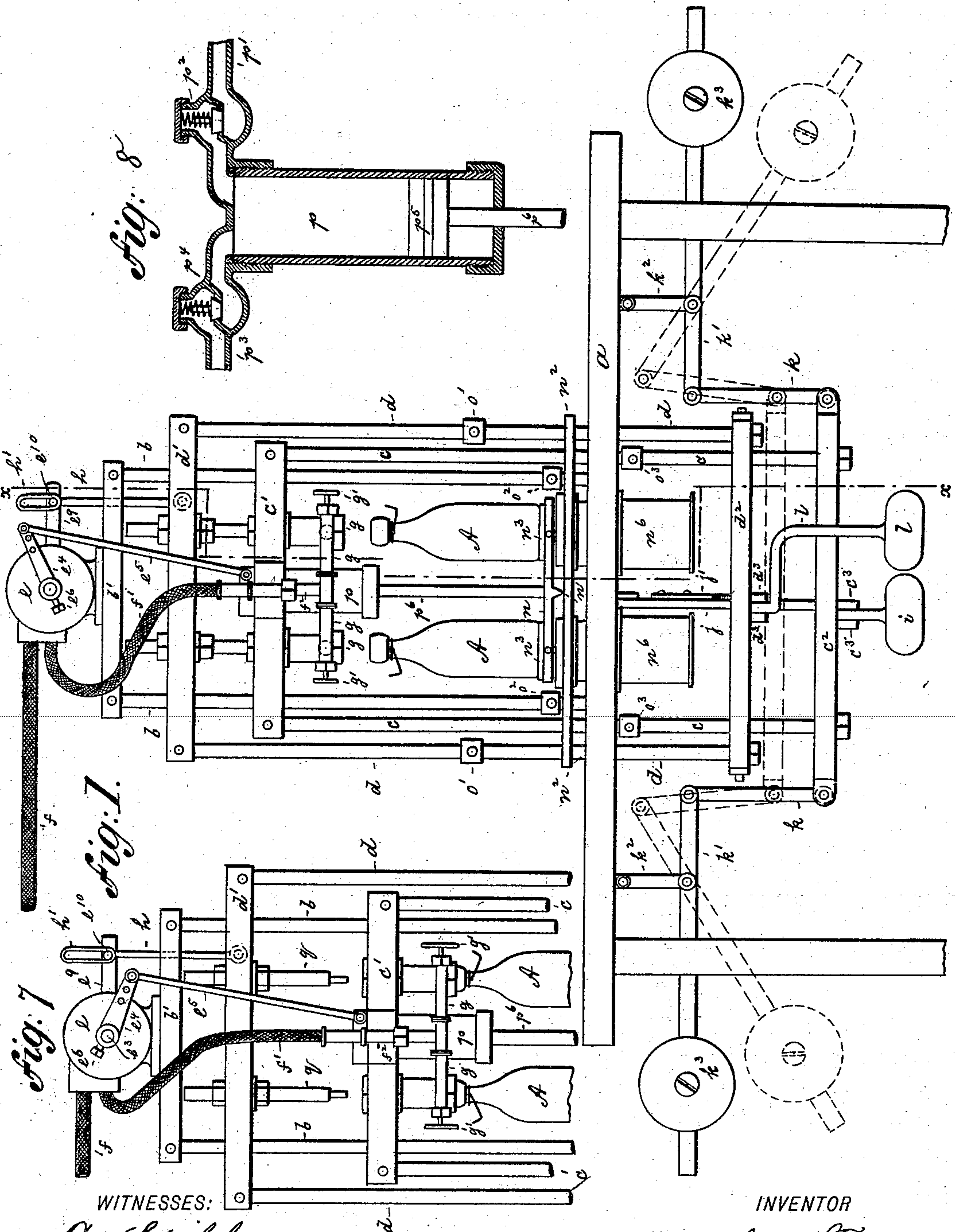
(No Model.)

2 Sheets—Sheet 1.

G. FELTMAN.
BOTTLING MACHINE.

No. 503,840.

Patented Aug. 22, 1893.



WITNESSES:

A. Schehl.
Wm. Schuly.

INVENTOR

George Feltman
BY
Roeder & Briesen
ATTORNEYS.

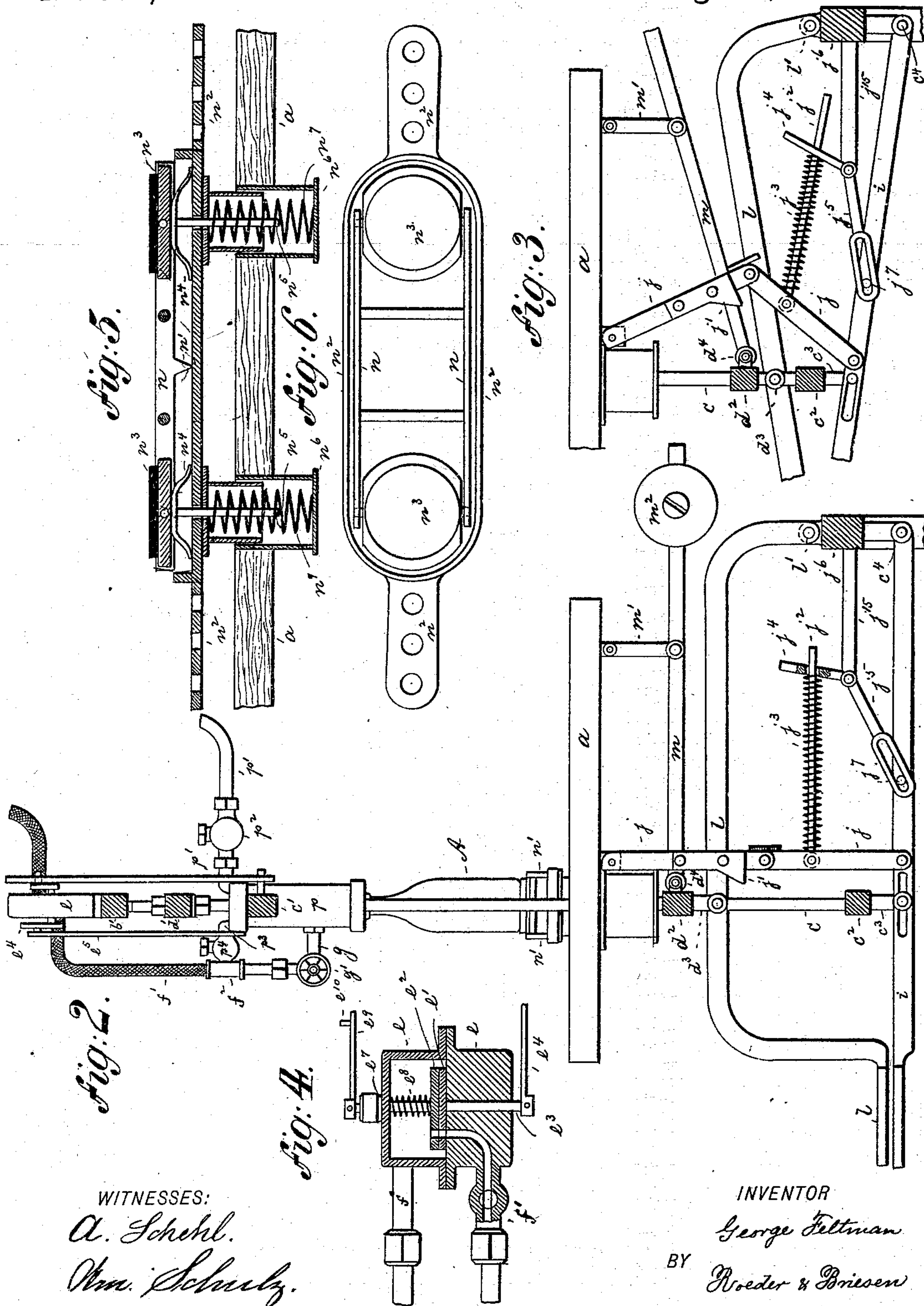
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UNITED STATES PATENT OFFICE.

GEORGE FELTMAN, OF NEW YORK, N. Y.

BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,840, dated August 22, 1893.

Application filed December 12, 1892. Serial No. 454,806. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FELTMAN, of New York city, New York, have invented an Improved Bottling-Machine, of which the following is specification.

This invention relates to a bottling machine of novel construction and designed to charge and cork the bottles by operating a pair of treadles.

The machine is so constructed that it is automatic in all its actions, works with great rapidity and accuracy and may be adjusted so as to regulate its stroke and also the charge which it is to deliver to the bottles.

In the accompanying drawings: Figure 1 is an elevation of my improved bottling machine; Fig. 2 a section on line x, x , Fig. 1; Fig. 3 a side view partly in section of the foot levers, showing the parts in a different position from Fig. 2; Fig. 4 a section through valve casing e ; Fig. 5 a vertical longitudinal section of the balancing platform that supports the bottles; Fig. 6 a top view thereof. Fig. 7 is an elevation of the upper part of the machine with the slide c' , lowered, and Fig. 8 a detail vertical central section through the cylinder p .

The letter a , represents the frame or bench of the machine that supports two fixed upwardly projecting bars b , connected on top by a cross bar b' . Through perforations of table a , there extends furthermore a pair of bars c , connected on top by a cross arm or charging slide c' , and at the bottom by a cross arm c^2 . A second pair of bars d , also extends through the table a , and is connected on top by a cross arm or corking slide d' , and at the bottom by a cross arm d^2 . Of the parts so far described, the cross arm b' , carries the valve that controls the discharge of charged water, the cross arm c' , carries the pump that controls the discharge of sirup and the cross arm d' , carries the corking plungers.

The valve on the cross arm b' , is composed of a suitable casing e , within which there are contained the revoluble or sliding perforated disks e' , e^2 . The disk e' , is secured to a shaft e^3 , embraced by the perforated end of an arm e^4 , (Fig. 7) which in turn by rod e^5 , is connected to charging slide c' . Thus by operating the slide the disk e' , is moved so that its

opening registers with the opening of disk e^2 , and the charged water admitted through inlet pipe f , into the valve casing, is free to pass through the valve and out of the outlet pipe f' , to enter by coupling f^2 , the charging nozzles g , secured to slide c' . These nozzles are controlled by suitable stop cocks g' .

To control the quantity of water that flows through the valve e , the perforated arm e^4 , is secured to the shaft e^3 , by a set screw e^6 . By shifting the arm upon the shaft the play of the valve disk e' , can be altered at pleasure.

The valve disk e^2 , is provided with a shaft e^7 , surrounded by spring e^8 , and connected to an arm e^9 , having pin e^{10} . This pin enters an elongated eye h' , of a bar h , secured to the corking slide d' . The object of this connection is to close the valve by the last part of the descent of the corking slide, a trifle before the disk e' , is turned back by the ascent of the charging slide, and therefore to cut the flow of water off before the cork is forced into the bottle.

To the slide c' , there is secured a pump cylinder p , which reciprocates with the slide. It receives sirup through inlet p' , having check valve p^2 , and discharges the sirup through outlet p^3 , having check valve p^4 , into nozzles g . The piston p^5 , of the pump is fixed and secured to a fixed piston rod p^6 . Thus upon a descent of the cylinder, the sirup is sucked into it through the inlet and upon an ascent of the cylinder the sirup is ejected into the nozzles through the outlet.

The two slides d' , and c' , are operated by means of two co-operating treadles in the following manner: The cross arm c^2 , of bars c , is provided with perforated lugs c^3 , to which there is hinged a slotted treadle i , turning on pivot c^4 . To the treadle is pivotally secured one end of a jointed or knee bar j , the other end of which is pivotally secured to table a . The upper section of knee-bar j , is provided with a nose j' , and the lower section is provided with a rod j^2 , surrounded by spring j^3 . The rod j^2 , is engaged by a slide j^4 , adapted to compress the spring and operated by the treadle i , by means of the linked slotted bar j^5 , to which it is rigidly connected. This bar is by arm j^{15} , secured to a fixed support j^6 . The eye in bar j^5 , is entered into by a pin j^7 , secured to treadle i . To the ends of cross arm

c^2 , there are secured by arms k , the levers k' , pivoted to hangers k^2 , and carrying adjustable counterweights k^3 . The cross arm d^2 , of bars d , is provided with the perforated lugs d^3 , to which there is hinged a treadle l , turning on pivot l' . The cross arm d^2 , is furthermore provided with a roller or projection d^4 , adapted to engage the nose j' , upon the descent of the corking slide as will be hereinafter more fully described. To the cross arm d^2 , there is also attached a lever m , turning on hanger m' , and carrying adjustable counterweight m^2 .

The bottles A, to be charged are placed upon a counterbalancing scale consisting of a scale frame n , provided with a fulcrum n' , by which it rests upon a plate n^2 . The scale frame n , is provided with a pair of pivoted platforms n^3 , upon which the bottles are placed and between which and plate n^2 , the leaf springs n^4 , are interposed. The plate n^2 , is supported upon coiled springs n^7 , surrounding guide pins n^5 , and received within a telescoping casing n^6 , attached to table a .

The rods d , are provided with adjustable collars o' , which limit the stroke of the corking slide and hold the plate n^2 down against action of springs n^7 , upon the descent of the corking slide, so that there is no counterpressure to be overcome by the plungers q , secured to the slide, when they bear upon the corks.

The rods b , are provided with adjustable collars o^2 , that define the vertical elevation of the plate n^2 , above table a , while the rods c , are provided with adjustable collars o^3 , beneath the table a , to limit the upward motion of rods c .

The operation of the machine is as follows: The bottles A, to be charged are placed upon the counterbalancing platforms n^3 , and then the treadle l , is depressed to draw down the charging slide c' . The descent of the slide c' , will cause firstly a descent of cylinder p , upon its piston p^5 , to force the sirup contained in the cylinder, through outlet p^3 , into the nozzles g , and thus into the bottles. Secondly, the slide c' , by rod e^5 , will open the valve e , to admit the charged water into the nozzle g , and consequently into the bottles. The depression of the treadle l , will have caused the jointed bar j , which had previously been bent (Fig. 3) to assume a straight position (Fig. 2) (aided by spring j^3) and thus the treadle will be locked by said bar in its lowermost position, and against the action of counterweights k^3 , which had been raised by the descent of the treadle. After the treadle l , has thus finished its downward motion, the foot is removed therefrom and placed upon treadle l , to draw the corking slide d' down. The downward motion of this slide, will cause the rod h , to descend, and when the eye h' , has traveled its own length, it will grasp pin e^{10} , to close the valve e , and cut off the supply of charged water. This takes place immediately before the plungers q , arrive at a position to engage and force the corks that have been held upon the bottles into the same, so that

liquid will not squirt out of the nozzles. The depression of treadle l , will cause a downward motion of roller d^4 , and an engagement of the roller with the nose j' . This engagement will cause the elbow bar j , to be bent and to thus unlock treadle l , which will at once fly upward under the action of the counterweights k^3 . Thus the charging slide c' , is raised and the valve disk e' , revolved to be in proper position for the next operation. As soon as the descent of the treadle l , is completed, and the bottles have been properly charged and corked, the foot is taken off the treadle l , and the latter will fly up under the action of its counterweight m^2 , to place all the parts of the machine back into their normal position, ready for the filling of a second pair of bottles. The counterbalancing platform will equalize the strain or pressure upon both bottles and cause a balanced operation of the entire machine.

My invention works rapidly and accurately and can be adjusted with the greatest nicety.

What I claim is—

1. In a bottling machine the combination of a charging slide with a sirup pump secured thereto and with a water valve provided with a perforated movable disk that is connected to the charging slide substantially as specified.
2. The combination of a charging slide and a corking slide, with a water valve connected to both the slides, substantially as specified.
3. The combination of a charging slide and a corking slide, with a water valve provided with two perforated disks, of which one is operated by the charging slide and the other by the corking slide, substantially as specified.
4. In a bottling machine the combination of a charging slide having nozzles with a water inlet valve composed of a pair of perforated disks and which are connected to said nozzles, substantially as specified.
5. The combination of a charging slide and corking slide, with a pair of perforated disks and with a rod having an elongated eye h' , secured to the corking slide and operating one of said disks, substantially as specified.
6. The combination of a charging slide and corking slide, with a pair of treadles for operating the same and with a knee bar j , having nose j' , that locks the charging treadle and a projection d^4 , that engages said nose upon the descent of the corking treadle, substantially as specified.
7. The combination of a charging slide and a corking slide with a pair of treadles, a knee bar j , and counterweights operated by one of said treadles and a projection d^4 , and counterweight m^2 , operated by the other treadle, substantially as specified.
8. The combination of a charging slide and a corking slide with a pair of treadles, a knee bar j , having nose j' , rod j^2 , spring j^3 , and slide j^4 , substantially as specified.
9. The combination of a fulcrumed scale

frame n , with platforms n^3 pivoted to said frame, springs n^4 beneath the platforms and with a vertically movable plate n^2 , that supports the scale frame and the springs, substantially as specified.

10 The combination of a vertically movable plate n^2 , with a balancing platform supported thereby and with rods d , corking slide d' , and adjustable collars upon the rods for engaging the movable plate and gaging the corking slide, substantially as specified.

11. In a bottling machine the combination of the following elements: a charging slide, a corking slide, a water valve, a sirup valve, corking plungers, a pair of treadles, and mechanism for causing one treadle to release the other treadle, substantially as specified.

GEORGE FELTMAN.

Witnesses:

F. V. BRIESEN,
WM. SCHULZ.