

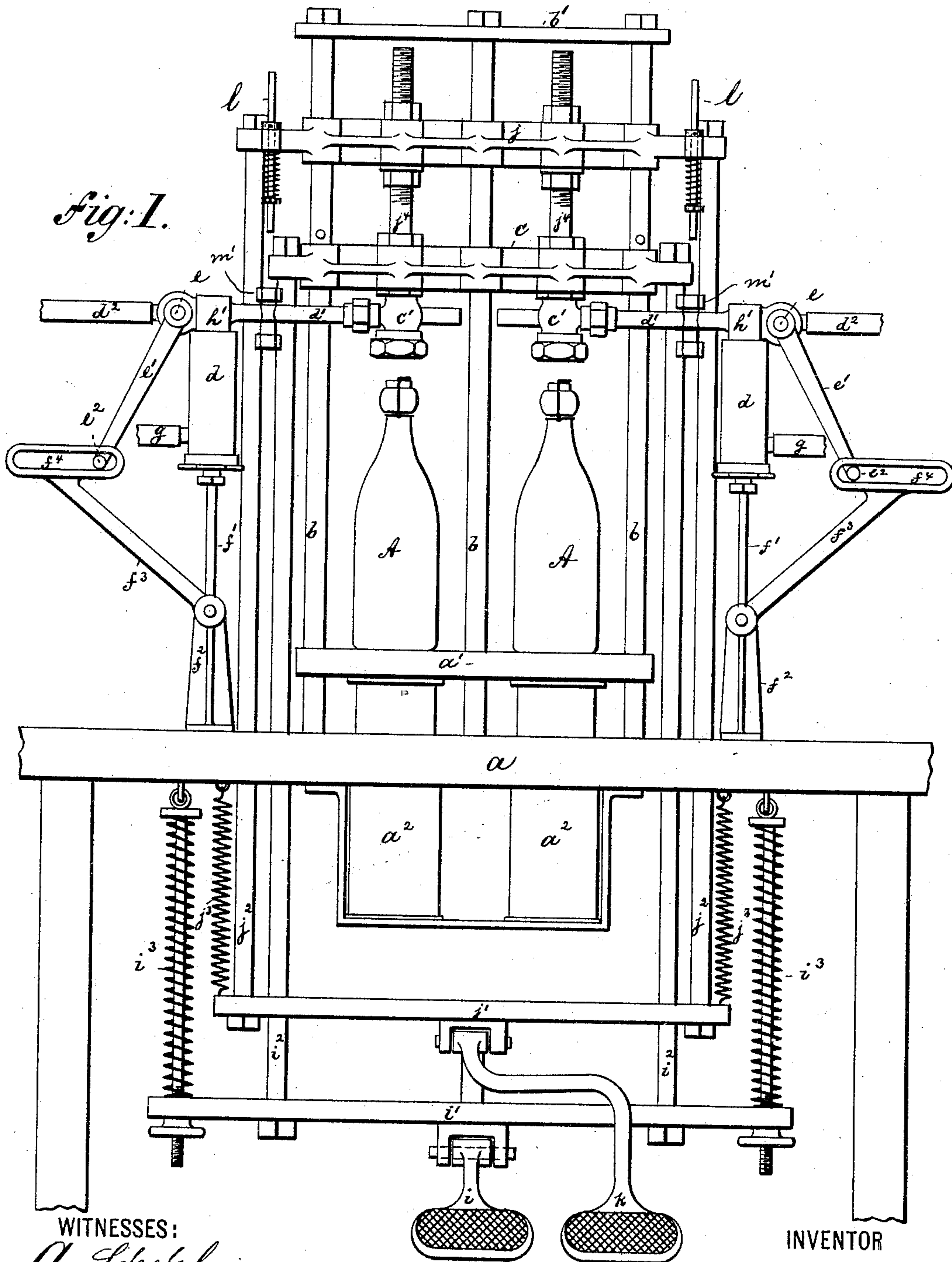
(No Model.)

4 Sheets—Sheet 1.

G. FELTMAN.  
BOTTLING MACHINE.

No. 467,574.

Patented Jan. 26, 1892.



WITNESSES:  
*A. Schehl.*  
*Wm. Schulz.*

INVENTOR  
*G. Feltman*  
BY *Roeder & Brice*  
ATTORNEYS

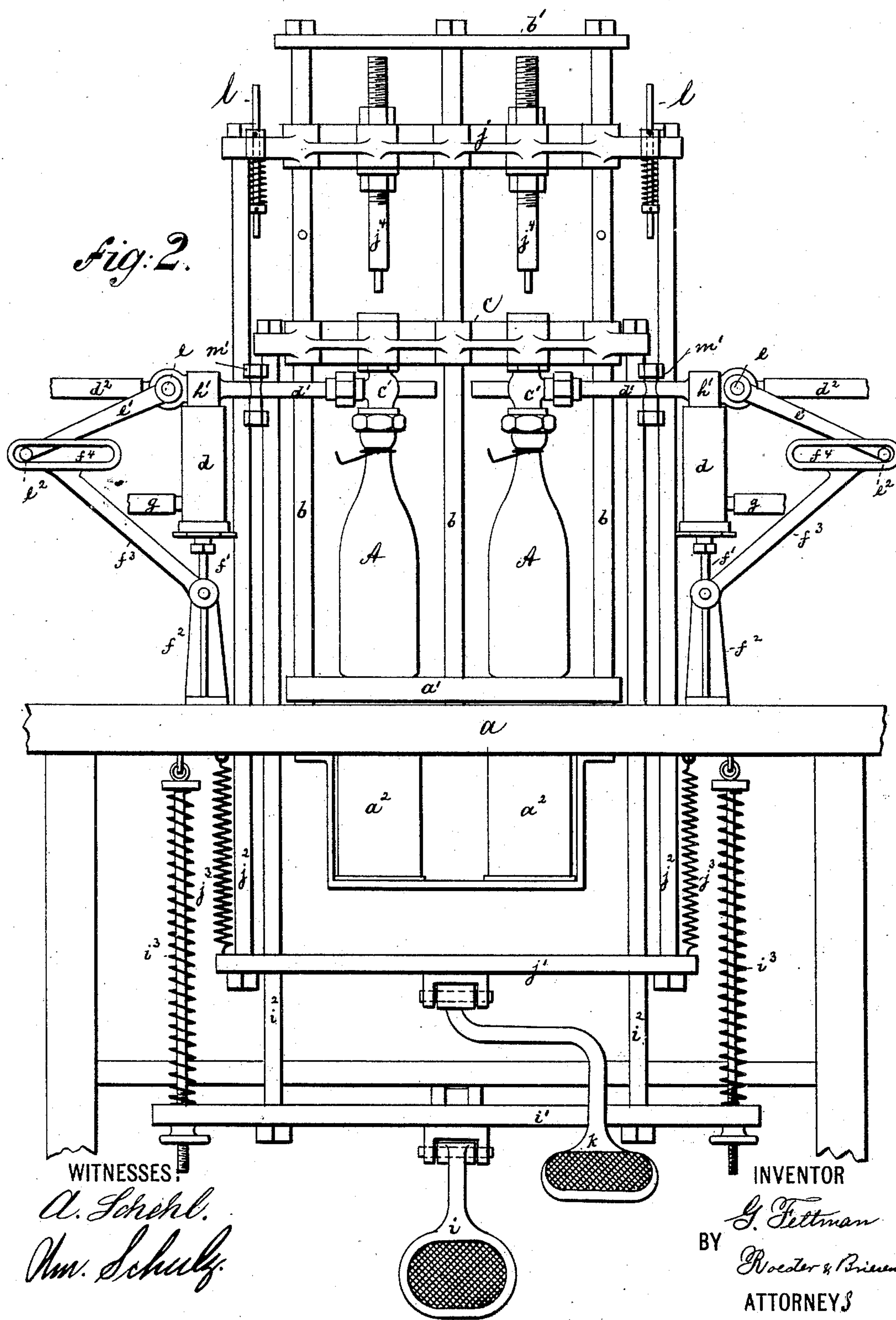
(No Model.)

4 Sheets—Sheet 2.

G. FELTMAN.  
BOTTLING MACHINE.

No. 467,574.

Patented Jan. 26, 1892.





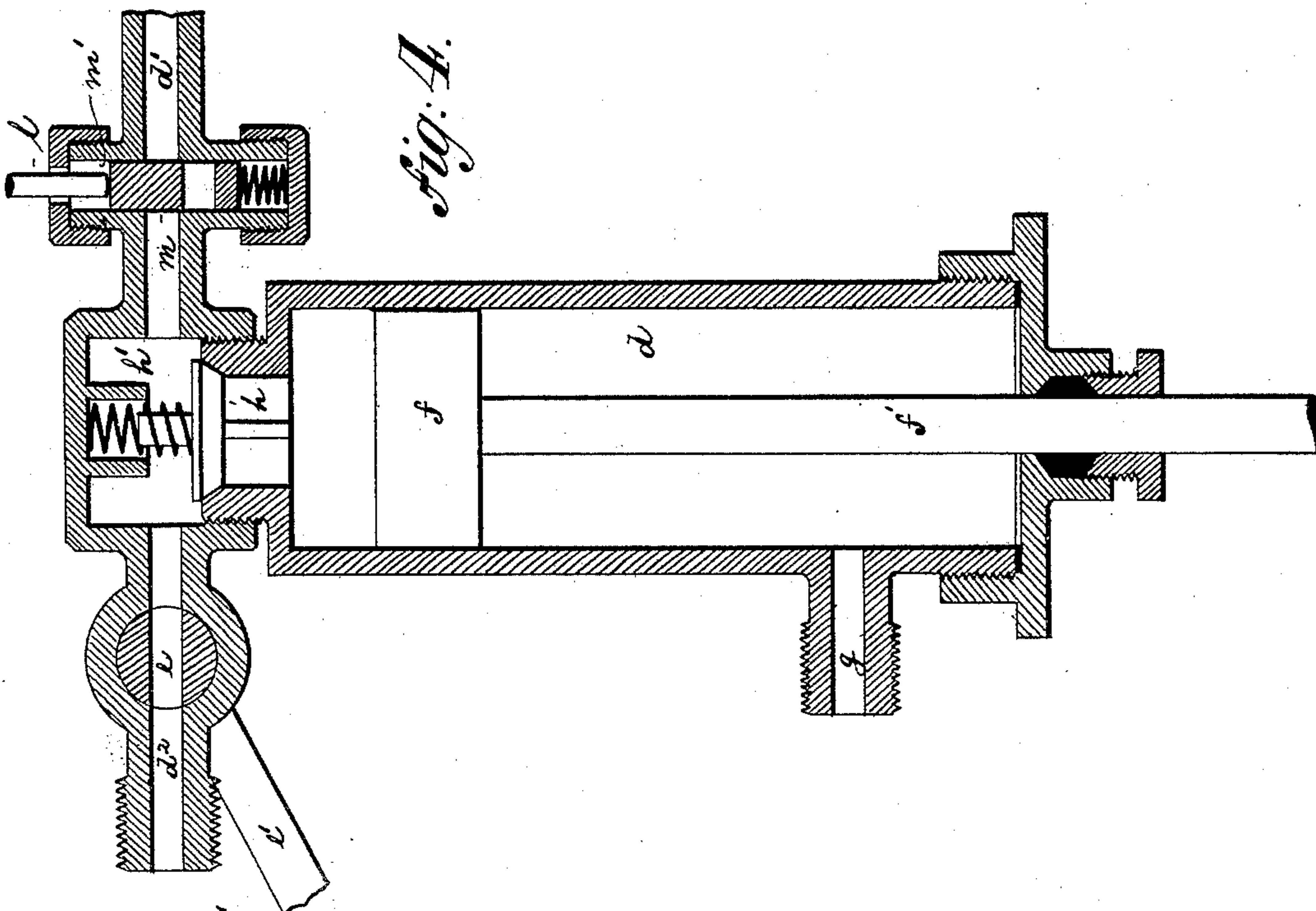
(No Model.)

4 Sheets—Sheet 3.

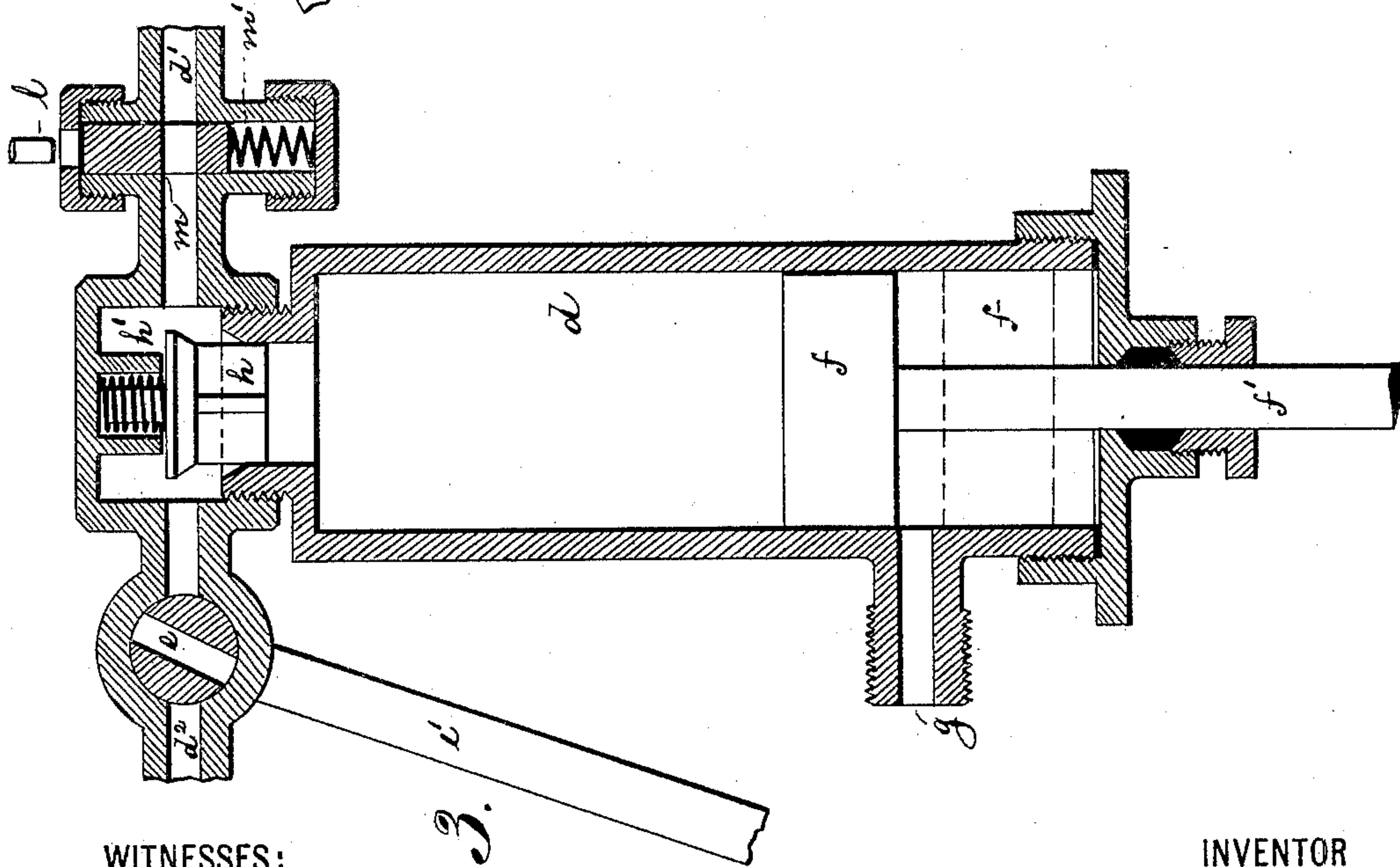
G. FELTMAN.  
BOTTLING MACHINE.

No. 467,574.

Patented Jan. 26, 1892.



*Fig. 4.*



*Fig. 3.*

WITNESSES:

*A. Schehl.*  
*Wm. Schulz.*

INVENTOR

BY *G. Feltman*  
*Roeder & Briesen*  
ATTORNEYS.

(No Model.)

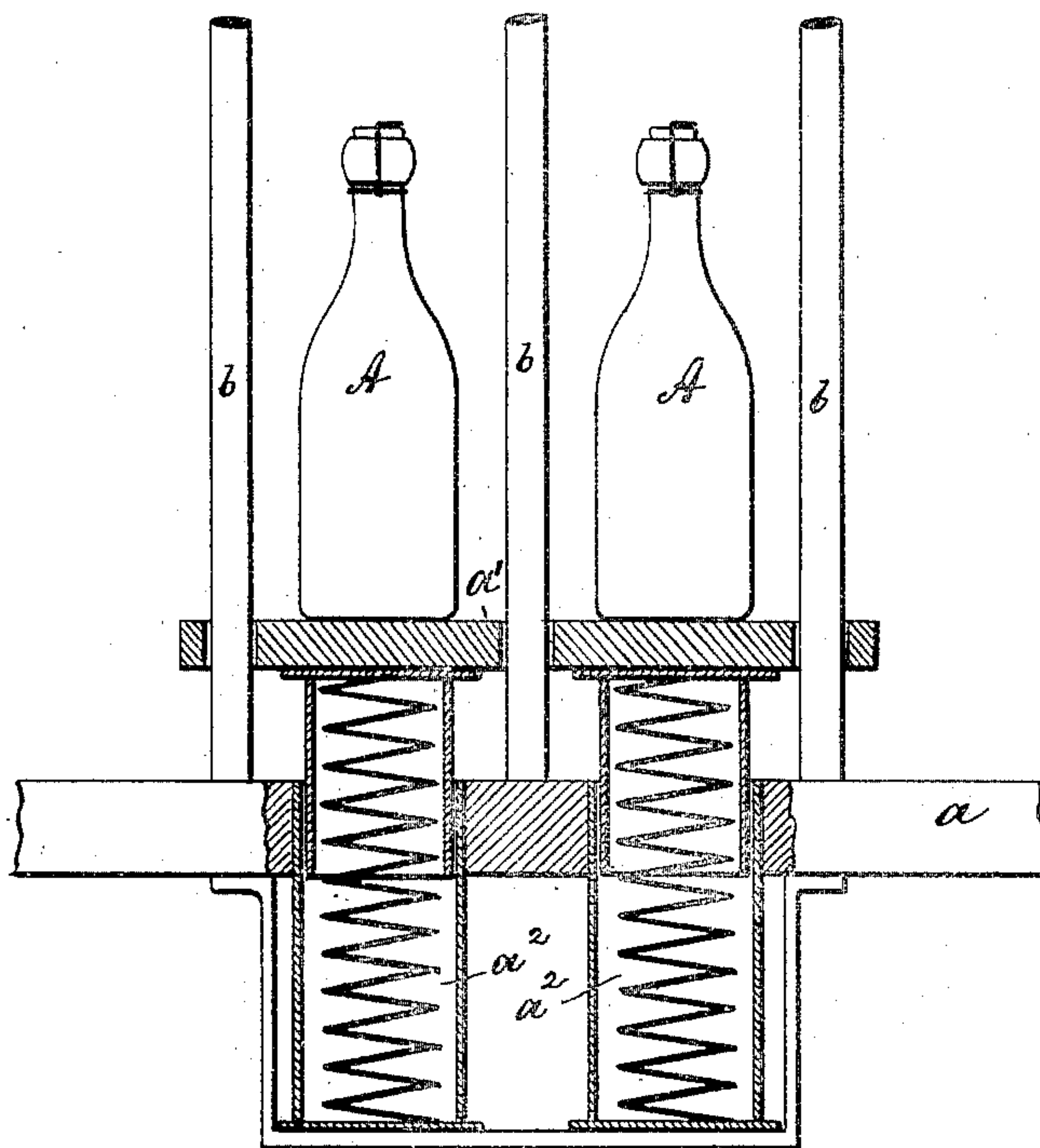
4 Sheets—Sheet 4.

G. FELTMAN.  
BOTTLING MACHINE.

No. 467,574.

Patented Jan. 26, 1892.

*Fig. 5.*



WITNESSES:

*A. Schehl.*  
*Wm. Schulz.*

INVENTOR

BY *G. Feltman*  
*Roeder & Briesen*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GEORGE FELTMAN, OF NEW YORK, N. Y.

## BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 467,574, dated January 26, 1892.

Application filed September 26, 1891. Serial No. 406,893. (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 a specification.

This invention relates to a bottling-machine which is operated by a treadle, and which is adapted to charge the bottle at one depression of the treadle, first with the sirup and then with the charged water. The machine may have a second treadle, which then causes the descent of the plunger, and which forces the cork into the neck of the bottle.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of my improved bottling-machine, showing the slides raised. Fig. 2 is a similar view with the slide *c* lowered. Figs. 3 and 4 are detail longitudinal sections of the pump, showing the same in different positions. Fig. 5 is a detail longitudinal section through the supports *a*<sup>2</sup>.

The letter *a* represents the frame or bench of the machine provided with three (more or less) upright bars *b* connected on top by cross-piece *b'*, and serving as rails for the guidance of a vertically-movable slide or cross-head *c*. This slide is provided with two (more or less) nozzles *c'*, one above each of the bottles *A*, to be charged. These bottles are placed upon a platform *a'* supported on spring-cushions *a*<sup>2</sup>. The nozzles *c'* connect by laterally-projecting pipe *d'* with the cylinder *d* of a pump, and thus it will be seen that such cylinder is vertically reciprocated together with the slide. The cylinder *d* is in turn connected by pipe *d*<sup>2</sup> to a tank or other receptacle containing the charged water. This pipe is provided with an automatic rotary valve *e* operated by an oscillating valve-stem *e'*.

Within the cylinder *d* there is a fixed or immovable piston *f*, the rod *f'* of which passes out of the lower end of the cylinder and is connected to a support *f*<sup>2</sup>. From this support there projects an arm *f*<sup>3</sup>, provided with an elongated eye *f*<sup>4</sup>. This eye receives a pin *e*<sup>2</sup> projecting laterally from the valve-stem *e'*. The cylinder *d* is entered into by a pipe *g* leading to a suitable sirup-holding receptacle. A spring-valve *h*, adapted to move vertically

in a valve-chamber *h* in the upper part of the cylinder *d*, tends to normally disconnect the cylinder *d* from the discharge-pipe *d'*, Fig. 3. 55

The operation of the machine as thus far described is as follows: The slide *c* is normally raised, and in that position the cylinder *d* is also raised. The valve *e* is closed and the piston *f* is in its lowermost position, (dotted lines, Fig. 3,) so that the sirup can from its receptacle flow into cylinder *d* through pipe *g* and fill the same. The slide *c* is now depressed by means of a treadle *i*, which is connected to the slide by means of cross-arm *i'* and upright rods *i*<sup>2</sup>. This will cause the nozzles *c'* to descend upon the bottles and will at the same time cause the cylinder *d* to descend upon its piston *f*. (Full lines, Fig. 3.) Thus the sirup accumulated within the cylinder will be forced upward to raise valve *h* and to flow through the nozzles *c'* into the bottles *A*. After the charge of sirup has thus been conveyed from the cylinder into the bottle the spring-valve *h* descends automatically upon its seat to disconnect the cylinder *d* from pipe *d'*. After the cylinder *d* has descended still farther the valve-stem *e'* (by the downward motion of pipe *d*<sup>2</sup> and the engagement of pin *e*<sup>2</sup> with the elongated eye *f*<sup>4</sup>) will be placed into such an inclined position, that the valve *e* will be opened, Fig. 4. The charged water is now free to flow through pipe *d*<sup>2</sup>, valve *e*, valve-chamber *h'*, and pipe *d'* into the nozzles *c'*, and thence into the bottles *A*, so as to fill the same. Pressure on the treadle *i* being now released, springs *i*<sup>3</sup> will draw the slide *c* up. This will cause the cylinder *d* to be raised until its pipe *g* passes the piston, when the cylinder will again be sucked full of sirup, ready for the next operation. At the same time the valve *e* will be gradually closed by the gradual upward oscillation of its arm *e'*. 60 65 70 75 80 85

If the machine is to charge and also cork the bottles, a second slide or cross-head *j* is arranged above the slide *c*. This slide is operated against springs *j*<sup>3</sup> by a second treadle *k*, secured to the slide by means of cross-arm *j'* and upright rods *j*<sup>2</sup>. The slide *j* is provided with plungers *j*<sup>4</sup>, which when descending pass through perforations in slide *c* and force suitable stoppers into the bottle-necks. The plungers *j*<sup>4</sup> are threaded into tapped openings of slide *j*, so as to be vertically adjustable. In 95 100



use treadle *i* is first depressed to charge the bottles, and then the treadle *k* is depressed to cork the same.

It will be noticed that with the construction thus far described the charged water would continue to flow into the bottles during the descent of the plungers *j*<sup>4</sup>, inasmuch as the valve *e* would not be closed by the time the plungers make their descent. To overcome this point the slide *j* is provided with spring-plungers *l*, bearing upon spring-valves *m*, secured within seats *m'* of pipes *d'*. When, therefore, the slide *j* descends, the plungers *l* will at once close the valves *m*, Fig. 4, and prevent further ingress of the charged water. At the rising of the plungers the valves *m* will automatically open, but by that time the valves *e* will have been closed by their arms *e'* in the manner before described to prevent any discharge of the water until the next descent.

It will be observed that in my machine one depression of the treadle automatically charges the bottles successively with two fluids, in such a manner that the admission of one does not in any way interfere with the admission of the other. At the same time the stopper arrangement not only closes the bottles, but also immediately checks the further admission of the charge.

What I claim is—

1. In a bottling-machine, the combination of a charging-slide with a charging-cylinder *d* and a charging-pipe *d*<sup>2</sup>, both connected to and moving with the slide, and with a piston within the cylinder and an automatic valve within the charging-pipe, substantially as specified.

2. The combination of charging-slide *c* with cylinder *d*, connected thereto and having sirup-inlet *g*, a piston entering the cylinder, an aerated-water pipe *d*<sup>2</sup>, communicating with the slide, and an automatic valve *e*, situated within the pipe and having an oscillating valve-stem *e'*, substantially as specified.

3. The combination of slide *c*, having noz-

zles *c'*, with cylinder *d*, connected to the slide, a piston *f*, entering the cylinder, inlet-pipes *d*<sup>2</sup>, moving with the slide, a valve *e* within pipe *d*<sup>2</sup>, an oscillating valve-stem *e'*, and a lug having an eye or slot within which the valve-stem moves, substantially as specified.

4. The combination of slide *c*, having nozzles *c'*, with a cylinder *d*, connected to and moving with the slide, a piston *f*, entering the cylinder, inlet-pipes *g* *d*<sup>2</sup>, an automatically-operated valve *e* within pipe *d*<sup>2</sup>, and a spring-valve *h* within the neck of cylinder *d*, substantially as specified.

5. The combination of a charging-slide with a cylinder *d* and charging-pipe *d*<sup>2</sup>, both connected to and moving with the slide, a piston within the cylinder, an automatic valve in the charging-pipe, and with a stopper-slide and a pair of treadles for operating the slides, substantially as specified.

6. The combination of a charging-slide with a cylinder and a charging-pipe *d*<sup>2</sup>, an exit-pipe *d'*, connecting the same to the slide and containing valve *m*, a piston within the cylinder, a valve *e* within the pipe *d*<sup>2</sup>, and with a stopper-slide and a plunger *l* secured thereto and operating valve *m*, substantially as specified.

7. The combination, in a bottling-machine, of the following elements: a slide *c*, having nozzles *c'*, a pipe *d'* connected therewith, a vertically-movable cylinder *d*, connected to pipe *d'*, a plunger *f* within the cylinder, inlet-pipes *d*<sup>2</sup> *g*, an automatic valve *e* within pipe *d*<sup>2</sup>, a valve *h'* within cylinder *d*, and a valve *m* within the pipe *d'*, substantially as specified.

8. The combination of a charging-slide *c*, having nozzles *c'*, with a cylinder *d* connected therewith, a fixed piston within the cylinder and with a movable platform *a'*, and spring-cushions *a*<sup>2</sup>, that support the platform, substantially as specified.

GEORGE FELTMAN.

Witnesses:

E. V. BRIESEN,

A. JONGHMANS.