

A. A. PINDSTOFTE.  
 ROTARY BOTTLING MACHINE.  
 APPLICATION FILED MAR. 9, 1910,

967,050.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

Fig. 1

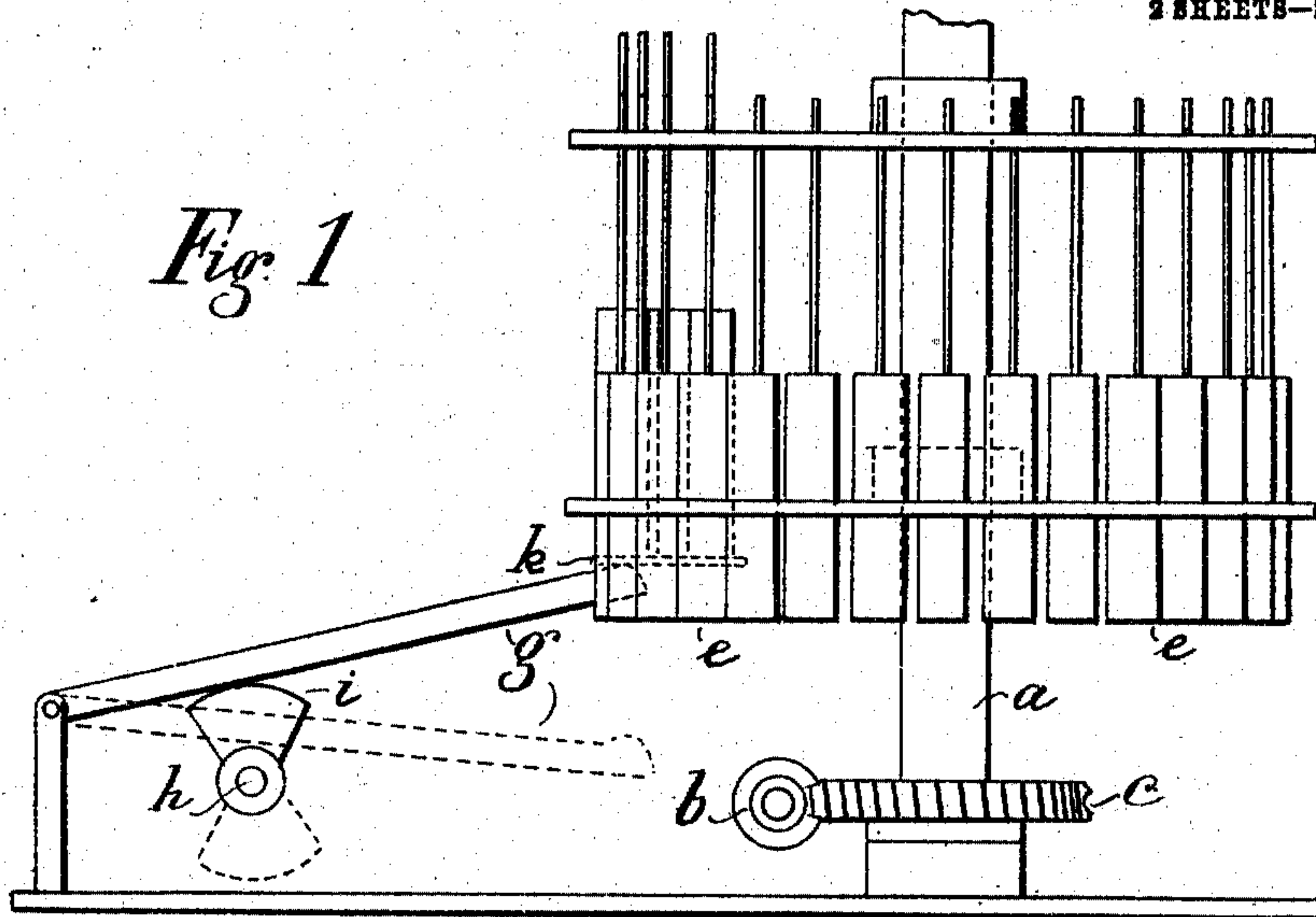
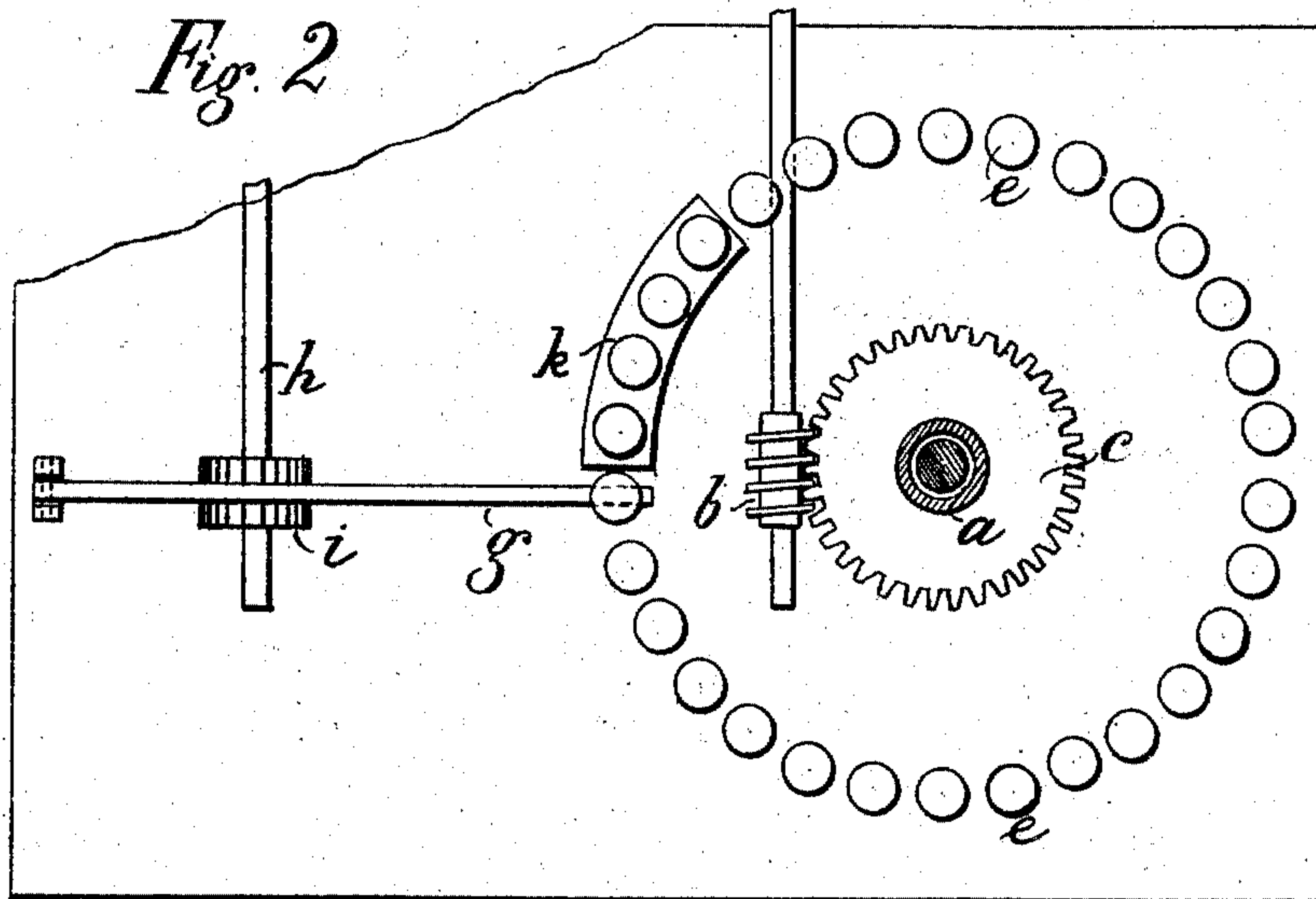


Fig. 2



Witnesses  
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*W. Neale, Jr.*

Inventor  
*A. A. Pindstofte*  
 by *Tricknam, Jones & Witherspoon*  
 his Attorneys.

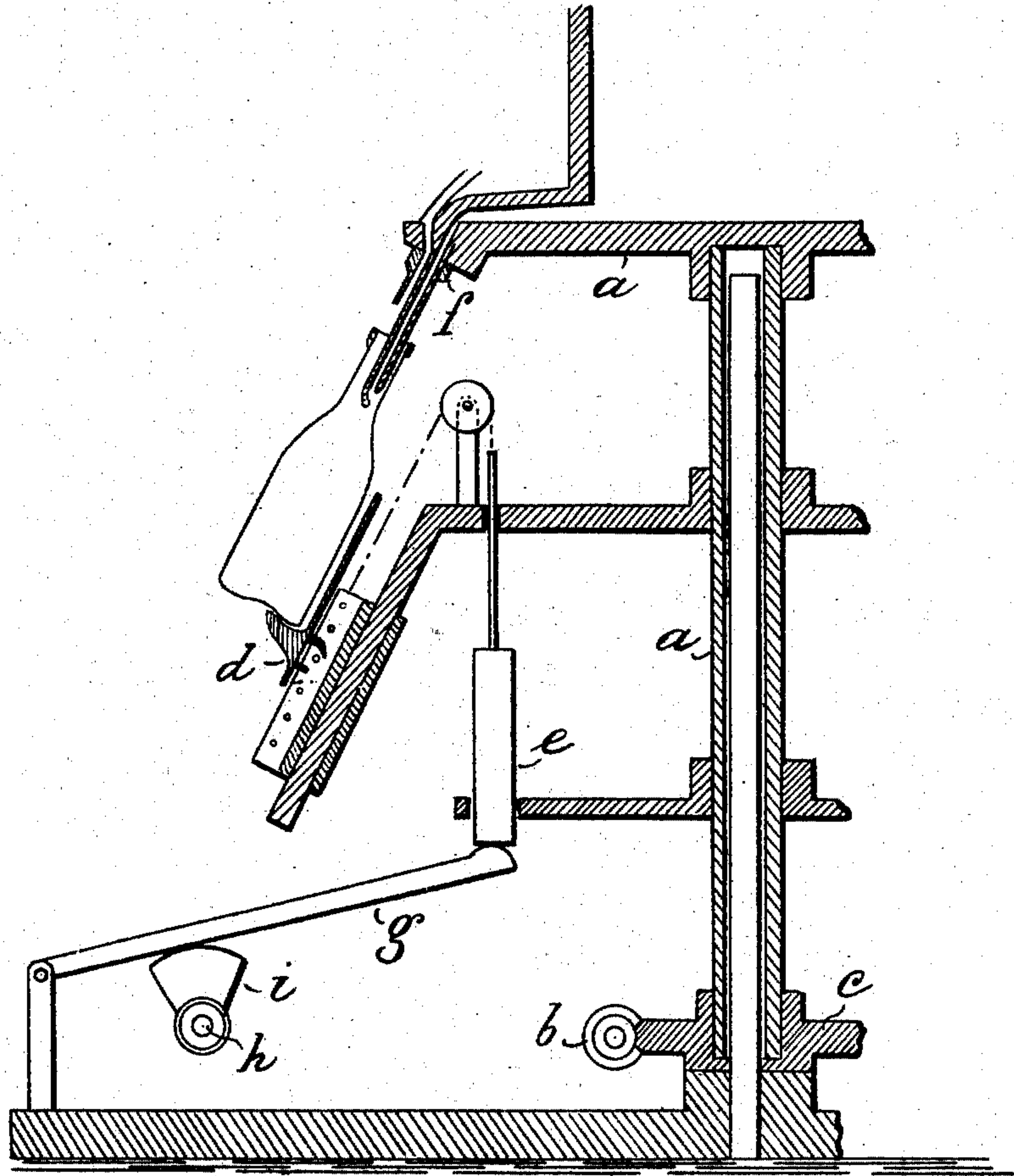
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2 SHEETS—SHEET 2.

*Fig. 3*



Witnesses  
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*by Williamson, Fisher & Wetherup*  
 his Attorneys.



# UNITED STATES PATENT OFFICE.

ANDERS ANDERSEN PINDSTOFTE, OF COPENHAGEN, DENMARK.

## ROTARY BOTTLING-MACHINE.

967,050.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Original application filed September 24, 1909, Serial No. 519,390. Divided and this application filed March 9, 1910. Serial No. 548,225.

*To all whom it may concern:*

Be it known that I, ANDERS ANDERSEN PINDSTOFTE, manufacturer, subject of the Kingdom of Denmark, residing at No. 62 Frederiksberg Allé, in the city of Copenhagen, Denmark, have invented new and useful Improvements in Bottling-Machines, of which the following is a specification.

This application is a division of my former application filed September 24, 1909, Serial No. 519,390, and the invention has for its object improvements in bottling machines and especially to provide such machines with means which successively and automatically release the bottles from the bottle filling devices in such a manner that the filled bottles can be removed and empty bottles inserted without it being necessary for the operator himself to release the filled bottles from or to press the empty bottles against the bottle filling devices, which of course essentially facilitates and accelerates the bottling operation.

The invention refers especially to bottling machines in which the bottles are placed upon movable bottle supports, which by means of a counterweight connected to the support by a chain or the like passing over a guide roll are drawn upward in an inclined direction thereby pressing the mouth of the bottles firmly against the bottle filling devices.

The improved means consist of a lifting device operated by the machine but being not connected to the bottle supports or to the counterweights, which lifting device during the rotation of the machine successively lifts the counterweights so that the bottles placed upon the corresponding bottle supports are released from the bottle filling devices, and further of means which receive the lifted counterweights and cause that they remain inactive during the removal of the filled bottle and the insertion of an empty bottle, whereupon the counterweights are again automatically brought into action thereby pressing the new inserted bottles against the bottle filling devices.

A constructional form of the invention is shown in the annexed drawings, in which—

Figure 1 is a side view of a rotary bottling machine provided with the improvements, certain parts being omitted. Fig. 2 a sectional plan view of said bottling machine,

certain parts being omitted, and Fig. 3 a vertical section through a part of the machine.

In all of the figures *a* is the rotating part or carrier of the bottling machine, which is operated by means of the screw *b* and pinion *c*. The movable bottle supports *d* are drawn upward by means of counterweights *e* connected to said bottle supports, so that the bottles placed upon the bottle supports are pressed against the bottle filling devices *f*.

The machine is provided with a lever *g* having its free end situated below the path of movement of the counterweights *e* and being fulcrumed to permit a certain lateral movement, thereby permitting the lever to follow the rotating counterweight within a certain distance. To a shaft *h* placed below the lever *g* and rotated from the driving shaft of the bottling machine is fixed a cam *i* or the like which for each revolution of the shaft lifts the lever *g* which in turn lifts the counterweight being above its free end at that moment and places it upon a guide rail *k*, thereby causing the bottle support *d* to move downward and release the bottle from the bottle filling device *f* (see Fig. 3) so that the filled bottle can be removed from and an empty bottle inserted upon the bottle support.

It will be understood that any suitable valve mechanism is employed for controlling the flow of liquid, through the bottle filling means *f*, but this element is not referred to in the claims, and forming no part of the present invention has not been illustrated on the drawings.

The guiderail *k* causes the counterweights *e* placed upon it to be inoperative until they again owing to the rotation of the machine have passed the other end of said rail, whereupon the counterweights are again brought into action and press the empty bottles inserted upon the bottle supports against the bottle filling devices. As soon as the cam *i* has passed the lever *g* said lever falls at once down upon the hub of the cam *i* (see the position shown in broken lines Fig. 1), so that the lever *g*, when lifted again by the cam *i*, will meet the next counterweight and lift it.

The above constructions can be modified without departing from the scope of the invention, and the specific form of elevating



means may be used in connection with movable carriers whether rotary or otherwise movable.

The invention is especially intended for rotary counterpressure-bottling machines in which the counterweights owing to the great pressure must be very heavy. In such cases the lifting by hand or foot of the counterweights is of course a very tiresome and timewasting work, which hitherto has essentially diminished the capacity of such machines. These disadvantages are however prevented by the invention as by it the lifting of the counterweights is automatically performed so that thereby the capacity of the machine is more than doubled. And further the manual labor demanded of the operator is essentially diminished as he can give full advertence to the bottles and consequently the exchange of bottles can be done more rapidly than hitherto.

#### Claims.

1. In a rotary bottling machine having a number of bottle filling devices and a corresponding number of movable bottle supports, the combination with counterweights, one for each of the bottle supports and each connected to the corresponding bottle support by a chain passing over a guide roll, of a lifting device independent of said bottle supports and counterweights, which lifting device is operated in accordance with but fully independent of the bottling machine to lift successively during the rotation of the machine said counterweights thereby successively releasing the bottles placed upon the bottle support from the bottle filling devices, and means which receive the lifted counterweights and keep them inoperative during the removal of a filled and the insertion of an empty bottle where upon said means again automatically cause the counterweights to be active and press the bottles against the bottle filling devices.

2. In a bottling machine, the combination of a movable carrier, a plurality of bottle supports movably mounted thereon, counterweights connected with said supports and normally holding same in the filling position, automatic means elevating said counterweights comprising a lever operating in the path of said counterweights, means temporarily holding said counterweights elevated

independently of said automatic means, means operating said movable carrier, and means operating said lever, substantially as described.

3. In a bottling machine, the combination of a movable carrier, a plurality of bottle supports movably mounted thereon, counterweights connected with said supports and normally holding same in the filling position, automatic means elevating said counterweights comprising a lever operating in the path of said counterweights, means temporarily holding said counterweights elevated independently of said automatic means, means operating said movable carrier, and means operating said lever comprising a cam rotating beneath and in engagement with said lever, substantially as described.

4. In a rotary bottling machine having a number of bottle filling devices and a corresponding number of movable bottle supports, the combination with counterweights one for each of the bottle supports and each connected to the corresponding bottle support by a chain passing over a guide roll, of a lever fulcrumed in the frame of the machine and having its free end below the path of the counterweights, a cam or the like fixed to a shaft rotated in accordance with but fully independent of the rotation of the bottling machine, which cam lifts and again suddenly releases the lever for each full revolution of the shaft thereby causing the lever to successively lift the counterweights and thereby successively to release the filled bottles placed upon the bottle supports from the bottle filling devices, and a guide rail which receives the lifted counterweights and keeps them inoperative during a certain time whereupon it again brings the counterweights into action so that the empty bottles inserted upon the bottle supports are pressed against the bottle filling devices.

In testimony whereof I, ANDERS ANDERSEN PINDSTOFTE have signed my name to this specification in the presence of two subscribing witnesses, this 15th day of February 1910.

ANDERS ANDERSEN PINDSTOFTE.

Witnesses:

MARCUS CLÓLLERS,  
VIGGO C. ROBERTS.