

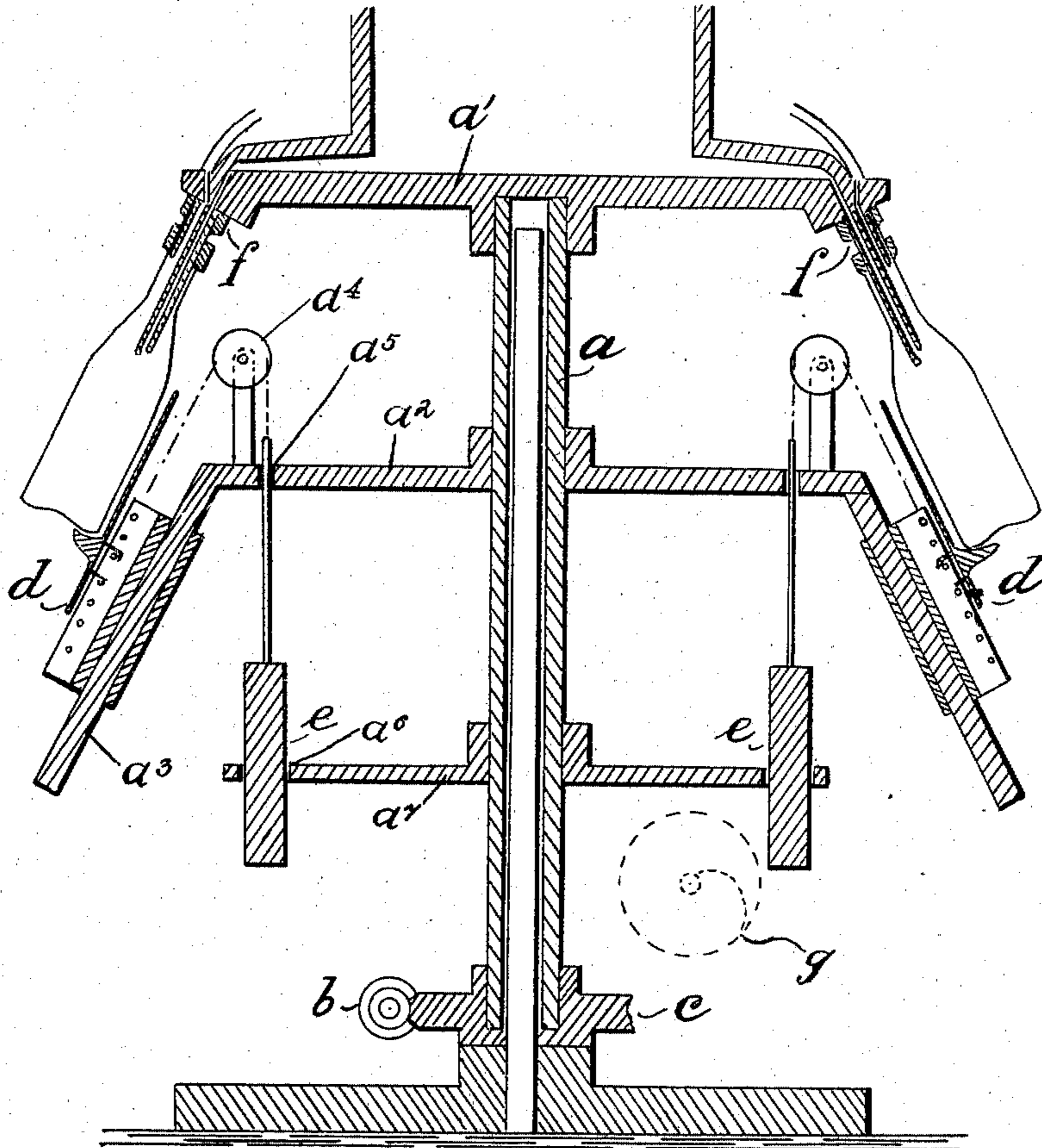
A. A. PINDSTOFTE.
BOTTLING MACHINE.
APPLICATION FILED SEPT. 24, 1909.

967,049.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses
J. J. Givsto
B. B. Collings.

Inventor
A. A. Pindstofte
by *W. J. Wilson, John H. Witherman*
Attorneys

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Patented Aug. 9, 1910.

2 SHEETS—SHEET 2.



Fig. 4

Witnesses
J. S. Austin
B. B. Collings.

Inventor
A. A. Pundstoffer
By Willson, Dike & Witherman
his Attorneys

UNITED STATES PATENT OFFICE.

ANDERS ANDERSEN PINDSTOFTE, OF COPENHAGEN, DENMARK.

BOTTLING-MACHINE.

967,049.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed September 24, 1909. Serial No. 519,390.

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 invention relates to improvements in bottling machines of the type in which the bottles are automatically and successively moved and held into operative relation with bottle filling means, and similarly are automatically moved away from the bottle filling means after they have been filled, whereby a filled bottle can be extracted and an empty bottle placed on its support.

Broadly the invention consists of a movable carrier provided with a plurality of movable supports for the bottles, said supports being provided with counterweights for holding the bottles normally in the filling position and which are elevated at a predetermined time to allow the bottle to move away from the filling means, said counterweights being temporarily held elevated by means other than the elevating means.

While the invention is not necessarily restricted to a rotary carrier this is probably the most satisfactory type of carrier, and for the purpose of disclosure reference is had to the accompanying drawings illustrating a constructional form of bottle filling machine, in which drawings like letters designate the same parts in the several views, and in which—

Figure 1 is a view in central vertical section, the elevating means for the counterweights being shown in dotted lines. Fig. 2 is a view in elevation, certain parts being omitted. Fig. 3 is a sectional plan view, certain parts being omitted and Fig. 4 is a local view of the elevating cam.

The movable carrier, which is shown in the drawings as being of the rotary type, consists of the hollow vertical shaft *a* driven by a worm shaft *b* meshing with a gear *c* carried by the shaft *a*, *a'* designating a support, for the filling means, carried by the shaft *a*. *a*² is also a support carried by the shaft *a* and provided with the inclining portion *a*³, the pulleys *a*⁴ and the openings *a*⁵ cooperating with the cables connecting the bottle supports *d* slidably mounted on the inclining walls *a*³, with the counterweights *e* held in position by the guide openings *a*⁶

formed in the support *a'* also carried by the shaft *a*.

f designates the usual bottle filling means carried with the movable carrier. 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.

g designates a helical cam member vertically disposed below the counterweights *e* and rotatable in the path of movement of said counterweights. This cam member *g* is mounted on a shaft *h* which is suitably driven, as also is the worm shaft *b*.

k designates a guide rail or temporary support for the counterweights during a portion of their movement, and this guide rail *k* is disposed in the path of travel of said counterweights at a position adjacent said cam member and disposed slightly above the normal lower ends of said counterweights.

From the foregoing it will be seen that as the counterweights reach the helical cam member they are successively elevated and deposited on the end of the guide rail *k*, and during their passage across the guide rail *k* the corresponding bottle support, with its bottle, is moved away from the filling device, a new bottle being replaced in its stead, and when the counterweight drops off the guide rail *k* the bottle support is forced upwardly and the bottle is snugly held in place with reference to its particular filling device.

It will be understood that modifications might be made in the structural arrangement without departing from the spirit of the invention, and having thus described a practical embodiment of same,

What I claim is:—

1. In a bottle filling 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, and means temporarily holding said counterweights elevated independently of said automatic means, substantially as described.

2. In a bottle filling 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 helical cam member operating in the path of movement of said counterweights, and means temporarily holding said counterweights elevated independently of said automatic means, substantially as described.

10 3. In a bottle filling 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
15 position, automatic means elevating said counterweights, and means temporarily holding said counterweights elevated independently of said automatic means comprising a guide rail disposed in the path of
20 movement of said counterweights and at a height above the normal position of the lower ends of said counterweights, substantially as described.

25 4. In a bottle filling machine, the combination of a movable carrier, a plurality of bottle supports slidingly mounted thereon, counterweights connected with said supports normally holding same in the filling position, said counterweights being vertically
30 disposed and held against lateral movement by guiding apertures formed in a support mounted on said carrier, automatic means elevating said counterweights at a predetermined position of their path of travel, and

means temporarily holding said counterweights elevated independently of said automatic means, substantially as described. 35

5. In a rotary bottling machine having a number of bottle filling devices and a corresponding number of movable bottle supports, the combination with counterweights 40 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 shaft rotated in accordance with but fully 45 independent of the rotation of the bottling machine, a helical member fixed to said shaft and successively lifting the counterweights—one for each full revolution of the shaft—
50 thereby successively releasing 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 brings again the counter-
55 weights into action, so that the empty bottles inserted upon the bottle support are pressed against the bottle filling devices, substantially as described.

In testimony whereof I, ANDERS ANDERSEN PINDSTOFTE, have signed my name to this specification in the presence of two subscribing witnesses, this ninth day of September 1909. 60

ANDERS ANDERSEN PINDSTOFTE.

Witnesses:

MARCUS MÖLLER,
CHR. MORTENSEN.