

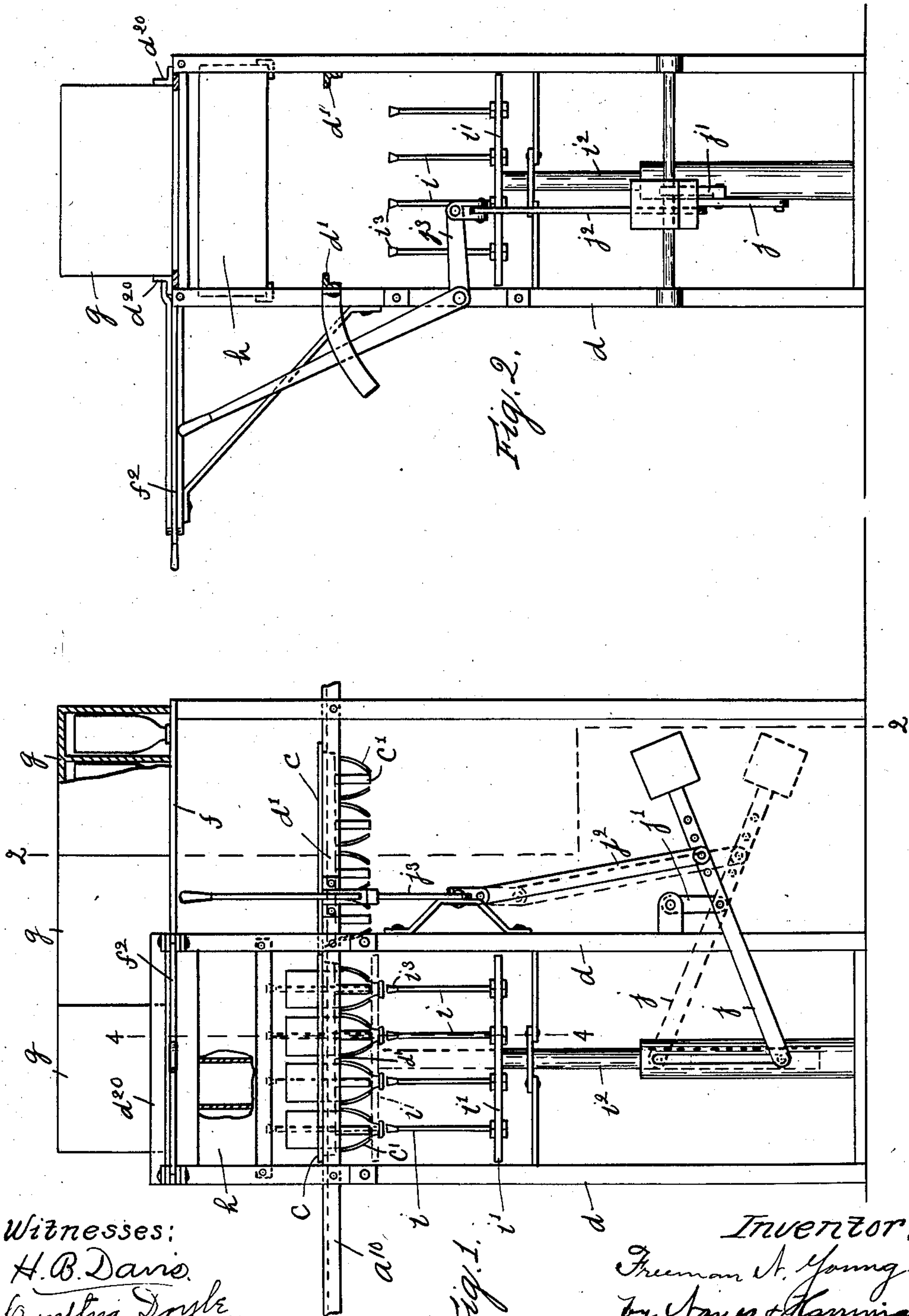
No. 843,056.

PATENTED FEB. 5, 1907.

F. N. YOUNG.  
BOTTLE WASHING MACHINE.

APPLICATION FILED DEC. 6, 1906.

2 SHEETS—SHEET 1.



Witnesses:  
H. B. Davis.  
Cynthia Doyle.

Fig. 1.

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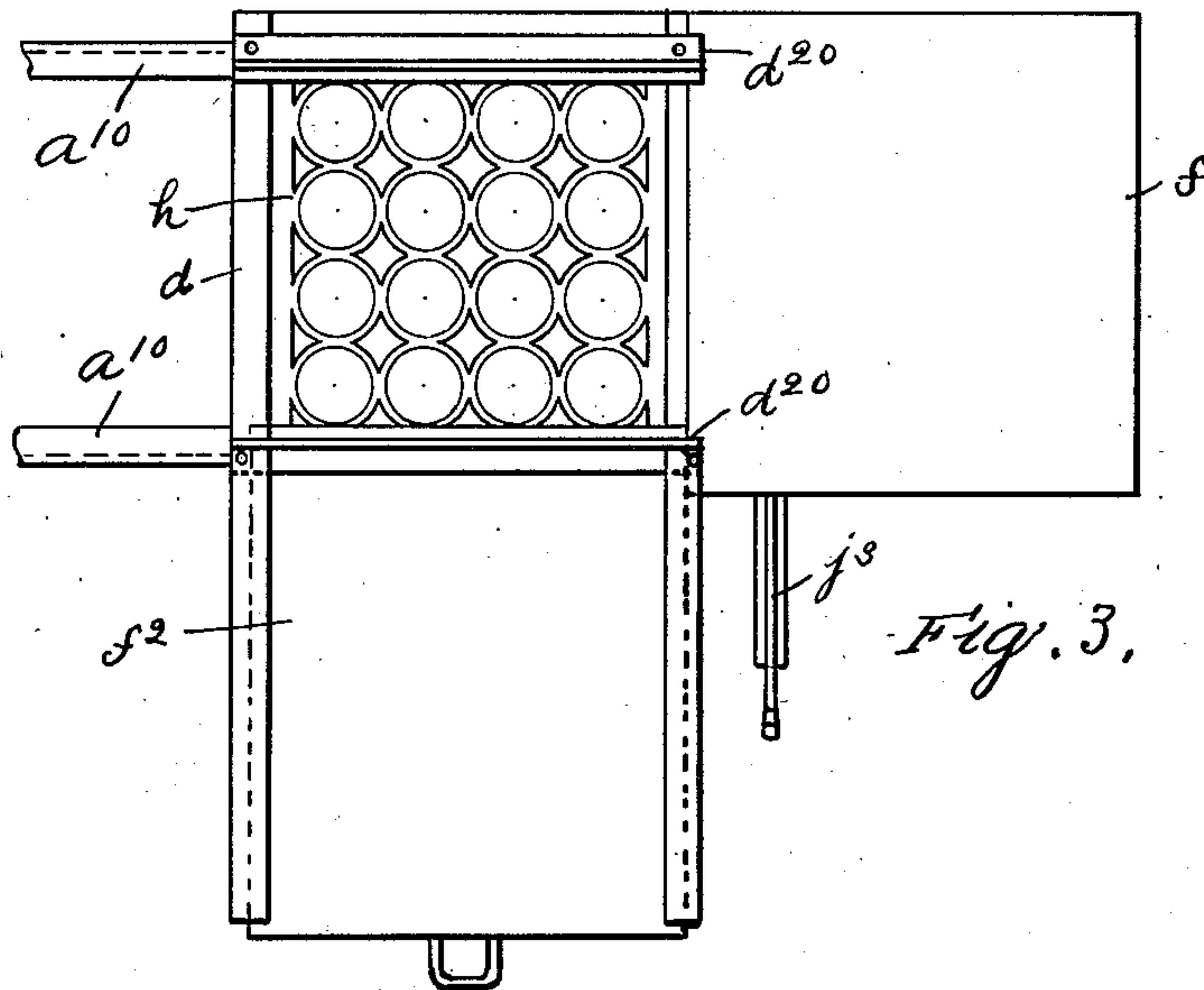


Fig. 3.

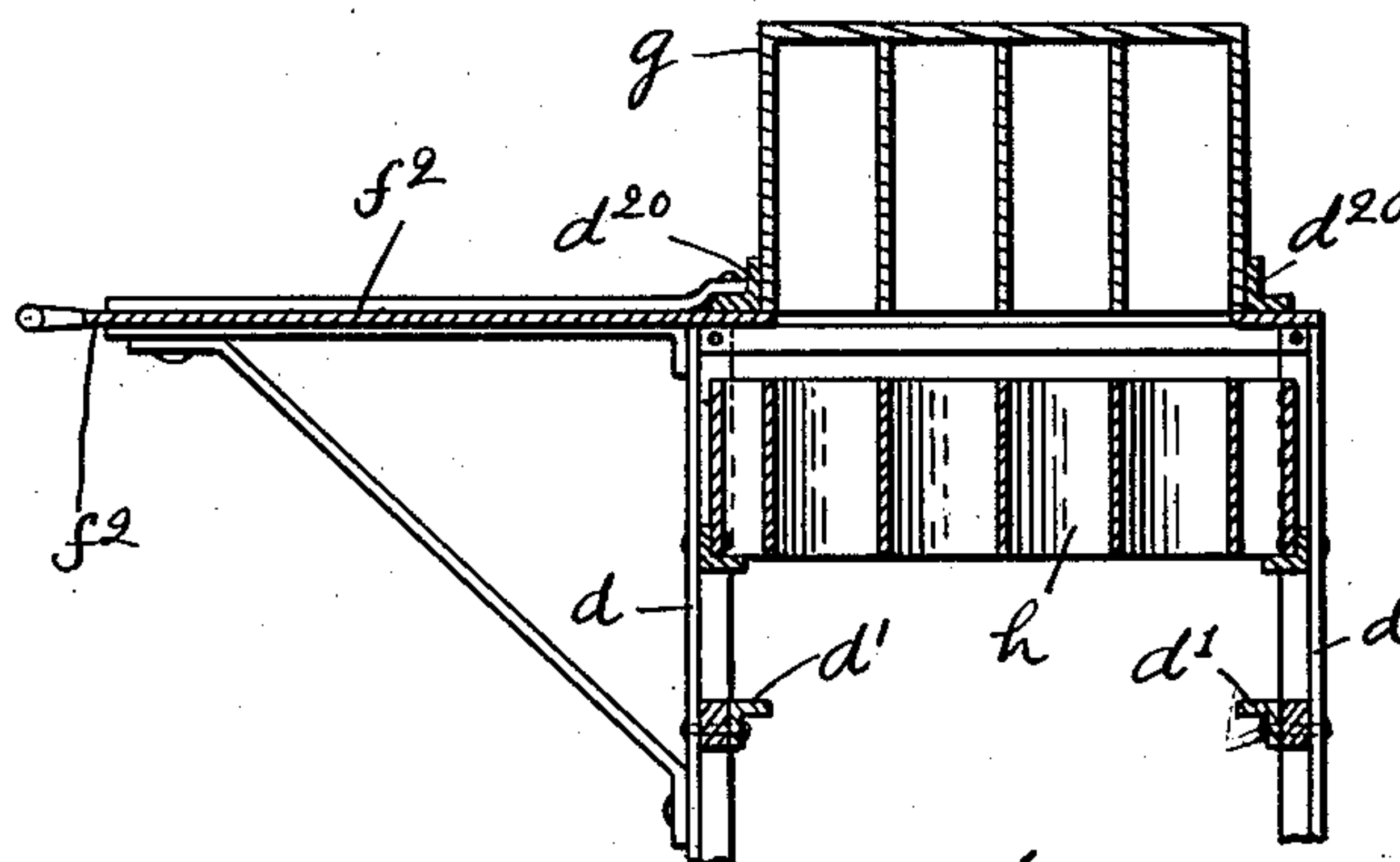


Fig. 4.

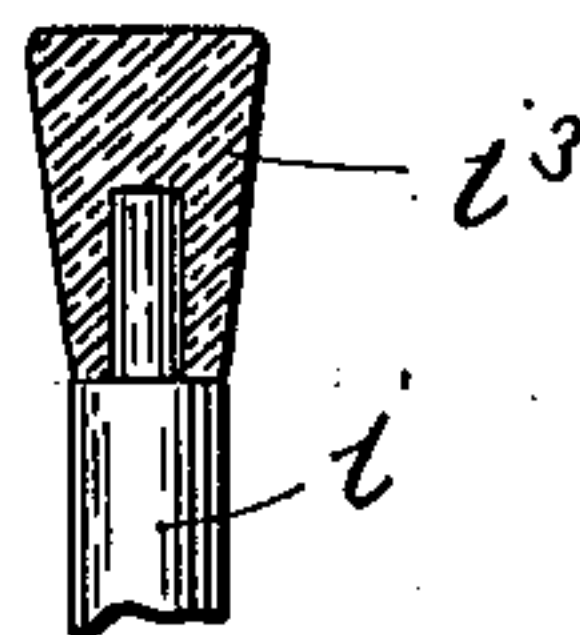


Fig. 5.

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# UNITED STATES PATENT OFFICE.

FREEMAN N. YOUNG, OF ARLINGTON, MASSACHUSETTS.

## BOTTLE-WASHING MACHINE.

No. 843,056.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed December 6, 1906. Serial No. 346,542.

*To all whom it may concern:*

Be it known that I, FREEMAN N. YOUNG, of Arlington, county of Middlesex, State of Massachusetts, have invented an Improve-  
5 ment in Bottle-Transferring Devices for Bottle-Washing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like  
10 parts.

In United States Patent No. 780,488, dated January 17, 1904, a bottle-washing machine is shown wherein the bottles are held  
15 by suitable racks supported by a rotatable frame and are submerged in water which is contained in a suitable tank by the rotation of said frame. The rotatable frame, which supports the bottle-racks, is provided with  
20 open ends and with tracks which extend lengthwise thereof, and the bottle-racks are adapted to be moved along on said tracks, entering the frame at one end and leaving it  
25 at the opposite end. The bottle-racks are made as large as can be conveniently handled, and the bottles are placed therein by hand and held by suitable bottle-engaging devices which are provided for the purpose.

Bottles for reuse are usually returned in the shipping cases or boxes and are taken  
30 from the boxes and placed in the bottle-racks, and considerable time is required and expense involved by this operation.

This invention has for its object to provide means for transferring the bottles from the  
35 cases or boxes to the bottle-racks, and also for supporting said bottle-racks relative to the washing-machine, so that they may be moved along from the transferring device to the rotatable frame of said machine, thereby  
40 obviating the necessity of placing the bottles in the racks by hand and of placing the filled racks in the machine.

My invention, however, may be used in conjunction with machines other than wash-  
45 ing-machines, if desired.

Figure 1 shows in front elevation a bottle-washing machine embodying this invention. Fig. 2 is a vertical section of the machine shown in Fig. 1, taken on the dotted line 2 2,  
50 the bottle-transferring device being shown in end elevation. Fig. 3 is a plan view of the machine shown in Fig. 1. Fig. 4 is a vertical section taken on the dotted line 4 4, Fig. 1, showing particularly the guides for

the bottles, the box, and the slide. Fig. 5 is a  
55 sectional detail of one of the bottle-receiving spindles.

Referring to Fig. 1,  $a^{10}$  represents the tracks leading to the bottle-washing machine (not shown) which support the bottle-  
60 racks and on which said racks slide, said bottle-racks comprising a perforated plate  $c$ , from which depend the bottle-engaging devices  $c'$ , all as shown in Letters Patent No. 780,488, above referred to.

$d$  represents a stationary upright frame suitably constructed to support the parts. The frame supports a pair of horizontal  
65 tracks  $d'$  at a suitable elevation, which occupy a position in continuation of the tracks  $a^{10}$ . The tracks  $d'$  extend throughout the length of the frame  $d$  and at one end extend  
70 beyond said frame and at the opposite end meet the tracks  $a^{10}$ , thereby providing means extending throughout the length of said  
75 frame for supporting at least two bottle-racks, one within the frame and one on the extended tracks and for permitting the discharge thereof at one end as an empty rack  
80 is introduced at the opposite end.

As shown in Fig. 1, an empty bottle-rack  $c$  rests on the tracks  $d'$  outside the frame and a filled bottle-rack rests on the tracks within the frame. At the top of the frame  $d$   
85 a horizontal platform  $f$  is shown, which extends over the top of the frame and also beyond the frame at one end. On said platform the boxes or cases  $g$ , containing the bottles, are placed in inverted position, the bottles thereby resting upon the platform. That  
90 portion of the platform within the frame is formed or provided with a movable plate  $f^2$ , which is adapted to slide in and out in ways provided for it in a direction preferably at  
95 right angles to the length of the platform, and said plate occupies a position flush with the platform, so that the inverted boxes or cases may be pushed along on the platform  
100 to a position above said sliding plate, and when so moved the bottles will rest on said plate. The platform is provided with guides  
105  $d^{20}$  for the boxes or cases. A guide-block  $h$  is supported by the frame just beneath the sliding plate  $f^2$  and above the tracks which support the bottle-rack, which is formed or provided with a plurality of vertical guide-passages for the bottles. When an empty bottle-rack is moved into position beneath said



guide-block and the plate  $f^2$  drawn out, the bottles will move by gravity down through said guide-passages in a direction toward the bottle-rack.

5 To obviate the bottles too quickly entering the bottle-rack, with the consequent liability of breakage, a plurality of upright spindles  $i$  are provided, which serve as independent supports for the bottles, and said spindles are  
10 supported by a frame  $i'$ , mounted upon an upright post  $i^2$ , which is suitably supported by the frame. The frame carrying the spindles is located below the tracks supporting the bottle-rack, so that an unobstructed way  
15 is provided for the movement of the bottle-rack along on the tracks above the spindles. The frame carrying the spindles is adapted to be raised, so that the spindles project up through the openings in the bottle-rack, the  
20 upper ends of the spindle terminating close to the lower ends of the guide-passages. The upper ends of the spindles are provided with cushions  $i^3$ . (See Fig. 5.)

To move the frame carrying the spindles  
25 up and down, a lever  $j$  is loosely connected to the upright post  $i^2$ , which is pivotally connected by a pivot-link  $j'$  to the frame, and said lever is connected by a rod  $j^2$  with one arm  $j^3$  of a bell-crank lever, the other arm of  
30 which extends upward and is formed or provided with a hand-piece, by which it may be operated. The frame carrying the spindles is moved upward so as to bring the upper ends of the spindles close to the lower ends of  
35 the guide-passages before the sliding plate is drawn out, and then said plate is drawn out and the bottles, being unsupported, are caused to move by gravity down through the guide-passages onto the spindles. The frame carrying the spindles is then lowered, and the  
40 bottles carried by them descend and enter the bottle-rack, moving into engagement with the bottle-engaging devices thereof. The spindles therefore serve as independent  
45 supports for the bottles, receiving the same from the boxes or cases and delivering them to the rack. The filled bottle-rack is then moved along on the tracks onto the tracks  $a^{10}$  and an empty bottle-rack is moved into position  
50 beneath the guide-block in order that the operations may be repeated.

I do not desire to limit my invention to the particular construction of parts, as it is obvious that changes may be made, yet the described functions or their equivalents subserved.  
55

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

60 1. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting  
65 plate, which, when drawn out permits the

bottles to move by gravity from the box or case to the bottle-rack, substantially as described.

2. In a machine of the character described, the combination of means for supporting a  
70 bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the  
75 bottles to move by gravity from the box or case to the bottle-rack, and guides for the bottles, interposed between said supporting means for the box or case and the bottle-rack, substantially as described.

3. In a machine of the character described, 80 the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, a set of upright spindles arranged with  
85 respect to the supporting means for the box or case, to receive the bottles from the box or case when said plate is drawn out and means for moving said spindles to convey the bottles to the bottle-rack, substantially as described. 90

4. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or  
95 case in inverted position above the bottle-rack, having a movable bottle-supporting plate, a set of upright spindles adapted to extend up through the bottle-rack and arranged with respect to the supporting means  
100 for the box or case to receive the bottles from said box or case when said plate is drawn out, and means for moving said spindles to convey the bottles to the bottle-rack, substantially as described.

5. In a machine of the character described, 105 the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, a set of upright spindles arranged with  
110 respect to the supporting means for the box or case to receive the bottles from the box or case when said plate is drawn out, and a guide for the bottles interposed between said supporting means for the box or case and  
115 said spindles, substantially as described.

6. In a machine of the character described, the combination of a frame having means extending throughout its length for supporting  
120 a bottle-rack and permitting the discharge thereof at one end, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the bottles to move by gravity from the  
125 box or case to the bottle-rack, substantially as described.

7. In a machine of the character described, the combination of a frame having tracks extending throughout its length for supporting  
130



a bottle-rack and permitting the discharge thereof at one end as a new rack is supplied at the opposite end, means for supporting boxes or cases, in inverted position, above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the bottles to move by gravity from the box or case to the bottle-rack, substantially as described.

8. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above said bottle-rack, having a movable bottle-supporting plate, a plurality of independent bottle-supports, a frame carrying them, and means for moving said frame to project the bottle-supports up through the bottle-rack, to a position to receive the bottles from the box or case when said plate is drawn out and to subsequently convey said bottles to the bottle-rack upon the descent thereof, substantially as described.

9. In a machine of the character described, the combination of a frame, means borne by it for supporting a bottle-rack, means, extending throughout its length, for supporting a series of boxes or cases in inverted position, having a movable bottle-supporting plate above the bottle-rack, which, when drawn out permits the bottles to move by gravity from the boxes or cases into the bottle-rack, substantially as described.

10. In a machine of the character described, the combination of a frame, means

borne by it for supporting a bottle-rack, means, extending throughout the length of said frame, for supporting a series of boxes or cases in inverted position and permitting the discharge thereof at one end as new boxes or cases are supplied at the opposite end, and having a movable bottle-supporting plate above the bottle-rack, which, when drawn out permits the bottles to move by gravity from the boxes or cases into the bottle-rack, substantially as described.

11. In a machine of the character described, the combination of a frame having means extending throughout its length for supporting the bottle-rack, and permitting the discharge thereof at one end as a new rack is supplied at the opposite end, means, extending throughout the length of said frame, for supporting a series of boxes or cases in inverted position, permitting the discharge thereof at one end as new boxes or cases are supplied at the opposite end, and having a movable bottle-supporting plate above the bottle-rack, which when drawn out permits the bottles to move by gravity from the boxes or cases into the bottle-rack, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREEMAN N. YOUNG.

Witnesses:

B. J. NOYES,

H. B. DAVIS.