

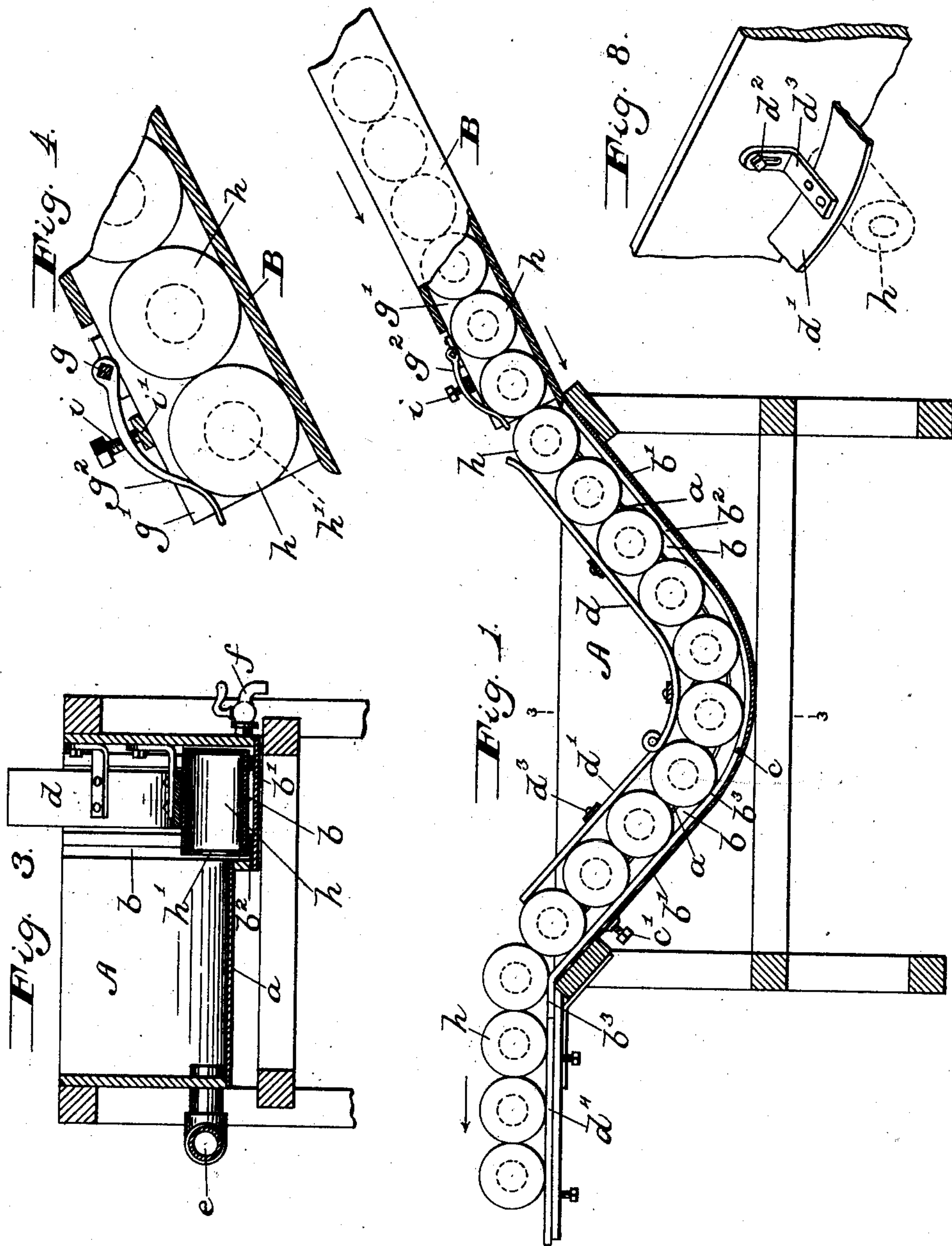
No. 736,762.

PATENTED AUG. 18, 1903.

P. MITCHELL.
CAN FILLING MACHINE.
APPLICATION FILED NOV. 1, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.
H. J. Meyer, Jr.
G. F. Vogt.

Inventor.
Parker Mitchell
By Mann & Co.,
Attorneys.

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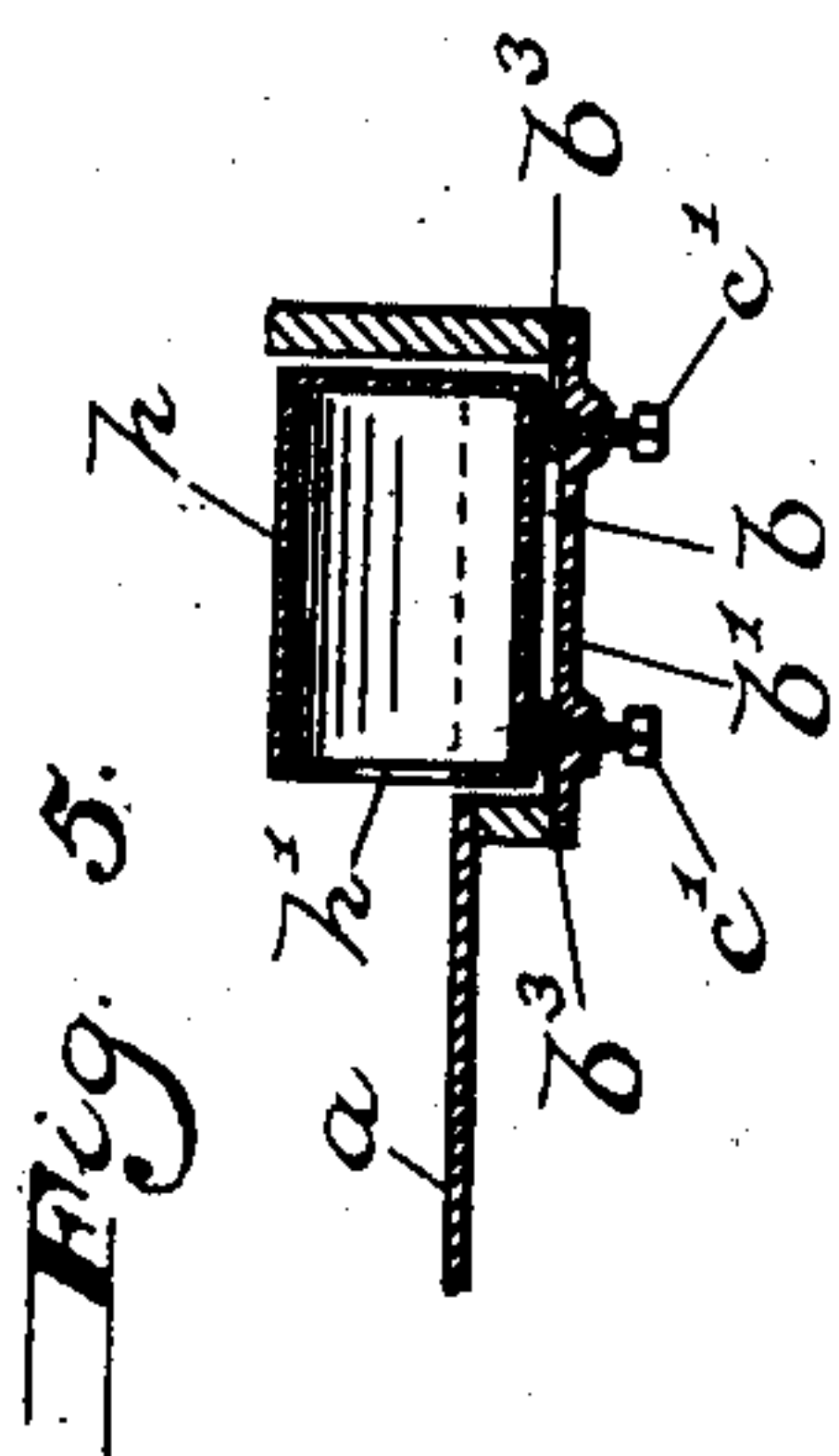
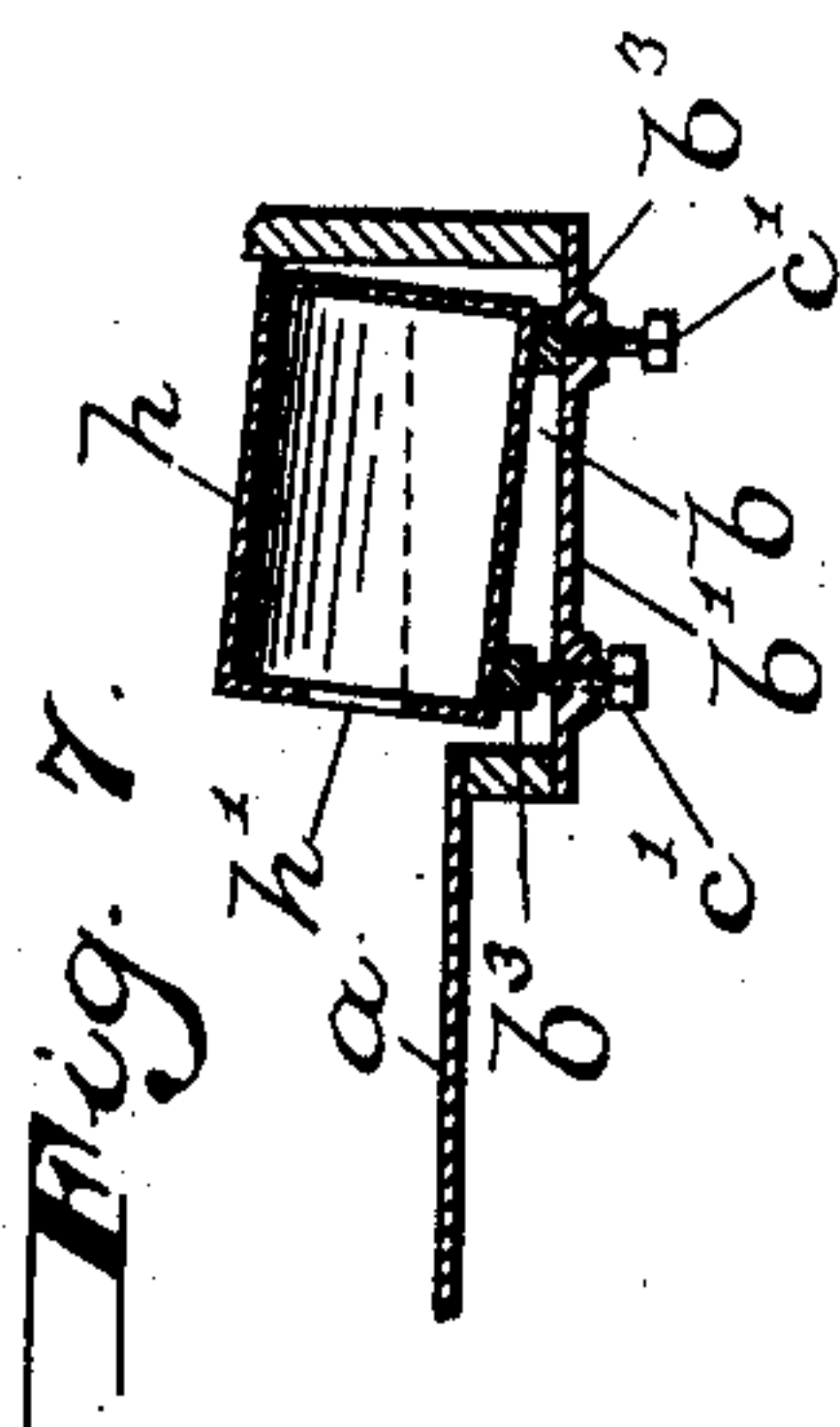
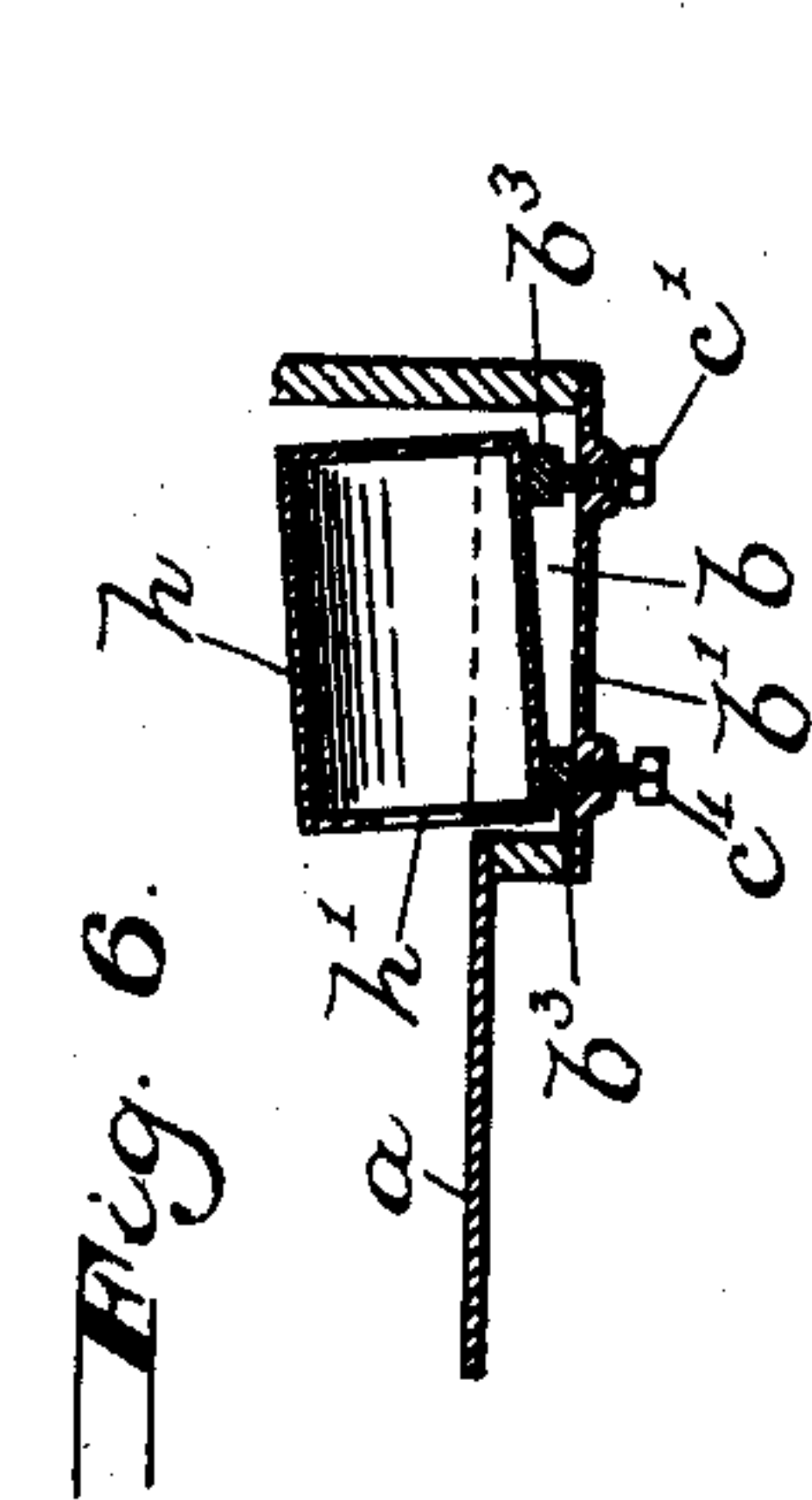
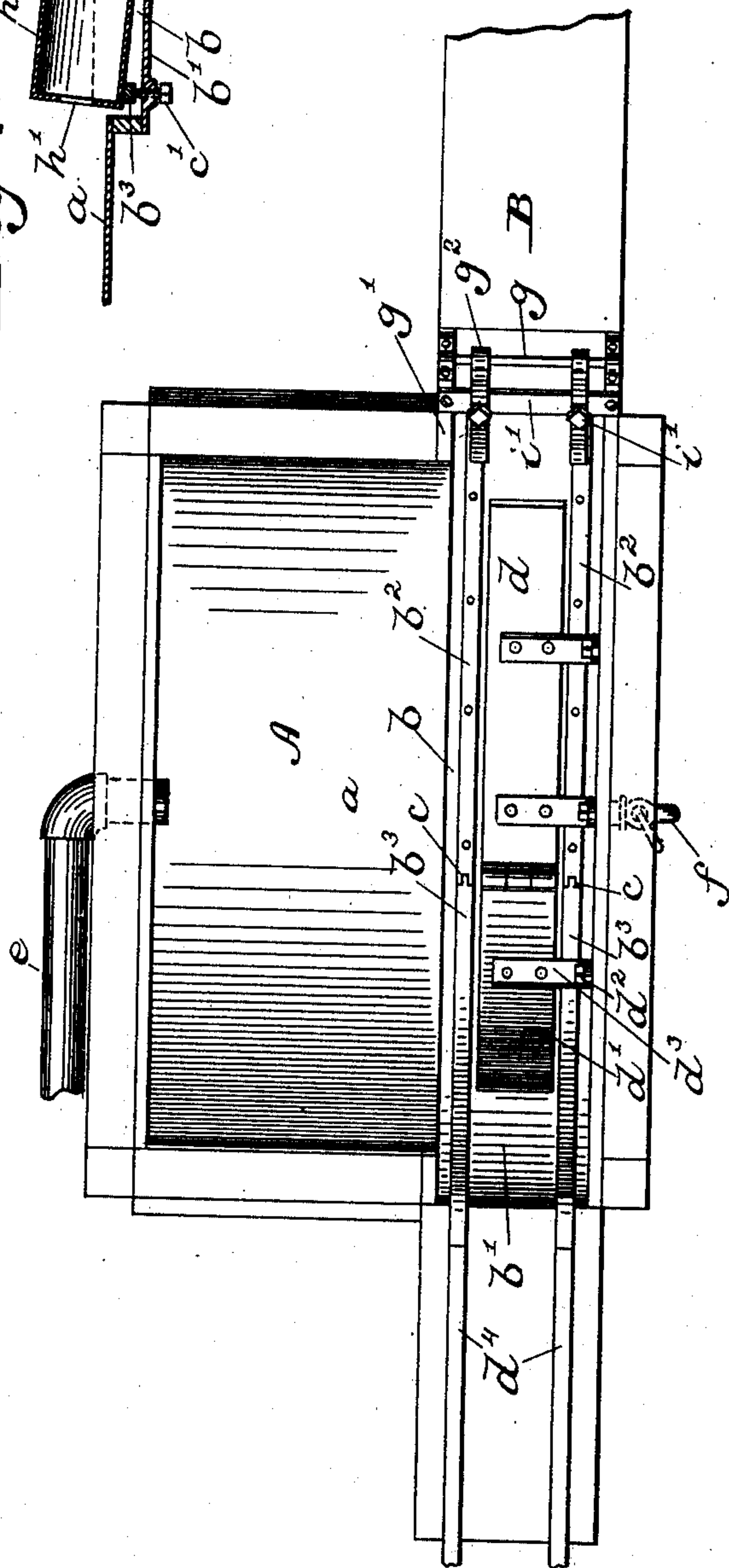


Fig. 2.



Witnesses.
H. F. Meyer
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Parker Mitchell
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Attorneys.

UNITED STATES PATENT OFFICE.

PARKER MITCHELL, OF PERRYMAN, MARYLAND.

CAN-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 736,762, dated August 18, 1903.

Application filed November 1, 1902. Serial No. 129,676. (No model.)

To all whom it may concern:

Be it known that I, PARKER MITCHELL, a citizen of the United States, residing at Perryman, in the county of Harford and State of Maryland, have invented certain new and useful Improvements in Can-Filling Machines, of which the following is a specification.

My invention relates to improvements in can-filling machines, and has for its object to provide an improved device for feeding or filling juice or liquid into cans or other receptacles previous to packing therein the solids.

In packing fruits and vegetables it is desirable, from a packer's point of view, that the cans or other receptacles contain a certain amount of liquid or juice. Some goods require more juice than others, and in some instances the cans or receptacles should contain about one-half juice.

The object, therefore, of this invention is to provide a machine for automatically filling liquid into cans which shall be so constructed and have such operation that when the cans are discharged from the machine each can will have a predetermined quantity of liquid to suit the class of goods to be packed.

The machine of this invention is preferably to be placed in a position near the filler which is to supply the solids, so that the juice from the latter, which under the old practice is often wasted, may be conveyed to the tank of the liquid-filler.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 illustrates a longitudinal vertical section through the filler near one side and also shows a portion of the can-feeding chute. Fig. 2 illustrates a plan view of same; Fig. 3, a cross-section on the line 3-3 of Fig. 1. Fig. 4 shows a section of the lower end of the can-feeding chute and the spring can-check device. Fig. 5 illustrates a detail cross-sectional view of the canway and a can to illustrate the horizontal position of the can, in which position it would contain the mean or average quantity of liquid. Fig. 6 shows a detail cross-sectional view of same with the track-rails adjusted for the purpose of inclining the can so as to contain less than average quantity. Fig. 7 illustrates another detail cross-sectional view of the canway and rails with the rails adjusted to incline the can in reverse direc-

tion, so as to fill the can with a greater quantity of liquid than the average. Fig. 8 is a detail perspective view of one of the adjustable hangers for supporting the upper rail.

Referring to the drawings, the letter A designates a tank or receptacle which in the present instance is provided with a bottom *a*, which inclines downwardly from opposite ends toward the center, where it is lowest. At one side the bottom of this tank is provided with a depression or canway *b*, having a bottom *b'*, which extends parallel with the bottom *a*, but on a lower plane, and this canway is provided with two sets of rails *b*² and *b*³.

The rails *b*² are stationary and suitably secured to the bottom of the canway on the entrance end or incline and extend from the can-feed chute B down into the tank to near the center or lowest point. The rails *b*³ extend up the incline at the discharge side of said tank and are hinged at *c* or at their lowest ends, and set-screws *c'* extend through the bottom *b'* and contact with the lower face of said hinged rails, whereby each of said rails may be adjusted independently of the other in a vertical direction, as illustrated in Figs. 5, 6, and 7. By this construction one or the other of these rails *b*³ may be raised or lowered more or less, so as to make one track higher than the other. The purpose of thus adjusting these rails will be hereinafter pointed out.

A rail *d* has position above the canway and extends from the chute B down into the tank parallel with the stationary rails *b*², and another rail *d'* extends from the said rails *b*² up the other side of the tank above the rails *b*³. This latter rail *d'* is also adjustable in a vertical direction by means of the set-screws *d*² and brackets *d*³, which are secured to the front wall of the tank. At the discharge side of said tank a canway or track *d*⁴ is provided, onto which the cans are run after they have passed through the tank and been filled with juice or liquid. This discharge-way or track *d*⁴ may lead to the filler which supplies the solids and direct the cans into the latter, or the cans may be removed by hand and placed in the filler that is to fill the solids into the can.

A pipe *e* to supply the liquid enters the tank A at one side and is preferably connected at

its other end (not shown) to the other filler or other source of supply, and this pipe conveys the juice from the solid-filler to the tank of the liquid-filler.

- 5 A faucet or drain-valve f passes through the wall of the tank and is in communication with the canway b , and by opening this faucet the tank may be readily emptied of juice and washed out.
- 10 The chute B at its lower end is provided with a stationary cross-bar g , which extends across the top of the side wall g' , and this bar supports one end of two spring-fingers g^2 . The other end of each of said spring-fingers
- 15 extends downwardly and is in position to press on the cylindric walls of the cans h as the latter pass beneath into the tank. The free ends of these spring-fingers are adjustable by means of the set-screws i and cross-bar
- 20 i' . The set-screws passing through the fingers and abutting against the bar serve to raise or lower said ends, so as to cause them to press harder or lighter on the cylindric walls of the cans h .
- 25 In practice the liquid or juice is fed into the tank through the pipe e . The hinged rails b^3 are then adjusted according to the amount of liquid it is desired each can should contain. For example, if the cans are to contain
- 30 about one-third juice the rails b^3 are adjusted so as to extend in a parallel direction, so the can-bodies as they roll will remain in a horizontal plane, as seen in Fig. 5. If the cans are to contain less juice—say about one-
- 35 fourth—the outer one of the rails b^3 is elevated a little above the inner rail, and the cans will then roll through the canway with the bottom slightly elevated, as seen in Fig. 6, and a less amount of juice will remain in the can.
- 40 after the latter has passed out or above the level of the liquid in the tank. If a greater amount of juice is desired in the can—say about one-half—the outer rail is lowered and the inner rail is elevated, as seen in Fig. 7.
- 45 After the rails b^3 have been adjusted the upper rail d' is then adjusted to suit the lower rails, and the cans are then fed into the canway b between the upper rail d and the lower rails b^2 , with the opening h' in the head of the
- 50 can facing inward. The cans h being empty as they are fed into the way b would float on the liquid; but the rail d keeps them down and causes them to be submerged or partly submerged, while the pressure of the cans
- 55 from the chute B forces the preceding cans through said way and up the inclined side of the way at the discharge side of the tank. As the cans roll upon the adjusted tracks b^3 they are inclined one way or another or re-
- 60 main in a horizontal plane, as may be, and as the filled cans pass out of the juice the surplus liquid in the can will flow out until the liquid in the can reaches a level on a line extending from the opening h' in the can toward
- 65 the bottom of said can, as clearly seen in Figs. 5, 6, and 7.

In practice the empty cans are fed onto the

inclined chute B, preferably from the floor above that where the filler is located, and roll down beneath the spring-fingers g^2 and onto the rails b^2 and beneath the rail d , which latter prevents the cans from floating. The pressure of the cans in the chute against those in the tank filled and being filled will always be sufficient to move the latter forward and up the incline onto the rails d^4 .

The inclined chute in some instances will be longer than in others, and the greater number of cans a longer chute would contain might create too much pressure against the cans in the tank and also against those on the track d^4 . The spring-fingers g^2 are therefore provided to act as a brake by contacting with the lowermost can-body in the chute, and thereby relieve the cans in the tank from unnecessary pressure, so that said pressure will be merely sufficient to move the cans through the tank.

If the present filling-machine should be used in connection with a solid-filler, the track d^4 will lead to the latter and the liquid-supplied cans will be fed into the solid-filler one at a time, the pressure of the cans in the chute tending to always move the cans forward.

If the device is used as merely shown in the drawings, an operator will stand at the side of the track d^4 and hold the filled cans in check and remove them by hand.

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

1. In a machine for supplying liquid to cans the combination of a liquid-receptacle; means for conveying a can through the liquid in said receptacle whereby to permit the liquid to flow into the can, and devices for regulating the quantity of liquid that is to remain in the can.

2. In a can-filling machine the combination of a liquid-receptacle having a bottom which inclines downwardly from opposite ends; means for automatically feeding the cans at one end so as to roll down said incline through the liquid, and means located at the incline at the other end for tilting or inclining the cans so as to regulate the quantity of liquid that shall remain in the can.

3. In a can-filling machine the combination of a liquid-receptacle; a pair of rails on which the cans move through the said receptacle, and means for adjusting either of said rails in a vertical direction independently of the other.

4. In a can-filling machine the combination of a liquid-receptacle; a curved canway extending through said receptacle from one side to the other; a pair of rails in said canway which are adjustable in a vertical direction at the discharge side of said receptacle; a rail above said canway and extending in a direction parallel with said pair of rails, and means for vertically adjusting said rail.

5. In a can-filling machine the combination of a liquid-receptacle; means whereby the

cans may be rolled through the receptacle to permit liquid to enter the cans, and means for inclining or tilting the cans as they roll out of the liquid.

5 6. In a can-filling machine the combination of a liquid-receptacle; a canway extending through said receptacle; a pair of stationary rails in said canway at the entrance end, and a pair of adjustable rails in said way at the
10 discharge end.

7. In a can-filling machine the combination of a liquid-receptacle; means for moving cans through the receptacle; a chute in which the cans roll to the receptacle; and a device for
15 contacting with the said rolling cans to hold the latter in check.

8. In a can-filling machine the combination of a liquid-receptacle having a bottom which inclines downwardly from opposite ends, said
20 bottom being provided at one side with a depressed canway down which the cans roll into the receptacle, and means at the discharge side of said depressed canway for tilting or inclining the cans after they leave the liquid.

9. In a can-filling machine the combination 25 of a liquid-receptacle having a depressed canway which inclines downwardly from opposite ends of the receptacle; a pair of rails in said depressed canway at the entrance end and a pair of rails whose two members are 30 independently adjustable in said depressed canway at the discharge end for the purpose set forth.

10. In a can-filling machine the combination of a liquid-receptacle; a pair of stationary 35 inclined rails at the entrance end of said receptacle; a stationary rail, *d*, above said pair of rails; a pair of adjustable rails at the discharge end of said receptacle and an adjustable rail, *d'*, above said pair of adjustable 40 rails.

In testimony whereof I affix my signature in the preseuce of two witnesses.

PARKER MITCHELL.

Witnesses:

CHARLES B. MANN, Jr.,
CHAS. B. MANN.