

No. 720,613.

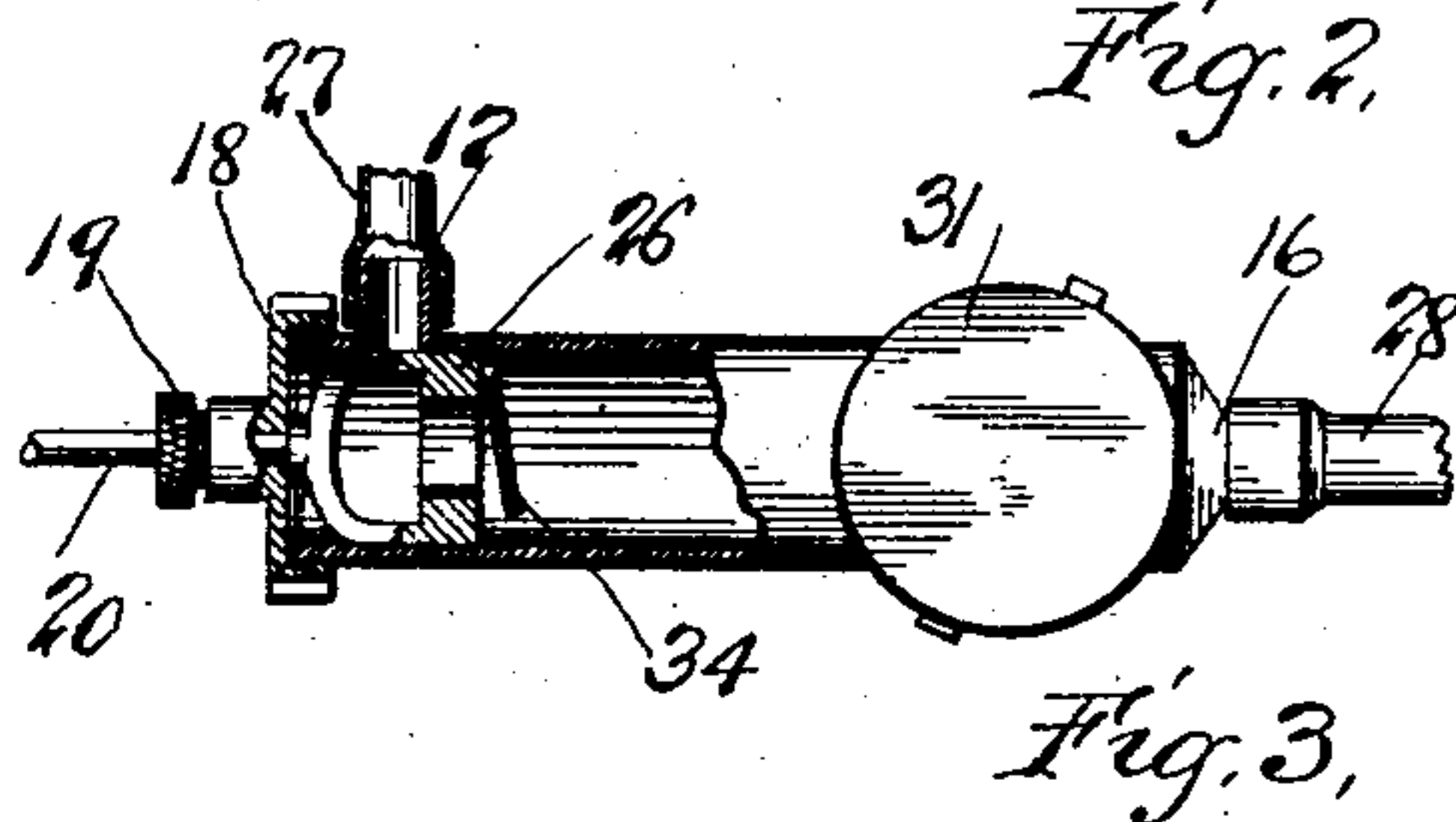
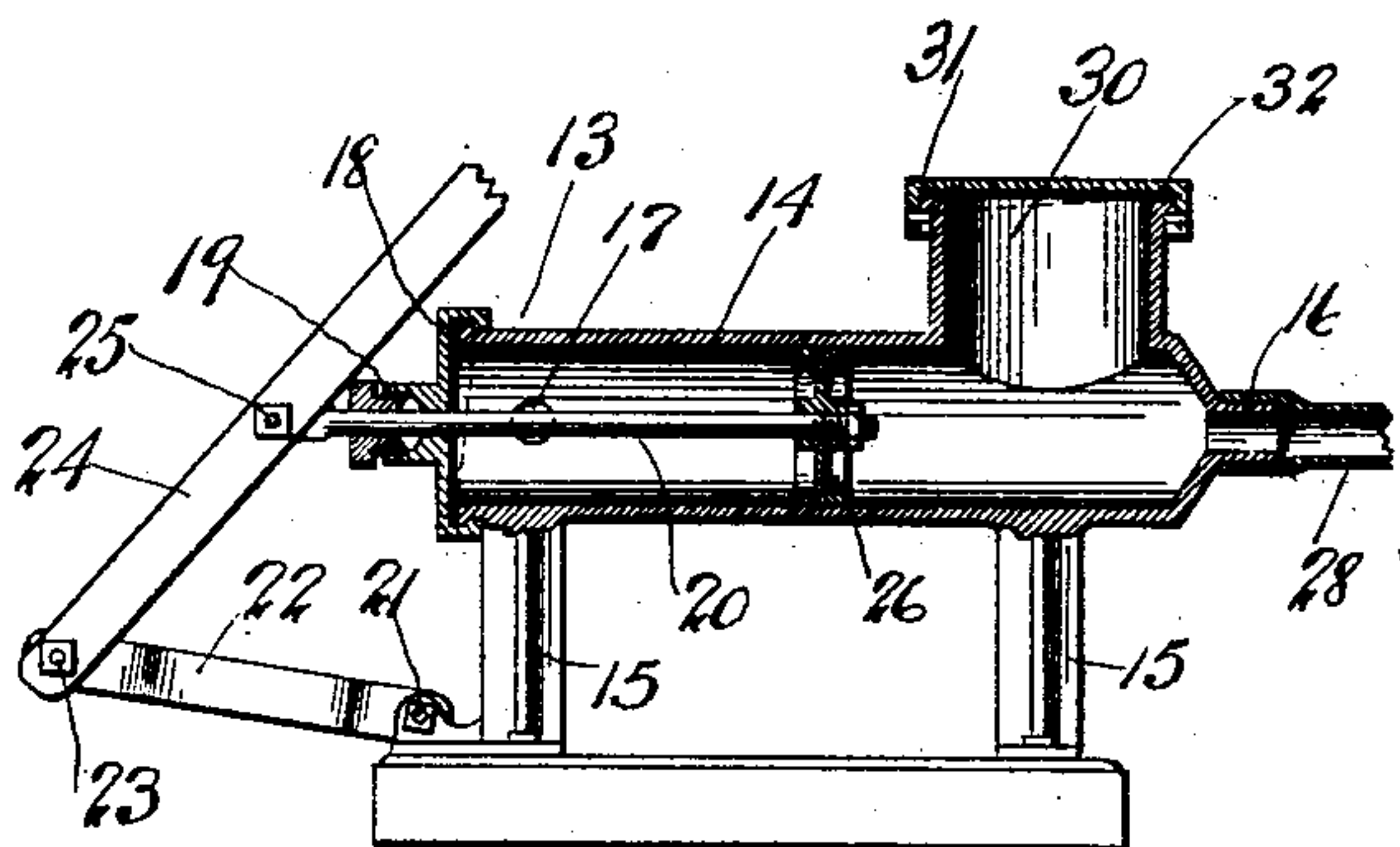
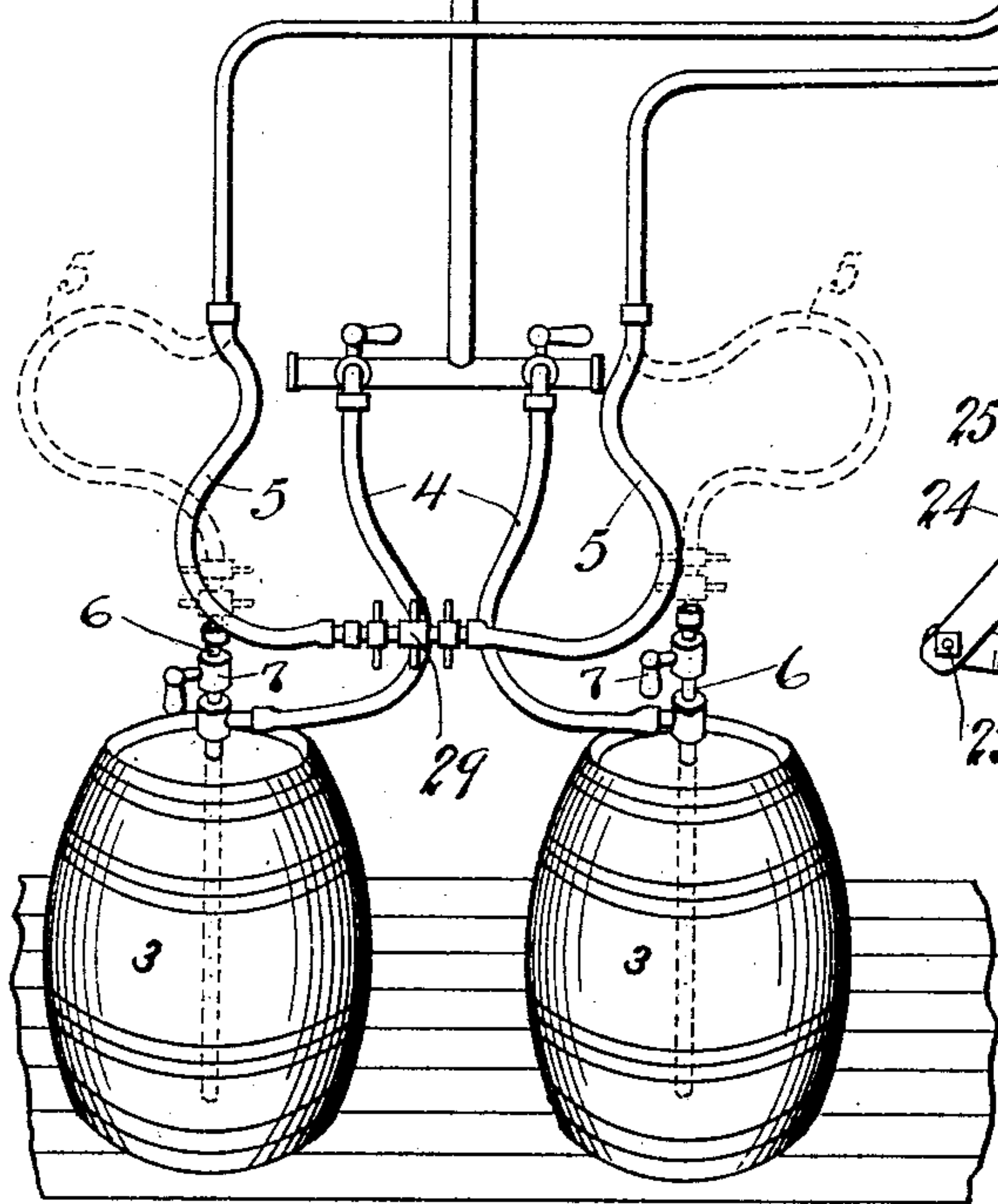
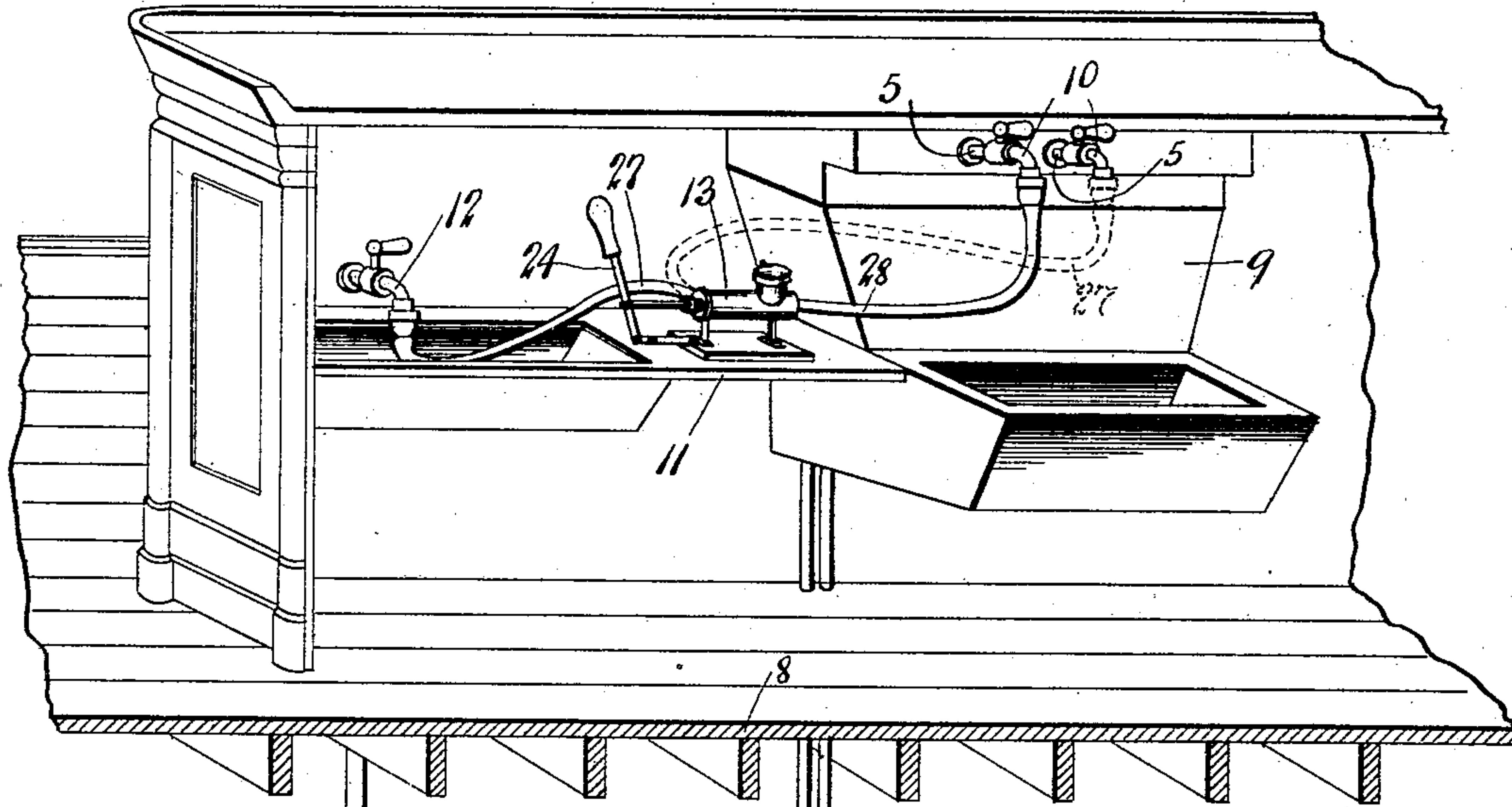
PATENTED FEB. 17, 1903.

E. NEELY.

# APPARATUS FOR CLEANING BEER PIPES, &c.

APPLICATION FILED MAR. 27, 1901.

NO MODEL.



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# UNITED STATES PATENT OFFICE.

EDWARD NEELY, OF CHICAGO, ILLINOIS.

## APPARATUS FOR CLEANING BEER-PIPES, &c.

SPECIFICATION forming part of Letters Patent No. 720,613, dated February 17, 1903.

Application filed March 27, 1901. Serial No. 53,031. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD NEELY, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Apparatus for Cleaning Beer-Pipes, &c., of which the following is a specification.

My invention relates to the apparatus employed in carrying out my novel method of cleaning out beer-pipes and similar devices.

Referring to the accompanying sheets of drawings, in which the same reference characters are used to designate identical parts in all the figures, Figure 1 is a perspective view showing the general arrangement of a bar with the cleaner in place and ready for use. Fig. 2 is a longitudinal section through the pump used in carrying out my processes. Fig. 3 is a plan view of a modified form of pump, partly in central section; and Fig. 4 is a sectional view of a valve used in connection with said modified form.

As draft-beer and similar liquids are usually retailed two or more kegs 3 are placed in the cellar or basement beneath the bar and are connected by means of the pipes 4 with some suitable source of air under pressure, so that when the pipes 5 are connected, as indicated by the dotted lines in Fig. 1, to the pipes 6, extending down to the bottom of the keg, and the cocks 7 are opened the pressure of the air admitted from the pipes 4 on the top of the beer in the kegs will force it up through the pipes 5, which pass through the floor 8 into an ice-box 9, where the pipes are coiled, so that a suitable quantity of the liquid would be in the process of cooling, and thence to the taps 10, whence the beer is drawn off as required.

The continual flow of the liquor through the pipes 5 fills them with a glutinous albuminous substance, which adheres to the inside surface until the passages therein are nearly or quite closed, and in order to render the pipes fit for use when they thus become foul and clogged it is necessary to inject some alkali or other suitable detergent, as soda, therein, which acts as a solvent upon the matter adhering to said pipes and cleanses them. In cleansing these pipes prior to my invention the customary practice has been to connect one end of the pipe with a faucet

supplied with water under pressure, as from the city mains, and to pass the water from the faucet through a reservoir for the chemicals before it enters the pipes. The water charged with the chemicals then flowed through the pipe and was discharged from the other end. This method has not been entirely satisfactory, as it was wasteful of the chemicals and could only operate under a head of water.

In my new process I connect up the pipes with a suitable pump and reservoir for the chemicals in such a manner that I can first fill the pipes with the water charged with the chemicals, and when the pipes are then filled I can by operating the pump agitate the solution of the chemicals throughout the pipes, so that the foul matter will be thoroughly loosened up and detached within a very short time and by a much smaller quantity of chemicals than is possible where the water charged with the chemicals is simply allowed to flow through the pipe once. After the water charged with the chemicals in the pipe has been sufficiently agitated therein by means of the pump clean water from any suitable source is allowed to flow freely through the pipes until the detached deposit and chemicals in the pipes have been thoroughly washed out and they are entirely clean, so that they are ready to be attached to the kegs for further use in drawing off the beer.

At some suitable point on the drain-board 11, preferably between one of the taps 10 and the faucet 12, I secure the pump 13, which, as will be seen from Fig. 2, consists of the horizontal barrel 14, preferably supported by the legs 15. At one end of the barrel 14 is the nozzle 16, preferably located in the center of the end of the barrel, while at the other end is the nozzle 17, projecting from the side of the barrel near to the end 18, which is removably secured thereon in any desired manner and is provided with the centrally-located stuffing-box 19, through which passes the piston-rod 20 of the pump. Pivoted to the adjacent leg 15, as at 21, is the swinging fulcrum 22, which has pivoted to its outer end at the pump-handle 24, which is pivoted to the piston-rod 20 at 25, as shown. A solid piston 26 is secured to the inner end of the piston-rod and in the outward position of the pump-



handle stands to the left of the nozzle 17. A flexible connection 27 is secured to the nozzle 17, and its other end is connected to the faucet 12. Another flexible connection 28 is secured to the nozzle 16 and then to one of the draft-taps 10. The pipes 5 are disconnected from the pipes 6 and are connected to each other by the union 29, which may be of any desired construction by which the parts are readily connected. If both the taps 10 be opened and the faucet 12 be opened, it will be apparent that the pipes and the pump can be filled with water. Before filling the pipes and the pump with water it is necessary to place the chemicals in position where they will be dissolved by the water as it passes through them to the pipes, and while I might make a cup or reservoir for the chemicals independent of the pump I prefer to make the cup 30 for the chemicals integral with the barrel of the pump and provide the upper end of the cup with the cap 31, which rests on the rubber washer or gasket 32 on the top of the cup. The cap 31 is constructed in any convenient manner, so that it can be securely fastened on the cup 30, so as to make it water and air tight. The chemicals being placed in the cup or reservoir 30 after the parts are connected up, as above described, the water is allowed to flow through the faucet 12 and fill up the pipes. When the pipes are full, the faucet 12 may be closed and the pump-handle operated. The effect of this will of course be to discharge a portion of the contents of the pipes equal to the capacity of the pump-barrel from the tap 10, which is open; but the subsequent operation of the pump will simply force the water with the chemicals in solution therein back and forth through the pipes, agitating the liquid therein very thoroughly, so as insure the chemical acting thoroughly and completely upon the deposit in the pipes. Instead of merely closing the faucet 12 I might also detach the connection 27 from the faucet 12 and bring the detached end over and connect it with the other tap 10, as shown in dotted lines in Fig. 1, in which case there would be a complete circuit through the pump and pipes and no water would be discharged from the pipes as the pump was operated.

In case this apparatus is employed in connection with a bar where no water under pressure is available I insert in the connection 27 a check-valve 33, as shown, so that the end of the connection 27 which is ordinarily attached to the faucet may be inserted in a pail of water and the pump be used to pump the pipes full of the water with the chemical in solution. Of course with this arrangement the pump-piston 26 must have a check-valve 34 therein, as shown in Fig. 3, and which may be of any desired construction. After the pipes are filled the connection 27 may be then attached to the other tap, as indicated by the dotted lines in Fig. 1, and then as the pump is operated the water with the

chemicals in solution will be pumped in a constant flow through the pipes, thus producing substantially the same effect as if the water had been agitated in the same manner as previously described when the check-valves are not employed.

While I have shown my invention as employed in connection with only a pair of pipes, it will be understood that by use of suitable connections it might be employed in connection with more than a single pair of pipes and operate to cleanse them all simultaneously.

While I have shown my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications and that I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class described, the combination with the plurality of beer-pipes, a detachable means for coupling them at their lower ends in pairs or connecting them singly to their respective kegs, of a pump, and connections for the upper ends of said pipes, pump and a water-supply, whereby the apparatus can be arranged so that the pipes can be filled with a solution and then agitated by means of the pump without discharging the contents of the pipe.

2. In a device of the class described, the combination with the plurality of beer-pipes, a detachable means for coupling them in pairs at their lower ends or connecting them singly to their respective kegs, of a pump, a receptacle for the chemicals, and connections between said pump, pipes, a water-supply and said receptacle, whereby said pipes may be first filled with a chemical solution and then have the said solution agitated by said pump without discharging it; substantially as and for the purpose described.

3. In a device of the class described, the combination with the beer-pipe, of a pump adapted to be connected to one end thereof and to a water-supply and having a receptacle for chemicals formed on and opening into the barrel thereof, and connections for said pump, and pipe substantially as described.

4. In a device of the class described, the combination with the plurality of beer-pipes, and means for coupling them at their lower ends, of a pump adapted to be connected to the upper ends of said pipes and to a water-supply and having a receptacle for the chemicals formed on and opening into the barrel thereof, and connections for said pump and pipes and water-supply; substantially as and for the purpose described.

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Witnesses:

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