C. SAHLENDER.

BEER DRAWING APPARATUS.

APPLICATION FILED MAY 15, 1914.

1,137,718.

Patented Apr. 27, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

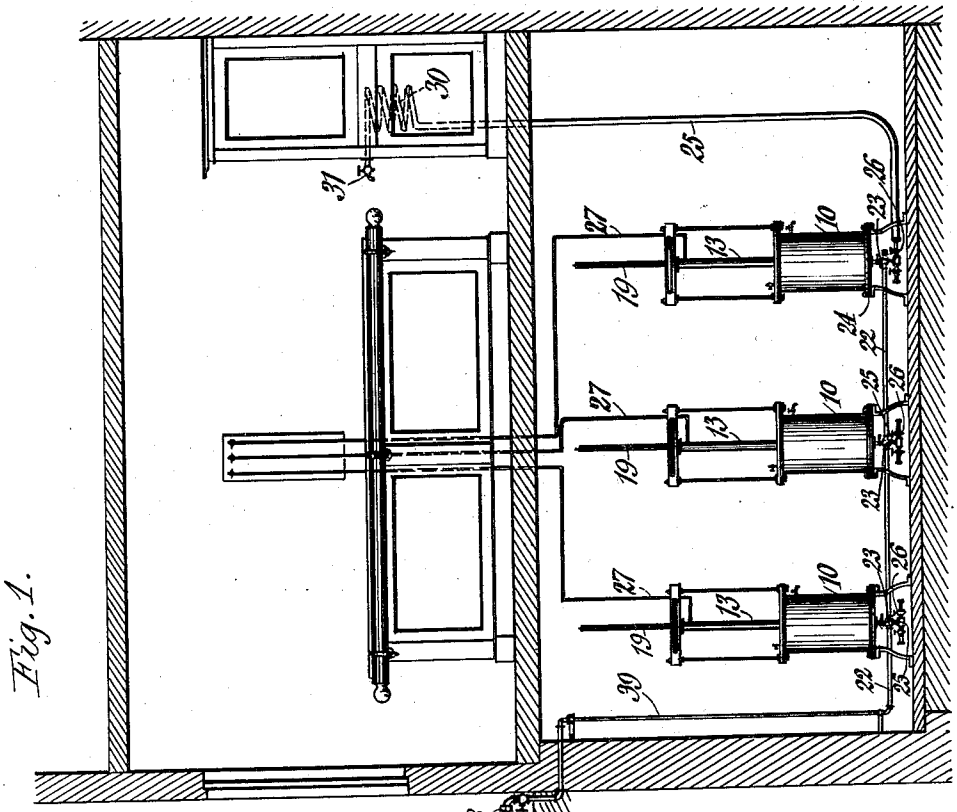


Fig. 8.

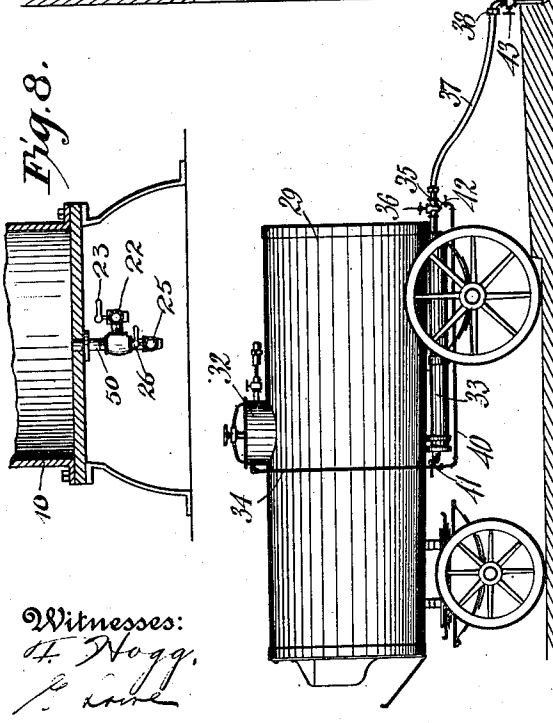


Fig. 6.

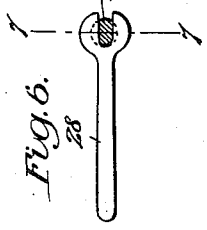
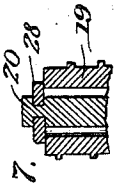


Fig. 7.



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2 SHEETS—SHEET 2.

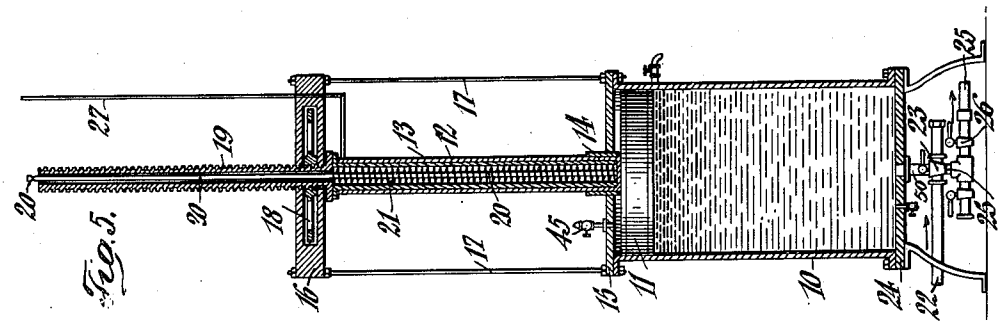


Fig. 5.

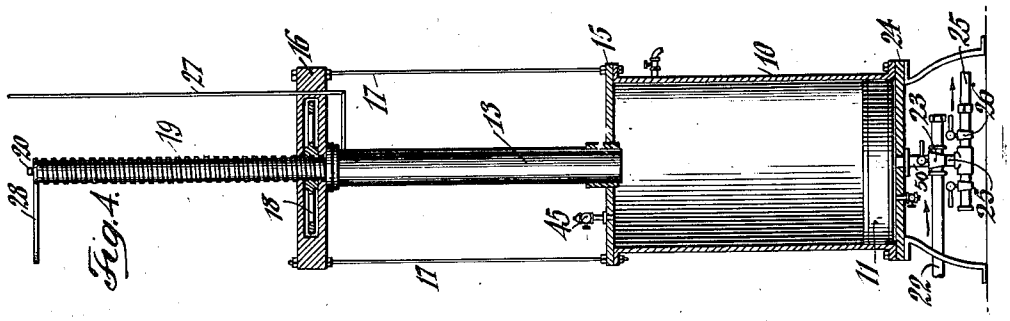


Fig. 4.

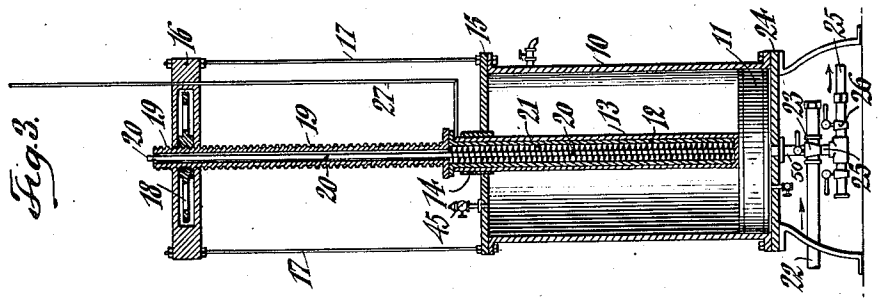


Fig. 3.

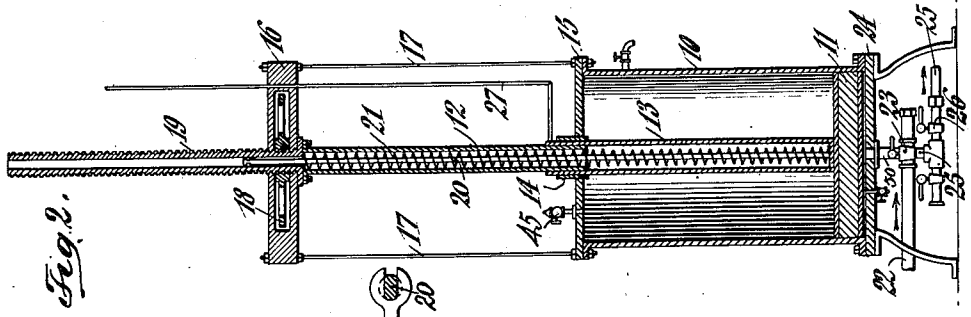


Fig. 2.

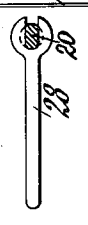


Fig. 6.

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UNITED STATES PATENT OFFICE.

CHRISTIAN SAHLENDER, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO ANNA SAHLENDER.

BEER-DRAWING APPARATUS.

1,137,718. Specification of Letters Patent. Patented Apr. 27, 1915.

Application filed May 15, 1914. Serial No. 838,661.

To all whom it may concern:

Be it known that I, CHRISTIAN SAHLENDER, of New York, borough of Brooklyn, in the State of New York, have invented certain new and useful Improvements in Beer-Drawing Apparatus, of which the following is a specification.

This invention relates to an improved apparatus for drawing beer by means of a stationary tank located in the basement of the place of sale, and by means of a delivery tank-wagon, so that the liquid is delivered in bulk, and the use of the well-known shipping-kegs and beer-raising devices is dispensed with.

For this purpose the invention comprises a beer-tank, a free piston therein, a collapsible piston-rod adapted to bear on the piston, a spring in the piston-rod, and means for compressing the spring and telescoping of the piston-rod, so that the beer at the other side of the piston is placed under the pressure of the expanding piston-rod.

In the accompanying drawings, Figure 1 represents a side-elevation of my improved apparatus for drawing beer, showing it connected with a delivery tank-wagon for filling the same. Fig. 2 is a vertical central section through an apparatus embodying the invention, showing the same in its uncharged condition, Fig. 3 shows the apparatus with the spring compressed, but piston not raised, Fig. 4 shows the piston-rod raised, the spring being compressed, Fig. 5 shows the apparatus charged and in operating condition, Fig. 6 is a plan-view of a key adapted to be used for locking the parts when the spring is compressed. Fig. 7 is a cross-section of the key shown in Fig. 6; and Fig. 8 is a view of the lower pipe system of the tanks in a plane at right angles to the views shown in Figs. 2, 3, 4 and 5.

Similar characters of reference indicate corresponding parts throughout the several figures of the drawing.

In my improved beer-drawing apparatus, the use of shipping-kegs into which the fermented liquids are racked off and in which they are delivered to the customer is entirely dispensed with, and in place of the same one or more stationary beer-drawing apparatus used, in the basement of the saloon or other place for dispensing liquids.

Each apparatus comprises a tank 10 which is preferably cylindrical in form, and may be of any suitable size, according to the quantity of beer desired to be supplied. In the beer-tank is the free piston 11. A piston-rod 12, 13 is provided, the lower portion 13 of which is guided in a suitable bearing 14 in the upper head 15 of the beer-tank 10. The upper section 12 of the piston-rod is guided within the lower section. A crosshead 16 is supported by posts 17 at some distance above the tank. In said crosshead is mounted a hand-wheel 18 having a threaded hub at its center which engages a tubular screw 19, which passes centrally through the head 16. Said screw 19 is attached at its lower end to the upper section 12 of the piston-rod. A strain-rod 20 is secured at its lower end to the lower end of the piston-rod section 13, and is made of such length as to project above the end of the screw 19 when the piston-rod is collapsed. Within the piston-rod is a helical compression-spring 21 which is compressed when the piston-rod is collapsed. One end of said spring abuts against the lower end of the lower piston-rod section, and the other end abuts against the lower end of the screw 19 at the top of the upper piston-rod section. A supply-pipe 22, controlled by valve 23, is connected with the lower head 24 of the beer-tank by means of a central pipe 50 herein. A discharge-pipe 25, controlled by a valve 26, is also connected with said head by means of the said central pipe 50 and extends therefrom upwardly to the refrigerating coil 30 and faucet 31 at the bar. To the upper end of the lower piston-rod section 13 is connected an angular gage-rod 27, which extends upwardly and is guided in the head 16, and then beyond the same extends through the floor into convenient view of the bartender for indicating at all times the quantity of beer contained in the tank.

The apparatus being in the relaxed and empty condition shown in Fig. 2 and it being desired to place the same in operation, the first step is to compress the spring which is to afford the means of power for subsequently discharging the beer at the bar. For this purpose the hand-wheel 18 is rotated so as to work the screw 19 downwardly, thereby moving the piston-rod section 12 downwardly within the lower section 13 and compressing the spring, until finally the position of the parts is as shown in Fig.

3. The upper end of the rod 20 is at this time exposed above the screw 19, as indicated in Fig. 3. At said exposed portion it is provided with two notches, one on each side, whereby the rod is adapted to receive a key 28, as shown in Fig. 6. The key having been placed upon the rod, the hand-wheel is now turned in the reverse direction, thereby raising the screw, and with it the rod 20 and the collapsed piston-rod, so that the parts assume the position in Fig. 4, in which the lower end of the piston-rod is at the extreme upper end of the tank, while the piston remains lying on the bottom. Beer under pressure is now turned on through the pipe 22 and valve 23, the same enters the tank below the piston and raises the piston, and fills the tank. The piston finally comes to rest against the lower end of the piston-rod at the top of the tank, and the beer in the tank is under the pressure under which it was forced into the tank. The tank having been thus filled and the supply shut off, connection is now made with the bar through the discharge-pipe 25 and valve 26. The key 28 is removed, and thereby the full force of the spring 21 is allowed to exert itself in expanding the piston-rod and forcing the lower end of the same against the piston 11 and the beer in the tank below the same, whereby the beer is forced through the discharge-pipe to the bar with the proper pressure for delivery. The beer is thus drawn off at intervals as occasion demands, until finally all the beer is withdrawn from the tank, and the parts will then be found in the position of Fig. 2, when the operation of filling the tank, as before described, may be repeated.

The rise and fall of the lower section of the piston-rod 13 causes the corresponding rise and fall of the gage-rod 27, the position of which, before the bartender, on the floor above, indicates to him the gradual descent of the piston and the corresponding decrease in the quantity of beer from time to time within the tank. Any desired number of tanks may be employed, three being shown in Fig. 1, and the same may be filled and discharged successively or simultaneously.

The beer or other fermented liquid is delivered to the tank or tanks 10 by a supply-wagon which consists of a wheeled frame and a tank 29 supported on said frame. The tank is provided with a dome 32 which is connected with the receiver 33 for carbonic acid gas that is supported below the tank of the frame of the wagon, said receiver being provided with a pressure-reducing valve 41 which is connected by a pipe 34 with the dome 32, as shown in Fig. 1. The tank is provided at its bottom-part with a discharge-pipe 35, having a stop-cock 36, which discharge-pipe is connected by a coupling and flexible hose 37 with a coupling 38 of the stand-pipe 39. The carbonic acid gas receiver 33 is also connected with the discharge-pipe of the tank by means of a connecting-pipe 40 having a pressure regulating valve 42.

The beer or other fermented liquid instead of being racked off into the shipping-kegs is racked off from the storage-tanks into the tank-wagon, which contains a sufficient quantity for supplying a certain number of customers. As the contents of the tank are held under pressure of carbonic acid gas, no fuming of the same takes place during its delivery from the tank or wagon to the tanks at the place of sale. When the tank-wagon arrives at the place of use, the hose-connection with the stand-pipe 39 is made. The attendant then goes in the basement and closes the valve 26 at one of the tanks 10, and opens the valve 23. He then returns to the tank-wagon, opens the discharge-cock 36 of the same and the cock 43 of the stand-pipe. The liquid is then transferred under pressure of carbonic acid gas, without fuming, into the tank, so as to lift the piston 11 in the tank, the piston-rod 13 having been lifted as before described. The pressure of the liquid entering the tank lifts the piston until the same arrives at the upper end of the tank. The top of the tank is provided with a vent 45, so as to allow the piston to rise and to allow atmospheric pressure to act on the top of the piston during the discharge of the tank. When the tank is nearly filled with liquid, the discharge-pipe is closed and the regulating valve of the carbonic acid supply-pipe opened, so that by the pressure of the carbonic acid all the liquid in the stand-pipe and supply-pipe is transferred into the tank and thereby the piston lifted to its full extent and at the same time all the liquid in the supply-pipe and stand-pipe removed and the same filled with carbonic acid gas. The cock of the stand-pipe is then closed, and the hose-connection uncoupled and replaced upon the tank-wagon. The presence of carbonic acid gas in the supply-pipe prevents the air from entering into the same, and keeps the same from entering into the beer. The stop-cock of the gas supply-pipe, is closed off before the hose is disconnected from the stand-pipe.

The advantages of my improved apparatus for drawing beer and other fermented liquids are that the use of wooden shipping-kegs by which the beer is shipped from the brewery to the consumer or to the place of sale are dispensed with. Second, that the inconveniences of tapping the kegs and connecting them with the discharge-faucet at the bar are removed. Third, that the washing and pitching of the kegs and the racking off of the liquid into the shipping-kegs from the storage-casks are likewise dispensed with, so that a considerable saving results both

to the brewer and customer, for the reason that the liquid is sent out in bulk in the delivery tank-wagon, and the handling of the large shipping kegs and return of the empty kegs is dispensed with.

One embodiment of the invention has been described, but it is obvious that changes may be made therein without departing from the spirit of the invention as set forth in the appended claims.

I claim:

1. A beer-drawing apparatus, comprising a cylindrical tank, a free piston therein, a collapsible piston-rod adapted to bear upon said piston, a spring normally expanding said piston-rod, means for collapsing the piston-rod before the charging of beer into the tank, and valved supply and discharge pipes connected with said tank at the side of the piston opposite the piston-rod.

2. A beer-drawing apparatus, comprising a cylindrical tank, a free piston therein, a collapsible piston-rod guided in one head of said tank, valved supply and discharge pipes entering the opposite head of the tank, an expanding spring within the collapsible piston-rod, a tubular screw connected with the upper end of the piston-rod, a head stationarily supported above the tank, a hand-wheel mounted therein and adapted to raise and lower said screw, a strain-rod connected with the lower end of the piston-rod and adapted to have its upper end exposed when the spring is compressed, a key adapted to be detachably connected with the exposed end of the rod and prevent the withdrawal of the same within the screw, and a gage-rod connected with the lower section of the piston-rod and guided in the stationary head and extending upward beyond the same.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

CHRISTIAN SAHLENDER.

Witnesses:
F. Hogg,
G. Lowe.