R. E. BECHTOLD & H. J. GROSVENOR.

DISPENSING APPARATUS.

APPLICATION FILED DEC. 11, 1911.

1,108,673. Patented Aug. 25, 1914.

5 SHEETS—SHEET 1.

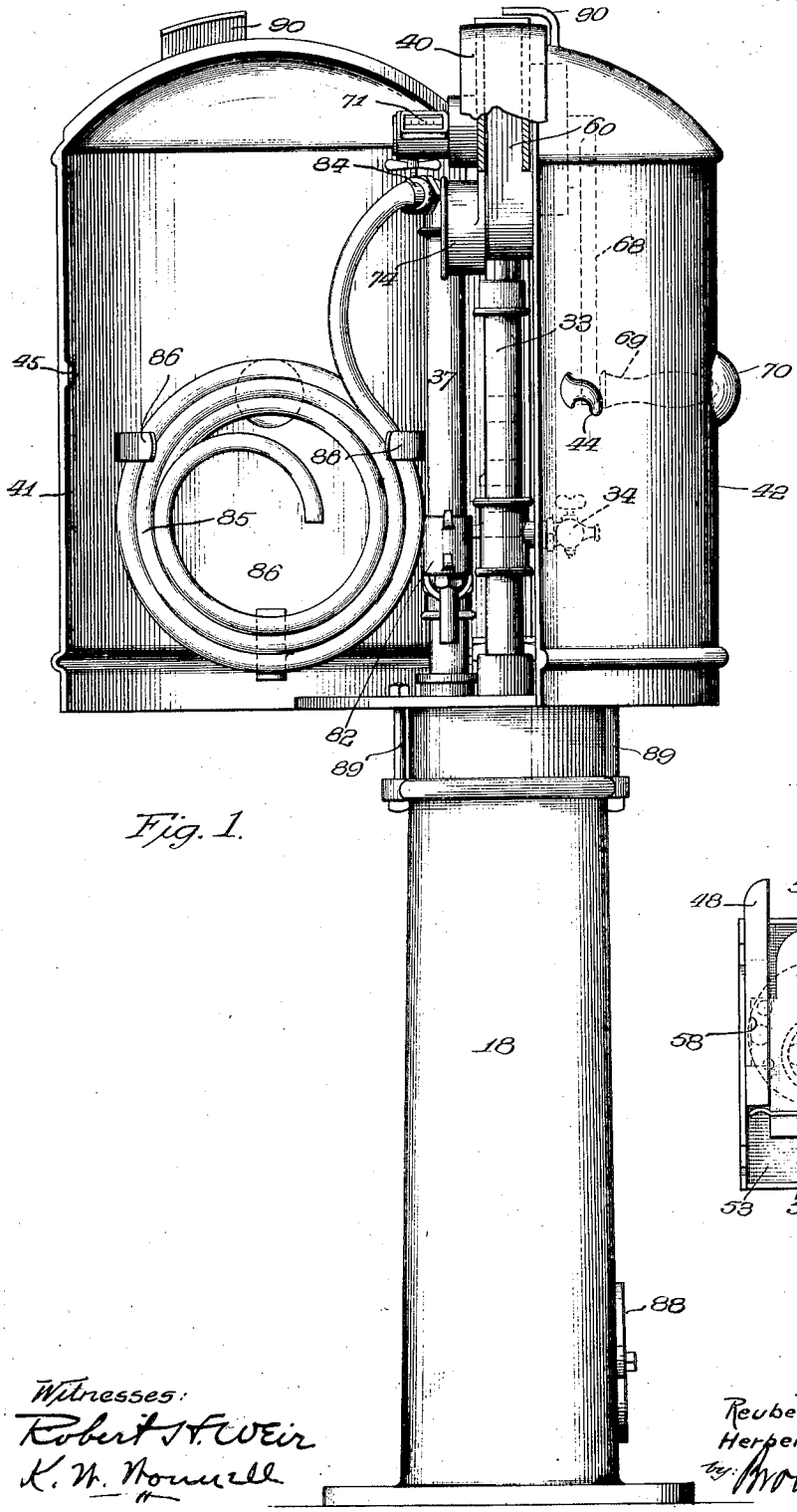

Fig. 1.

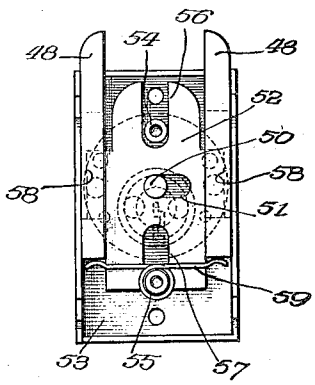

Fig. 2.

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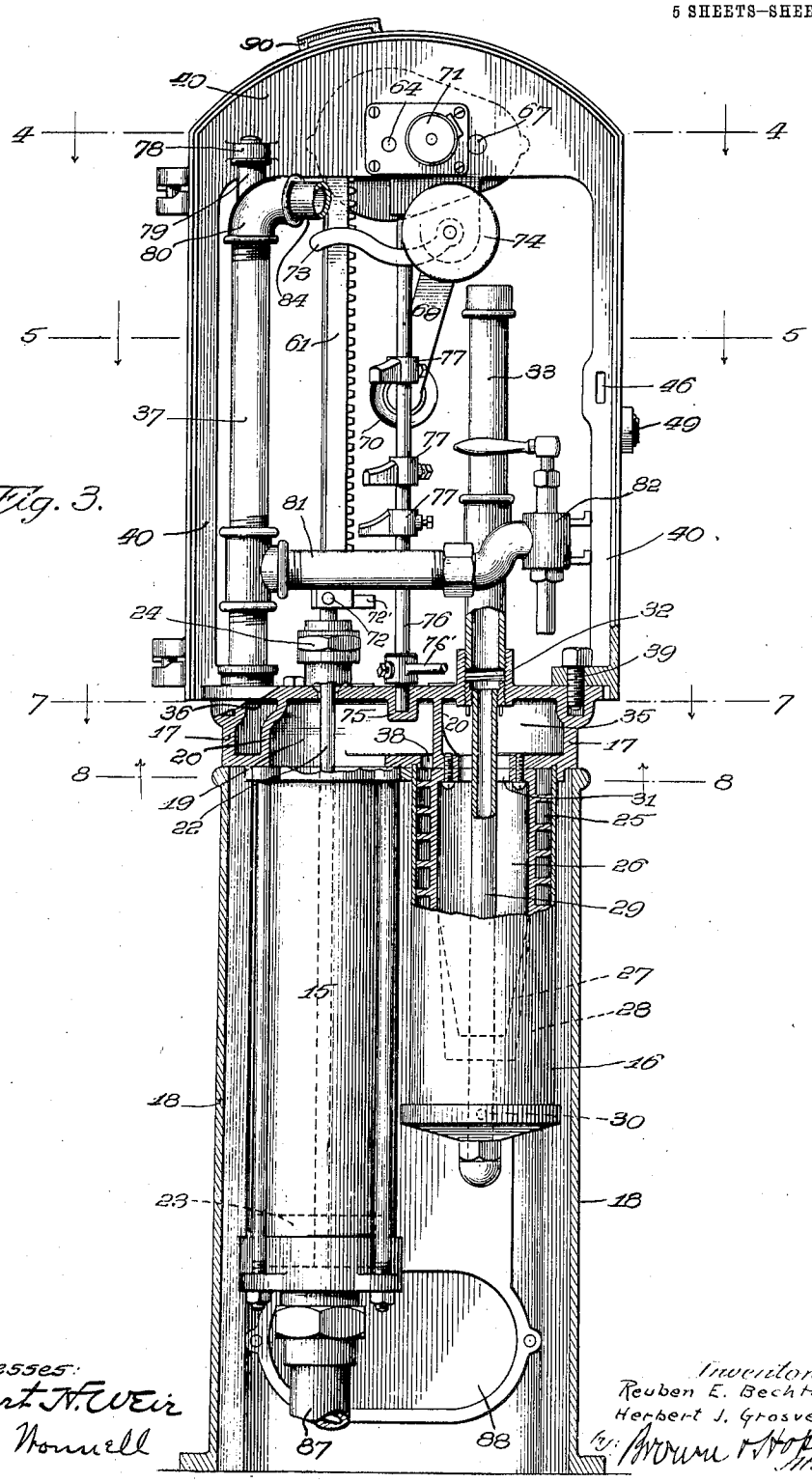
Fig. 3.



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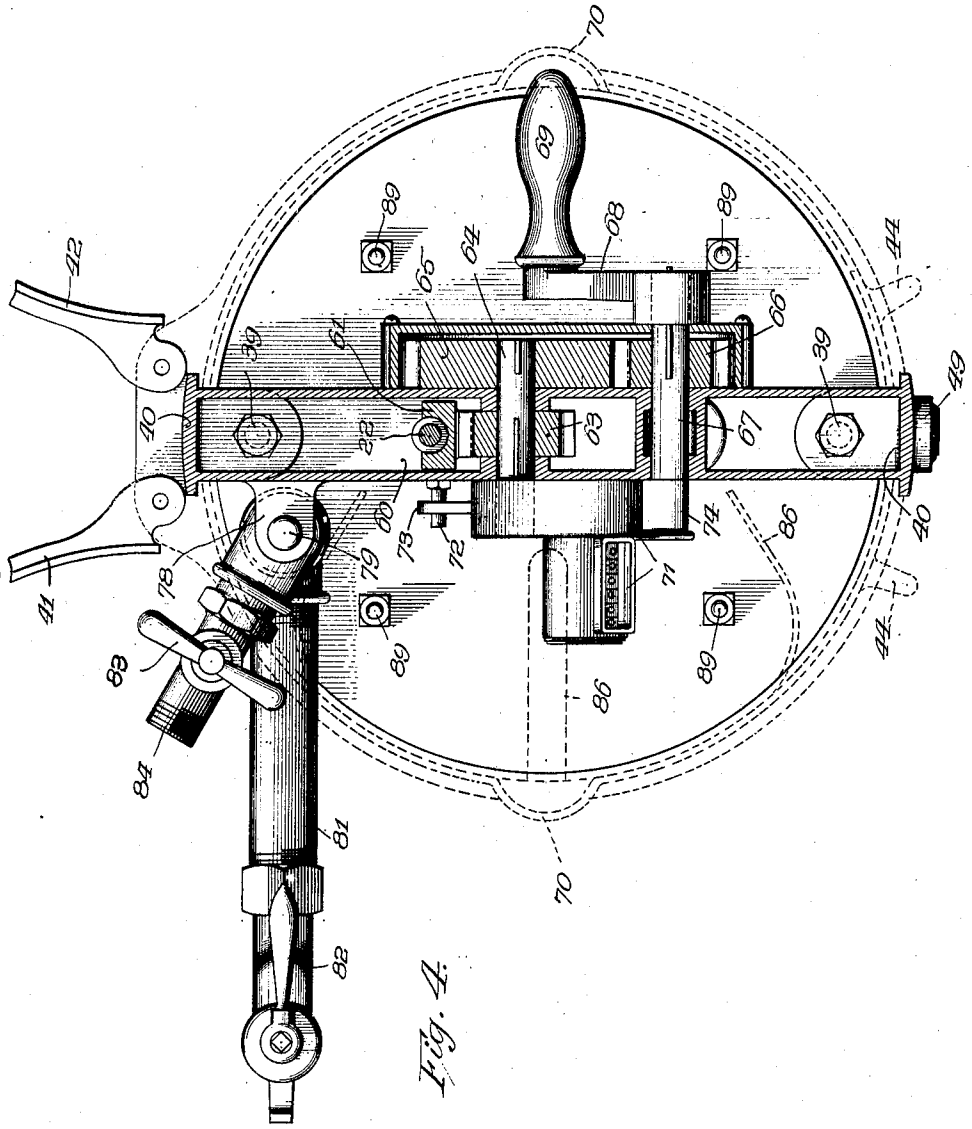

Fig. 4.

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5 SHEETS—SHEET 4.

Fig. 5.

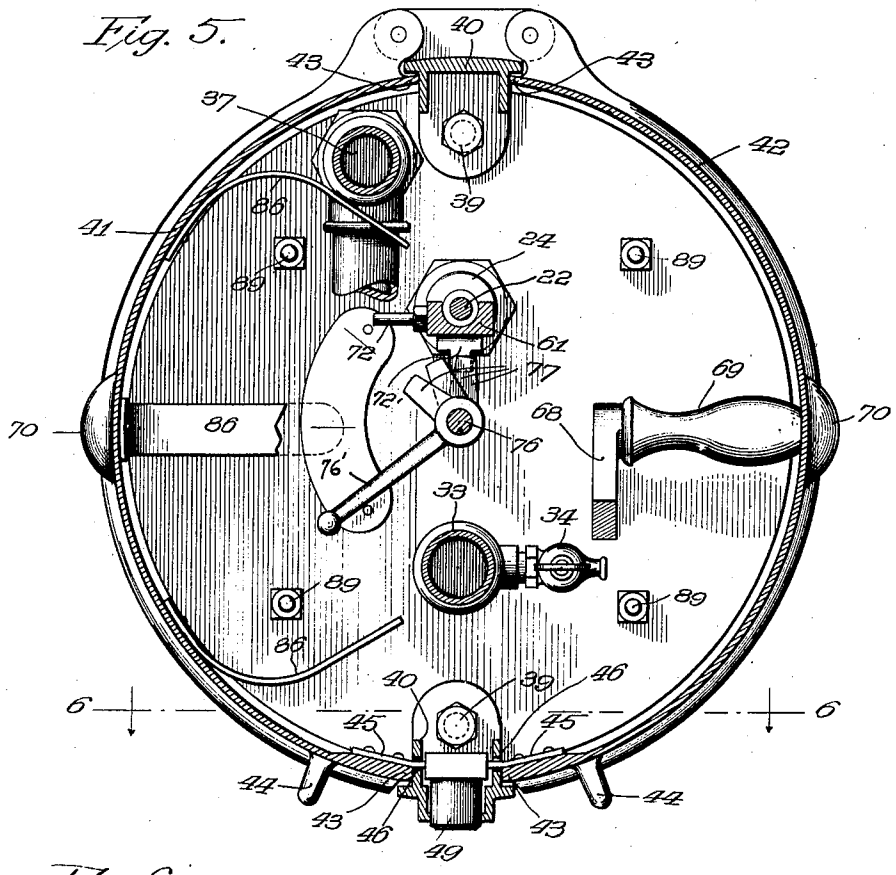
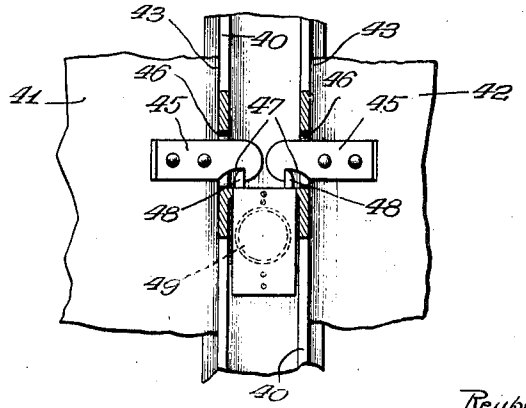


Fig. 6.



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5 SHEETS—SHEET 5.

Fig. 7.

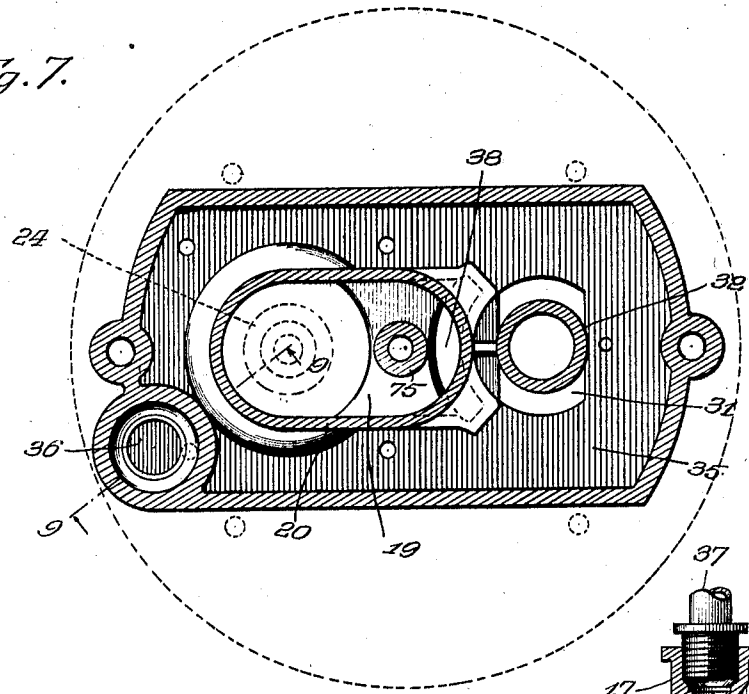


Fig. 9.

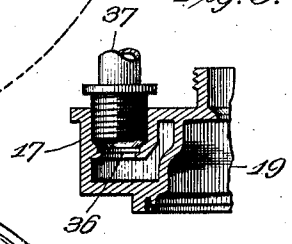
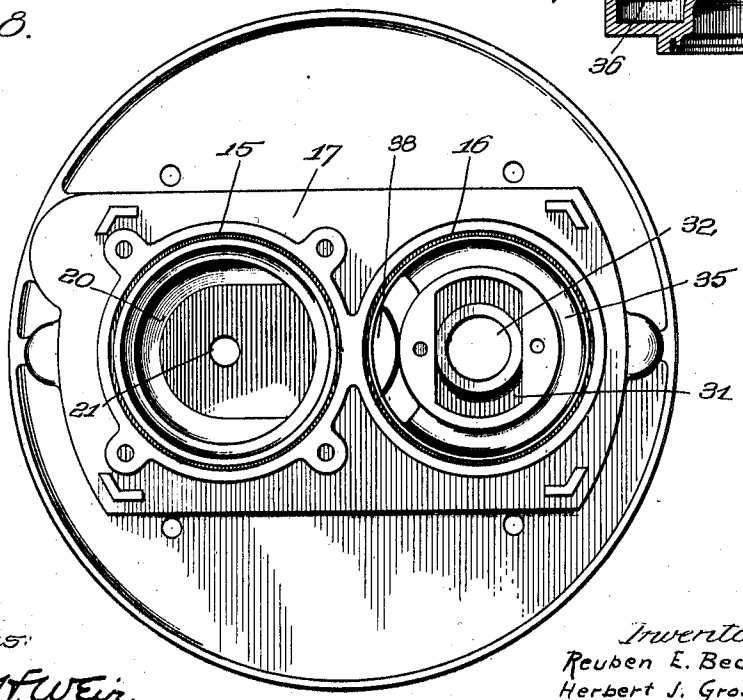


Fig. 8.



Witnesses:
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Inventors;
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UNITED STATES PATENT OFFICE.

REUBEN E. BECHTOLD AND HERBERT J. GROSVENOR, OF FORT WAYNE, INDIANA, ASSIGNORS TO S. F. BOWSER & CO., INC., OF FORT WAYNE, INDIANA, A CORPORATION OF INDIANA.

DISPENSING APPARATUS.

1,108,673. Specification of Letters Patent. Patented Aug. 25, 1914.

Application filed December 11, 1911. Serial No. 664,960.

To all whom it may concern:

Be it known that we, REUBEN E. BECHTOLD and HERBERT J. GROSVENOR, citizens of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Dispensing Apparatus, of which the following is a specification.

This invention relates to pumps which are adapted to be placed where they are exposed to the weather, and which when not in use may be contained in a compact protecting weather proof closure.

The principal object of this invention is to provide an improved compact pump of the class described, which is effective and efficient in operation.

For the attainment of these ends, and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts, generally shown in the accompanying drawing and described in the specification, but more particularly pointed out in the appended claims.

In the drawings Figure 1 is a view in elevation of a pump constructed in accordance with the principles of this invention, with one of the doors in open position and part of the yoke omitted for clearness; Fig. 2 is a detail view of the interior of a lock, showing the means for operating the tumblers; Fig. 3 is a view in elevation of the pump, some of the parts being shown in section; Fig. 4 is a sectional view on the line 4—4 of Fig. 3; Fig. 5 is a plan view on the line 5—5 of Fig. 3; Fig. 6 is a view in elevation of the door locking means taken on the line 6—6 of Fig. 5; Fig. 7 is a sectional view of the manifold taken on the line 7—7 of Fig. 3; Fig. 8 is a sectional plan view taken on the line 8—8 of Fig. 3; Fig. 9 is a detail sectional view of part of the manifold taken on the line 9—9 of Fig. 7.

Referring now more particularly to the drawings, a pump cylinder 15 and a separator or filter 16 are secured to the bottom of a manifold 17 in any desired or suitable manner, and are inclosed by means of a shell or barrel supporting structure 18 which engages the lower edge of the manifold and spaces it from the base of the supporting structure. The manifold 17 (see Figs. 7 and 8) is provided with an inner chamber 19 formed by the partition 20 with which the upper end of the pump cylinder 15 has communication. At the top of the manifold and in line with the pump cylinder is an opening 21 through which a piston rod 22 secured to the piston 23 extends. This opening 21 may be provided with any suitable packing device designated generally by the numeral 24. The separator 16 is preferably of a type which consists of a spiral outer inlet passage 25 and an inner outlet passage 26, between which there are interposed screens 27 and 28. Extending through the inner passage 26 is a tube 29 which passes through the screens 27 and 28 and is provided adjacent the bottom with an opening 30. The upper end of the tube 29 extends through an opening 31 in the bottom of the manifold, and is threaded into an opening 32 in the top of the manifold. In this opening 32 there is also positioned a stand pipe 33 (see Fig. 3) in which a faucet 34 is secured. Surrounding the inner chamber and the partition of the manifold 17 is an outer chamber 35 formed by the outer wall of the manifold and communicating with this chamber 35 from the top of the manifold is an opening 36, which is adapted to receive a discharge pipe 37. This discharge pipe is rotatably mounted in the opening 36, and is provided with any well known packing device to keep it from leaking. A sectional view of this portion of the manifold is shown by Fig. 9. In the base of the manifold and disposed to register with the spiral passage 25 of the filter is an aperture 38, opening from the interior of the chamber 19 (see Figs. 3, 7 and 8). It is evident that fluid pumped from the pump cylinder passes into the manifold chamber 19, and from there downwardly through the filter passage 25, through the screens 27, 28, passage 26, through the opening 31 into the manifold chamber 35, and thence around the partition 20 to the outlet opening 36.

Positioned above the manifold 17 and

preferably secured thereto by suitable fastening devices, such as screws 39, is a supporting yoke member 40 (see Figs. 3, 4, and 5). This yoke member 40 is adapted to provide a support for the pump discharging, measuring and registering devices, as well as to provide means for mounting the swinging doors 41 and 42, which are preferably positioned at one side of the yoke. These doors are preferably semi-circular in form, and rounded at the top with a flanged portion 43, which extends under the yoke. The edges of the doors which are not pivoted are provided with lugs 44 to facilitate the opening and closing of the doors and with fastening hasps 45, which are adapted to project through lateral openings 46 in the front portion of the yoke 40. These hasps 45 are formed with notches 47 which are adapted to be engaged by the tumblers 48 of a lock, when the doors are closed. This lock comprises a lock barrel 49, in which a key of any desired size or shape may be inserted, and which is effective to rotate the lock member from which there projects an eccentric pin 50 (see Fig. 2.) This pin 50 extends through an opening 51 in a plate 52, and this plate 52 is positioned in a lock casing 53 by means of pins 54 and 55, which extend into slots 56 and 57 of the plate. The plate 52 is also provided with shoulders 58, which are adapted to engage in corresponding slots or openings in the tumblers 48, also positioned in the lock casing 53. The tumblers 48 and the plate 52 are pressed outwardly by means of a spring 59 which may be mounted upon one of the pins as 55 and bearing against the tumblers 48. To press the pin 50 is rotated the plate 52 will be pressure of the spring 59, a key is inserted in the lock and turned so that the eccentric pin 50 will be moved in the slot 51. When the pin 50 is rotated the plate 52 will be pressed downwardly by the pin, carrying with it the tumblers 48, which will allow the hasps 45 to be released from their engagement with the tumblers. It will be evident that either one or both of the doors may be locked in position, and that both of them will be unlocked by a single operation of the locking device.

An opening 60 is provided in the top of the yoke (see Fig. 4) through which a rack 61, secured to the piston rod 22, may pass. This rack 61 is engaged by a pinion 63 mounted upon a shaft 64, upon which a gear 65 is also mounted. This gear 65 meshes with a pinion 66 secured to a shaft 67, and to this shaft a hand lever 68 for rotating the shaft is connected. This hand lever 68 is preferably provided with a handle 69 which in the present exemplification of the invention extends into a depression 70 formed in one of the doors. This depression is adapted to seat the handle and to prevent it from rotating when the door is closed. Suitably mounted in connection with the shaft 64 is a registering device 71, by means of which the total amount of fluid pumped may be registered.

Projecting from the rack 61 is a pin 72, and a lug 72′ the pin 72 being adapted to engage a lever 73 of the registering device 74, which is also secured to the yoke 40. Arranged adjacent the rack 61 with its lower portion mounted in a socket 75 in the manifold is a rotatable rod 76. This rod is provided with an arm 76′ for rotating it, and with adjustable detents or stops 77, which may be positioned along the rod and which are adjustable to engage the lug 72′ as the rack 61 is moved upwardly. The object of these stops 77 is to limit the stroke so that a smaller quantity of fluid may be pumped than is discharged during a full stroke of the pump.

The discharge pipe 37 is rotatably mounted in the manifold 17 and a bearing is also provided for the upper portion of the pipe, which consists of a lug 78 projecting laterally from the yoke 40, into which a projection 79 formed integral with a pipe fitting 80 is journaled. This discharge pipe is preferably provided with an outlet pipe 81, to which a faucet 82 is secured, and with a faucet 83, which is provided with a hose engaging nipple 84 (see Fig. 4). This nipple is adapted to receive a hose 85 by means of which the fluid pumped may be directed to any desired place. The hose 85, when not in use, may be coiled upon and placed within the pump casing formed by the doors. One of the doors 41 is provided with brackets 86, which are adapted to engage the hose, and to support it in coiled position.

It is evident that to operate the pump it is necessary to open both of the doors 42 and 43, and that when these doors are opened the discharge pipe 37 may be rotated so that the faucets are clear of the structure of the pump, and the handle may be freely rotated. The pump described is preferably of a type in which the pumping action occurs only during the upward stroke of the piston, but it is evident that any desired form of pump may be employed.

To operate the pump the piston 23 is movable upwardly in the cylinder 15, which receives its supply of fluid from the supply pipe 87. The fluid pumped passes from the top of the pump cylinder to the manifold chamber 19, into the passage 25 of the filter device. The fluid is then passed through the screens 27 and 28 which separates it from the impurities, and the filtered fluid is forced upwardly through the passage 26 and the opening 31 into the manifold chamber 35. From the manifold chamber 35 it passes into the discharge pipe 37, and from the latter may be discharged through either

the faucet 82 or the hose connection faucet 83.

The faucet 34 in the stand pipe 33 is adapted to permit the discharge of impurities from the bottom of the filter through opening 30 and pipe 29 and the stand pipe is also for the purpose of providing means for the expansion of the liquid as temperature changes occur. It is evident that any impurities or collections at the bottom of the filter may readily be discharged from the stand pipe through the faucet 34, because of the pressure of the fluid in the filter.

To provide means for having access to the interior of the shell 18, a hand hole may be provided with a cover plate 88, and to secure the upper portion of the pump to the casing 18, a number of fastening bolts 89 (see Fig. 1), which extend through the projecting edge of the manifold, are also provided. The yoke 40 is provided with an opening 60, adjacent the top thereof, as has already been described, and to cover this opening projections 90 are formed integral with the doors 41 and 42, or are secured to them, and are adapted to abut over the opening in the yoke, and thus to provide a cover for the opening 60, when the piston is retracted and the pump not in use. It will be evident that this structure completely closes the pumping apparatus, and that it is weather proof. This is an important feature when it is considered that this type of pump is to be used mainly for discharging gasolene oils, the value of which is impaired by their mixture with water, and the operative parts are all inclosed when the pump is not in use to prevent their deterioration.

While we have thus described the preferred embodiment of our invention, it is evident that others skilled in the arts to which this appertains may make various changes in the construction, combination and arrangement of the several parts without departing from the spirit and scope of the invention.

What we claim is:—

1. In dispensing apparatus, the combination with liquid dispensing and filtering means having a common manifold, of an inclosing structure secured to the manifold above and below the same to inclose the apparatus above and below the manifold.

2. In dispensing apparatus, the combination with liquid dispensing and filtering mechanisms having a common manifold, of an inclosing structure for the apparatus above and below the manifold comprising a closed casing below the manifold and hinged inclosing members above the manifold.

3. In dispensing apparatus, the combination with liquid dispensing and filtering mechanisms having a common manifold and liquid discharging and measuring mechanism above the manifold of an inclosing structure comprising a casing below the manifold, and hinged doors above the manifold adapted to be opened and closed and to form a water-proof casing for the dispensing and measuring mechanism.

4. In dispensing apparatus of the class described, the combination with a supporting member, of a narrow upwardly extending yoke secured to the member, and outwardly rounded closures adapted to be removably positioned on opposite sides of the yoke and forming with the yoke a complete waterproof inclosure for all the apparatus above the supporting member.

5. In dispensing apparatus of the class described, the combination with a supporting member, of a narrow upwardly extending yoke secured at the ends to the member, and outwardly rounded doors, each curved inwardly at the top, pivoted in the yoke on opposite sides and adapted, when closed, to form with the yoke an inclosing waterproof casing for the apparatus above the supporting member.

6. In dispensing apparatus of the class described, the combination of a supporting member, an upwardly projecting yoke supported thereby, and doors hinged to the yoke having an inwardly extending flange which projects under the edge of the yoke when the doors are closed to form a weatherproof structure.

7. In dispensing apparatus of the class described, the combination of a supporting member an upwardly projecting yoke secured to the member and semi-circular doors hinged to one side of the yoke and each having a flange which extends under the yoke on one side and a projection which extends over the yoke, the said projections being positioned to engage when the doors are closed.

8. In dispensing apparatus of the class described, the combination of a supporting member, an upwardly extending narrow shelterless yoke secured to the member, outwardly rounded doors on opposite sides of the yoke, swingingly mounted on the yoke at one side thereof, and adapted, when closed, to cover, inclose and protect parts of the apparatus laterally beyond the yoke, and means to lock both doors to the yoke at the other side thereof.

9. Dispensing apparatus comprising a narrow shelterless U-shaped yoke, extending upwardly over part of the apparatus, and outwardly curved doors hinged on opposite sides of the yoke for entirely inclosing and protecting parts of the apparatus over which the yoke extends.

10. In dispensing apparatus, the combination with a supporting member, of pumping means, a yoke secured to the member and extending above the said means, a discharge pipe having connection with the pumping

means and rotatable about its support, faucets in connection with the pipe, one of which is provided with a tip for hose connection, and means in connection with the yoke to inclose the discharging means, the said faucets being rotatable outwardly from within the inclosed space.

11. In dispensing apparatus, the combination with a supporting member, of pumping means, a yoke secured to the member and extending above the said means, a discharge pipe with a bearing in the yoke and being rotatably mounted in its support, discharge faucets in connection with the discharge pipe, and doors hinged on the yoke to inclose the discharge pipe and faucets, the said pipe and faucets being rotatable outside of the closed position, when the doors are open, to discharge the fluid pumped.

12. In dispensing apparatus, the combination with a supporting member, of pumping means, a yoke secured to the member and extending above the said means, a discharge pipe having connection with the pumping means and rotatable about its support, faucets in connection with the pipe, one of which is provided with a tip for hose connection, a hose therefor, and doors mounted upon the yoke to inclose the discharging means, one of the doors being provided on the inside with brackets to support the hose.

13. In dispensing apparatus, the combination with a supporting frame, of a manifold supported thereby, a pump cylinder, and a filter secured thereto, a yoke extending upwardly from the manifold, means to operate the pump comprising a rack movable through an opening in the top of the yoke, gearing to move the rack secured to the top of the yoke, a hand lever to operate the gearing, the rack normally being disposed below the yoke, and closures movable to inclose the rack and the gearing therefor and having coöperating projections to cover the opening in the said yoke.

14. In dispensing apparatus having a pump cylinder and a filter in a single inclosure, a manifold with passages to direct fluid from the pump cylinder to the filter.

15. In dispensing apparatus having a pump cylinder, a filter and a liquid discharging means, a manifold secured to the top of the pump cylinder and filter provided with chambers and passages to conduct the fluid being pumped from the pump cylinder to the filter and from the filter to the discharging means.

16. In dispensing apparatus of the class described having a pump cylinder, a filter with inlet and outlet passages and discharging means, a manifold with an inner chamber leading from the top of the pump cylinder to the inlet passage of the filter and an outer chamber leading from the discharge passage of the filter around the inner chamber of the manifold to the discharging means.

17. In dispensing apparatus of the class described having a pump cylinder, a filtering device with inlet and discharge openings for the liquid to be filtered and with an upwardly extending tube for discharging the filtrant, of liquid discharging and operating means for the pump, a manifold to which the pump cylinder and filter are connected, the said tube of the filter extending through the manifold, an upright tubular member connected to the manifold and having communication with the other tubular member, an inclosing structure for the pump comprising a closed tubular member surrounding the pump cylinder and the filter below the manifold and hinged doors above the manifold, and a faucet in the tubular member projecting above the manifold whereby the filtrant from the filtering device may be discharged from the filter.

18. In dispensing apparatus having liquid discharging and filtering means, a manifold secured to the pump cylinder and the filter, and means forming a water-tight inclosure for the pump, said means comprising a tubular supporting member disposed below the manifold having a removable plate therein to permit access to the interior thereof.

19. In an apparatus of the class described, the combination with a flexible discharging member, of an upright casing to inclose the dispensing apparatus, a door for the casing, and means on the door for supporting the flexible discharging member.

20. In an apparatus of the class described, the combination with a flexible discharging member, of an upright casing to inclose the dispensing apparatus, a door for the casing, and means on the door for supporting the flexible discharging member when the door is open and closed.

21. In a dispensing apparatus, the combination with a supporting member, of an inclosing member for containing the dispensing apparatus, divided vertically into two sections, each of which has a radial depth adapting it to contain a substantial part of the dispensing apparatus, and means for connecting the two sections together.

22. In a dispensing apparatus, the combination with a hollow supporting pedestal and means for securing it to the sidewalk or other suitable base and adapted to inclose a part of the dispensing apparatus, of an inclosing member supported on such pedestal and divided vertically into two sections, each of which has a radial depth adapting it to contain a substantial part of the dispensing apparatus, and means for covering the adjoining edges of such sections and securing them together.

23. In a dispensing apparatus, the combi-

nation with a supporting member, of an inclosing member, divided vertically into two sections and each section having a depth adapting it to inclose a substantial portion of the dispensing apparatus, and means for connecting the edges of these sections.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 7th day of November A. D. 1911.

REUBEN E. BECHTOLD.
HERBERT J. GROSVENOR.

Witnesses:
J. W. BURROWS,
C. M. SMITH.