

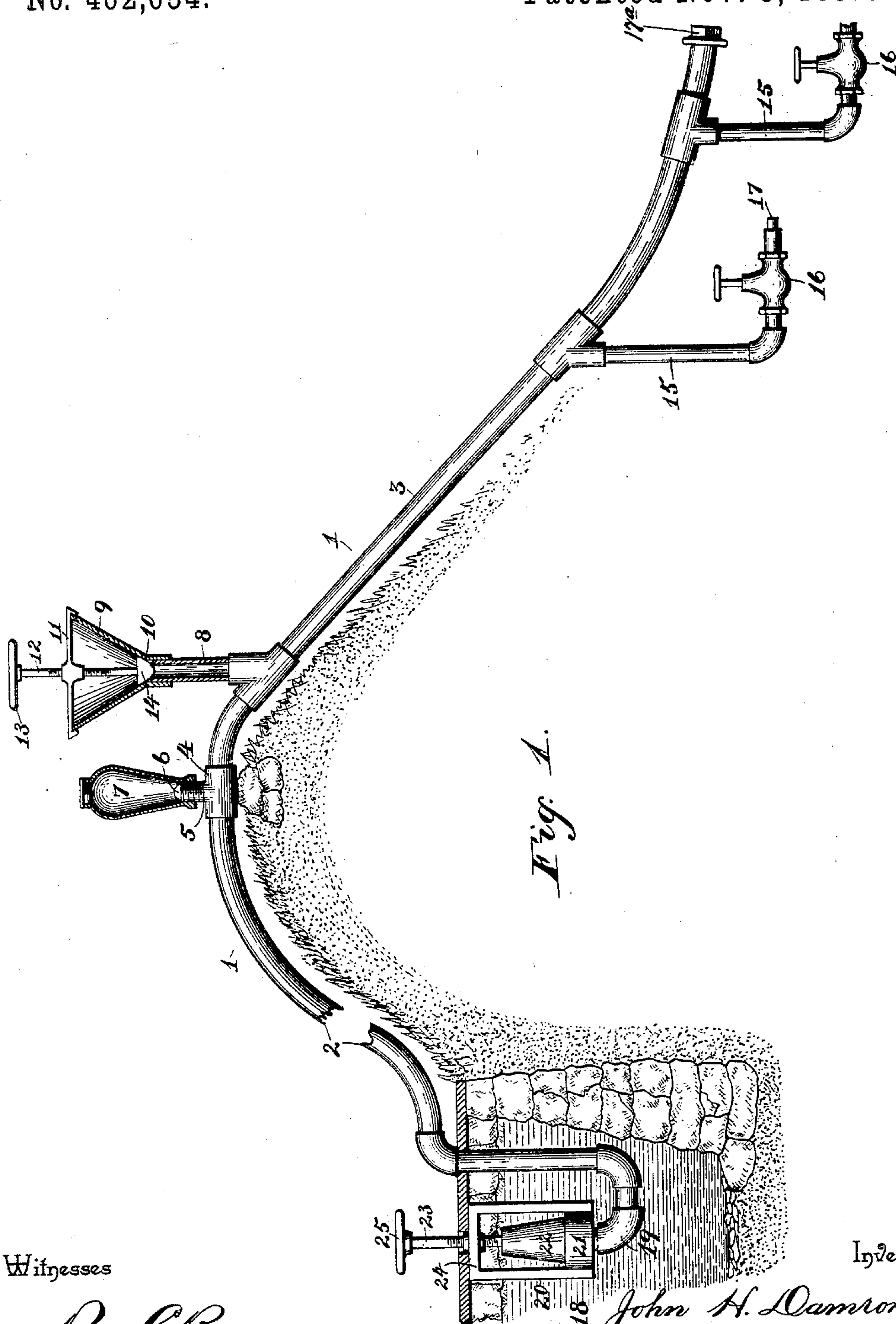
(No Model.)

2 Sheets—Sheet 1.

J. H. DAMRON.
SIPHON.

No. 462,654.

Patented Nov. 3, 1891.



Witnesses

Rey C. Bowen.
Wm. Baggett

By his Attorneys,

John H. Damron.

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Inventor

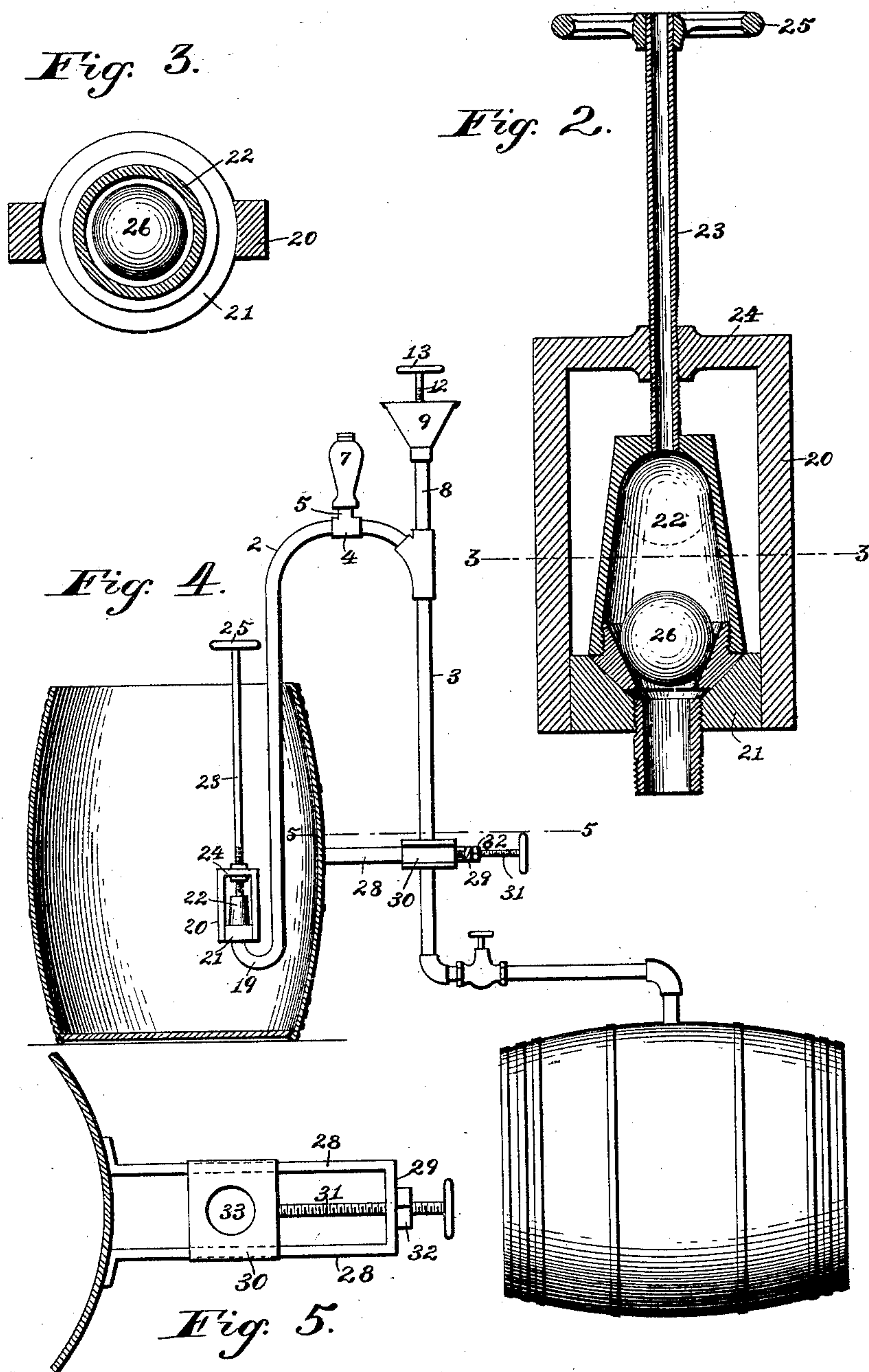
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Inventor

Percy C. Bowen.
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UNITED STATES PATENT OFFICE.

JOHN H. DAMRON, OF DUFFAU, TEXAS.

SIPHON.

SPECIFICATION forming part of Letters Patent No. 462,654, dated November 3, 1891.

Application filed January 21, 1891. Serial No. 378,580. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. DAMRON, a citizen of the United States, residing at Duffau, in the county of Erath and State of Texas, have invented a new and useful Siphon, of which the following is a specification.

This invention relates to siphons for conveying and distributing water for irrigation and for other general purposes, for the draining of pools, or for any purposes where it may be desirable to convey water over elevations from a higher to a lower plane.

My invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

From the drawings hereto annexed, Figure 1 is a side elevation, partly in section, of a siphon constructed in accordance with my invention. Fig. 2 is a vertical sectional view, on a larger scale, of the inlet end of my improved siphon. Fig. 3 is a horizontal sectional view taken on the line 3 3 in Fig. 2. Fig. 4 is a side elevation, partly in section, showing a modification of my invention which is applied principally to siphons of a smaller size. Fig. 5 is a sectional view taken on the line 5 5 in Fig. 4.

Like numerals of reference indicate like parts in all the figures of the drawings.

The main conducting-pipe of my improved siphon, which is designated by 1, is made of a shape to correspond with the profile of the land where it is to be used for irrigating or for water-distributing purposes, and it may consist of any desired number of sections, suitably joined in an air-tight manner. The pipe, as is usual in siphons, comprises the two main branches 2 and 3, which may be termed, respectively, an "inlet" and the "outlet" branch of the siphon. The branches 2 and 3 are joined at the highest point by a T-coupling 4, having a nipple 5, provided with a check-valve 6, opening into an air-chamber 7. The branch 3 is provided at a point not far from the coupling 4 with an upwardly-extending pipe 8, the upper end of which is provided with a receptacle or funnel 9 at the bottom of which is a valve-seat 10. The funnel 9 is provided with a cross-bar 11, in which is mounted a screw-threaded rod or valve-

stem 12, having at its upper end a hand-wheel 13 and at its lower end a valve 14, adapted to close upon the seat 10. The branch 3 is to be provided with any desired number of side branches 15, each of which is provided with a suitably-constructed valve 16 and with a plug 17, which may be removed for the purpose of connecting the side branches 15 with conduit-pipes through which the water may be conveyed to its destination. A plug 17^a also normally closes the end of the pipe 3 when the siphon is to be charged with water. The inlet-pipe 2, which extends into the source of water-supply 18, is provided with a return-bend 19, through which the water will enter the inlet branch in a downward direction. Upon the return-bend 19 is mounted a cage 20, provided at its lower end with an annular seat 21.

22 designates a conical or bell shaped valve, having an upwardly-extending air-pipe 23, which is exteriorly screw-threaded and mounted in the yoke 24 at the upper end of the cage 20. The upper end of the air-pipe 23 has a hand-wheel 25, by means of which it may be manipulated to raise or lower the conical valve 22, which is adapted to close upon the annular seat 21. Within the valve 22 is mounted a buoyant or floating ball-valve 26, which is adapted to close or seal the lower end of the air-pipe 23.

In operation when it is desired to charge the siphon the valves 16 and 22 are closed, thus preventing water from entering the siphon through the pipe or return-bend 19, and also preventing water from escaping through the valves 16. The end of the pipe 3 is likewise closed by the plug 17^a or in any suitable manner. The valve 14 is opened and water is poured through the funnel 9 and pipe 8 into the siphon. The branch 3 of the latter is first filled and the water will then pass into the branch 2. The air which is displaced by the water entering the siphon will escape through the pipe 23. When the siphon has been completely charged, however, the ball-valve 26 will rise within the conical or bell shaped valve 22 and close the lower end of the air-pipe, thus causing the water to rise in the pipe 8 and funnel 9, thereby indicating that the siphon has been charged. The pressure of the water in the pipe 8 and funnel 9

will also tend to expel the air from the upper portion of the pipe through the valve 6 and chamber 7, which latter may, if desired, be provided with a plug at its upper end. The valve 6 will drop to its seat automatically, thus sealing the valve-opening when the siphon is charged. The valve 14 is now closed, thus sealing the pipe 8. The valve 22 may now be raised, so as to open the inlet end of the siphon, and water may now be drawn through the latter by opening one or more of the valves 16.

The construction of the siphon shown in Figs. 4 and 5 of the drawings is identical with that above described, except in this that it is upon a much smaller scale, the main body of the siphon consisting simply of a single inverted-V-shaped pipe. The branch 3 of the latter is provided with a holder, by means of which the siphon may be readily held in position for operation. Said holder consists of a metallic yoke or frame having parallel side pieces 28, connected by a cross-bar 29.

30 designates a block having grooved sides, by means of which it is mounted slidably between the side pieces of the yoke. The inner ends of the latter are to be mounted upon a stationary support. The block 30 has a screw-threaded rod or bolt 31 extending through a perforation in the cross-bar of the yoke, and provided with a jam-nut 32, whereby the said block may be adjusted to and held securely in any desired position. The said block 30 has a vertical opening 33 for the passage of the branch 3 of the siphon, which latter may thus be held securely in position for operation.

If a continuous flow is not desired a pump may be connected with the exit branch of the piston. This will also be found useful if for any reason it shall be desired to raise the water after passing through the siphon.

Having thus described my invention, what I claim is—

1. The combination, with a siphon, of a charging-pipe, a valve adapted to close the inlet end of said siphon, and an air-escape pipe connected with the inlet-valve, substantially as set forth.

2. The combination, with a siphon, of a charging-pipe having a valved inlet, the valve exit-pipes, a valve adapted to close the inlet of said siphon, and an air-escape pipe con-

nected with said inlet-valve, substantially as set forth.

3. The combination, with a siphon, of a valved charging-pipe, a return-bend at the inlet of said siphon, a conical or bell shaped valve adapted to close the inlet of the return-bend and having an upwardly-extending air-escape pipe, and a buoyant ball-valve mounted in the said conical or bell shaped valve and adapted to close or seal the air-escape pipe, substantially as and for the purpose set forth.

4. The combination, with a siphon, of a valve-charging pipe, a return-bend at the inlet end of said siphon, a cage mounted upon the said return-bend and having an annular valve-seat, a conical or bell shaped valve arranged in the said cage and adapted to close upon the annular seat of the latter, an air-pipe extending upwardly from the conical or bell shaped valve, and a floating ball-valve mounted in the latter and adapted to seal the lower end of the air-pipe, substantially as and for the purpose set forth.

5. The combination of the cage having an annular valve-seat, the conical or bell shaped valve arranged in the cage and adapted to close upon the seat of the latter, and an exteriorly-threaded air-pipe extending from the conical or bell shaped valve upwardly through a threaded perforation in the yoke or cross-bar at the top of the cage, substantially as and for the purpose set forth.

6. The combination, with a siphon constructed substantially as described, of a holder comprising a yoke having parallel arms, a block mounted slidably between the arms or sides of said yoke, and having a vertical opening, in which is mounted one of the branches of said siphon, a screw-threaded rod extending from said sliding block through a perforation in the outer end of the yoke, and a jam-nut mounted upon the said screw-threaded rod, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN H. DAMRON.

Witnesses:

J. J. BENNETT,
G. Y. GASKINS.