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PATENTED FEB. 4, 1908.

W. A. CRUMLY.
COMBINED PUMP AND WELL CURB.

APPLICATION FILED DEC. 19, 1906.

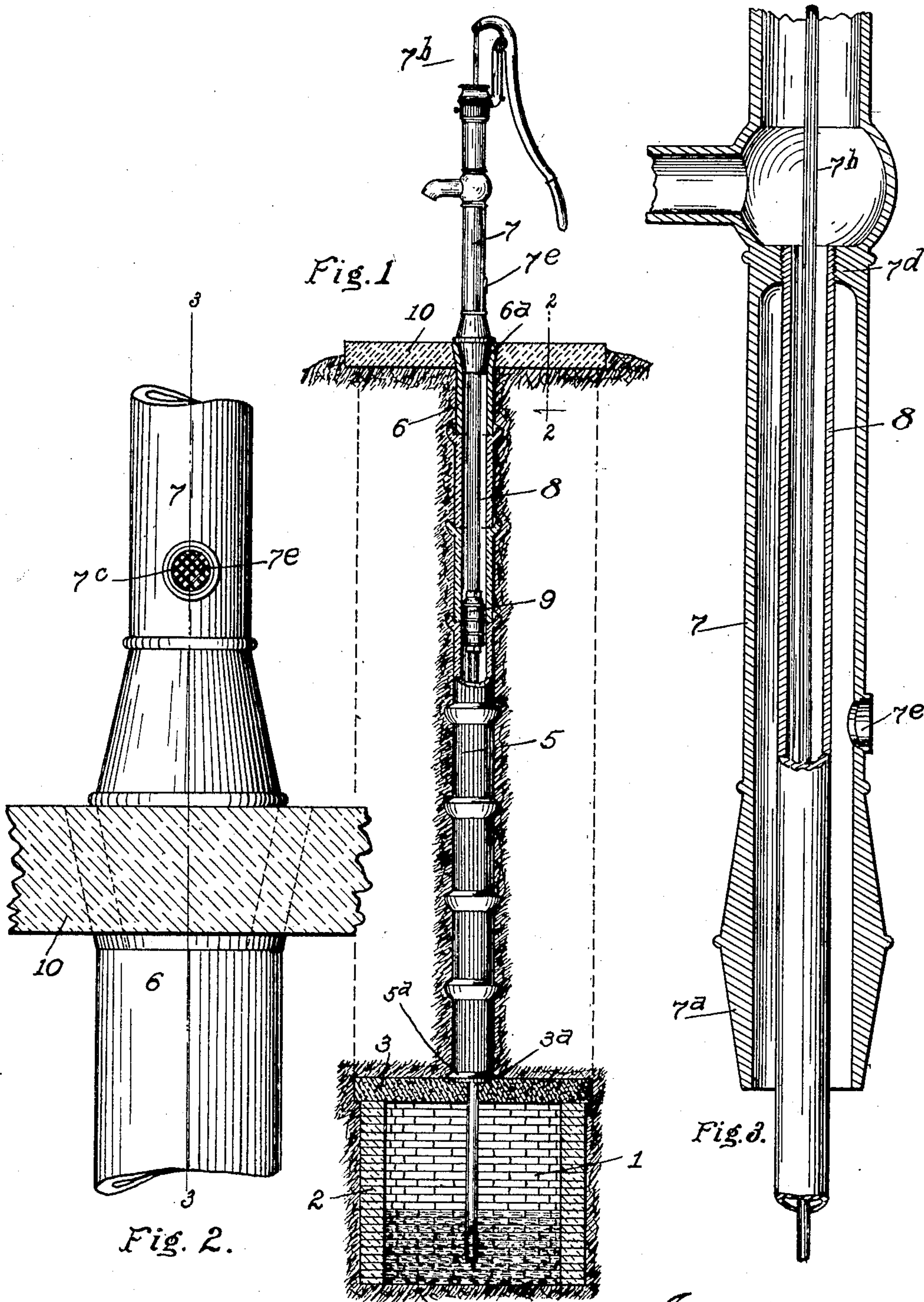


Fig. 2.

Fig. 3.

Witnesses.
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COMBINED PUMP AND WELL CURB.

No. 878,357.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed December 19, 1906. Serial No. 348,612.

To all whom it may concern:

Be it known that I, WILLIAM A. CRUMLY, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a certain new and useful Combined Pump and Well Curb, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

This invention is a modification and improvement of the invention set forth in my application, Serial No. 308,906, for Improvement in wells, filed March 30, 1906.

The purposes of this invention are to provide in connection with impermeable well-lining sections, preferably of glazed sewer pipe, an upper or curb section of iron or other material stronger than the sewer pipe and not likely to rupture by freezing; and adapted to permit ventilation of the well through the pump; to provide an upper or curb section so constructed that the pump may be securely seated on said section and firmly held against swaying without the use of bolts or other securing devices; to provide a curb section so constructed and arranged that it may be embedded in a cement or concrete platform and to provide a pump of modified construction having an opening for ventilation and adapted to seat on the upper end of the curb section of the well-lining.

With these ends in view my invention consists in the novel features of construction and combinations of parts set forth in this specification, and shown in the annexed drawings and finally recited in the claim.

Referring to the drawings in which similar numerals and letters designate like parts in the several views: Figure 1 is a vertical section through a well equipped with a well-lining having an iron curb section, and complementary sections of sewer pipe and a pump embodying my invention. Fig. 2 is an enlarged partial vertical section on the line 2. 2. of Fig. 1 and Fig. 3 is an enlarged axial section on the line 3. 3. of Fig. 2.

In constructing the well the procedure is as follows: A hole of the same diameter as the enlarged part or permeable reservoir 1, is dug in the ground to the required depth, as indicated by dotted lines in Fig. 1. The lower part of the hole is walled with a loosely laid brick wall 2, the wall being so constructed that water will seep through the wall into the reservoir. A slab 3, of stone or

cement, having a central depression 3^a and a central hole 3^b, covers the reservoir. Glazed sewer pipes 5, are placed one above the other as shown, the lower end of the lowest section of the sewer pipe resting in the depression 3^a. The depression 3^a and the joints of the sewer pipe are filled with cement 5^a. The upper or curb-section 6 of the well-lining is preferably of cast iron and is of suitable diameter to fit in the upper end of the upper sewer pipe section and is cemented therein the same as the other sections are cemented. The upper part of the curb section 6 is tapering as shown and is adapted to receive the tapering lower part 7^a of the pump stock 7. The pump stock 7 is preferably of cast iron and is in the main of the usual construction. The lower part 7^a of the pump stock is turned tapering to fit snugly within the tapering part 6^a of the curb section 6. The pump stock 7 has a diaphragm 7^d and a ventilation opening 7^e below the diaphragm. A closure 7^e of meshed wire or other suitable material, admits air through the opening into the pump stock and serves to exclude dirt and vermin. A pipe 8, screws into a suitably placed diaphragm 7^d. The pump cylinder 9 is suitably secured on the lower end of the pipe 8 and is adapted to pass downward through the well-lining sections 6 and 5, and the pipe supports the cylinder within the reservoir 1. The cylinder 9 is provided with valves of any approved construction. The pump rod 7^b is connected with a suitable plunger (not shown) within the cylinder 9 and the upper end of the pump rod is connected with the pump handle in the usual way. After the sewer-pipe sections 5 and the iron curb-section 6 are set in a vertical position and cemented as described, the hole will be filled with dirt and the dirt will be tamped around the sections.

In setting the pump it is only necessary to connect the cylinder 9 with the pipe 8 and the pipe 8 with the pump stock 7 and lower the cylinder and pipe through the well-lining until the cylinder is in place within the reservoir and the tapering part 7^a of the pump stock is firmly seated in the tapering socket 6^a of the curb-section 6. The tapering part 7^a of the stock 7 and the tapering socket 6^a of the curb-section 6 are turned true to center and the contacting surfaces are sufficient to hold the pump firmly in a vertical position without using any securing devices whatever. The lower sections of the

well-lining being preferably of glazed sewer-pipe, exclude impurities from the well and another practical advantage is that such pipes are easily obtainable in any locality
5 at small cost. The curb-section 6 extends into the ground below the frost line. The curb-section 6 being of cast iron, may be made sufficiently strong to avoid breakage either by accident or by freezing, or other
10 action of the elements. In case a platform is desirable a cement or concrete platform 10 may be built around the curb-section as shown in Fig. 1; the platform however is not an essential feature, and may be dispensed
15 with without departure from my invention.

From the foregoing it will be seen that the reservoir is inclosed and the wall of the reservoir is permeable and adapted to freely admit water from the water bearing strata to
20 the reservoir; the body of the well-lining is impermeable and effectually excludes from the well all contaminating matter; it will also be observed that while the sewer-pipe sections are, from the nature of the material, relatively fragile, the curb-section is of obdurate
25 or practically unbreakable material.

For the purpose of distinguishing the parts of the structure the term "obdurate" will be used in the claim to define the practically un-
30 breakable quality of the curb-section and the term "fragile" will be used to define the

relative quality of the other sections of the well-lining.

Having fully described my invention, what I claim as new and desire to secure by 35 Letters Patent is:

The combination of a sectional well-lining comprising a curb-section of obdurate material, such as iron, of length suitable to extend below the frost line when said curb- 40 section is embedded in the ground, and having at its upper end a tapering socket adapted to accommodate the tapering lower part of a pump stock; complementary well-lining sections of relatively fragile material such 45 as glazed sewer pipe, adapted to connect with the lower end of said curb-section and adapted to communicate with a reservoir; and a pump stock having a tapering lower part fitting and self-centering in the tapering 50 socket at the upper end of said curb-section and provided with a pipe adapted to extend through said curb-section and through said complementary sections of the well lining.

In witness whereof I have hereunto subscribed my name at Springfield, Illinois, this 55 13th day of October, 1906.

WILLIAM A. CRUMLY.

Witnesses:

O. A. MERKEL,
N. DU BOIS.