(No Model.)

G. D. PETTINGILL.

CEMENT PIPE WELL.

No. 255,664. Patented Mar. 28, 1882.

Fig. 1.

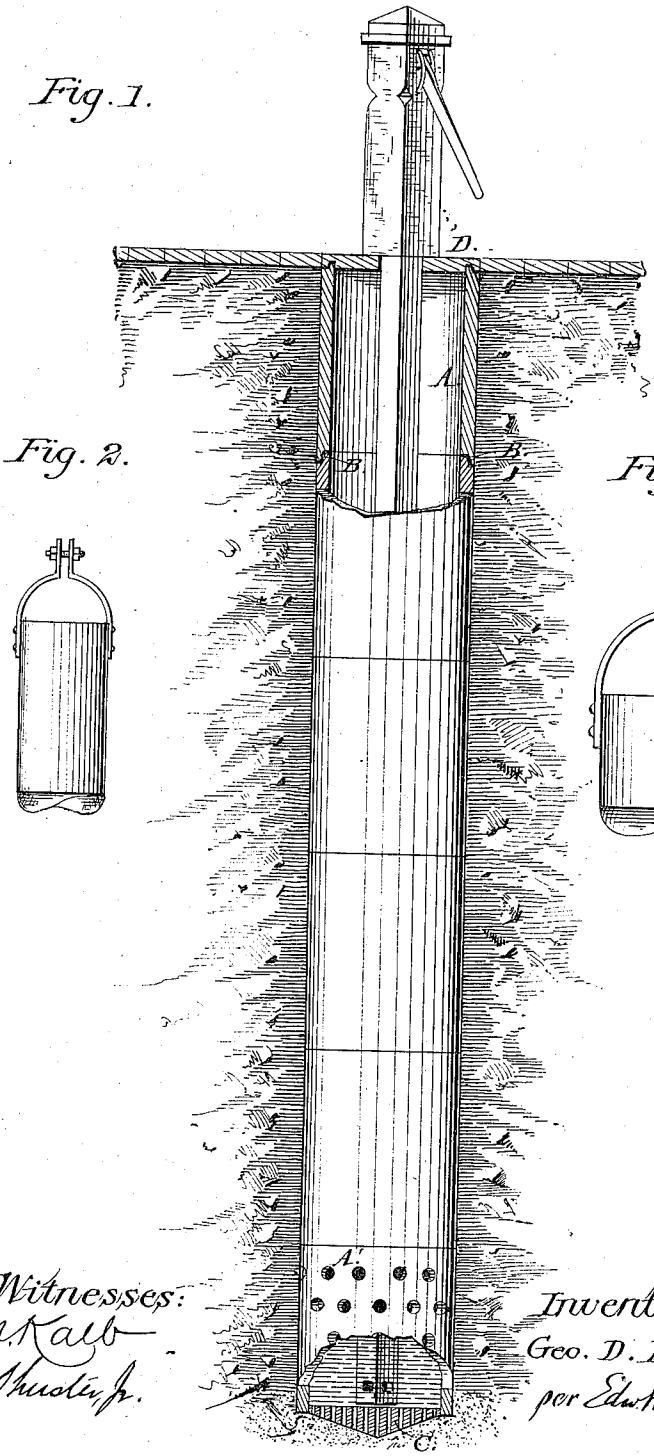
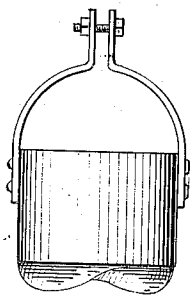


Fig. 2.

Fig. 3.



Witnesses:
I. N. Kalb
Wm. M. Shuster Jr.

Inventor:
Geo. D. Pettingill
per Edw. W. Bowne & Co.
Attys.

UNITED STATES PATENT OFFICE.

GEORGE D. PETTINGILL, OF ASBURY PARK, NEW JERSEY.

CEMENT-PIPE WELL.

SPECIFICATION forming part of Letters Patent No. 255,664, dated March 28, 1882.

Application filed September 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. PETTINGILL, a citizen of the United States, residing at Asbury Park, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Constructing Cement-Pipe Wells; and I do hereby declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention is an improvement in boring and curbing wells.

It consists primarily in the method of forming wells by using an auger of large size to form a shaft to receive several joints of curbing, then undermining said curbing by boring with a smaller auger to settle the same until a proper depth is reached and sufficient water is found, additional sections of curbing being added at the top as the work progresses, after which the well is capped, all of which will be hereinafter fully set forth.

It consists, secondly, in the formation of well-curbing in sections, jointed together with rabbet-joints, which form cone-frustums, said joints being completed by the introduction of cement as the several sections are placed upon their correspondents.

In my drawings, Figure 1 is a sectional view of a well, showing the curbing partly in elevation. Fig. 2 is an elevation of a small auger used in undermining the curbing. Fig. 3 is an elevation of an auger used for forming the primary opening.

Similar reference-letters indicate like parts in all of the figures.

Referring to drawings, A are the ordinary sections of the well-curbing, and A′ the lower perforated section of the same. These sections, when in place, set one upon another, as shown.

B is the rabbet-joint formed upon the upper end of the sections, adapted to receive the lower end of another joint correspondingly formed. When these joints are fitted together I introduce a filling of cement, preferably water-lime, so that when finished and in place the curbing will be as one piece, the peculiar form of the joints being promotive of this end.

In forming a well by my method I use first an auger of large size of the usual construction, and sink the same until a depth is obtained sufficient to receive a few of the lengths of the curbing. The earth is lifted from time to time as the auger is driven, and when the said large auger is dispensed with the sections, one by one, are lowered—the perforated one, A′, first—successively until they reach the surface of the ground. I now introduce an auger having a smaller diameter into the space within the curbing so sunk, and drive the same to undermine and settle the curb by gravity. Additional sections are supplied as the under ones sink until a suitable amount of water is gained. Should there be at the bottom of the well a quicksand or any substance that might be drawn by the operation of pumping, I introduce a perforated conical bottom, C, which, on account of its formation, settles itself into the soft material at the base of the well and prevents said material from rising. These bottoms I form of the same material as the curbing, preferably hydraulic cement, and the perforations may be of a size to suit conditions. When the sections forming the well-curbing are in place I cap them with a top piece, D, provided with an annular groove on the under side to fit snugly over the rabbet-joint of the uppermost section, the joint being perfected by the use of water-lime, as previously mentioned. The top piece, D, is pierced with a hole to receive the pump.

By my method of forming a well I avoid the trouble and expense commonly incurred by reason of caving, and by the use of the joints shown and described with a filling or packing of cement I keep out of the well proper all surface-water.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described method of forming a well, which consists in first boring with an auger into the ground a given depth to form an opening, then inserting, joint by joint, sections of curbing of the form described, and

thereafter sinking the sections so inserted by boring with a smaller auger and removing the earth beneath and adding joints from the mouth of the well, as and for the purpose set forth.

2. The curbing for wells, formed with conical corresponding joints B B′, in combination with the cement filling or packing for said joints, as and for the purpose specified.

GEORGE D. PETTINGILL.

Witnesses:
THOMAS C. MOORE,
FRANK B. WARNER.