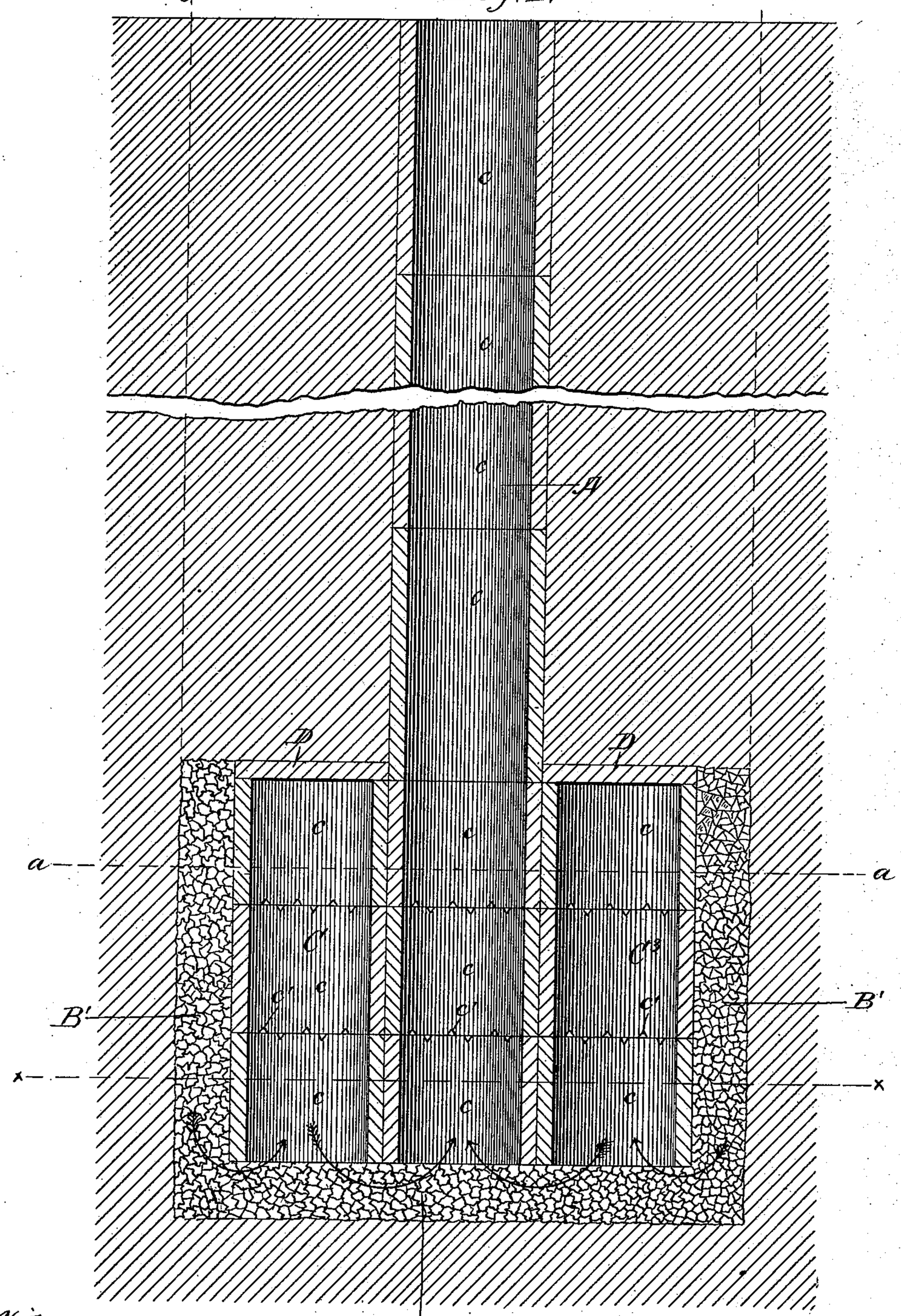
(No Model.) 2 Sheets—Sheet 1.

B. F. McCANN.

WELL.

No. 377,903. Patented Feb. 14, 1888

Fig. 1.



Witnesses:
T. R. Strait
L. Seward Bacon.

Inventor:
Benjamin F. McCann.
By Marble & Mason,
Atty's.

(No Model.)

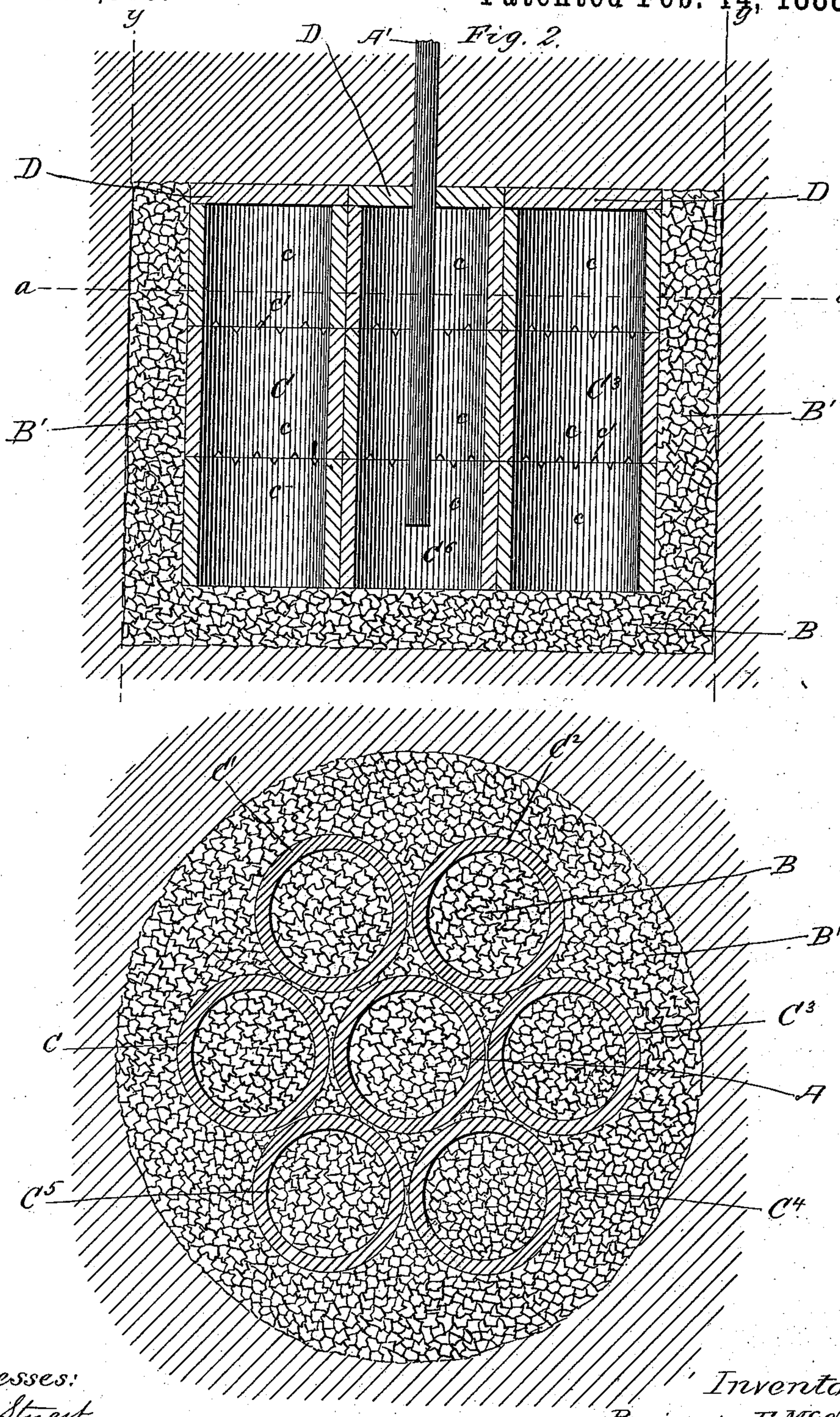
2 Sheets—Sheet 2.

B. F. McCANN.

WELL.

No. 377,903. Patented Feb. 14, 1888.

Fig. 2.



Witnesses:
T. R. Stuart.
L. Seward Bacon.

Inventor:
Benjamin F. McCann,
By Marble & Mason,
Attys.

UNITED STATES PATENT OFFICE.

BENJAMIN F. McCANN, OF EWING, INDIANA.

WELL.

SPECIFICATION forming part of Letters Patent No. 377,903, dated February 14, 1888.

Application filed November 12, 1887. Serial No. 254,952. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. McCANN, a citizen of the United States, residing at Ewing, in the county of Jackson and State of Indiana, have invented certain new and useful Improvements in Wells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The objects of my invention are, first, to provide a well of simple and inexpensive construction, which will supply a copious amount of pure water, and will be completely walled, curbed, and covered at all points, so as to prevent dirt, small animals, reptiles, and other contaminating things or substances from falling into the well and into the water at the bottom thereof; and, second, to shut off the water in the well from currents of warm and impure outside air; and the improvement consists in the combination of a stand-pipe formed in sections and extending from the top to the bottom of the well, and having a porous lower end and a series of porous tributary cells arranged eccentrically of and in a chain or series around the lower end of said stand-pipe; and the improvement further consists in certain constructions and combinations or arrangements of parts, hereinafter fully disclosed in the description and claims.

In the accompanying drawings, in which the same reference-letters indicate the same parts, Figure 1 represents a vertical sectional elevation, partly broken, of a well embodying my improvements, and showing a stand-pipe adapted to be used with a bucket or chain pump; Fig. 2, a vertical sectional view of the lower portion of a well and the tributary chambers or cells, and showing a side elevation of the small stand-pipe adapted to be attached to a suction-pump; and Fig. 3, a horizontal section on the line *x x* of Fig. 1.

A stand-pipe, A, extends from the surface of the ground downwardly below the water-line *a a*, Fig. 1, and to the bottom of the reservoir or well, its lower end being open and resting firmly upon a layer of rubble or broken stone and gravel, B, of suitable thickness, deposited in the bottom of the well-excavation, the outlines of said excavation being indicated by the dotted lines *y y* in Fig. 1 of the drawings.

The stand-pipe A is surrounded at its lower end by a series of tributary chambers or cells, C, C′, C², C³, C⁴, and C⁵, which are eccentrically arranged with respect to said stand-pipe, and each of which is open at the bottom and rests, together with the stand-pipe, upon the layer of rubble B, thus forming a chain of cells inclosing and eccentrically surrounding the lower end of said stand-pipe, all of said cells and stand-pipe being formed in sections *c c c*, and provided with suitable openings or notches, *c′ c′ c′*, at their joints, as hereinafter described, through which the water may pass into and out of one and into the interior of another, and whose combined areas will approximately equal the area of capacity of the reservoir or lower portion of the well.

The space between the circle or chain of tributary chambers or cells and the wall of the well-excavation is filled with rubble B′, forming an upward continuation of the layer of the same beneath the cells and the bottom of the stand-pipe, and having the function of largely freeing the water from mud and sedimentary matter before it passes to the interior of the stand-pipe or into the surrounding cells by percolating through the layers of broken stone or gravel.

The upper ends of the tributary chambers or cells are covered with caps or covers D, made of stone, cemented brick, or other impervious material, and the earth originally excavated from the well is filled in upon said caps or covers of said tributary cells, around the stand-pipe, and up to the surface of the ground.

The tributary chambers or cells are made of short porous earthenware-sections *c c c*, which will allow the water to both filter through them and pass through the notches *c′ c′ c′* between their joints as freely as is necessary for ordinary demands; but when an extra heavy draft is made upon the well the water will pass down in the direction of the arrows through the rubble layers B B′, and then up through the open bottoms of the tributary cells and stand-pipe to the interior thereof.

The stand-pipe A, as shown in Fig. 1, is of sufficient diameter to admit a bucket or chain-

pump elevator; and two stand-pipes, one for the upgoing and the other for the downgoing buckets, may be substituted for the single stand-pipe.

The stand-pipe, except its lower portion, is preferably made of glazed earthenware, tubular sections of suitable lengths placed one above the other and closely packed around with earth to hold them in place, the lower portion of said pipe being unglazed or porous up to the top of the surrounding chambers or cells, so as to admit free passage of water into the same.

When a small wood or metal pipe, A′, is desired to be used in the well for a suction-pump, said pipe is passed downward through the cap or cover D and into the central chamber or cell, C^6, for a suitable distance below the water-level, as shown in Fig. 2 of the drawings.

Both the shape and the number of the cells may be varied to suit the quantity of water required or the desire of the builder without departing from my invention; but by multiplying the number and size of the cells a very large supply of water may be husbanded and kept pure and cool for a long time.

As the space not occupied by the cells and stand-pipe in the bottom of the well is closely packed with broken stone and earth, no room is allowed for harboring frogs, snakes, or other offensive creatures.

Having thus fully described my invention, what I claim as new is—

1. In a well, the combination of a stand-pipe formed in sections and extending from the top to the bottom of said well and having a porous lower end, and a series of porous tributary cells arranged eccentrically of and in a chain or series around the lower end of said stand-pipe, substantially as described.

2. In a well, the combination of the centrally-located stand-pipe formed in sections and having a porous lower end, and a chain or series of tributary cells arranged around the lower end of said stand-pipe, and also formed of porous sections placed one above the other, substantially as described.

3. In a well, the combination of the centrally-located stand-pipe formed in sections and having a porous lower end, and a chain or series of tributary cells arranged around the lower end of said stand-pipe, and also formed of porous sections placed one above the other and having openings or notches between their joints, substantially as described.

4. In a well, the combination of a stand-pipe formed in sections, a chain or series of porous tributary cells arranged eccentrically around the lower end of said stand-pipe and having closed upper ends and open lower ends, and a layer of broken stone or gravel placed beneath the said cells, substantially as described.

5. In a well, the combination of the sectional earthenware stand-pipe having a porous lower end and extending from the top to the bottom of the well, a chain or series of tributary cells, C C′ C^2, &c., also formed of porous earthenware sections and arranged around the lower end of said stand-pipe, and layers B B′, of broken stone or gravel, located, respectively, beneath and around said chain or series of cells and the stand-pipe, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN F. McCANN.

Witnesses:

WILLIAM L. BRYATT,

ANDREW J. PAYNE.