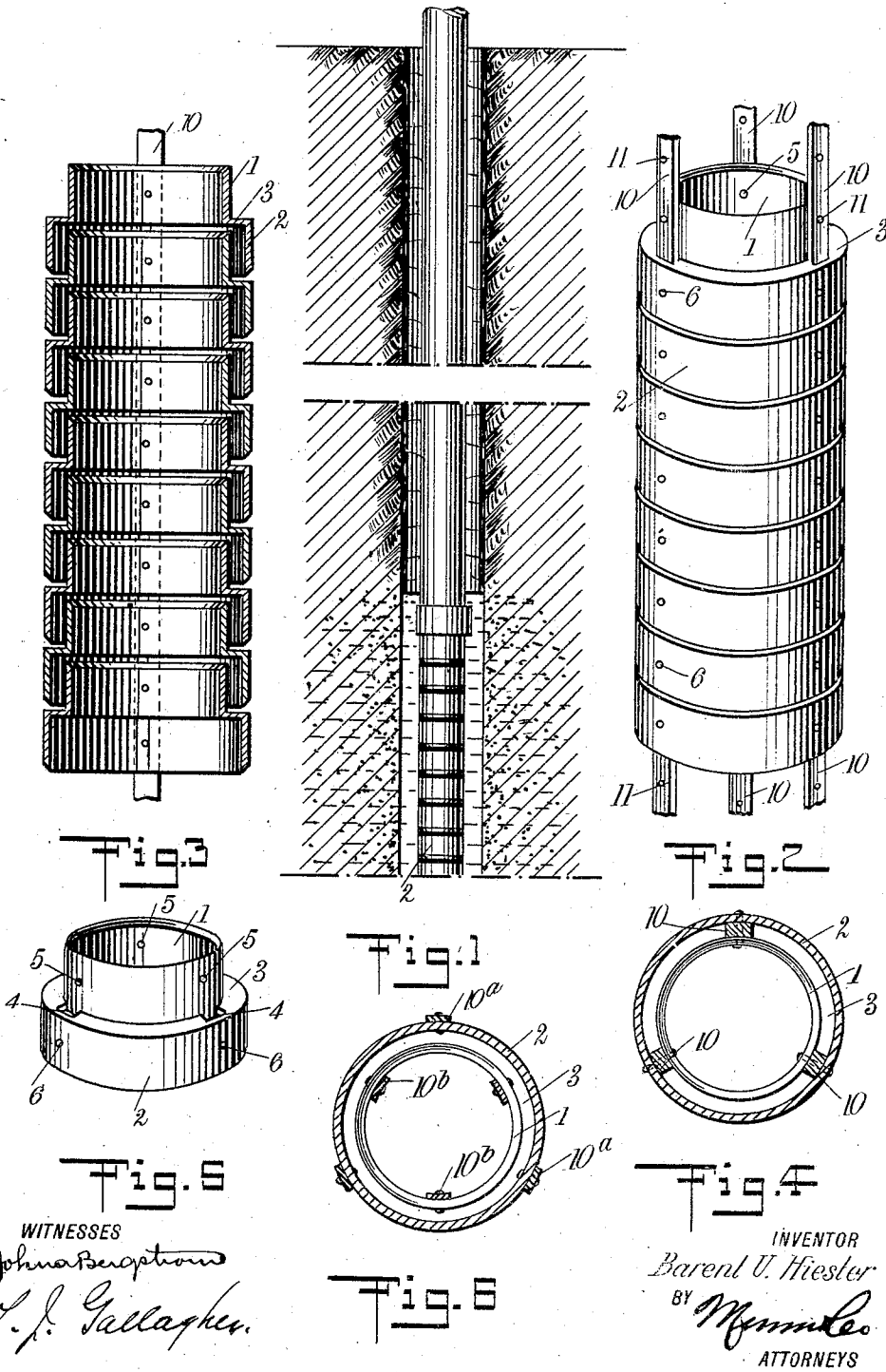


B. U. HIESTER.
WELL CASING.
APPLICATION FILED JULY 11, 1911.

1,009,515.

Patented Nov. 21, 1911.



UNITED STATES PATENT OFFICE.

BARENT U. HIESTER, OF GRAND RIDGE, ILLINOIS.

WELL-CASING.

1,009,515.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed July 11, 1911. Serial No. 637,945.

To all whom it may concern:

Be it known that I, BARENT U. HIESTER, a citizen of the United States, and a resident of Grand Ridge, in the county of LaSalle and State of Illinois, have invented a new and Improved Well-Casing, of which the following is a full, clear, and exact description.

My invention relates generally to well casings and more particularly it is directed to an improved means for holding together the units described and claimed in Letters Patent No. 1,001,523, granted to me August 22, 1911.

The object of my invention is to provide a new and improved means for securing in operative position a number of the well casing units set forth in the above application, the said securing means being preferably vertically extending rods which may occupy a variety of positions with respect to the said units.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a sectional view of a well containing a casing made up of my units; Fig. 2 is a perspective view of a number of units secured together in one manner; Fig. 3 is a vertical sectional view thereof; Fig. 4 is a horizontal sectional view of Fig. 2; Fig. 5 is a perspective view of one of the units; Fig. 6 is a horizontal sectional view showing a slightly different manner of connecting the units.

The unit comprises the concentric cylindrical members 1, 2, the former being of less diameter than the latter, and the two members being secured together by a continuous portion 3, preferably integral therewith, this portion being provided at a suitable number of points with openings 4 of any suitable shape. The smaller cylindrical member 1 is provided with any desirable number of perforations 5, suitably spaced there-around and the outer cylindrical member 2 is also provided with a number of perforations similarly spaced, it being noted that the perforations 5 and 6 together with the opening 4 lie in the same vertical plane.

The units are designed to be positioned one above the other and inserted in position within a well, the units forming a casing therefor, the means for holding them one

above the other being preferably a number of vertically extending rods. Each of the rods 10 is provided with a series of perforations 11 suitably spaced apart, the distance between these perforations being the distance it is desired to maintain between the perforations 6 on the successive units so that by placing one of these in each of the openings 4 in the intermediate portion 3 of the series of units the same may be secured on the rod by any suitable means engaging the perforations 6 of one unit and one of the perforations 11 in the rod, together with a perforation 5 in the upper cylindrical part of the next succeeding unit. The means or devices engaging in these perforations may be that which is best suited for the purpose, which may take the form of rivets or bolts and nuts or any equivalent means. In Fig. 6 I have shown a modified positioning of these rods, the arrangement shown having two series of rods, one series 10^a engaging the perforations 6 in the succeeding units while the other series 10^b engages the perforations 5 in the upper portion of the succeeding units. Either arrangement is adapted to hold the units securely together in position for use, it being obvious that one arrangement may be more suited to a particular use than the other, the size of the units influencing the arrangement, since as the units increase in diameter double securing means may be desirable. Of course the material of these rods may be what is best suited to the purpose and most desirable both from a standpoint of efficiency and also of cost, changes in the material and size being within the spirit of the appended claims.

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

1. A plurality of succeeding units adapted to form a well casing, together with means extending vertically of the well and engaging each of the units whereby they are suitably spaced one from the other.

2. A plurality of succeeding units comprising a smaller cylindrical part, a larger concentric cylindrical part, means connecting the parts, together with a plurality of vertically extending members in engagement with the succeeding units whereby they are suitably spaced.

3. A well casing made up of a number of succeeding units of similar construction, together with a plurality of rods engaging the

succeeding units for spacing them one from the other, the said rods and units forming a single structure.

4. A well casing made up of a plurality of units, rods engaging the units, the rods being secured in order to properly space one unit from each succeeding one.

5. A well casing comprising a plurality of units, each unit being provided with a plurality of perforations, a plurality of rods, each rod containing a plurality of perforations, the units being positioned on the said rods, together with means engaging each succeeding unit and the rod for holding the parts together and one unit properly spaced from the succeeding unit.

6. A well casing made up of a plurality of units, each unit comprising an upper cylindrical portion and a larger concentric cylindrical lower portion, the portions being connected together, a plurality of openings in each unit, together with rods engaging the openings in succeeding units, there being suitable means engaging the rods and adjacent units in order to secure the parts to-

gether and to hold them properly spaced with respect to each other.

7. A well casing made up of a plurality of units, each unit comprising a cylindrical upper part and a larger concentric lower part with a connecting portion between them, the connecting portion being provided with a plurality of openings, a plurality of rods engaging the openings in each unit, and rivets engaging the upper part of one unit and a rod and the lower part of the succeeding unit, whereby the units and the rods are held together in a single structure with the proper space between the units.

8. A well casing comprising a plurality of units of similar construction, together with means engaging each of the units for spacing them one from the other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BARENT U. HIESTER.

Witnesses:

J. M. CORE,

GEO. L. DEARTH.