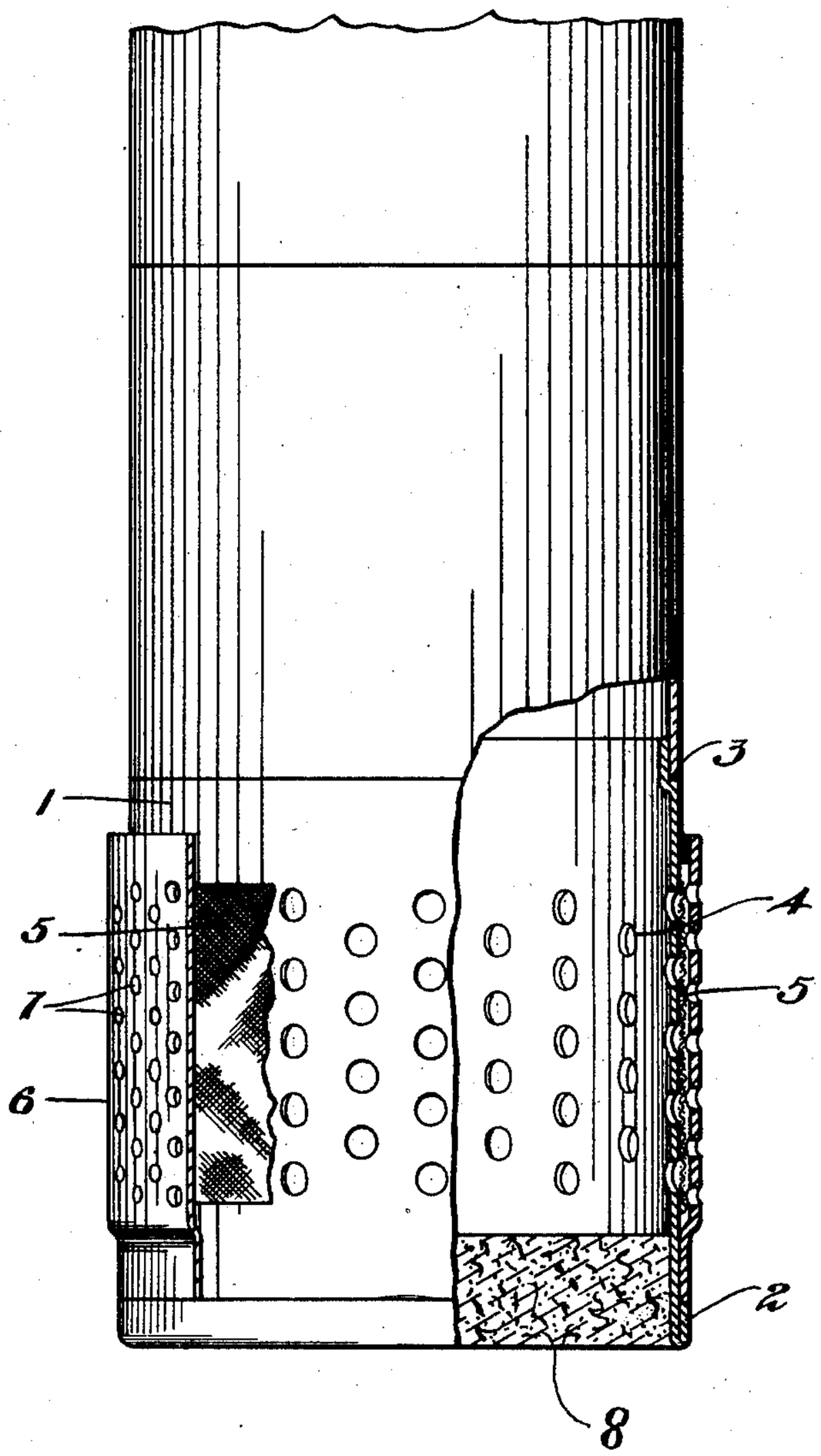
H. C. HOGARTH.

WELL CASING.

APPLICATION FILED OCT. 25, 1909.

997,191. Patented July 4, 1911.



Witnesses

A. Dennison.

Wm. C. Muir

Inventor

H. C. Hogarth.

by E. Fetherstonhaugh

Atty.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY C. HOGARTH, OF TILSONBURG, ONTARIO, CANADA.

WELL-CASING.

997,191. Specification of Letters Patent. Patented July 4, 1911.

Application filed October 25, 1909. Serial No. 524,528.

To all whom it may concern.

Be it known that I, HENRY C. HOGARTH, a subject of the King of Great Britain, and resident of the town of Tilsonburg, in the county of Oxford, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Well-Casings, of which the following is a specification.

The invention relates to improvements in well casings, as described in the following specification and illustrated in the accompanying drawing that forms part of the same.

The invention consists essentially in the novel construction and arrangement of parts, whereby the lower section of a sectional tubular casing is perforated for the ingress of water thereto and said perforated portion is screened in, and the end of the casing closed, by porous closures for the exclusion of foreign matter.

The objects of the invention are, to provide a well casing which will allow of the boring of the well to any desired depth below the high water level in sand or other loose ground, to allow a free flow of water to the interior of said casing, and to effectually prevent the ingress of sand or earth to the interior of the well.

The drawing represents an elevational view of my device shown partly in section.

Referring to the drawing, 1 is the lower section of the casing, preferably cylindrical in form and constructed of sheet metal or other suitable material. The lower edge 2 of the section 1 is preferably flanged over to form a reinforcing band.

3 is an annular shoulder formed at the upper end of the section 1 adapted to abut the end of the succeeding section, said succeeding section being secured thereto in any suitable manner.

4 are a plurality of holes formed in the wall of the casing 1 beginning a short distance above the lower end and extending upwardly to near the top thereof, the height of said holes being governed by the condition of the ground in which the casing is to be placed.

5 is a screen of fine wire gauze wrapped around the outside of the section 1 and covering the openings 4, said screen being securely fastened together at its ends and to the casing.

6 is a sleeve snugly encircling the screen 5 and firmly secured in place in any suitable manner, said sleeve having a plurality of fine perforations 7 therethrough. The lower end of the sleeve 6 is preferably slightly reduced in diameter to fit snugly around the casing 1 and its lower edge abuts the upturned flanged portion 2. The sleeve 6 is securely soldered at the top to the casing 1.

8 is a closure of porous material inserted into the lower end of the casing 1 after the casing is sunk to the desired position. The closure 8 closes the lower end of the casing against the inflow of foreign matter, such as quick-sand or loose earth but allows a free inflow of water.

In the use of this device, the well is first bored in the usual manner until water or loose shifting ground is reached. The sections of the casing are then secured together and inserted into the well until the lower section rests on the bottom. The boring tool is then dropped into the casing and as the end of the lower section is open, the tool cuts away the sand or gravel and the material lifted through the casing. The casing follows the boring tool downwardly and prevents the loose material falling or washing into the bore, consequently the well may be sunk to any desired depth in the water strata.

When the casing has been sunk the desired distance, well into the water strata, the porous closure 8 is lowered into the casing and rests upon the earth or sand at the bottom, closing the bottom end of the casing against the inflow of quick-sand or other foreign matter, but, as it is of a porous nature, it allows a free inflow of water. If desired, the closure may be cemented around its edges in order to secure it firmly in place at the bottom of the lower section of the casing.

In lowering the casing the perforated sleeve 6 protects the wire screen 5 from injury and as the perforations in said sleeve are very small, no large particles of sand or dirt can come against the screen at any one point. Water, however, finds easy access to the interior of the well casing through the said perforated sleeve and the perforations in the casing 1.

The present invention has been devised to overcome the difficulties met with in the ordinary Artesian and bored wells. The casing does not need to be driven into the water bearing strata and consequently the sand or

gravel does not become packed. The result of this is that the water flows very freely through the perforated casing and porous end.

On account of being able to sink the well to any desired depth a large quantity of free water may be drawn from the well and the water in the ground surrounding the well finds its way by gravity through the perforated side. This is a very important feature as the water is not sucked through the perforated wall, as is ordinarily the case and consequently the fine particles of sand are not drawn into the well. Another very important feature about the present invention is, that the casing may be of any desired diameter and may be used for large wells. After the casing is placed in position a suitable pump pipe is inserted from the top and the water drawn up.

What I claim as my invention is:—

In a well casing, a sectional tubular casing having the lower perforated section formed with an upwardly turned reinforcing flange at its end, a perforated collar encircling said perforated section and spaced therefrom and having a reduced lower end adapted to abut said flange, a gauze screen encircling said perforated section and arranged in the space between it and the said collar, and a filtering closure of porous material closing the lower open end of said casing.

Signed at Tilsonburg, in the county of Oxford, in the Province of Ontario this sixth day of October, A. D. 1909.

HENRY C. HOGARTH.

Witnesses:

E. M. PETTMAN,

ETHEL BURN.