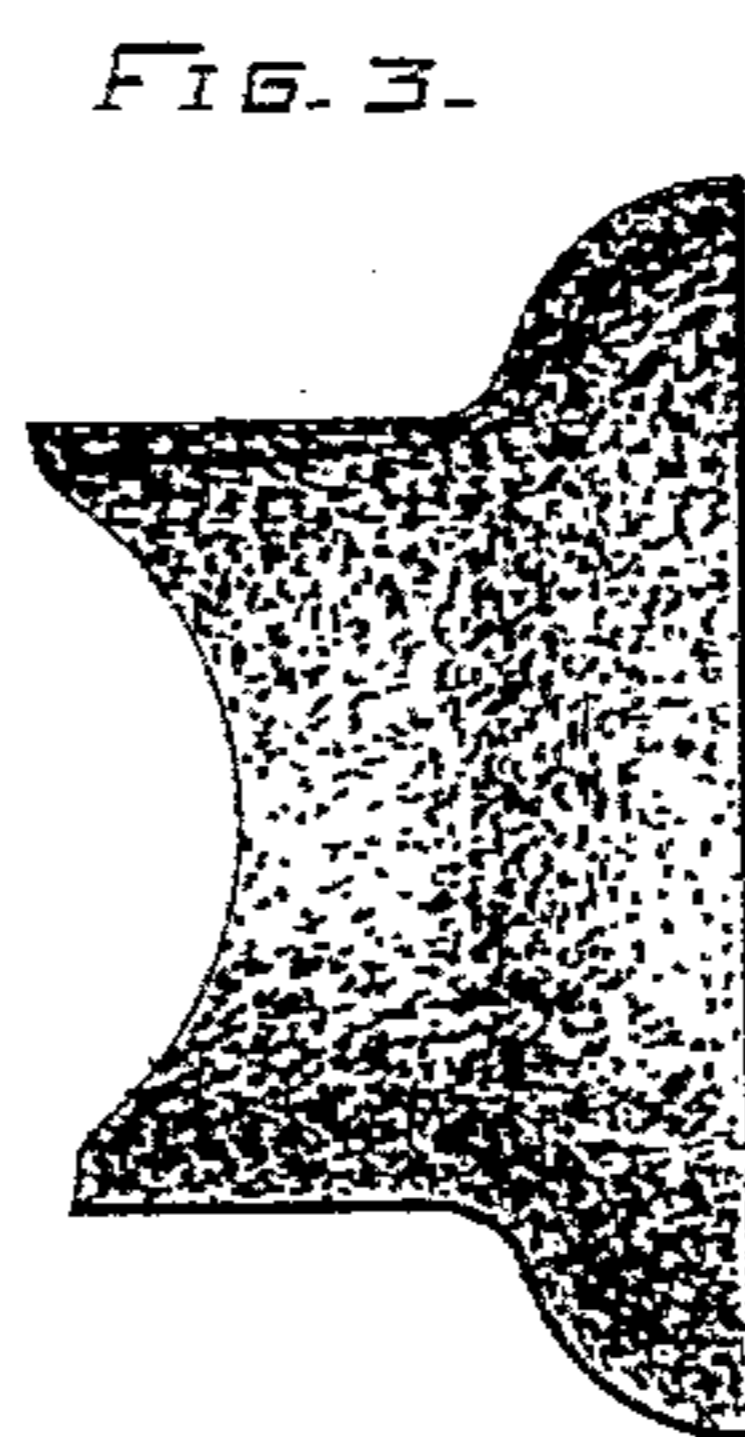
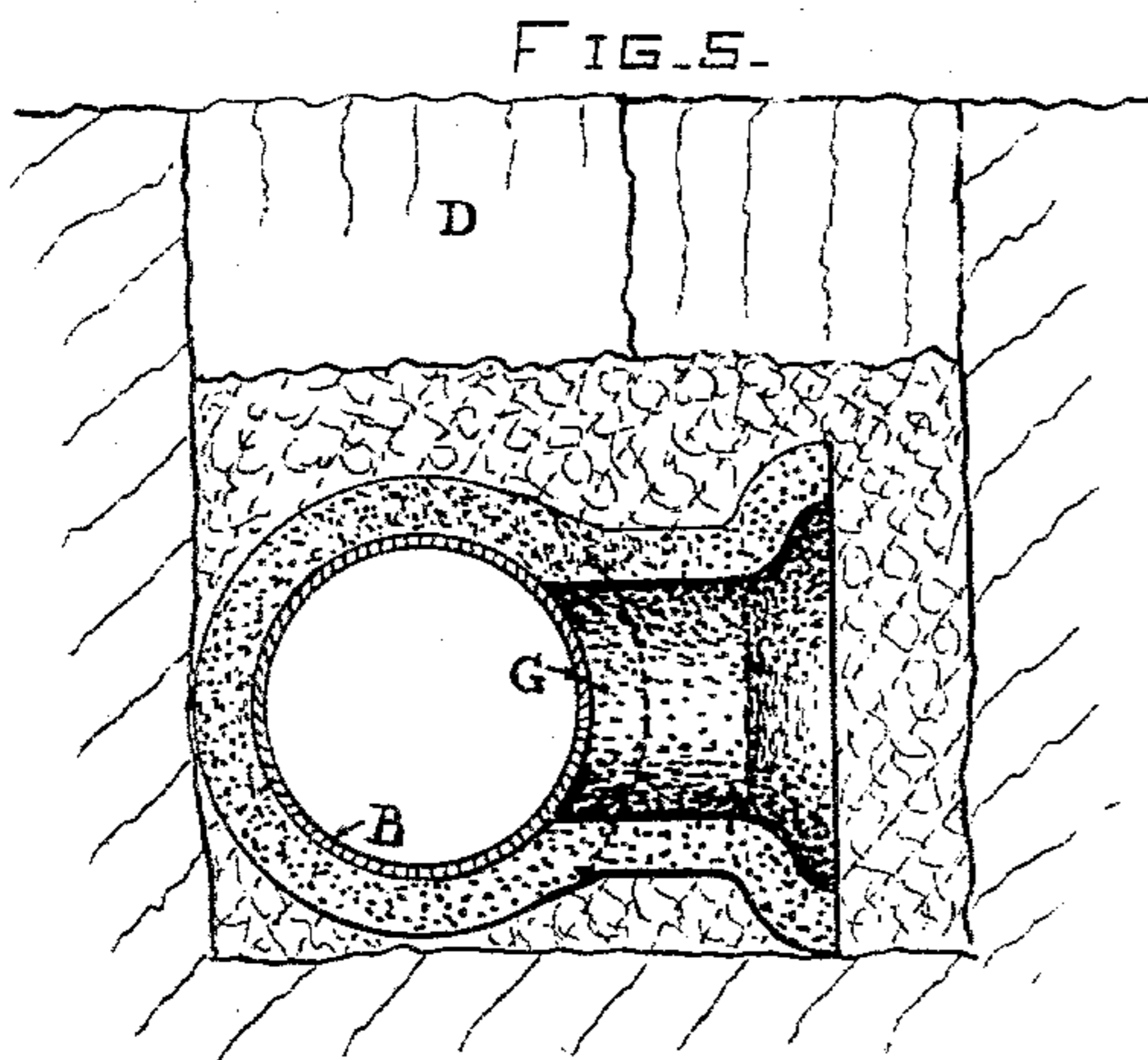
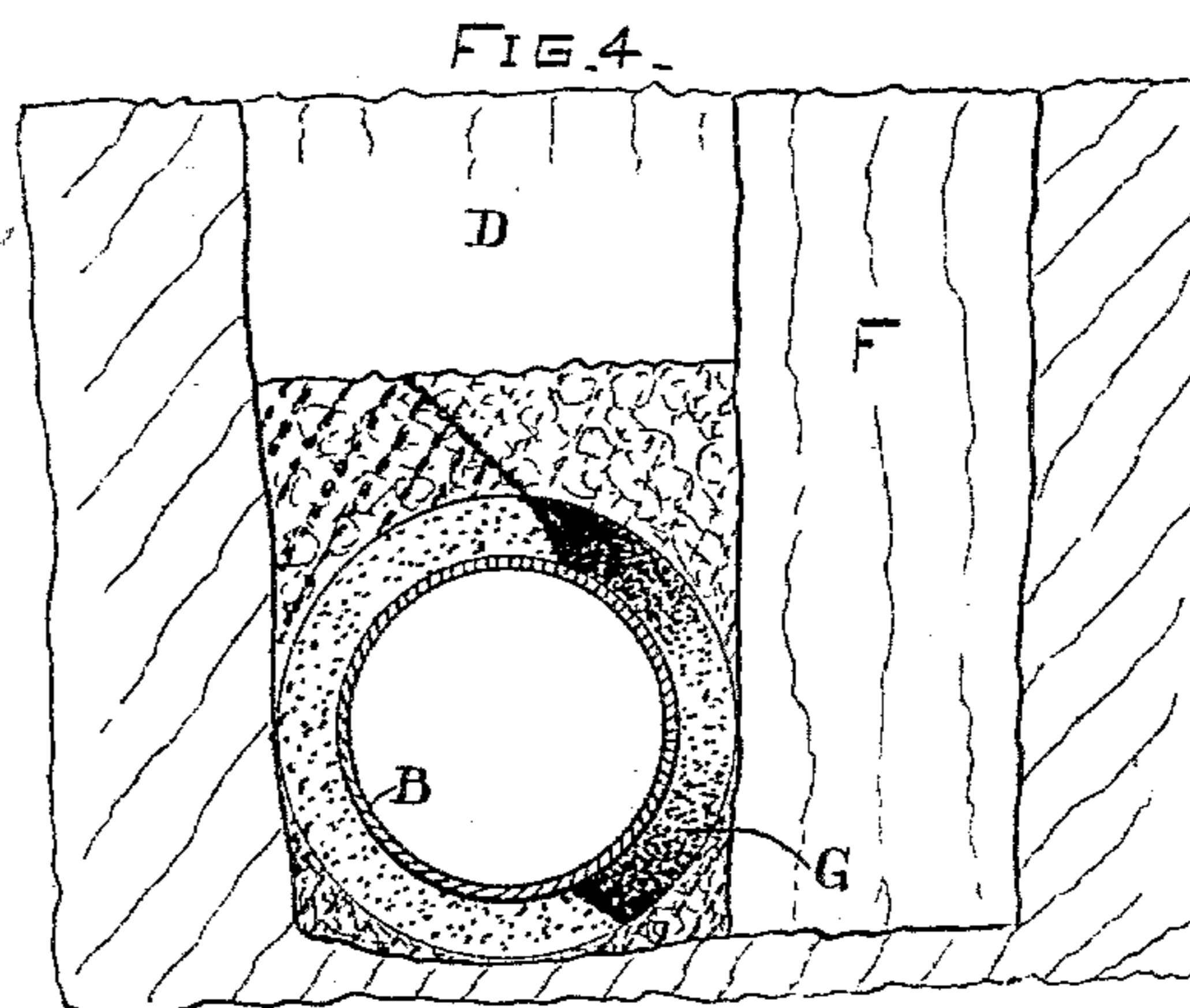
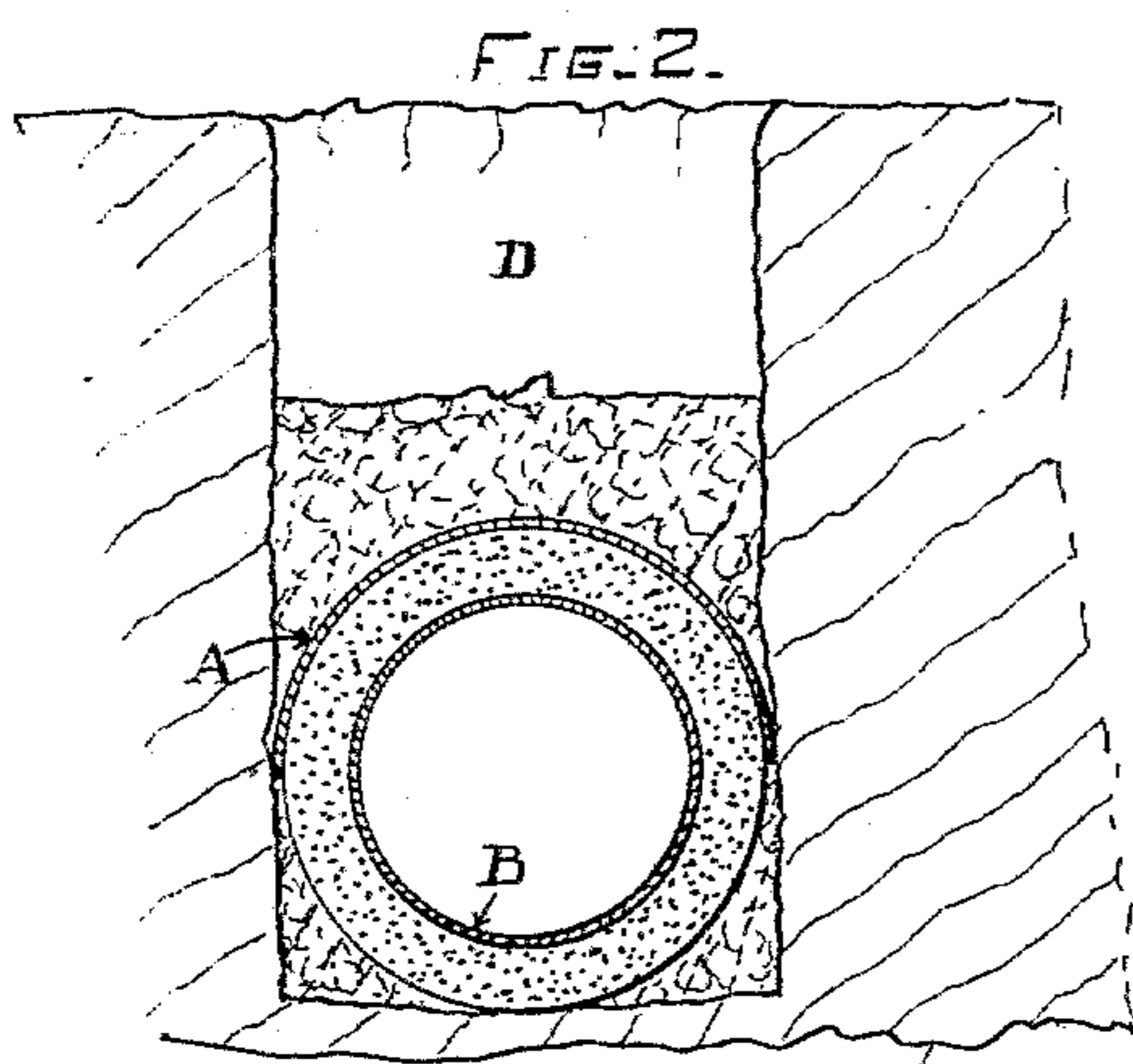
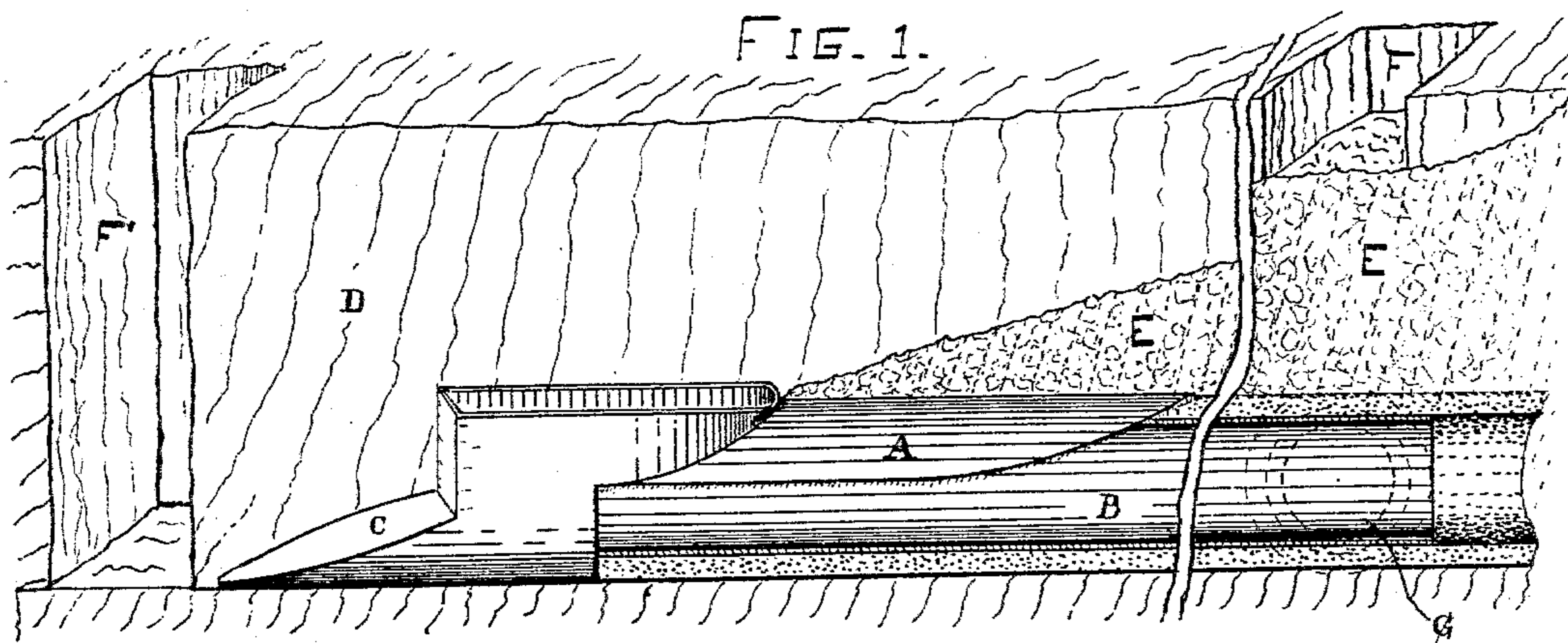


(No Model.)

E. L. RANSOME.
CONCRETE PIPE.

No. 545,133.

Patented Aug. 27, 1895.



WITNESSES:
26.8.1895.
Chas. C. Wheeler

INVENTOR:
Emad Leslie Ransome

UNITED STATES PATENT OFFICE.

ERNEST LESLIE RANSOME, OF CHICAGO, ILLINOIS.

CONCRETE PIPE.

SPECIFICATION forming part of Letters Patent No. 545,133, dated August 27, 1895.

Application filed January 11, 1895. Serial No. 534,559. (No model.)

To all whom it may concern:

Be it known that I, ERNEST LESLIE RANSOME, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Building Concrete Pipes, of which the following is a specification.

The object of my invention is to attach connections to monolithic concrete pipes built *in situ* in the ground by the molds and processes for which Letters Patent No. 353,500, dated November 30, 1886, No. 424,656, dated April 1, 1890, and No. 515,014, dated February 20, 1894, were granted me. Under these processes the concrete pipe is formed about a continually-moving molding-core, and I unite the connections by cementing them to the soft concrete of the pipe after it has been fully formed, but while it is yet soft and unset and is yet supported by the molding-core.

By the term "connections" I include bends, elbows, and all kinds of branches, offshoots, inlets, or outlets, made either of cement, terracotta, or like substances. These connections are made with one end conforming to the outline of the molding-core and to the inner contour of the pipe. They are made independently of the pipe and are manufactured beforehand, so as to be well seasoned and hard before using.

The accompanying drawings illustrate this invention.

Figure 1 is a general view of the mold used in the formation of continuous pipe. The mold is represented in the trench with the pipe in longitudinal section about the molding-core. The main parts are as follows: A, cap-mold; B, core-mold; C, shaper. Fig. 2 is a rear end view of same. Fig. 3 is a connection. Fig. 4 is a sketch of pipe ready to receive a connection. Fig. 5 is a connection set in place.

In forming monolithic concrete pipe in the ground under the aforesaid processes and patents the pipe-molds are continually moving forward in the trench D, dug for the purpose, as the pipe is forming around the molding-core B. Earth is packed about this pipe within the active sphere of the cap-mold A,

along each side thereof, so that after the cap has passed the pipe at this stage is covered with well-packed earth E and is supported and completed by the molding-core continuing on behind for some length and time.

Immediately behind the cap-mold, or as near thereto as practical, the connections are attached to the pipe as follows: A pit F is dug down to or alongside of the proposed site of the connection and enough concrete removed from the pipe at G to form a hole in the substance thereof and to uncover sufficient of the core-mold for the reception of the connection, which is then placed in position in the hole against the core-mold, upon which it rests. It is there securely cemented to the body of the soft concrete composing the pipe and the pit is refilled. Sufficient length is given to the molding-core to insure its not passing the connection before the latter is securely cemented and held in place by the repacked earth.

To economize in material, instead of removing the concrete from the pipe, as described, a temporary core or cores covering the area required for the connection may be inserted in the pipe in the forward parts of the mold, and then removed after the cap-mold has passed, and for convenience in digging the pits F may be partially dug ahead of the molds, as shown at F'.

Under the name of "concrete" I include preparations of asphaltum or other material that, unlike brickwork, is in a soft plastic condition when molded.

What I claim, and desire to secure by Letters Patent, is—

The method of uniting a connection to a concrete pipe just formed *in situ* upon a molding core: which consists in removing the adjacent earth, making a suitable hole in the pipe through to the core, placing the connection therein, supporting it against the core, and cementing it to the pipe.

ERNEST LESLIE RANSOME.

Witnesses:

STEPHEN T. MATHER,
THOS. THORKILDSEN.