

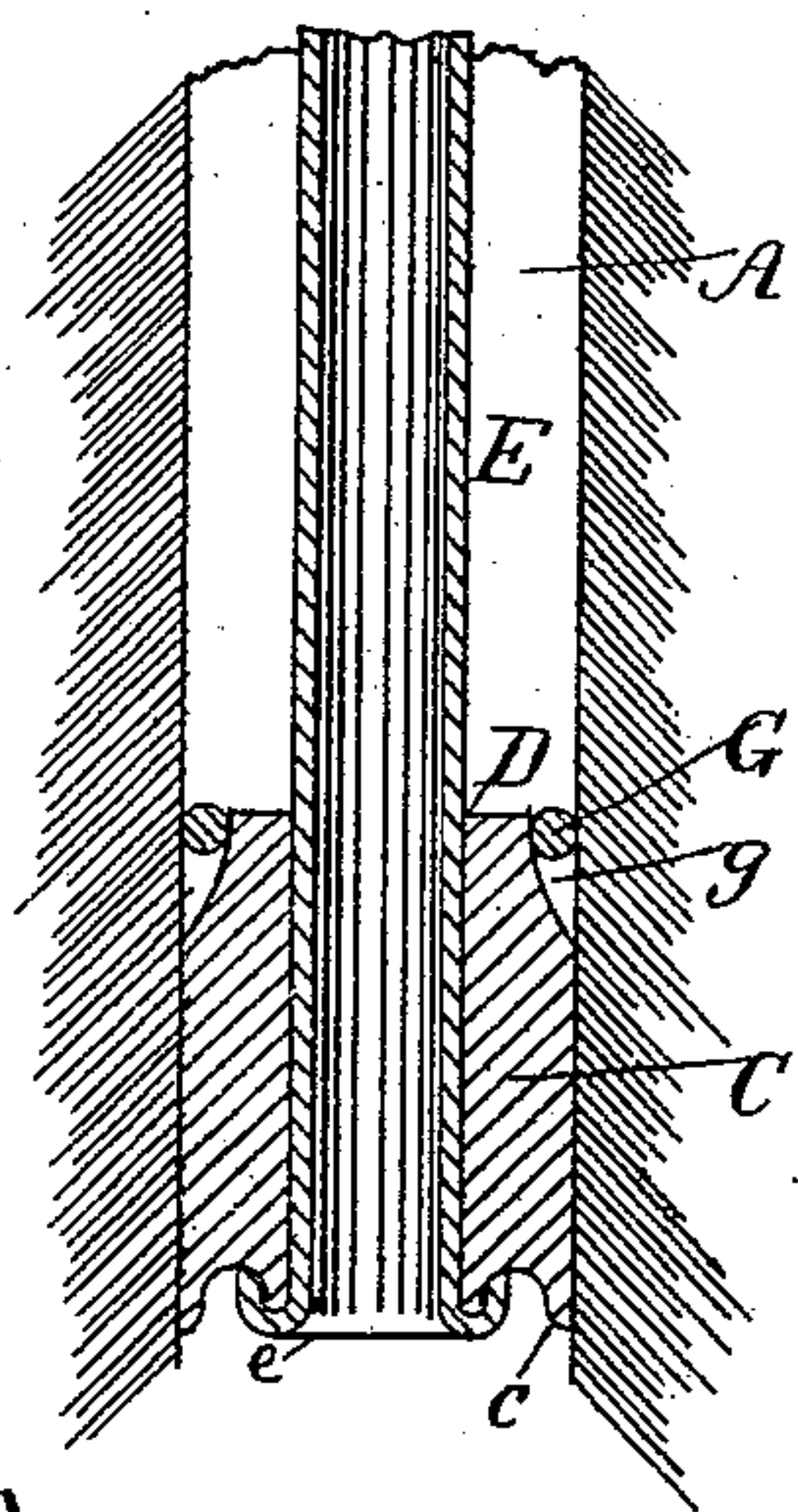
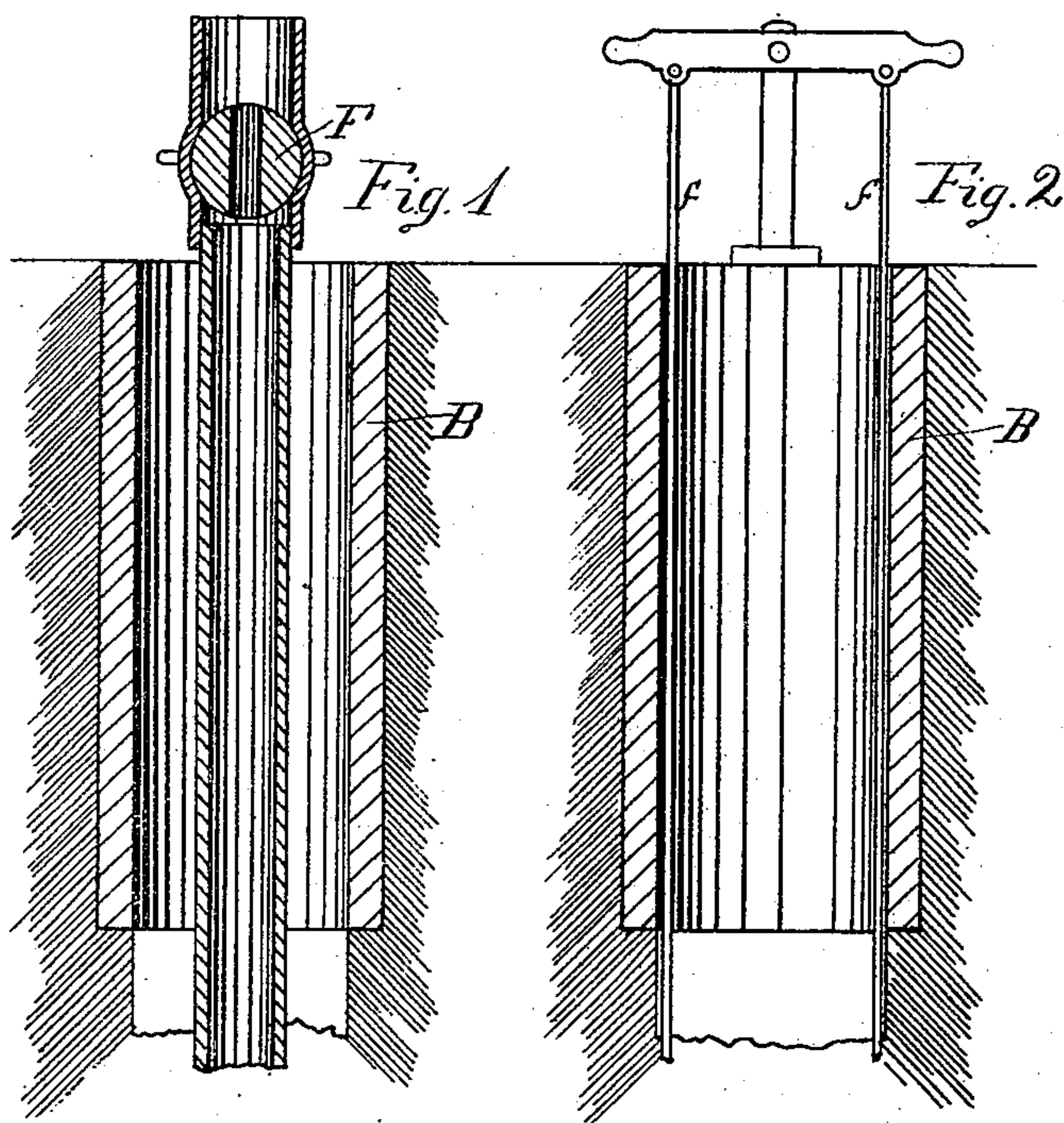
(No Model.)

J. J. McTIGHE & J. G. BEALE.

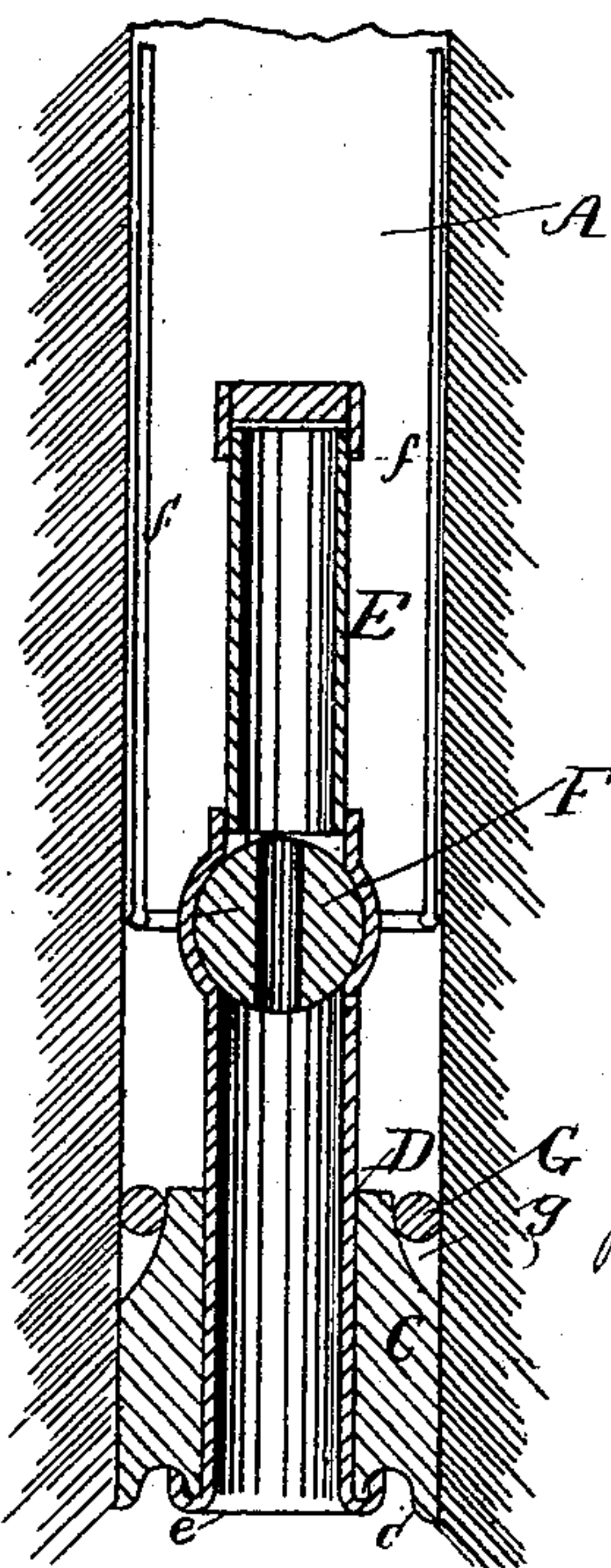
MEANS FOR REGULATING THE FLOW OF ARTESIAN AND GAS WELLS.

No. 310,066.

Patented Dec. 30, 1884.



Witness  
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# UNITED STATES PATENT OFFICE.

JAMES J. MCTIGHE, OF FREEPORT, AND JOSEPH G. BEALE, OF LEECHBURG,  
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MEANS FOR REGULATING THE FLOW OF ARTESIAN AND GAS WELLS.

SPECIFICATION forming part of Letters Patent No. 310,066, dated December 30, 1884.

Application filed December 5, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES J. MCTIGHE, of Freeport, and JOSEPH G. BEALE, of Leechburg, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Means for Regulating the Flow from Artesian and Gas Wells; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention has relation to means for regulating the flow of gas or fluids from Artesian wells, and has for its object to provide apparatus by which the flow may be limited to any desired pressure or entirely cut off.

Our invention consists in the provision of a plug of rubber adapted to be placed in the well below the casing, provided with a central orifice for the passage of the gas or fluid, said orifice being governed by a valve or cock, and the plug being so constructed that it will be held in position in the well by the pressure of the gas or fluid from beneath.

Our invention further consists in the provision of a plug of rubber adapted to be placed in the well below the casing, and having a flange upon its bottom, which will be pressed out against the side of the well by the pressure of the gas or fluid from beneath, and provided with a central orifice, to which is fitted a section of pipe provided with a cock or valve for regulating the flow of gas or fluid.

Our invention still further consists in a plug for wells, comprising a body of rubber having a central opening for the reception of a pipe, to which is applied a governing valve or cock, said pipe having a flange below the bottom of the said plug, whereby it is retained in position therein.

Our invention still further consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described and specifically claimed.

Referring to the accompanying drawings, Figure 1 represents a section of a well with our improvement in position therein. Fig. 2 is a similar view of a modification.

In Fig. 1 the plug is provided with a section of pipe long enough to reach to the surface of the earth, while in Fig. 2 the section of pipe which is fitted to the plug is short, and the valve or cock is placed immediately above the plug and operated by means of leading-wires from above.

A designates the well; B, the usual casing inserted in the well and reaching from the surface to a point below the water-line. This casing is of the ordinary construction, and may be packed by means of seed-bags interposed between its exterior surface and the sides of the well, or in any other desired or known manner.

C designates our improved packing-plug, consisting of a body of rubber of a size adapted to fit snugly in the well below the casing B. This plug C is provided on its bottom with an annular V or U shaped groove, which leaves a flange, *e*, around the lower edge of the said plug. An opening, D, extending through the center of the plug C, receives a section of pipe, E, which is provided with a suitable valve or cock, F, which, when the section of pipe is short, is operated by leading-wires *ff*, as shown in Fig. 2, but when the pipe is long enough to reach to the surface of the earth, as shown in Fig. 1, is operated directly by hand. The upper edge of the plug C is beveled off, as shown at *g*, so as to receive a ring, G, which serves to assist in retaining the plug in position in the well. The lower end of pipe E is formed with an upturned flange, *e*, which bears against the bottom of the plug C, and prevents the said pipe from being forced through the plug by the pressure of the gas or fluid.

The operation of our invention is as follows: The plug C is first passed down upon the pipe E until it rests upon the flange *e*. The valve or cock F is now opened, and the plug is forced down into the well until the flange *e* is below the strata of rock immediately above the sand. The pressure of the gas or fluid in the well acting upon the flange *e*, spreads the latter out below the edge of the rock or against the sides of the hole, and the plug is thereby held securely in position. The annular wedge G may now be dropped down upon the top of the plug, assuming the position shown in the drawings,



for the purpose of further securing the plug in position; but it will generally be found that the pressure of gas or fluid will press the flange *c* out against the rock with sufficient force to hold the plug firmly in position. The plug being held in position as described, the flow of gas or fluid can be readily controlled by opening or closing the valve or cock *F*, and the casing being relieved entirely from pressure, there is no danger of blowing out the same.

We are aware that it is not new to introduce a pipe into a well, said pipe being packed below the casing and provided with a valve or cock; hence we do not claim the same.

What we claim is—

1. A plug for gas or Artesian wells, consisting of a body of rubber having a central orifice for the passage of gas or fluid, and a flange upon its lower edge adapted to be pressed against the sides of the well by the pressure of the gas or fluid from beneath, whereby the plug is held in position, substantially as described.

2. A plug for gas or Artesian wells, consisting of a body of elastic material having a central opening for the passage of gas or fluid, and provided with means, substantially as de-

scribed, whereby the pressure from beneath will expand the plug out against the sides of the well, thereby retaining it in position, as set forth.

3. The combination, with plug *C*, provided with means, substantially as described, for securing it in position in a well by the pressure of the gas or fluid, of the pipe *E*, passing through said plug, and provided with a flange, *e*, to prevent the passage upwardly of said pipe through the plug, as set forth.

4. In a gas or Artesian well, the combination, with the well, of a plug inserted therein and held in position by the pressure of the gas or fluid, a pipe connected to said plug and provided with a suitable valve or cock, and means, substantially as described, for operating said valve from the surface, as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JAMES J. MCTIGHE.  
JOSEPH G. BEALE.

Witnesses:

J. G. BACKOFEN,  
ALVA A. MOORE.