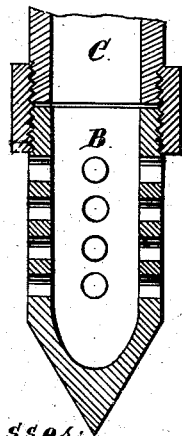
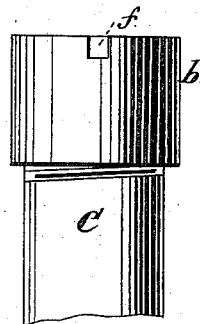
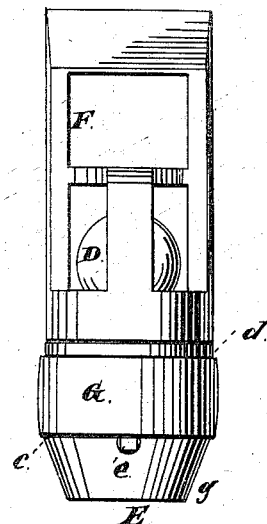
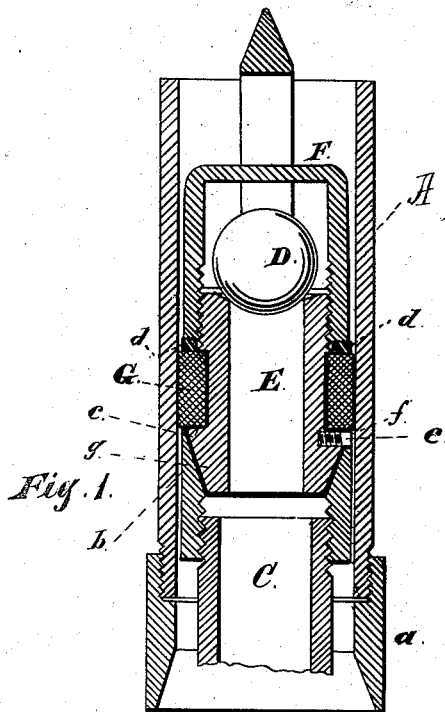


J. F. PHILOW & P. C. PERKINS.
Bored and Driven Wells.

No. 215,238.

Patented May 13, 1879.



Witnesses:
O. B. Bond
A. G. Adams.

Inventors:
Joseph F. Philow
Palmer C. Perkins
By W. B. Bond Atty

UNITED STATES PATENT OFFICE.

JOSEPH F. PHILOW, OF WARSAW, AND PALMER C. PERKINS, OF MISHAWAKA,
INDIANA.

IMPROVEMENT IN BORED AND DRIVEN WELLS.

Specification forming part of Letters Patent No. **215,238**, dated May 13, 1879; application filed
June 4, 1878.

To all whom it may concern:

Be it known that we, JOSEPH F. PHILOW, of Warsaw, Kosciusko county, and PALMER C. PERKINS, of Mishawaka, St. Joseph county, State of Indiana, have invented a new and useful Improvement in Bored and Driven Wells, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section; Fig. 2, a side elevation of the valve-section, and Fig. 3 a detail.

This invention relates to bored and driven wells, having for its object to improve the same, and furnish a device that is not liable to get out of repair, and which can be conveniently used, as will be hereinafter more fully described, and pointed out by the claim.

In the drawings, A represents the main tube. On its lower end is a steel coupling, *a*, which is a little larger than the other couplings, to facilitate their passage.

B is the strainer. C is a secondary tube, which may be called the "strainer-tube." It is connected to the strainer by means of a suitable coupling, and, as shown, there is another coupling at the upper end. This tube C is to be of any required length, and is especially designed to pass from some loose lower strata up through a hard strata, there to meet the main pipe.

b is a coupling upon the upper end of C. As shown, this coupling is beveled at the top on the inside.

D is a ball-valve, placed in an open chamber, as usual. E is a stem, the upper end of which forms the valve-seat. F is a bail, connected with the stem E by a screw-thread. *e* is a shoulder on the stem E. G is a packing, of rubber or other suitable flexible material. It surrounds the stem, and its lower end rests upon the shoulder *e*; but the packing is of

such thickness that it projects a little beyond this shoulder.

d is a metal ring or washer, resting on the packing G. The lower end, *g*, of the stem E extends downward below the packing, and, as shown, is beveled to fit into the coupling *b*.

e is a lug or pin on the stem E, and *f* is a corresponding slot in the coupling *b*.

In use the main tube or pipe A is to be driven to place, and the strainer B and strainer-tube, when used, are to be placed at the bottom of the well, the upper end being within the main tube. Then the valve, with the stem, bail, and packing, is to be dropped or lowered to place, the packing being next compressed, and the stem E entering the coupling or collar *b*. Then, by means of a suitable tool engaging with the bail F, this bail can be rotated, carrying with it the stem, until the pin *e* drops into the notch or slot *f*, after which the packing can be compressed by turning the bail until it fills the space between the main tube and stem, forming a tight joint. At the same time the lower edge of the packing will rest upon the top of the coupling *b*, making a tight joint at that point, preventing the passage of sand or grit to the main pipe at this point.

What we claim as new is as follows:

The stem E, having an extension, *g*, provided with a pin, *e*, in combination with a flexible packing, G, bail F, main tube A, and a coupling or tube adapted to receive the end *g* of the stem and the pin *e*, all constructed and operating substantially as and for the purposes specified.

JOSEPH F. PHILOW.
PALMER C. PERKINS.

Witnesses:

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O. W. BOND.