

No. 704,158.

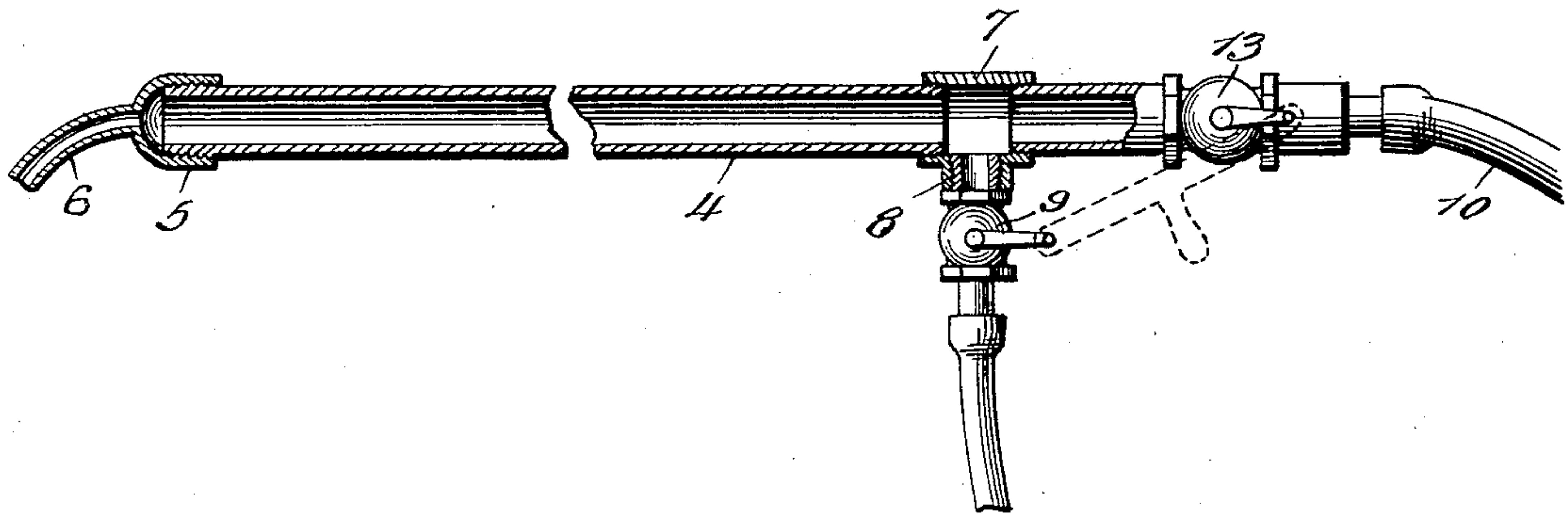
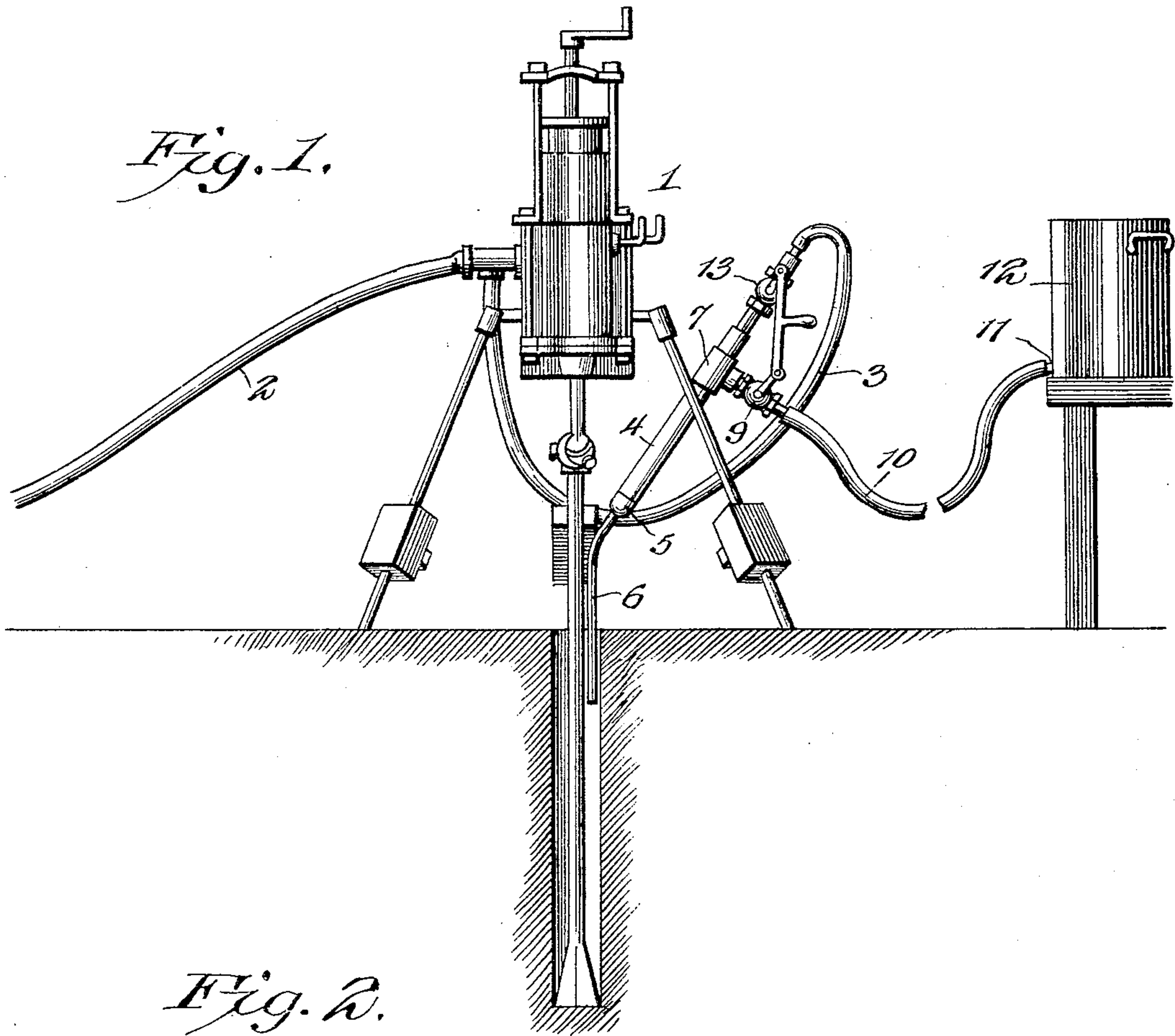
Patented July 8, 1902.

F. L. WHITEHEAD.

WATER ATTACHMENT FOR POWER DRILLS.

(Application filed July 16, 1901.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

FREDERICK L. WHITEHEAD, OF BUTTE, MONTANA.

## WATER ATTACHMENT FOR POWER-DRILLS.

SPECIFICATION forming part of Letters Patent No. 704,158, dated July 8, 1902.

Application filed July 16, 1901. Serial No. 68,489. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK L. WHITEHEAD, a citizen of the United States of America, residing at Butte, in the county of Silverbow and State of Montana, have invented certain new and useful Improvements in Water Attachments for Power-Drills, of which the following is a specification.

This invention relates to drills, and it has particular reference to an apparatus for removing the cuttings of borings from the tool without removing the drill or checking its operation.

The object of the invention is to provide novel means for utilizing a portion of the drill-operating power for forcing a stream of water into the cavity formed by the drill and in washing therefrom the boring or cuttings, which would otherwise impede the operation of the drill, the said means also serving to prevent excessive high temperature of the drill incident to its use.

Furthermore, the object of the invention is to provide means for forcing the water into the drill-hole under pressure and in the provision of means for regulating the quantity of the water and for timing the injector.

A still further object of the invention is to provide the drill-hole sluice having connection with and operated by the drill-operating power and means for supplying the water to the injector, with means for controlling the flow thereto.

Finally, the object of the invention is to provide an injector which will prove comparatively inexpensive to produce and sustain.

In describing the invention in detail reference will be had to the accompanying drawings, forming a part of this specification, wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 is a view in elevation of a drill, showing the injector in connection therewith. Fig. 2 is a sectional view of an injector.

In the drawings, 1 indicates the drill, which may be of any type ordinarily driven by fluid-pressure, and hence the construction of said drill will not be described in detail. The fluid-supply pipe 2, which leads to the cylin-

der of the drill, is tapped at any suitable point by the branch pipe 3, which supplies the pressure for forcing the water into the drill-hole.

The invention comprises in its construction a cylinder 4, having on its lower end a coupling 5, which terminates in a tube 6, adapted to depend within the drill-hole. The tube 6 may be of any desired length, but should be sufficiently long to extend downwardly a considerable distance in order that the force of the water may be directed to the cuttings or borings at the bottom of said hole. The upper end of the cylinder 4 is provided with a coupling 7, having a threaded nipple 8, to which the casing of a cock 9 is threaded. A flexible pipe 10 is attached to the cock and has its opposite end secured to a nipple 11 of the water-reservoir 12. In operation the reservoir should be elevated above the plane of the cock in order that the pressure of the water may suffice to fill the cylinder when the cock is opened. The coupling has at its end a cock 13, to which the branch pipe 3 is connected for supplying the fluid-pressure to the cylinder.

In operation the cock 13 is closed and the cock 9 is opened to admit water to the cylinder, after which the cock 9 is closed and the cock 13 is opened and the pressure from the pipe 3 suffices to force the water from the cylinder into the drill-hole, resulting in the sluicing of the hole and the dislodging of the cutting or borings in the bottom of the hole and carrying it off, so as not to interfere with the operation of the drill.

It is noted that various changes in the proportions and details of construction may be made without departing from the scope of the claims.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a power-drill, a power-fluid-supply pipe, of a cylinder, a pipe connecting the fluid-supply pipe to the top of said cylinder, a water-supply to the cylinder and a pipe for conducting the water to the drill-hole.

2. An attachment for power-drills compris-

ing a cylinder, a coupling on the end terminating in a tube, a cock on the opposite end, a connection from the cock to the fluid-pressure-supply pipe, a second cock extending from  
5 the side of the cylinder and a water-reservoir in communication with the cylinder through the last-named cock.

In testimony whereof I affix my signature, in the presence of two witnesses, this 8th day of June, 1901.

FREDERICK L. WHITEHEAD.

Witnesses:

JOHN LOCKHART,  
T. M. COMFORT.