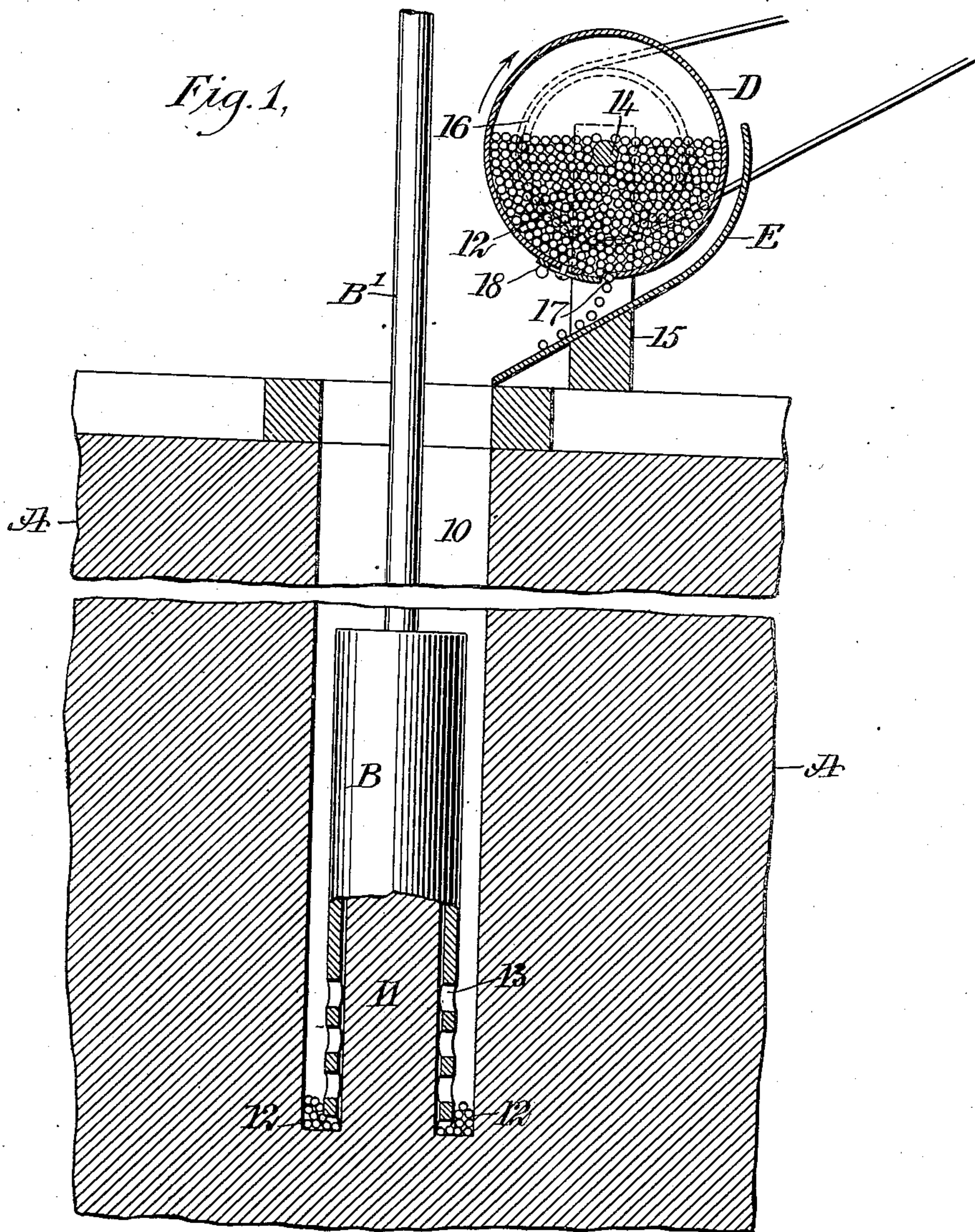


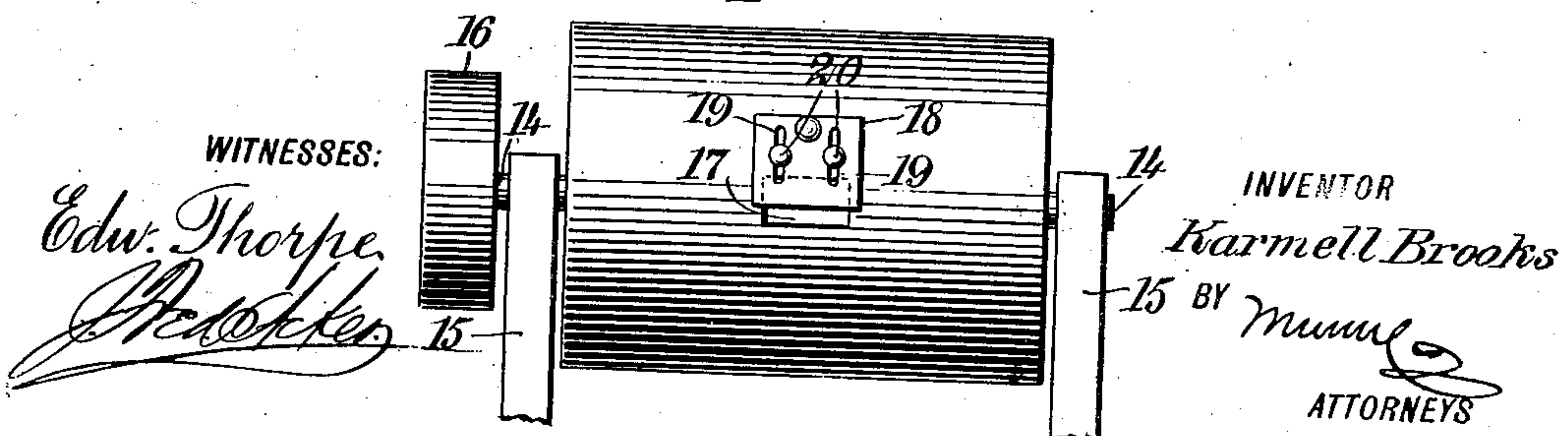
No. 814,427.

PATENTED MAR. 6, 1906.

K. BROOKS.  
SHOT FEED FOR DRILLS.  
APPLICATION FILED FEB. 25, 1905.



*Fig. 2.*





# UNITED STATES PATENT OFFICE.

KARMELL BROOKS, OF NEW YORK, N. Y.

## SHOT-FEED FOR DRILLS.

No. 814,427.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed February 25, 1905. Serial No. 247,266.

*To all whom it may concern:*

Be it known that I, KARMELL BROOKS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Shot-Feed for Drills, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a simple and economic device for automatically feeding shot or grinding material to drills and similar tools, being particularly adapted for feeding shot to rotary drills employed in boring wells.

Another purpose of the invention is to provide a feeding device for the purpose described which will be automatic in its action and means for regulating the quantity of material delivered by the device, the feed being constant while the device is in operation.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a vertical section through a portion of ground in which a boring has been made, a sectional side elevation of the boring-tool, and a transverse section through the feed device; and Fig. 2 is a side elevation of the improved feeding device.

A represents a section of hard substance in which a boring 10 is being made, B the drill-head inclosing the core 11, and B' the rod extending up from the drill-head, the rod and drill-head being rotated in any approved manner.

In the form of drill-head shown shot 12 or small spherical bodies of metal are fed to the lower edge of the head, which as the head is revolved has a cutting action corresponding to that of a diamond-point on an ordinary reciprocating drill. The head B is provided with series of apertures 13 in preferably staggered arrangement, so that as the drill wears away an irregular cutting edge will always be presented to the material operated upon, so that cavities will be formed at

the bottom of the drill to receive and retain the abrasive material fed to the head.

It has been customary heretofore in this character of drill to feed the shot or equivalent material thereto by hand; but such method is uncertain and laborious, as in operation it is desirable that the feed of shot shall be constant and uniform while the drill is in operation. To accomplish such a result, I employ a cylinder D, having trunnions 14, mounted to turn in suitable bearings 15, supported upon the surface in which the boring is to be made, one of the trunnions being provided with a pulley 16, driven from any convenient source of power. This cylinder is adapted to contain the shot or equivalent material and is provided with an opening 17, preferably in its circumferential surface, for the exit of the material contained in the cylinder.

In order that the supply of material may be regulated, the opening 17 is provided with an adjustable gate or cover 18, externally located on the cylinder, and the cylinder may be more or less dished where the opening is located to insure all the material finding its way to the opening while the cylinder is rotated. The gate 18 may be of any approved construction. In the drawings it is shown as provided with slots 19, through which guide-screws 20 are passed into the cylinder, the gate being held in said position by tightening up the said screws. It may here be remarked that should the cylinder be stopped with the opening 17 at or near the bottom but few of the shot would escape, as in a mass of shot they naturally so pack themselves at the opening in a stationary object as to completely bridge the opening, finding an exit only when the object is in motion.

In connection with the cylinder D, I employ a chute or trough E, arranged, for example, as is shown in Fig. 1, to receive the shot from the cylinder and conduct them to the boring, where they drop to the bottom of the drill-head, preferably between the wall of the boring and the outer face of the said drill-head; but the shot may be otherwise directed to the point of action, if so desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a shot-feed for drills, a rotatable receiver having a discharge-opening, and a conductor beneath the receiver.

2. In a shot-feed for drills, a rotatable receiver having a discharge-opening, an adjustable cover for the said opening, and a conductor supported adjacent to the receiver.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KARMELL BROOKS.

Witnesses:

J. FRED. ACKER,  
JNO. M. RITTER.