

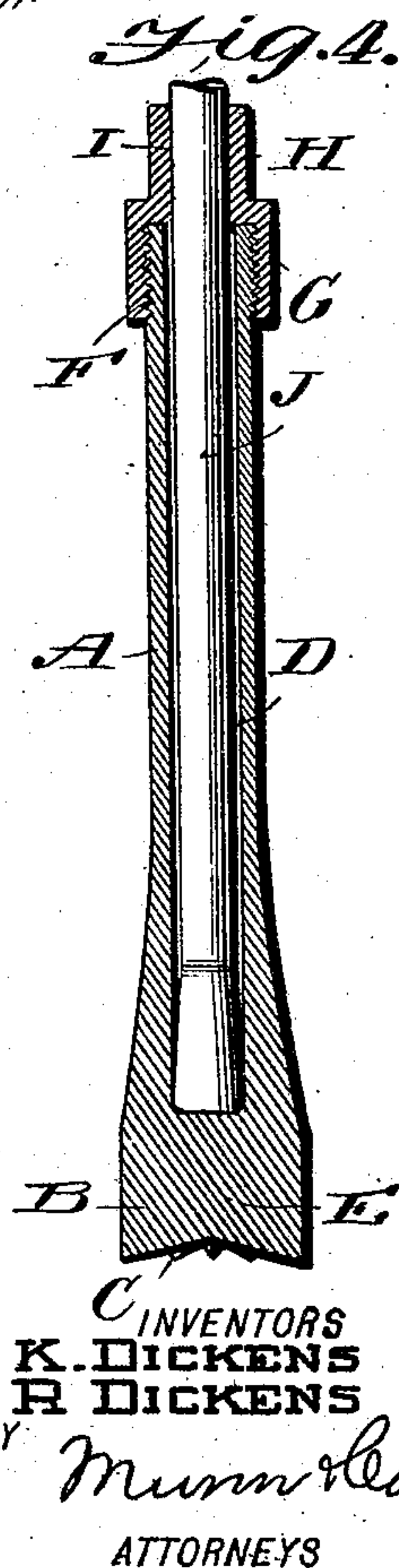
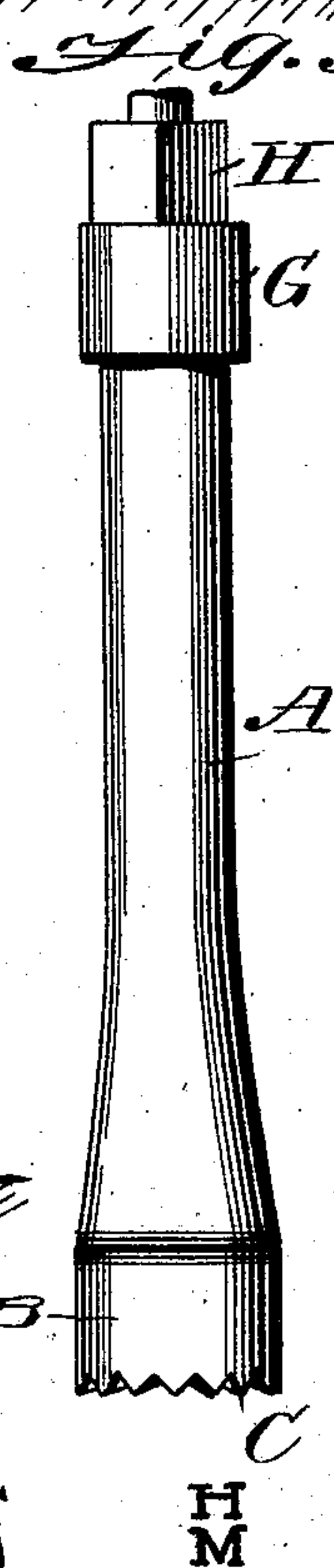
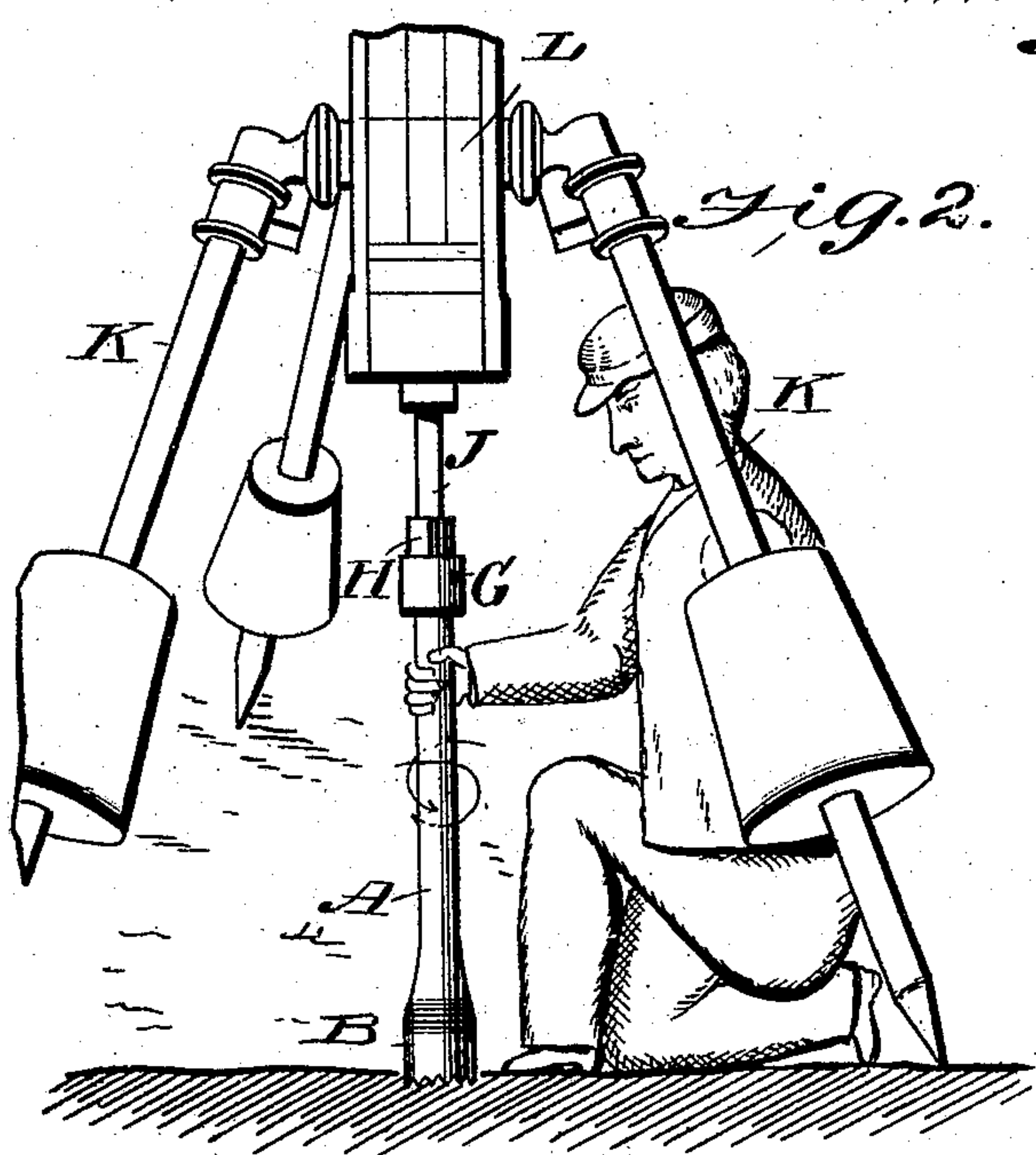
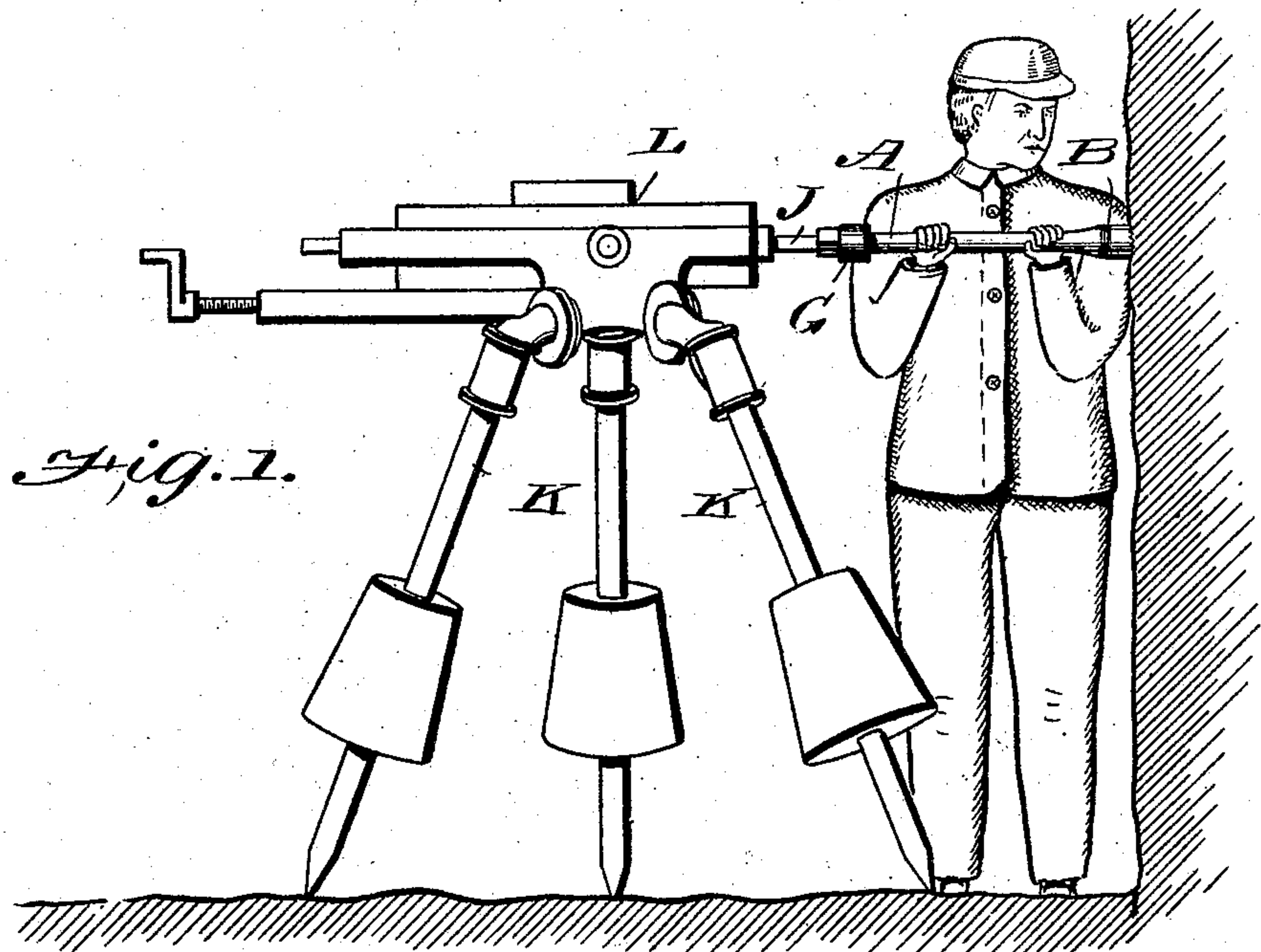
**No. 858,966.**

PATENTED JULY 2, 1907.

H. K. & M. R. DICKENS.

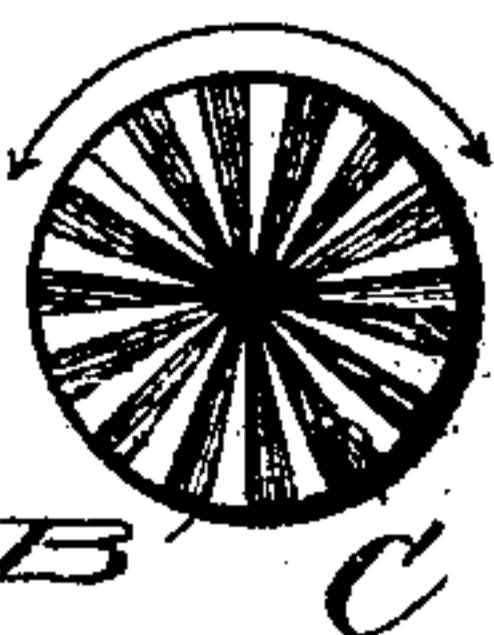
DRILL ATTACHMENT.

APPLICATION FILED MAR. 4, 1907.



**WITNESSES**

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# UNITED STATES PATENT OFFICE.

HARRY K. DICKENS AND MILTON R. DICKENS, OF HOUGHTON, MICHIGAN.

## DRILL ATTACHMENT.

No. 858,966.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed March 4, 1907. Serial No. 360,501.

*To all whom it may concern:*

Be it known that we, HARRY K. DICKENS and MILTON R. DICKENS, citizens of the United States, and residents of Houghton, in the county of Houghton and State of Michigan, have invented an Improvement in Drill Attachments, of which the following is a specification.

This invention relates to means for starting holes for drill bits and has for its object, an attachment to common forms of drills, employing a reciprocated bit, the attachment being adapted to be readily secured to the bit carrier or piston-rod of steam or air drills, now commonly employed for drilling holes in mining, stone working, and in fact, any similar work.

The invention resides in the special form of drill attachment, shown by the accompanying drawing and hereinafter fully described, the novelty thereof being pointed out in the appended claims.

In the drawing—Figures 1 and 2 are views illustrating our invention in use. In Fig. 1 we show our attachment applied to a drill and illustrate its use for starting the drill or bit hole in an upright surface, or side-wall of a mine drift, and in Fig. 2 we illustrate use of the attachment in starting a drill-hole in a horizontal surface, or the bottom wall of a mine drift. Fig. 3 is an enlarged side elevation of drill attachment. Fig. 4 is a longitudinal sectional view of the attachment shown arranged on the outer end of a broken away portion of a drill carrier, or piston rod, and Fig. 5 is a view looking at the outer end of our attachment showing its peculiar form and arrangement of cutting teeth.

In the drawing our drill attachment, or hole starting bit is shown applied to a common form of steam or air drilling machine of the character employing a reciprocal piston, not shown, having a piston rod suitably extended adapted for the application thereto, of boring-bits, suitable for use in boring blast or channel-holes as well understood.

Our drill-hole starter is designed for use with any form of drilling machine or device to which it may be attached, and therefore our invention comprehends its general use, not restricted to the illustrated machine.

In some character of rock and other similar drilling work, it takes from fifteen minutes to several hours to provide a starting hole for the drill-bit, whereby to retain it in place against displacement through vibratory action, or effect resulting from operation of the drilling machine or tool.

By use of our attachment, a suitable recess or bit starting hole can be made in from one to three minutes, thereby saving much time and labor in mining work and other operations requiring the boring of holes for blasting or channeling work.

In the practice of our invention we employ a bit

or boring device A, shown by the several views of our drawing, which we term a bit-hole starter.

The starter device is constructed into an elongated cylinder, or body fashioned into any desired exterior form. One end of the cylinder, or body, is preferably made enlarged into a head B, and on the head we provide a series of chisel-teeth C, the teeth being arranged on the body or bit A in circular arrangement, extending radially from a common center, or the longitudinal axis of the body or bit, substantially as shown by Fig. 5.

Upon reference to Fig. 4, it will be noticed that the body A is constructed with a longitudinal bore, or socket D, providing an opening extending from one end of the body to a point near its other or head end, having a seat or anvil E at its head end.

The open end of the bar is provided with exterior screw threads F adapted for arrangement thereon, of a cap G having interior screw threads, and constructed with a squared or similar outer portion H, adapted for application thereto, of a device whereby to facilitate detachment of the cap. An opening I is made extending through the squared or top portion of the cap, adapted to receive one end of a rod J, which may be defined as the outer end of a piston rod, of an air or steam drilling machine K, having a pivotally supported power cylinder L, well understood, and therefore need not be further described.

Upon reference to Fig. 4 of the drawing, it will be noticed that the lower end of the rod J is enlarged providing a striking end, the object of which is to materially obviate its being bent, or upset, by pounding action thereof on the bottom of the socket D, in the bar A, and also, to prevent the bar A becoming detached from the rod J, that is, the striking end of the rod J is made larger than the opening through the cap H.

The rod J must be made detachable at its piston end, whereby to permit the cap H to be arranged on the rod J, and as construction permitting thereof is obvious and it may be varied, I have not thought it necessary to illustrate same in my drawing.

The construction of our invention will be understood from the above description and the several figures of the drawing.

It will be understood that the drill-bit, employed at the outer end of the piston-rod J has been removed and out bit-hole starting attachment arranged on the piston-rod at its bit end.

In the use of our invention with the hole starter arranged on the piston rod as shown, a drill starting hole may be made in the side wall or bottom-wall, of a mine drift, or in similar surfaces, by the required adjustment of drill-cylinder L to a horizontal or vertical position adapted for the purpose.

Now the hole starting attachment being in place on the drilling machine, and the latter started in operation, it is apparent that reciprocal impact force will be effected on the hole starting attachment, through  
5 hammering action of the outer or bit end of the piston-rod, applying the blows to the attachment at its head or toothed end.

During reciprocating motion of the drilling machine piston-rod, the attachment, or hole starter, is  
10 turned by hand on the piston rod, the same being effected by the drill operator grasping it with one or both hands, and turning it as is common with ordinary hand drills, for effecting cutting by the teeth C on the head end of the attachment.

15 We claim—

1. A drill-hole starting attachment for rock drills comprising a bar constructed with a longitudinal socket, leaving an inner anvil or seat at one end thereof, and cutting

teeth on the anvil end of the attachment, the cutting teeth being located extending transversely across the end of the  
20 attachment.

2. A drill hole starter comprising a body constructed with cutting teeth extending transversely across one end thereof, the body being provided with an inner opening extending from one end thereof to near its toothed end, and  
25 an annular perforated cap at the open end of the body.

3. The combination with a drill employing a rod adapted to be imparted endwise reciprocating movement, of a body constructed with a longitudinal opening extending  
30 from one to near the other end thereof forming a socket, said body having a solid head with an anvil at the bottom of the socket, and cutting teeth extending transversely across the head end of the body.

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Witnesses:

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