

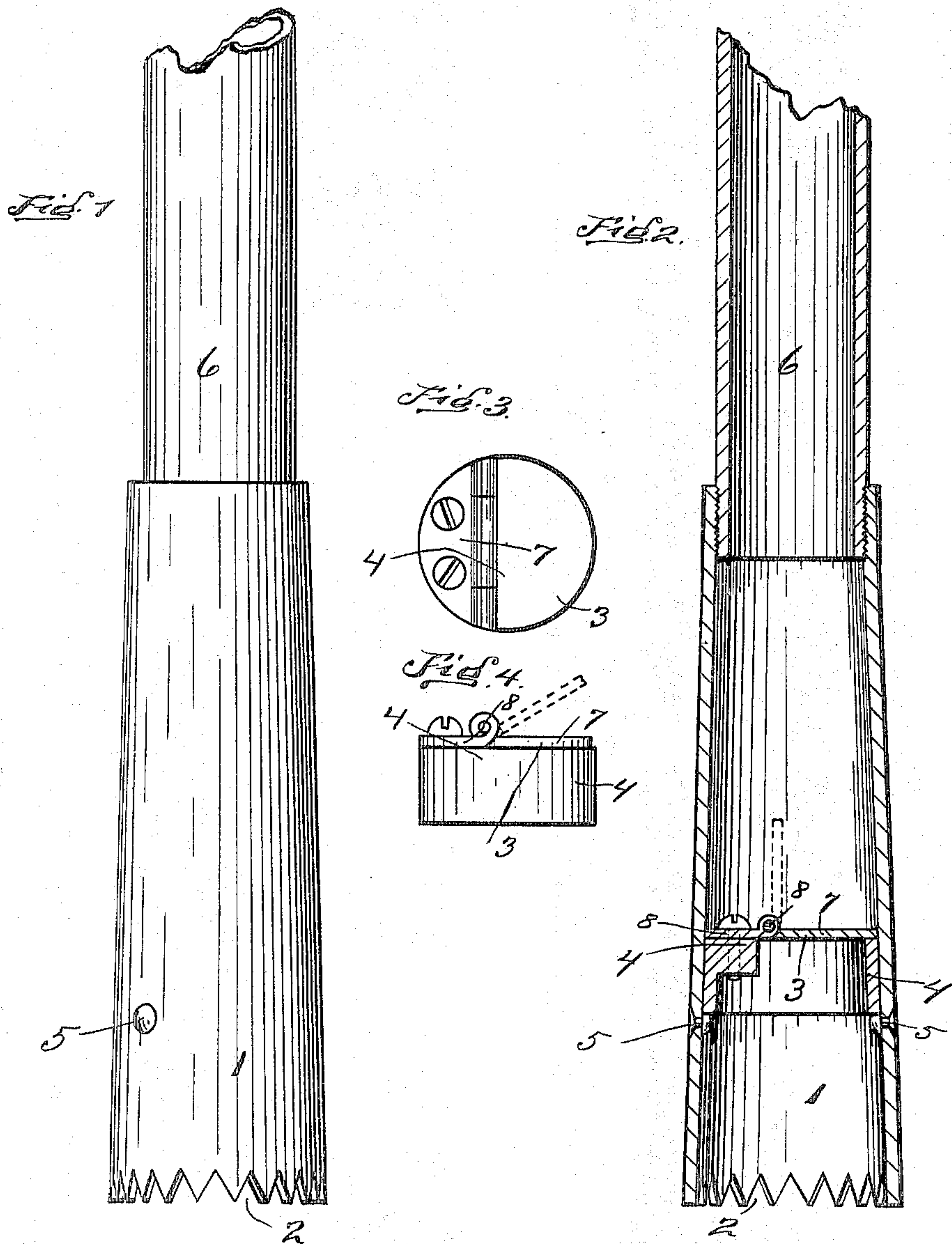
No. 640,481.

Patented Jan. 2, 1900.

J. J. MORGAN.  
COAL BIT.

(Application filed Sept. 11, 1899.)

(No Model.)



Witnesses  
J. R. Bond.

Inventor  
J. J. Morgan  
By J. W. Bond

Atty



# UNITED STATES PATENT OFFICE.

JOB J. MORGAN, OF YOUNGSTOWN, OHIO.

## COAL-BIT.

SPECIFICATION forming part of Letters Patent No. 640,481, dated January 2, 1900.

Application filed September 11, 1899. Serial No. 730,062. (No model.)

*To all whom it may concern:*

Be it known that I, JOB J. MORGAN, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Coal-Bits; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a side elevation showing the connecting-pipe broken away. Fig. 2 is a vertical section. Fig. 3 is a top view of the valve. Fig. 4 is a detached view of the valve and its casing.

The present invention has relation to coal-bits; and it consists in the novel construction hereinafter described, and particularly pointed out in the claim.

Similar numerals represent corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the bit proper, which is formed hollow and of the proper diameter, reference being had to the size of the bit designed to be constructed.

The bottom or lower end of the bit is provided with the teeth 2, said teeth being formed as illustrated in the drawings and being for the purpose of cutting the material into which the bit is driven.

The object and purpose of the present invention is to provide a bit that will not break or disintegrate the material into fine particles, but to leave the material in such a condition that it can be examined to determine its quality.

Another object and purpose of the present invention is to collect the material through which the bit is passed, and to carry out this purpose a valve 3 is provided, which valve is hinged to the valve casing or seat 4, said valve casing or seat being preferably formed of a short cylinder, such as shown in the drawings, which cylinder is held against downward movement by means of the rivets 5, said rivets being provided with heads of sufficient size upon their inner ends to support the valve casing or seat and its valve.

The bit 1 is formed tapering toward its top or upper end and is so formed for the purpose of allowing the bit to pass freely through the material, and at the same time by tapering the inner periphery of the bit the valve-seat 4 can be formed of such a diameter that it will be held against upward movement by reason of the outer periphery coming in close or binding contact with the inner periphery of the bit.

The bit is connected to an ordinary drill-rod, such as 6, which may be of any desired length, said bit and drill-rod being connected together by ordinary screw-threads.

The bit herein described is to be used more especially in coal, and when an ordinary bit has been used until a vein of coal is reached the common drill-bit is removed and the one herein described attached. As the coal becomes broken in small pieces it bounds upward, striking the valve 3 upon its under side and lifting the same, allowing the coal to pass the valve, after which the valve is free to fall into its normal position.

In use the bit should be removed frequently and emptied of its contents. In practice the bits should not be extended into the coal at any one time to exceed six or seven inches—that is to say, the bits should be removed and emptied at short intervals.

The valve 3 should be formed of metal, so that it will not become injured from use and at the same time properly hold the material within the bit.

It will be understood that by providing the teeth 2 the coal will be broken, but not to such an extent that the quality and kind of coal through which the bit is being passed cannot be determined.

It will be understood that the valve 3 should be hinged, and I have illustrated a plate which plate is securely connected to the valve 3 by means of the bolts 8 or their equivalents.

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

The combination of the bit 1 formed hollow and the inner periphery thereof formed tapering toward its top or upper end, and teeth

located upon the larger or lower end thereof,  
the valve-seat 4 located within the bit and pro-  
vided with a hinged valve, and rivets passed  
through the bit below the valve-seat to form a  
5 support therefor, substantially as and for the  
purpose specified.

In testimony that I claim the above I have

hereunto subscribed my name in the pres-  
ence of two witnesses.

JOB J. MORGAN.

Witnesses:

J. A. JEFFERS,  
J. R. BOND.