Oct. 20, 1925. 1,557,743

A. TERRILL

STEEL BIT FOR ROCK DRILLS

Filed June 30, 1923

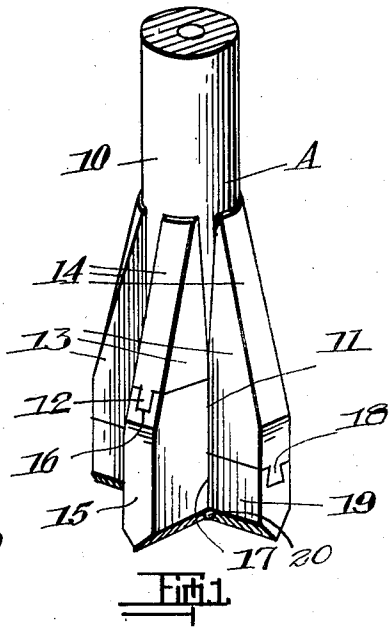



Fig. 1.

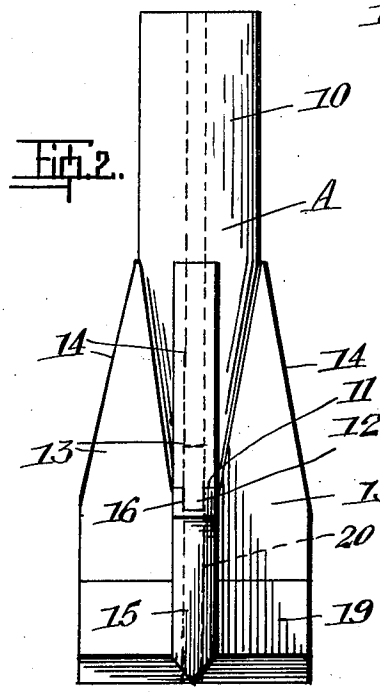



Fig. 2.

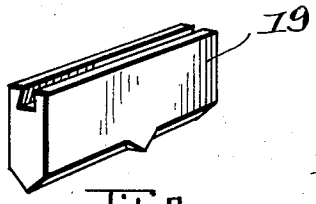



Fig. 6.

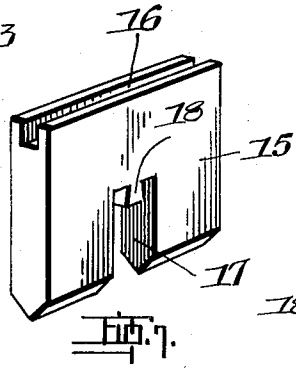



Fig. 7.

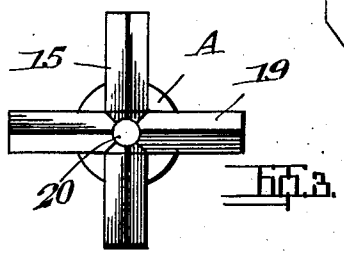



Fig. 3.

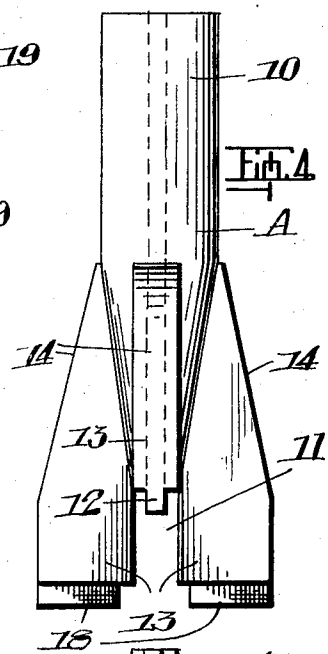



Fig. 4.

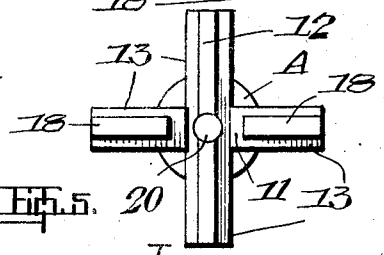



Fig. 5.

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# UNITED STATES PATENT OFFICE.

ALBERT TERRILL, OF HAILEYBURY, ONTARIO, CANADA.

## STEEL BIT FOR ROCK DRILLS.

Application filed June 30, 1923. Serial No. 648,760.

*To all whom it may concern:*

Be it known that I, ALBERT TERRILL, a subject of the King of Great Britain, and resident of the town of Haileybury, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Steel Bits for Rock Drills, of which the following is a specification.

This invention relates to improvements in steel bits for rock drills, the objects of the invention are to provide a device of this character with detachable bits adapted to be locked in position and which can be readily detached for the purpose of sharpening or otherwise.

Further objects of the invention are to provide a steel bit for a rock drill of this character that will give more efficient and longer service than any heretofore or at present in use.

With the foregoing and other objects in view the invention consists essentially in the arrangement and construction of parts described in the present specification and illustrated by the accompanying drawings that form a part of same.

Referring now to the drawings in which like characters of reference indicate corresponding parts in each figure:

Figure 1 is a perspective view of an embodiment of my invention.

Figure 2 is a side elevation of the whole.

Figure 3 is a plan view of the under side of the device as a whole.

Figure 4 is a side elevation of the upper portion.

Figure 5 is an under side view of the under side of the upper portion.

Figure 6 is a perspective detail of the lower bit of one of the bit members.

Figure 7 is a similar view of the other bit member.

In the drawings, A represents the device as a whole, comprising a stem portion 10 formed with a transversely extending slot 11, provided with a tongue 12. The top of the stem on each side of this slot is provided with tongue members 13, bevelled at 14.

15 is a bit member formed with a groove 16, adapted to fit into the slotted stem 10, and to engage with the tongue 12 thereon. This bit member is provided with a slot 17, in which is formed a tongue 18, adapted, when the bit is in position, to register with the tongue members on the top of the stem.

19 is a second bit member adapted to fit into the slot 17 and to lock with the tongue 18 therein and extending at right angles to the first mentioned bit member 15 and forming in combination therewith a substantially star-shaped cutter as shown in Figure 1. It should be noted that the bevelling of the tongue 18 enables the second bit engaging therewith to automatically lock, thus holding it securely in position and at the same time forming the means for locking the first bit in position on the stem. The tongue of the first bit may also be bevelled, if necessary, to lock with the stem.

20 is a central aperture extending through the two bits and through the stem, designed to provide a central opening to allow water to flow therethrough.

Relative to the bar 19, the groove is beveled and is larger at one end than the other to engage with a complementary constructed tongue in the bit 15 so that the bit 19 is thus designed to tightly engage from one side inwardly with the bit 15. In other words, by means of a beveled groove and tongue connection through these bits being formed larger at one end and gradually smaller at the other, not only is a downwardly disconnecting movement of the bit 19 prevented but also horizontal movement.

From the foregoing it will be seen that I have invented a compact, efficient and practical steel bit for rock drill, with interchangeable bits whereby a single stem is adapted to be used with any number of bits, and whereby bits by being frequently renewed and sharpened are always in condition to give the most efficient and the longest service.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying spicification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. In a device of the character described, a steel bit for rock drills comprising a slotted stem formed with a tongue in said slot and tongues on each side of the slot, a bit for the stem formed with a groove to

engage with the tongued slot in the stem, a tongued slot in said bit, a second bit having a groove adapted to slidably engage with the tongued slot in the first bit whereby the bits are securely retained in position on the stem.

2. In a device of the character described, a steel bit for a rock drill comprising a slotted stem, formed with tongues extending at right angles to one another, one of said tongues being transversely on the slotted portion and the other tongue on the unslotted portion, a bit formed with a groove at its lower end adapted to engage with a tongue in the slotted stem, a slot in said bit, a tongue therein at right angles to said slot, a second bit formed with a groove adapted to engage with and into the bevelled tongues of the stem and the first named member, whereby both bit members are securely locked in position on the stem.

3. In a device of the character described, the combination with a stem having a tongued slot therein and tongues on each side of the slot, of a bit adapted to fit into said slot and to engage with the tongue therein and at right angles thereto, a tongued slot in said bit, and a second bit adapted to slidably engage with the tongued slot in the first bit and at right angles thereto, whereby a star-shaped cutter is formed.

4. In a tool of the character described, the combination with a stem formed with a plurality of tongues, of a bit adapted to dovetail into said stem, and a second bit, means formed in said bit adapted to slidably engage with the first bit and the tongued stem, whereby the bits are retained in position on the stem.

In witness whereof I have hereunto set my hand.

ALBERT TERRILL.