F. ESA.

BORING TOOL.

APPLICATION FILED MAR. 8, 1918.

1,316,435. Patented Sept. 16, 1919.

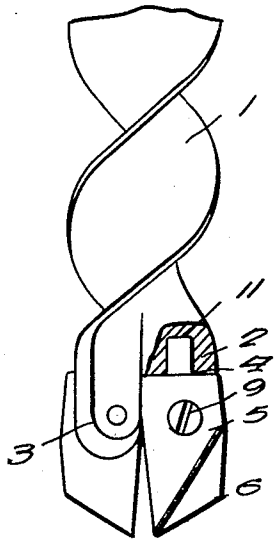


Fig. 1.

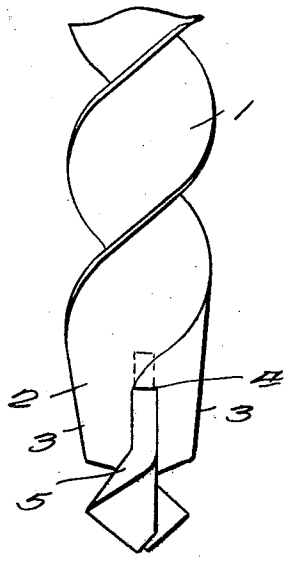


Fig. 2.

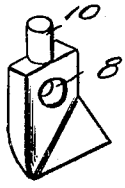


Fig. 4.

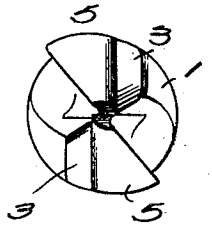


Fig. 3.

F. Esa
Inventor

By Geo. P. Kimmel.
Attorney

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRIEDRICK ESA, OF FAIRVIEW, MONTANA.

BORING-TOOL.

1,316,435. Specification of Letters Patent. Patented Sept. 16, 1919.

Application filed March 8, 1918. Serial No. 221,159.

To all whom it may concern:

Be it known that I, FRIEDRICK ESA, a citizen of the United States, residing at Fairview, in the county of Richland and State of Montana, have invented certain new and useful Improvements in Boring-Tools, of which the following is a specification.

This invention relates to new and useful improvements in boring tools, and more particularly the invention resides in new and useful improvements in boring augers used in coal mining, whereby the augers are provided with a pair of detachable bits connected with the web of their shanks at the ends thereof, which permits the bits to be easily disconnected when one is broken thereby increasing the efficiency of a tool of this character.

Another object of the invention is to provide a device of this character which is easily and simply constructed, inexpensive to manufacture, and one which will be very efficient in operation.

With these and numerous other objects in view my invention consists of the novel features of construction, combination and arrangement of parts which will be herein referred to and more particularly pointed out in the specification and claim.

In the accompanying drawings:

Figure 1 is a side elevation of the auger,

Fig. 2 is a similar view taken at right angles to the first view,

Fig. 3 is a bottom plan view, and

Fig. 4 is a perspective view of one of the bits.

In describing my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views.

The numeral 1 designates the shank portion of an auger of the conventional type used in coal drilling, and the web of the shank being designated by the numeral 2, is provided with a pair of projections 3 that extend at the ends thereof, adjacent the opposite edges of the boring tool. These extensions 3 form shoulder portions 4 that are adapted for alinement as the extensions are oppositely positioned, and are disposed out of alinement.

Adapted to be connected with the end of the auger are a pair of bits 5 which are provided with oppositely turned cutting edges 6, said bits having their main portions provided with openings 8 therethrough that are adapted for alinement when the bits are in position with openings through the extensions 3. When the bits are positioned on the end of the auger as is clearly shown in Fig. 1 of the drawings, the inner ends thereof will rest in the alining shouldered portions 4 while lugs 10 thereon will fit in the recesses 11. When the openings through the bits and extensions are in alinement, they are adapted to receive a detachable fastening member 9 which will securely hold the bits on the end of the auger, but permit their removal when desired.

This type of auger with the detachable bit will be found especially useful in coal mining as it is obvious that it is not necessary to resharpen the bit when the same becomes worn or broken, and makes it only necessary for the operator to remove the worn bit and replace the same. The novel arrangement permits this operation to be accomplished with little trouble in a very short time, and the efficiency of the tool is thereby greatly increased. The type of bits shown are provided with oppositely turned edges but it is obvious that any desired type may be employed according to the use of the tool. In the accompanying drawings, a pair of bits are employed, but if desired, a single bit may be used that is detachably connected with the extensions. Where a pair of bits are employed the same may be changed in size, shape or spacing according to the kind of coal upon which the auger is used.

From the foregoing description taken in connection with the accompanying drawings, it is thought that a clear and comprehensive understanding of the construction, operation and advantages of my invention may be had, and while I have shown and described the device as embodying a specific structure, I desire that it be understood that such changes may be made in said structure as do not depart from the spirit and scope of the invention as claimed.

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

In combination with a spiral auger barrel, spaced apertured substantially longitudinal

extensions on the end of said barrel arranged to form shoulders on the adjacent portions of said end of the barrel, said adjacent end portions of the barrel having seats formed therein, and bits having their cutting portions beveled and disposed at angles to the body portions thereof carrying pins on their inactive ends adapted to be engaged in said seats, said bits being detachably connected to the apertured extensions on the barrel and disposed in directions opposite to each other.

In testimony whereof, I affix my signature hereto.

FRIEDRICK ESA.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."