

No. 882,128.

PATENTED MAR. 17, 1908.

M. E. THOMAS.
AUGER.

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Fig. 1.

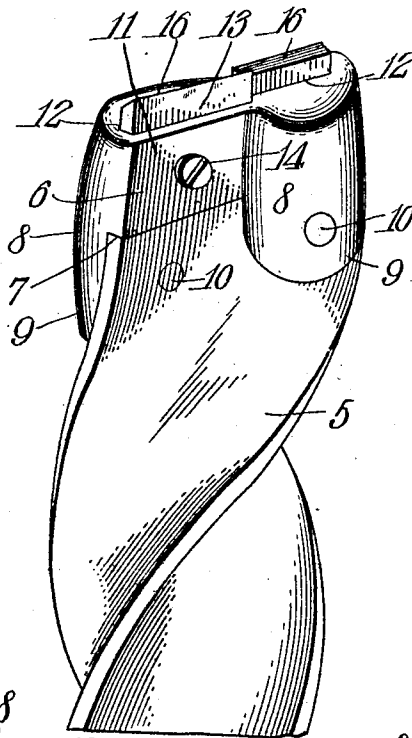


Fig. 2.

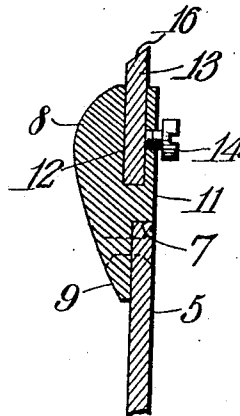


Fig. 3.

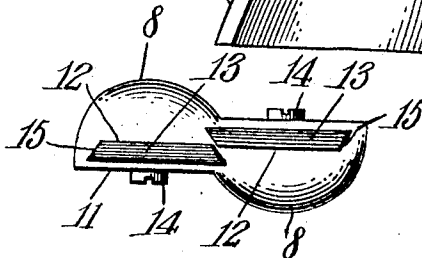
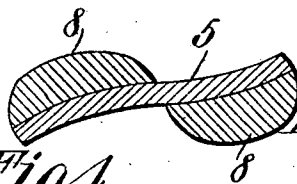


Fig. 4.



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Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN E. THOMAS, OF OTTUMWA, IOWA, ASSIGNOR OF ONE-HALF TO WILLIAM HALL AND ONE-FOURTH TO ELMER WARREN STEELE, OF OTTUMWA, IOWA.

AUGER.

No. 882,128.

Specification of Letters Patent. Patented March 17, 1908.

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To all whom it may concern:

Be it known that I, MARTIN E. THOMAS, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented a new and useful Auger, of which the following is a specification.

This invention relates to mining machinery and more particularly to a drill or auger especially designed for use in connection with machines for mining coal.

The object of the invention is to provide a drill or auger having a bit holder secured to one end thereof and provided with spaced sockets for the reception of the cutting bits so that the bits may be readily removed and sharpened without the necessity of detaching the auger barrel.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a perspective view of an auger constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a top plan view of the bit holder detached.

Fig. 4 is a transverse sectional view of Fig. 1. Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved bit holder forming the subject matter of the present invention is principally designed for attachment to that class of drills or augers employed for mining coal, and in Fig. 1 is shown in position on an auger of the ordinary construction, the barrel of which is indicated at 5.

The holder comprises an elongated casing or head 6 having a square shoulder 7 preferably extending the entire width of the auger barrel and which bears against the adjacent end of said barrel, as shown. The head or casing is provided with oppositely disposed enlargements 8, one end of each of which is extended beyond the shoulder 7 to form an attaching lug 9 adapted to bear against the adjacent face of the auger barrel and to

which it is rigidly secured by bolts, rivets or similar fastening devices 10.

The inner faces of the attaching lugs or extensions 9 are preferably curved to conform to the curvature of the auger barrel 5, while that portion of the casing opposite each enlargement is provided with a flat bearing surface 11 which forms a continuation of the walls of the auger barrel, as shown.

The enlargements 8 are provided with sockets 12 preferably disposed in staggered relation and adapted to receive removable cutting bits 13, said bits being detachably secured to the holder in any suitable manner as by clamping screws 14 which extend through the flat bearing surfaces 11 of the holder and engage the bits, as best shown in Fig. 2 of the drawing. The removable bits 13 are provided with converging end walls 15 and inclined or beveled cutting edges 16 adapted to bear against the bed of coal or other material being operated upon. By making the bits removable said bits may be readily detached from the holder and sharpened when the same become worn or otherwise unfit for use thus rendering it unnecessary to detach the auger barrel and carry the same to the shop for repairs. It will also be noticed that by having the holder mounted on the lower end of the auger the active end of said auger never comes in contact with the coal or other material being operated upon thus lengthening the life of the auger barrel and preventing the same from becoming worn and consequently shorter, which is the case when the bit is formed integral with said auger barrel.

The side walls of the enlargement 8 are preferably curved or rounded while the free ends of said enlargements are inclined in the direction of the adjacent bits so as not to offer any material obstruction to the passage of the bit during the drilling operation. When the bits become worn or broken the same may be readily detached by releasing of the clamping screws 14, in the manner before stated. If desired, the bits 13 may be arranged in alinement with each other and in some cases the holder may be provided with a continuous socket for the reception of a single bit without departing from the spirit of the invention.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive and efficient device ad-

mirably adapted for the attainment of the ends in view.

Having thus described the invention what is claimed is:

- 5 1. An auger having a bit holder secured to one end thereof and provided with oppositely disposed enlargement having sockets formed therein, the walls of the holder opposite the enlargements being provided with bearing
10 surfaces disposed flush with the adjacent walls of the holder, removable bits seated in the sockets, and clamping devices piercing the walls of the holder and bearing against the adjacent bits.
- 15 2. An auger having a bit holder secured to one end thereof and provided with oppositely disposed enlargements having sockets formed therein, the walls of the holder opposite the enlargements being provided with bearing
20 surfaces, bits seated in said sockets, and clamping devices piercing the walls of the holder and engaging the adjacent bits.
- 25 3. An auger having a bit holder secured to one end thereof and provided with a longitudinal stop shoulder adapted to bear against the adjacent end of the bit, enlargements formed on the opposite sides of the holder and each having one end thereof extended beyond the shoulder to form an attaching
30 lug, there being sockets formed in said en-

largements, removable bits seated in said sockets, and clamping devices piercing the walls of the holder and engaging the adjacent bits.

4. The combination with a spirally dis- 35 posed auger barrel, of a bit holder secured to one end of the auger barrel and provided with a transverse stop shoulder adapted to engage the adjacent end of said barrel, said holder being provided with oppositely disposed en- 40 largements having sockets formed therein and each having one end thereof extended beyond the shoulder for attachment to the adjacent wall of the auger barrel, the inner faces of the enlargements being curved to 45 conform to the adjacent walls of the auger barrel, there being a bearing surface formed on the holder opposite each enlargement and disposed flush with the adjacent wall of the auger, removable bits seated in said sockets, 50 and clamping devices piercing the bearing faces of the holder and engaging the adjacent bits.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 55 in the presence of two witnesses.

MARTIN E. THOMAS.

Witnesses:

WM. HALL,
E. W. STEELE.