(No Model.)

O. P. SWANSON.

COAL DRILL.

No. 534,236. Patented Feb. 12, 1895.

Fig. 1.

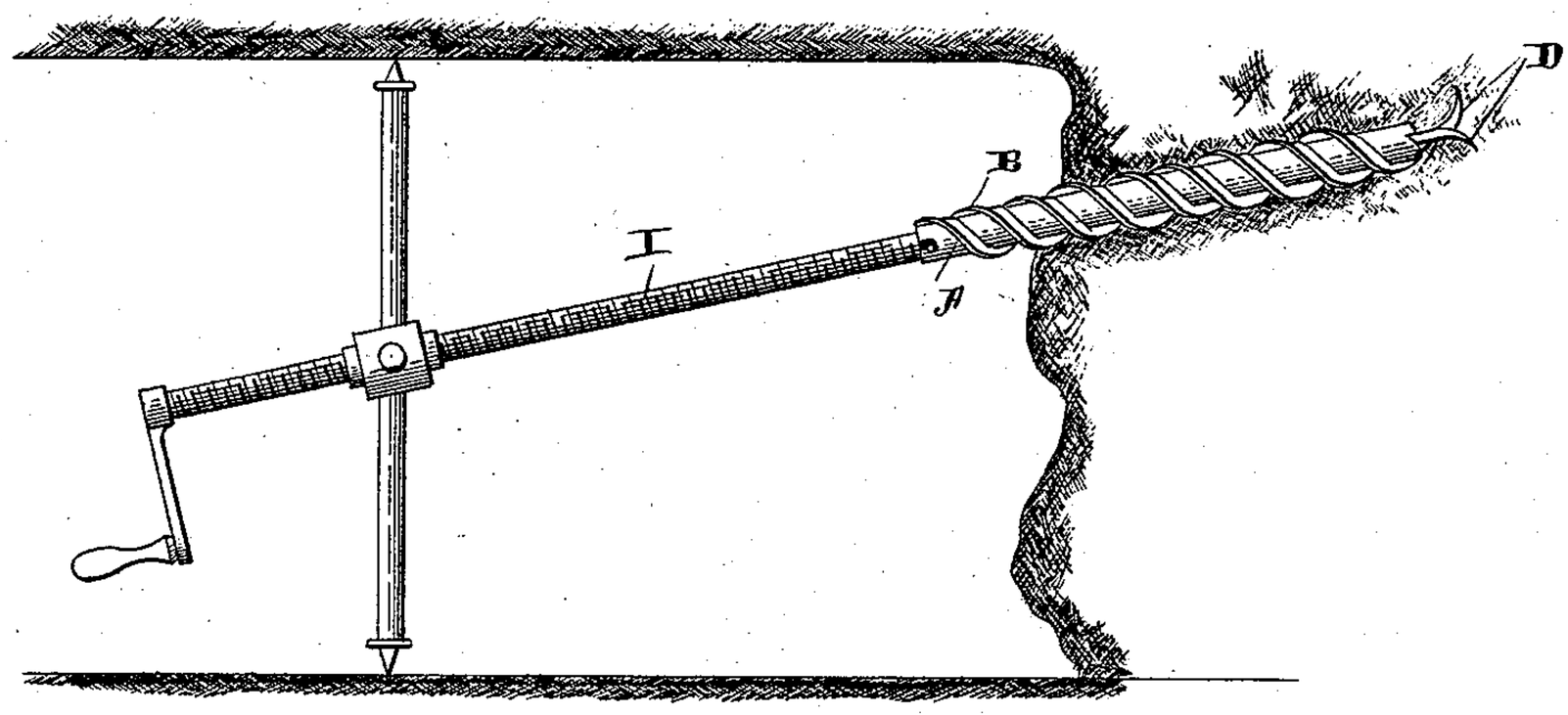


Fig. 2.

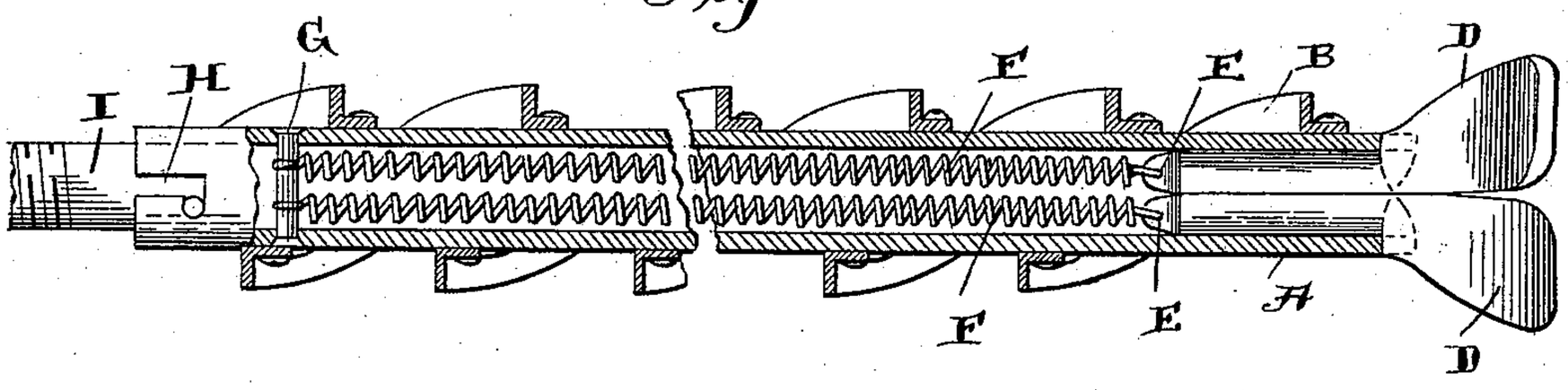


Fig. 3.

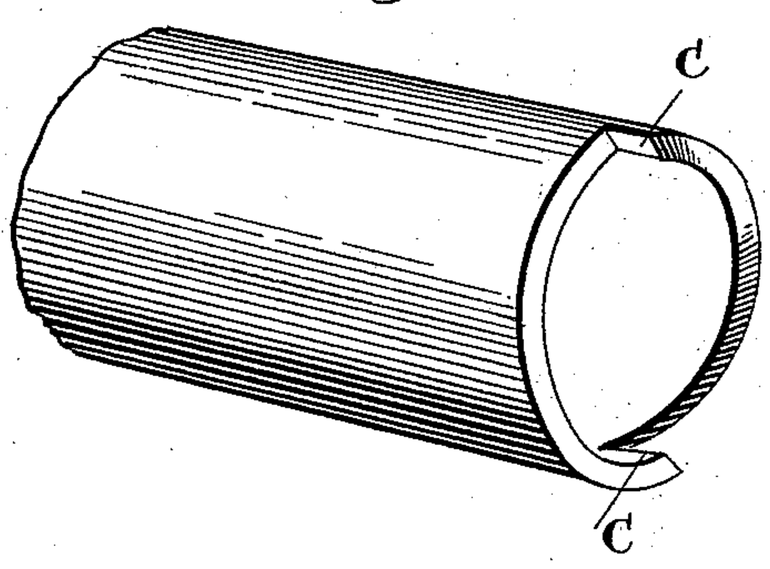
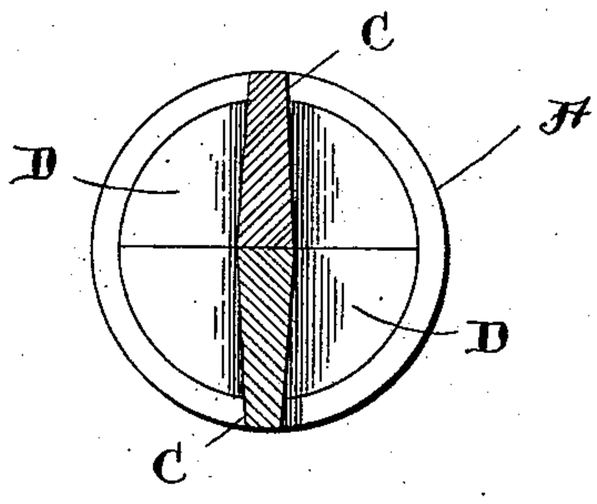


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

OLOF P. SWANSON, OF JOBS, OHIO.

COAL-DRILL.

SPECIFICATION forming part of Letters Patent No. 534,236, dated February 12, 1895.

Application filed September 21, 1894. Serial No. 523,715. (No model.)

To all whom it may concern:

Be it known that I, OLOF P. SWANSON, of Jobs, in the county of Hocking and State of Ohio, have invented certain new and useful Improvements in Coal-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved coal drill; and the object of the same is to provide an improved device for holding in place the bits so that they may be easily and quickly removed.

The invention consists in the novel features of construction hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my auger in an operative position. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a perspective view of the inner end of the auger with the bits removed. Fig. 4 is a cross sectional view of said end with the bits in position.

A designates the hollow auger stem provided on its exterior with the spiral conveyer B, and beveled and notched on its inner end to form the shoulders C against which are adapted to abut the bits D for the purpose of holding them from rotary movement. Said bits fit the end of the stem as shown and formed with the eyes E to which are connected the coiled springs F and the springs at their opposite ends are secured to the cross pin G located well up in the stem. The springs hold the bits from vertical displacement while operating, yet the latter may be withdrawn by exerting a pull thereon and the springs disconnected therefrom when it is desired to replace them or remove the same for the purpose of sharpening. All clamping screws are thus avoided and the bits may be quickly and readily removed at any time.

The inner end of the stem is provided with the bayonet slot H whereby it is connected to the end of screw shaft I as shown and the latter may be mounted in a convenient stand for the purpose of driving the auger to the coal or rock being bored.

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

In a coal drill, the combination of a hollow stem, the bits inserted in the end of the hollow stem, and the normally contracted coiled springs F secured at one end in the stem and expanded to reach the bits to which they are secured, whereby an inward pull is being constantly exerted on the bits for holding them in proper longitudinal position in the stem end, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

OLOF P. SWANSON.

Witnesses:
DAVID JOHNSON,
KARL TORN.