J. S. SCHOONOVER.

Machine for Drilling Metal.

No. 167,026. Patented Aug. 24, 1875.

Fig 1.

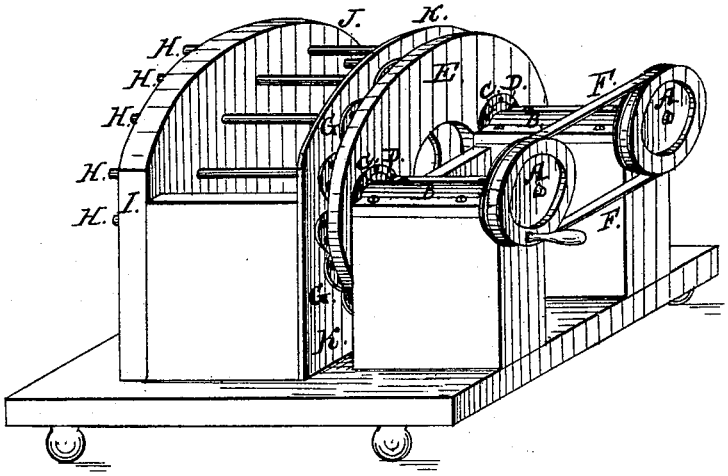


Fig 2.

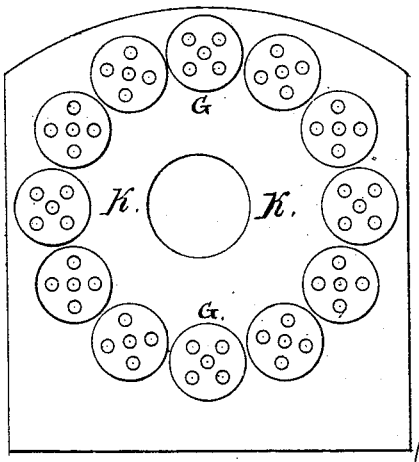


Fig 3.

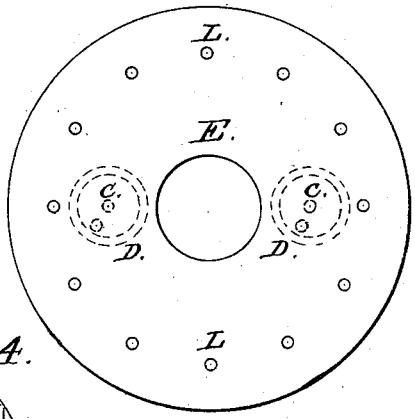
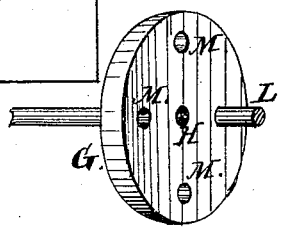


Fig 4.



Witnesses:

C. E. Brown

A. McKepler.

Inventor.

James S. Schoonover.

UNITED STATES PATENT OFFICE

JAMES S. SCHOONOVER, OF CORRY, PA., ASSIGNOR OF TWO-THIRDS HIS RIGHT TO C. G. MAYNARD AND S. H. ALLEN, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR DRILLING METAL.

Specification forming part of Letters Patent No. **167,026**, dated August 24, 1875; application filed February 24, 1875.

To all whom it may concern:

Be it known that I, JAMES S. SCHOONOVER, of the city of Corry, county of Erie and State of Pennsylvania, have invented a Multiple Boring, Drilling, and Reaming Machine, of which the following is a specification:

The object of my invention is to give a rapid and uniform motion to an indefinite number of bits, drills, or reamers. To accomplish this object I attach small perforated disks to the ends of the bit-shafts, and connect these disks to projecting pins fixed in the face of a larger reciprocating disk or driving-plate.

My invention is illustrated in the accompanying drawing.

Figure 1 is a perspective view of my machine. The driving mechanism consists of two equal pulleys, A A, shafts B B of which are set in motion by the belt F. The washers D D hold bevel-edged disks C C, which are connected eccentrically with the shafts B B. A reciprocating motion is thus imparted to the larger disk or driving-plate E. A sliding frame, composed principally of a form-board, I J, and gage-plate K, supports the bit-shafts H H. Small disks G G, perforated, as shown in Figs. 2 and 4, have their centers firmly attached to the driving ends of the bit-shafts, and are "set in gear" or coupled by inserting a projecting pin of the larger disk or driving-plate into one of the apertures of the smaller disk. This operation is continued until all of the smaller disks are coupled.

Fig. 2 is a view of the gage-plate K, illustrating one plan of arranging the smaller perforated disks G G.

Fig. 3 shows a corresponding arrangement of the pins L L, which stud the driving-plate or reciprocating disk E.

Other plans of arrangement may be substituted, according to the nature of the work to be accomplished. It is also evident that other forms than that of a circle may be used in the construction of the driving-plate E.

Fig. 4 represents, in perspective, one of the smaller disks G attached to the bit-shaft H. Any one of the perforations M M of said disk may be made to receive one of the pins L L with which the driving-plate E is studded.

I claim as my invention—

The combination, substantially as herein shown and described, of the perforated disks G G, attached to the bit-shafts H H, reciprocating plate or disk E, provided with studs L L, crank-axles B B, washers D D, and disks C C.

JAMES S. SCHOONOVER.

Witnesses:

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