E. S. TABER.

MACHINES FOR MAKING TWIST DRILLS.

No. 176,250. Patented April 18, 1876.

Fig. 1

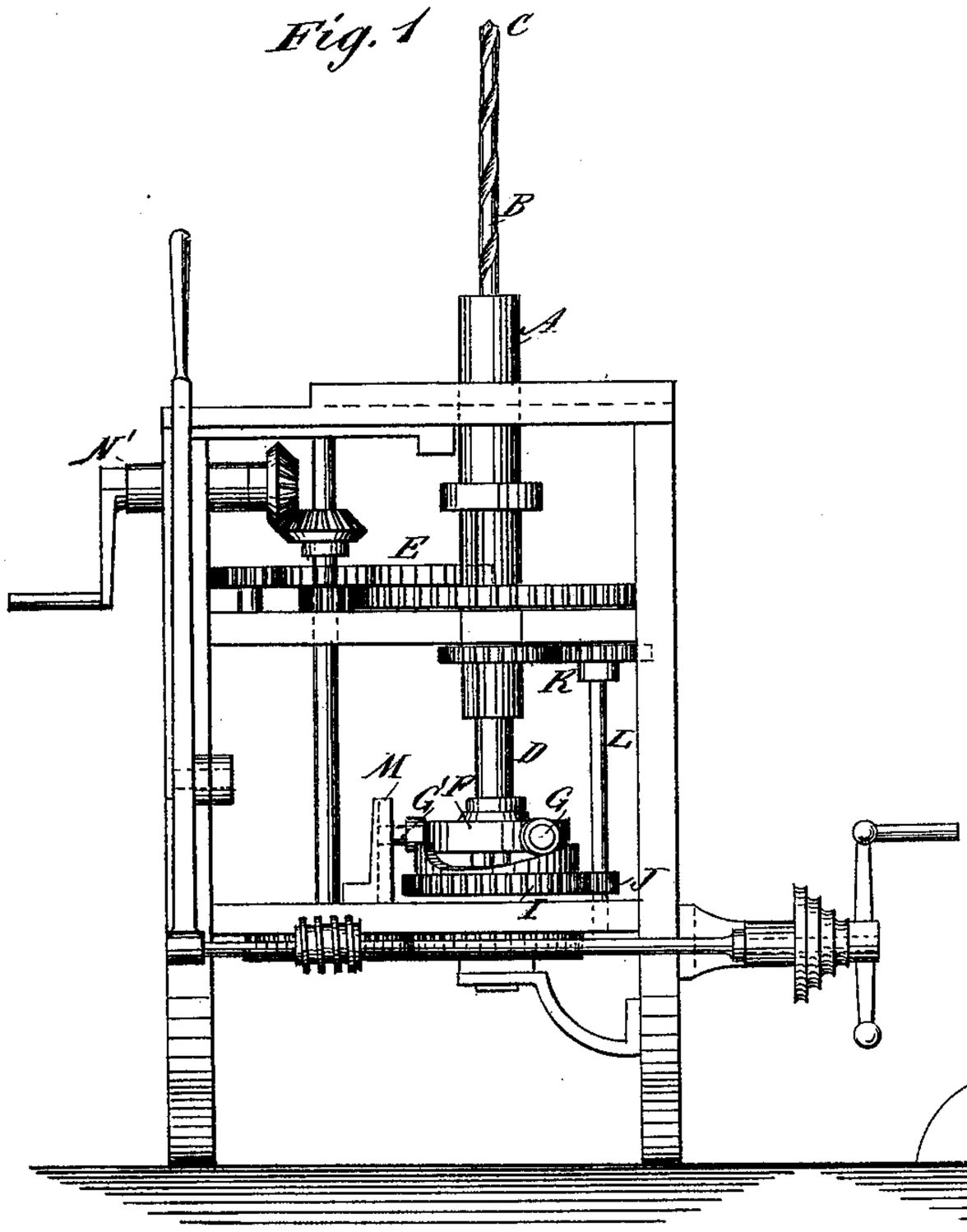


Fig. 2

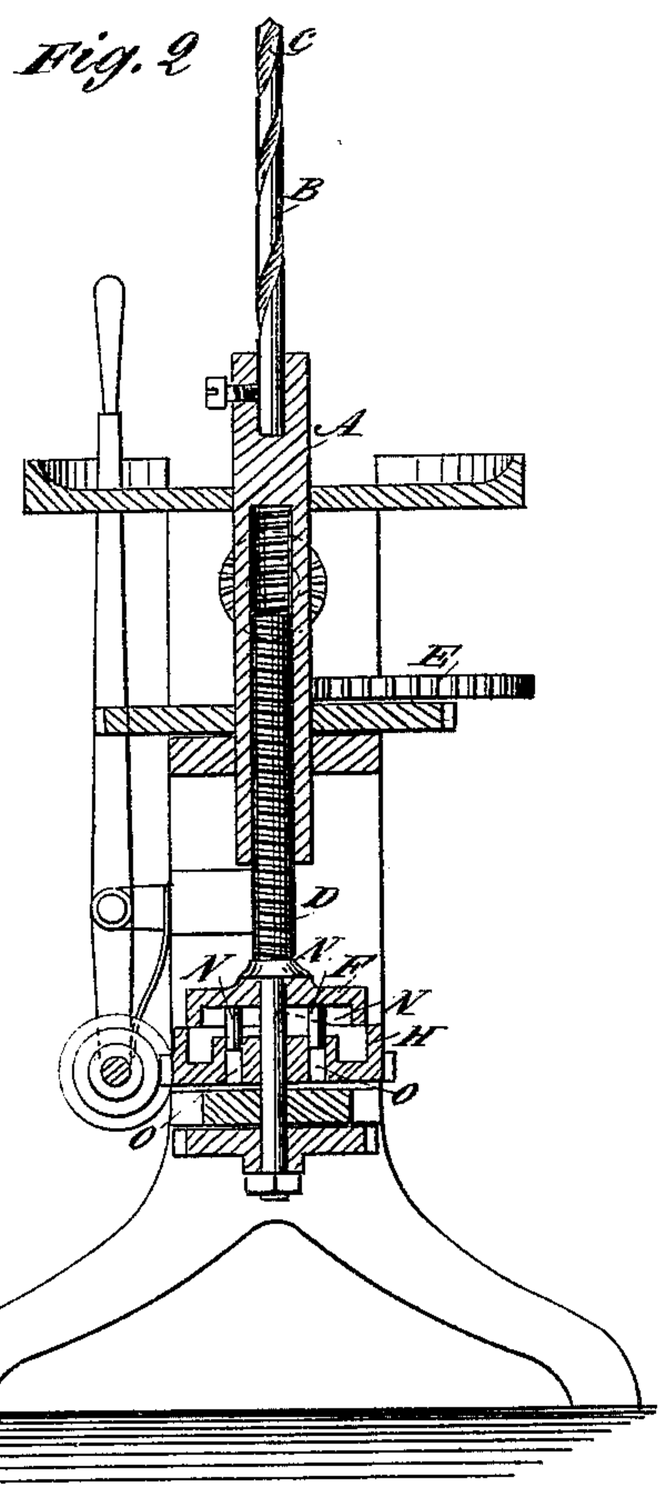
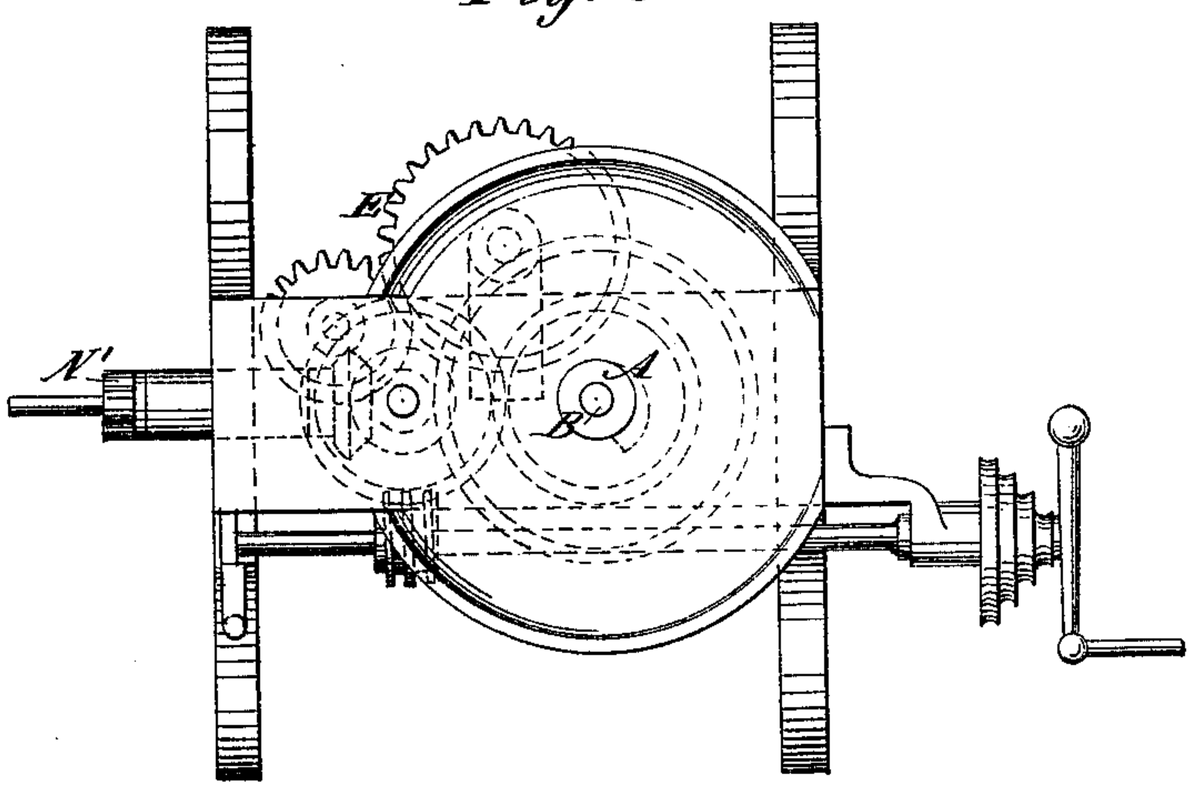


Fig. 3



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EDWARD S. TABER, OF NEW BEDFORD, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR MAKING TWIST-DRILLS.

Specification forming part of Letters Patent No. **176,250**, dated April 18, 1876; application filed February 28, 1876.

To all whom it may concern:

Be it known that I, EDWARD S. TABER, of New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and Improved Machine for Making Twist-Drills, of which the following is a specification:

The object of my invention is to construct a machine to make twist-drills with increasing pitch or inclination of the grooves; and it consists of a graduated cam combined with the mandrel which advances the blank along and revolves it to the cutters, which causes the advance of the mandrel to increase in speed as the work progresses, and thus increase the pitch.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a sectional elevation, and Fig. 3 is a top view.

Similar letters of reference indicate corresponding parts.

A is the mandrel, in which the blank B is advanced along and rotated between the cutters, (not shown,) by which the grooves C are formed, the mandrel being advanced by the feed-screw D, and revolved by the train of gears E, all of which are the same as in other machines, except that I have arranged the feed-screw to rest on the disk F, which has radial roller-studs G supporting it on the cam-disk H, which is geared, by wheel I, pinion J, wheels K, and shaft L, with the mandrel, so that the cam-disk is slowly turned to lower the feed-screw as the work progresses. The cam disk is so graduated that the descent of the feed-screw decreases, and thereby the advance of the mandrel by the feed-screw increases, which increases the pitch. The disk F has a stud, G′, working in a slotted stud, M, to hold it against being turned by the cam, but arranged to allow it to rise and fall firmly.

The mandrel is set back after each operation by the hand-crank N′, which raises the disk F up the inclines of the cam, and the disk has studs N, which rise up out of the slots O of the cam, and swing beyond them over the upper face of the same, to prevent the disk from falling in case the inclines of the cam turn back so far under the roller-studs as to allow it to do so.

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

1. The combination, with mandrel A, feed-screw D, and disk F, having roller-studs, of the cam-disk H, graduated as shown and described, to cause the feed-screw to descend decreasingly and the mandrel to ascend increasingly, thus gradually increasing the pitch.

2. The feed-screw-supporting disk F, having studs N, in combination with the cam, having slots O, substantially as specified.

EDWARD S. TABER.

Witnesses:

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