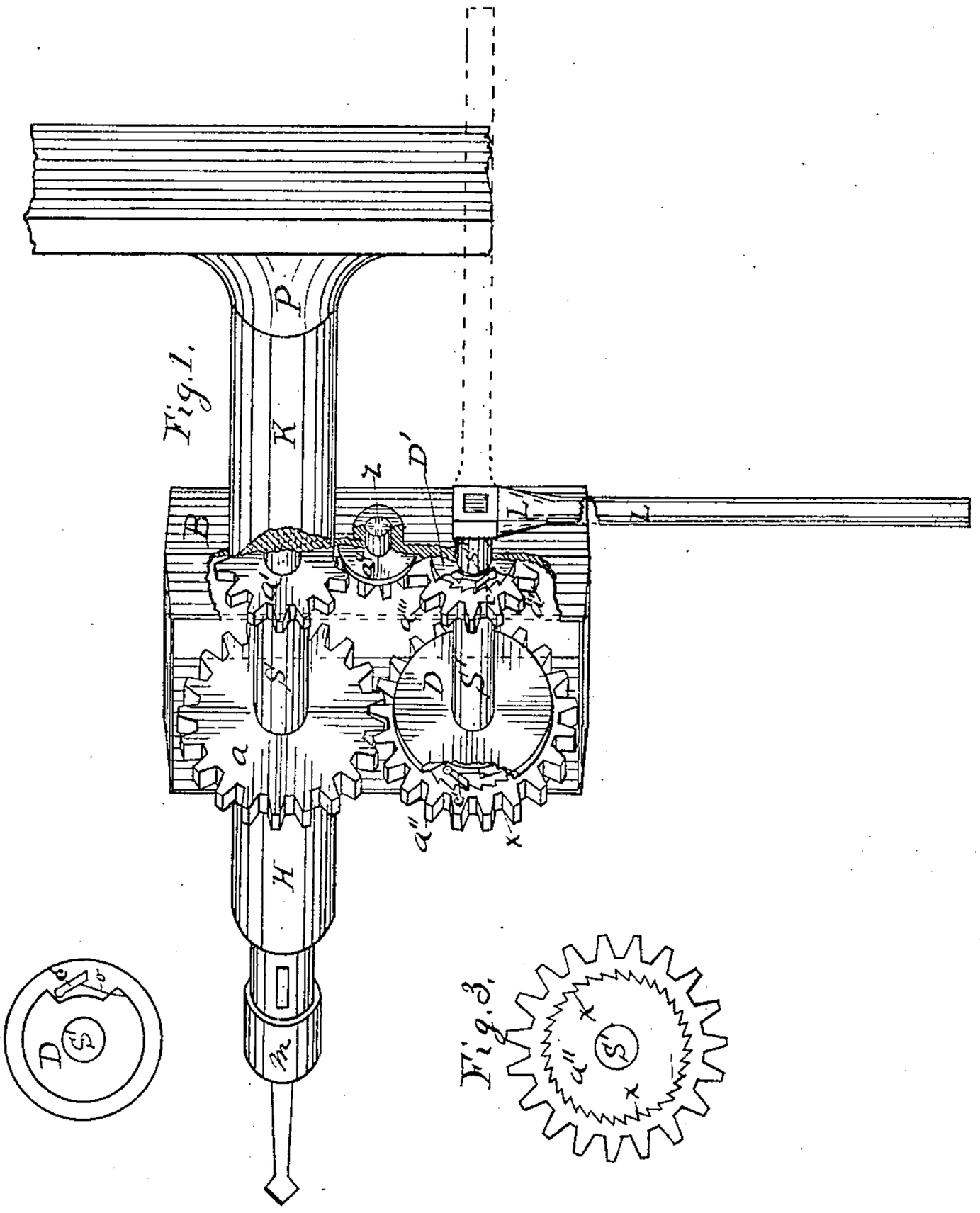
(No Model.)

A. J. WESTBURG.

RATCHET DRILL.

No. 245,333. Patented Aug. 9, 1881.



Witnesses

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RATCHET-DRILL.

SPECIFICATION forming part of Letters Patent No. 245,333, dated August 9, 1881.

Application filed March 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. WESTBURG, of Joliet, in the county of Will and State of Illinois, have invented a new and useful Improvement in Ratchet-Drills, of which the following is a specification.

My invention relates to that mechanism in a ratchet-drill by means of which a continuous steady motion in a given direction is imparted to the drill.

Heretofore in most of the ratchet-drills ordinarily in use, so far as I have observed, motion of the drill in a given direction is imparted by the lever one-half of the time only, for the reason that the ratchets usually work in one direction alone.

I am aware that certain ratchet-drills have been heretofore patented the design of which is to overcome this difficulty, and I do not claim that the idea of double-ratchet drills is novel, but simply my method of producing uniform and steady motion of the drill in a given direction with no loss of time.

In the accompanying drawings, which form a part of this specification, Figure 1 represents a perspective view of a ratchet-drill with my invention thereto attached. Fig. 2 is a plan view of the plate D. Fig. 3 is a plan view of the ratcheted gear a''.

Like letters of reference, made use of in the several figures, indicate like parts wherever used.

The drawings show a complete machine, including the plate, shaft, drill, &c., all of which will be understood by those skilled in the art.

Referring particularly to the drawings, B is the metal frame; D, the plate supporting the ratchet-pawl c' and rigidly attached to the lever-shaft S′. H is the mandrel-stock, forming part of the metal frame B. K is the feed-stock, P the support. S is the mandrel-shaft, to which are rigidly fastened the ordinary gears a and a'. S′ is the lever-shaft upon which revolve the ratcheted gears a'' and a''', and L is the lever attached to said shaft S′. a and a' are ordinary gears rigidly fastened to the mandrel-shaft S and revolving therewith. a'' and a''' are ratcheted gears revolving freely upon the lever-shaft S′. a^4 is the intermediate gear, revolving upon the shaft z. c and c' are spring-pawls which work in opposite directions upon the ratchet-teeth x in the ratcheted gearings a'' and a'''. o is the spring retaining the pawl c and c' in position, and M is the mandrel.

It will be readily seen that by moving the lever L either forward or backward at right angles with the lever-shaft S′ a uniform and constant motion will be communicated, through the medium of the ordinary, the intermediate, and the ratcheted gears, to the mandrel M, and thus no time will be lost.

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

1. In a ratchet-drill, the combination, with the lever L, of the lever-shaft S′ and the ratcheted gearings a'' and a''', for and in manner substantially as specified.

2. In a ratchet-drill, the combination of the ratcheted gearings a'' and a''' with the spring-pawls c and c', substantially as specified.

3. In a ratchet-drill, the combination of the intermediate gearing a^4 with the ratcheted gearing a''' and the ordinary gearing a', for and in the manner substantially as shown.

4. In a ratchet-drill, the combination of the mandrel-shaft S, having the ordinary gears a and a' rigidly attached thereto, with the lever-shaft S′, having the ratcheted gears a'' and a''' freely revolving thereon, and the said shafts in combination with the intermediate gear a^4, for and in the manner substantially as shown and described.

ALBERT J. WESTBURG. [L. S.]

In presence of—
W. H. SMITH,
GEO. J. MUNROE.