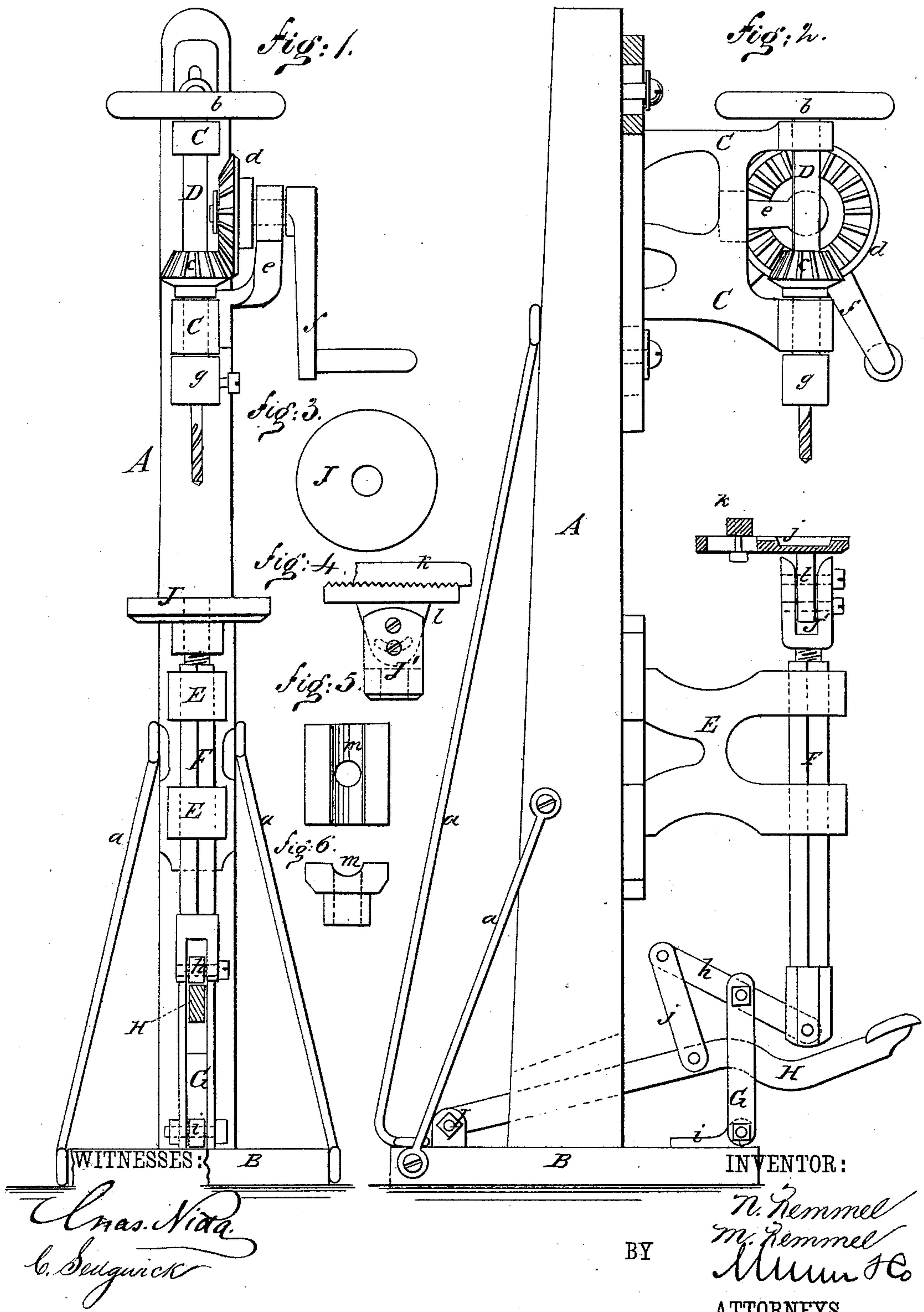


N. & M. REMMEL.
Drilling-Machine.

No. 223,168.

Patented Dec. 30, 1879.



UNITED STATES PATENT OFFICE.

NICHOLAS REMMEL AND MATHIAS REMMEL, OF KEWASKUM, WISCONSIN.

IMPROVEMENT IN DRILLING-MACHINES.

Specification forming part of Letters Patent No. **223,168**, dated December 30, 1879; application filed July 23, 1879.

To all whom it may concern:

Be it known that we, NICHOLAS REMMEL and MATHIAS REMMEL, of Kewaskum, in the county of Washington and State of Wisconsin, have invented a new and Improved Drilling-Machine, of which the following is a specification.

This invention relates to a machine for operating drills for drilling holes in metal, and also for holding auger-bits and other tools for boring wood. The object of the invention is to facilitate and expedite this kind of work.

The invention consists in connecting the drill-stock with a shaft rotated by a crank or band-wheel and gearing and held in a stationary frame, and in feeding the work to the drill by means of a table placed on a shaft held in vertical guides and connected by levers with a treadle. The workman places his foot on the treadle, holds the work with one hand, and with the other turns the crank. By bearing on the treadle the table is moved upward and the work is fed to the drill; but on removing the pressure the table, and with it the work, falls back from the drill.

In the accompanying drawings, Figure 1 is a front elevation of our improvement. Fig. 2 is a side elevation of the same, with a table attached to the shaft specially applicable to supporting wood-work under the tools. Fig. 3 represents a top view of the table for supporting the metal-work under the tools. Fig. 4 is a front view of the table shown in Fig. 2, and Figs. 5 and 6 represent another form of table used in connection with the machine.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the standard or frame of the machine rising from the base B, and sustained by bracing-rods *a*.

From the upper part of the standard project arms C C, in which is journaled vertically a shaft, D, carrying at the upper end, beyond upper arm C, a balance-wheel, *b*, and below, next to lower arm C, a beveled pinion, *c*, gearing with large beveled wheel *d*, fixed to a shaft journaled in arm *e*, and on said shaft is a winch, *f*, by which motion is given through the gearing to the shaft D.

On the end of shaft D, below the arm, is a stock, *g*, for holding drills, augers, and other rotary cutting-tools for wood and metal.

Below arms C C an arm, E, projects from the standard, in the end whereof are square sockets, forming guides, in which is placed a square shaft, F, aligned with shaft D. The lower end of shaft F is forked and pivoted to the outer end of rock-bar *h*, (entered in the fork,) pivoted between the upper ends of shafts G, the other ends whereof are pivoted to the lug *i*, fastened to the base of the machine.

H is a treadle, passed from the front of the machine through shafts G, then through an opening in the standard to jaws I, between which its rear end is pivoted. The inner end of rock-lever *h* is connected with the treadle by link *j*.

The upper end of shaft F, in Fig. 1, above the arm E, is reduced to a round stud, threaded, and adapted to receive a table, J, screwed onto it, on which the work to be operated upon is placed and held by the workman.

The weight of the shaft F alone is sufficient to overcome that of the treadle and accompanying parts, so that it drops down and draws the treadle H up in position for work, while the table is lowered to receive the work to be operated upon.

The mode of using the machine is as follows: The workman stands in front of the machine, the work is placed on the table J, and centered for the bit or drill in the stock. With one hand the work is steadied, while the other hand turns the crank or winch that rotates the drill. One foot is pressed upon the foot-piece of the treadle. This raises the table, and, by steadily bearing on the treadle, the work is kept in contact with the drill, so as to be gradually fed to the drill. When the proper depth is obtained the table is allowed to descend and the work draws away from the drill.

Another form of table specially adapted to wood-working is shown in connection with the machine in Fig. 2. This table has a serrated surface, and in the center a depression, *j*, to give clearance to the bit, and at the back is an adjustable guide, K. Underneath is a shank, *l*, which is pivoted in yoke J', and, by

means of a set-screw passed through the yoke and a segmental slot in the shank *l*, the table can be set at any desired angle.

In Figs. 5 and 6 is shown a table with a semi-cylindrical depression, *m*, in it to receive round or partially-round work.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination, with drill mechanism provided with hand-crank *f*, of a work-holder con-

nected by a vertical slide with treadle mechanism, as shown and described, so that the operator can actuate the drill with one hand, hold the work with the other, and feed with his foot.

NICHOLAS REMMEL.
MATHIAS REMMEL.

Witnesses:

PETTER REMMEL,
G. A. KUECHENMEISTER.