

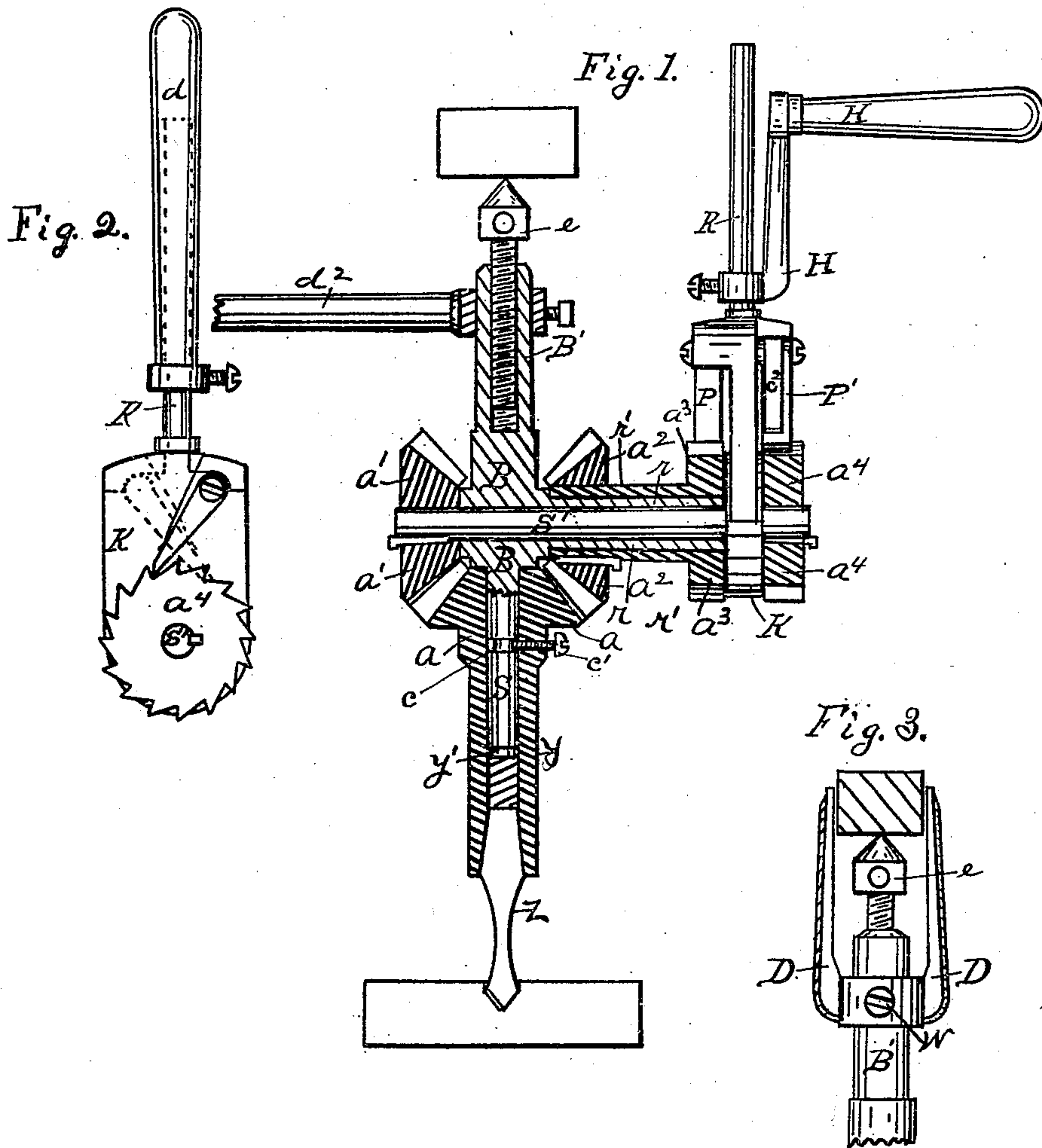
(No Model.)

W. SANDIFORD.

RATCHET DRILL.

No. 267,462.

Patented Nov. 14, 1882.



Witnesses.

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WILLIAM SANDIFORD, OF JOLIET, ILLINOIS.

RATCHET-DRILL.

SPECIFICATION forming part of Letters Patent No. 267,462, dated November 14, 1882.

Application filed June 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SANDIFORD, of the city of Joliet, in Will county, and State of Illinois, have invented certain new and useful Improvements in Ratchet-Drills, the construction and operation of which I will proceed to explain, reference being had to the annexed drawings and the letters and figures thereon, in which—

Figure 1 is a vertical section; Fig. 2, a side elevation of the operating-handle and ratchet, and Fig. 3 a side elevation of the upper end of the drill.

This invention relates principally to the construction and arrangement of the frame B, supporting the working parts of the machine, so that the frame is inclosed by the gear-wheels instead of inclosing them, and so formed as to be of great strength and very compact, and also in the means of holding the center *e* at the upper end of the drill in place by the yoke D.

This invention is intended to be an improvement of the ratchet-drill for which an application was filed for a patent of the United States by this applicant, December 31, 1881, and lately allowed, and is of that class in which an intermittent forward rotary movement is given to the drill by means of a pair of ratchets and pawls actuated by a lever. That part of this device I do not desire to claim, as it is in common use.

Referring to the drawings, B represents the body of the frame. The side of the frame B toward the ratchets a^3 and a^4 terminates in the long sleeve *r*, through which the main shaft s' passes, to which shaft the miter-wheel a' is firmly keyed at one end, and the outer ratchet, a^4 , at its opposite end, by means of which it is held in the frame. The inner ratchet-wheel, a^3 , terminates in a sleeve or long hub, r' , extending to the frame B, over the projecting sleeve *r* of the frame B, to which hub r' is firmly secured the miter-wheel a^2 . The lever R is sleeved upon the shaft s' , between the two ratchet-wheels a^3 and a^4 , which have their teeth cut in opposite directions, so that by moving the lever R backward and forward the pawls P and P' will engage with the ratchets, and rotate one at each movement of the lever, by means of which the miter-wheel a , which meshes into both the miter-wheels a' and a^2 , receives a continuous forward motion.

The lower portion of the frame B is prolonged into the arm or shaft *s* to support the

miter-wheel a . The miter-wheel a is constructed with the elongated hub *y* and sleeves upon the shaft *s*, and is held thereon by means of the set-screw c' , turned into the annular groove *c* in the shaft *s*. The lower end of the hub *y* flares to receive the drill *z*.

The yoke D, at the upper end of the frame, is sleeved on the extension B', to which it is held by the set-screw *w* at any point. The use of this yoke D is to clamp a beam above, as shown in Fig. 3, so the center *e* cannot get out of place and so the drill frame cannot turn. The step y' in the drill-spindle *y* forms a frictional bearing for the arm *s* of the frame to stand on to lessen friction of the parts. Otherwise the friction of the frame would be on the miter-wheel a .

The frame is provided with the steadying-handle d^2 , as shown in Fig. 1, when desired, and the lever R with the adjustable crank H.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. In a ratchet-drill, the frame B, having the elongated sleeve *r* and elongated arm *s*, forming a part thereof, in combination with the shaft s' , miter-wheel a' , miter-wheel a^2 , miter-wheel a , having the elongated hub *y*, forming the drill-spindle, ratchet-wheel a^3 , having the elongated hub or sleeve r' , ratchet-wheel a^4 , lever R, and pawls P and P', all arranged to operate in the manner set forth.

2. In a ratchet-drill, the miter-wheel a , arranged, as shown, on the arm *s*, forming a portion of the frame B, and terminating in the elongated hub *y*, to form the drill-spindle, as set forth.

3. In a ratchet-drill, the combination of the ratchet a^3 , having the elongated hub r' , elongated sleeve *r* of the frame B, and the miter-wheel a^2 , arranged to operate as set forth.

4. In a ratchet-drill, the frame B, having the elongated sleeve *r* and elongated arm *s*, in combination with the shaft s' , and miter-wheels a , a' , and a^2 , by which said frame B is inclosed, as set forth.

5. In a ratchet-drill, the yoke D, in combination with the frame B', for the purpose set forth.

WILLIAM SANDIFORD.

Witnesses:

THOS. H. HUTCHINS,
WM. J. HUTCHINS.