

(No Model.)

N. N. RIDDELL.
BORING MACHINE.

No. 529,506.

Patented Nov. 20, 1894.

Fig. 2.

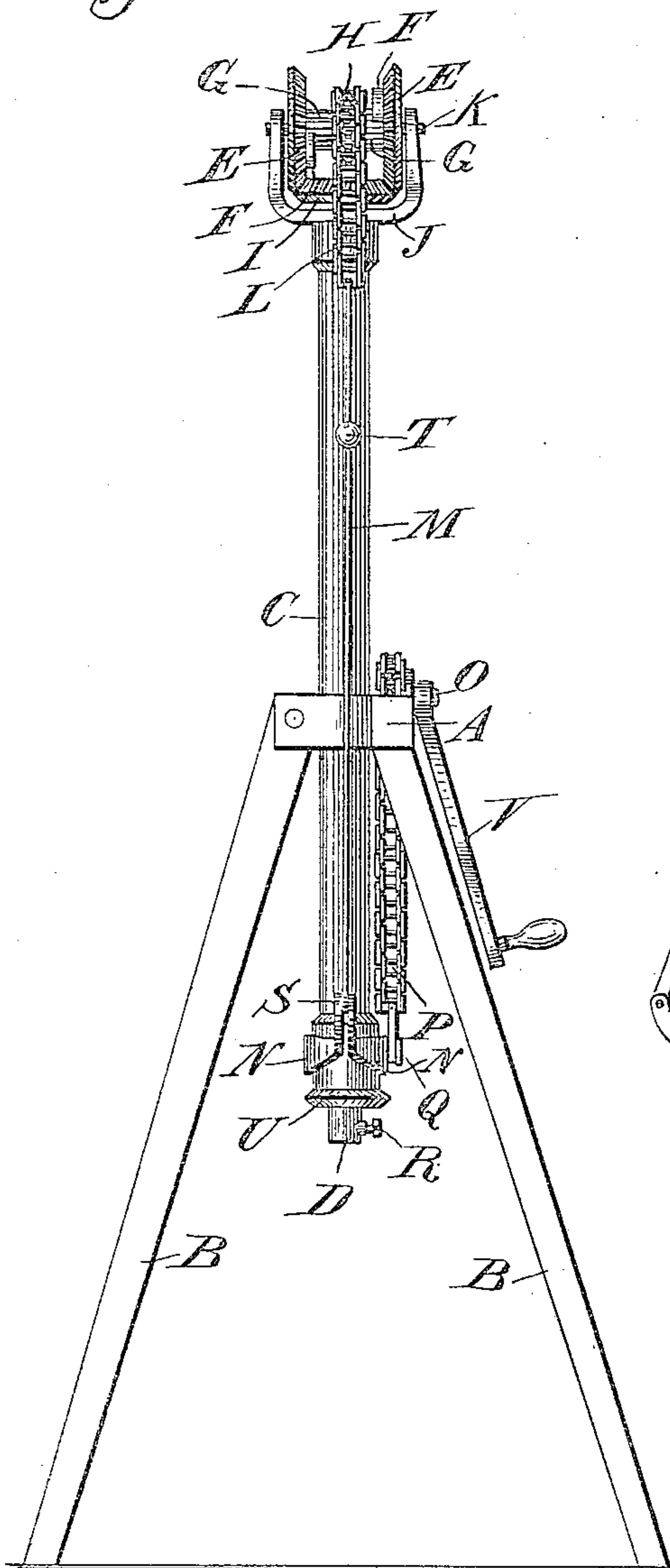
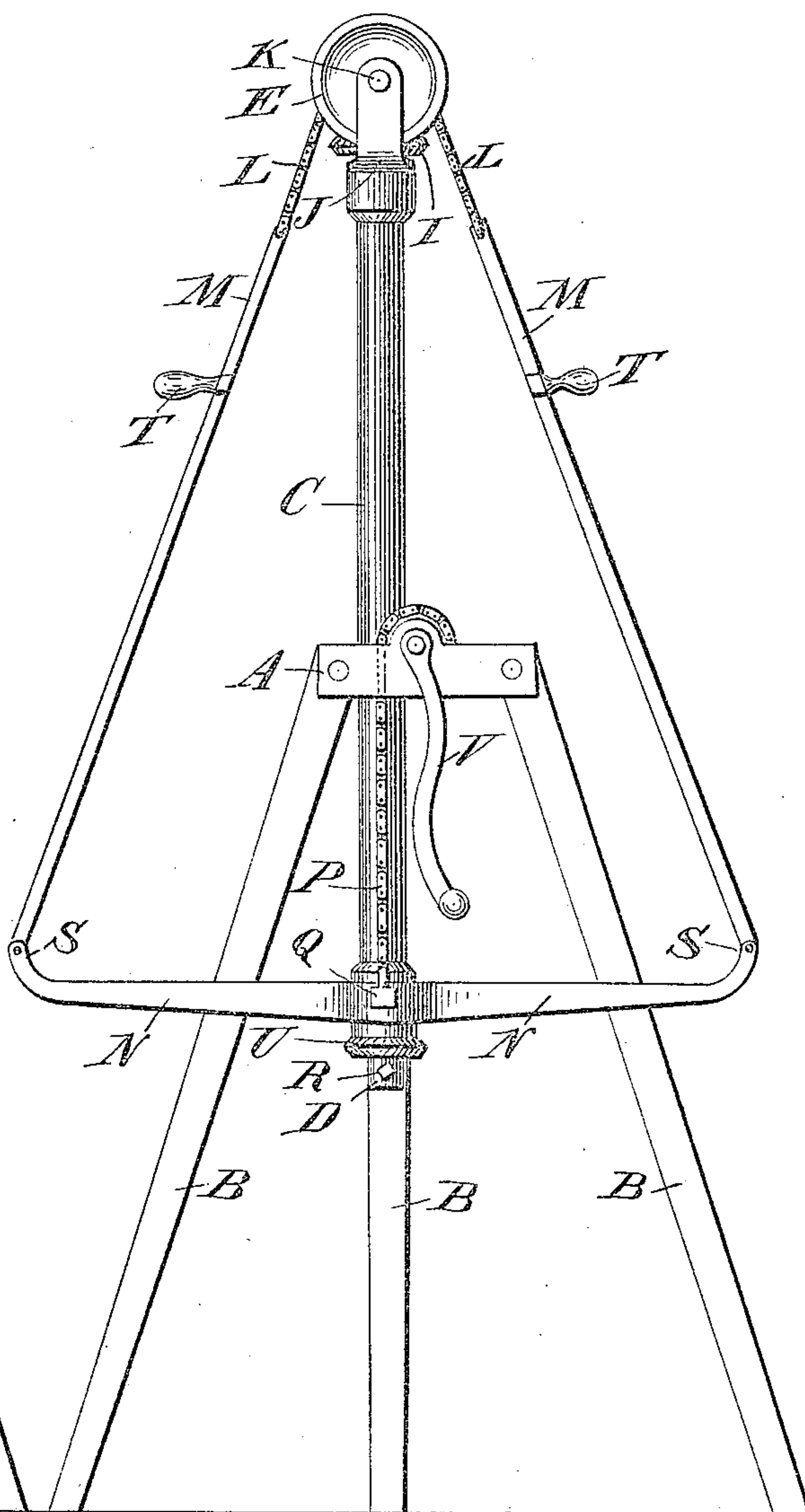


Fig. 1.



Witnesses:

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NEWTON N. RIDDELL, OF RAYMOND, NEBRASKA.

BORING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,506, dated November 20, 1894.

Application filed August 25, 1893. Serial No. 484,072. (No model.)

To all whom it may concern:

Be it known that I, NEWTON N. RIDDELL, a citizen of the United States, residing at Raymond, in the county of Lancaster and State of Nebraska, have invented a new and Improved Boring-Machine, of which the following is a full, clear, and exact description.

My invention relates to boring and drilling machines operated by man-power in which the auger, drill or bit stands vertical, and rotates in one direction.

The objects of my invention, are first, to provide a boring machine by means of which the weight and strength of the operator shall be easily, conveniently and simultaneously combined; second, to afford a boring machine that shall be light, movable, durable, adjustable and applicable to all kinds of heavy hand boring or drilling, in timber, metal, stone or earth.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1, is a front and Fig. 2, is a side elevation of the machine.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters refer to similar parts in both views.

The frame head A, and its legs or standards B B B, constitute the frame work of the machine. A hollow drill stock C, passing vertically through the frame head A, is supplied with a head J, which supports a double bevel gearing E, E, and a chain wheel H, on a horizontal shaft K. A walking beam N, having a pivotal attachment to drill stock C, at the point Q, is connected at each end with driving bars M, M.

Two driving bars M, M, having a hinge attachment with walking-beam N, at points S, S, are provided with adjustable handles T, T, and are attached to a belt chain L, which reciprocates with chain wheel H, referred to hereinafter. A chain wheel H, is provided on either side with a ratchet G, G. Two bevel gearings E, E, are supplied on their inner side with pawls F, F, said pawls reciprocating with ratchets G, G, on side of chain wheel H, transmit the rocking motion of chain wheel H, to pinions E, E. A drill shaft D, passing through drill stock C, is provided at the top

with a pinion I, which reciprocates with bevel gearings E, E.

The drill shaft D is provided at its lower end with a collar U, which forms a bearing for the drill stock C, and a receptacle for an auger or drill. The collar U, is provided with a set screw R, for the retention of the auger or drill. A chain P, is attached to drill stock C, at point Q, and to a shaft O, in frame head A. Shaft O, is provided with a handle V, forming a simple windlass for the elevation of drill stock C, in withdrawing auger or drill.

The drill stock C, being free to slide through frame head A, the weight of the operator when standing on walking beam N, rests on collar U, of drill shaft D, thereby giving a downward pressure on the auger or drill, equal to the weight of the operator.

The operator standing on the walking beam N, taking hold of the handles T, T, and throwing the weight alternately from one foot to the other, at the same time lifting with the opposite hand the weight and strength are combined in producing a rocking or reversible rotation to chain wheel H.

The rocking or reversible rotary motion of chain wheel H, produces a continuous rotation of drill shaft D, by ratchets G G, reciprocating with bevel gearing E E, and bevel gearing E E, reciprocating and idling alternately with pinions I.

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

1. In a combined hand and tread power boring machine, the combination with a frame supporting a vertical hollow sliding drill stock containing a drill shaft provided at its upper end with a pinion (I), and at its lower end with a collar (U), a walking beam pivotally attached to lower end of said drill stock, draw bars connected to walking beam and chain belt connected to said draw bars, passing over a chain wheel at the upper end of drill stock substantially as set forth.

2. In a combined hand and tread power boring machine, the combination with a frame supporting a vertically sliding, hollow drill stock provided at its upper end with a head supporting a horizontal shaft on which there is a chain wheel, and at its lower end with a walking beam, draw bars connecting with

said walking beam and attached to a chain belt that passes over said chain wheel.

3. In a combined hand and tread power boring machine, the combination with a frame supporting a vertical, sliding, hollow, drill stock, provided at the top with a head supporting a horizontal shaft, on which there is a rocking chain wheel, said wheel being provided with a ratchet on each side; of two bevel gears placed opposite each other and provided on their inner side, with a pawl which reciprocates with ratchets on the chain wheel and a pinion I; said bevel gear reciprocating and idling alternately with pinion I, whereby the rocking motion of chain wheel H, produces a continuous rotation of the gear I, substantially as shown and described.

4. In a combined hand and tread power boring machine, the combination with a frame supporting a vertical, sliding, hollow drill stock containing a drill shaft, with pinion and receptacle; of a walking beam, draw bars and belt chain, a head consisting of double ratchet bevel gearing and chain wheel, on a horizontal shaft, for reducing a rocking motion to a continuous rotary motion, a windlass composed of a chain attached to drill stock, a shaft in frame head, and a handle, substantially as shown and described and for the purpose specified.

NEWTON N. RIDDELL.

Witnesses:

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J. R. INKSTER.