(No Model.)

A. H. REID.

BIT STOCK.

No. 268,938. Patented Dec. 12, 1882.

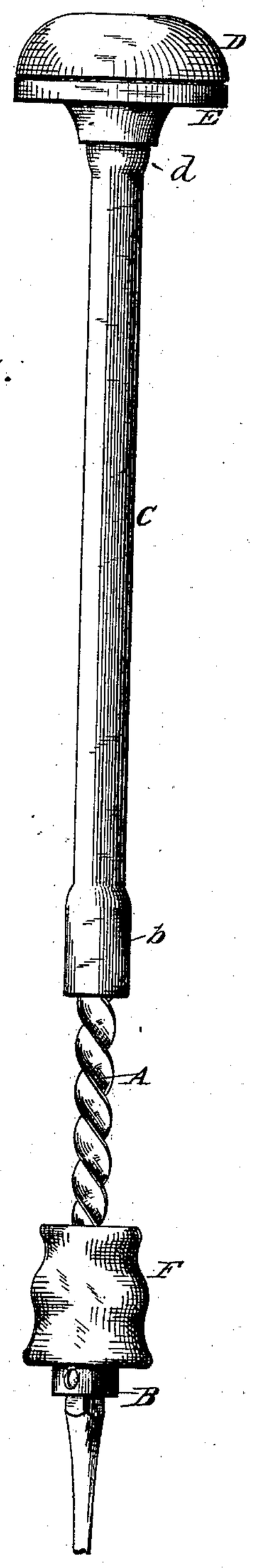

Fig. 1.

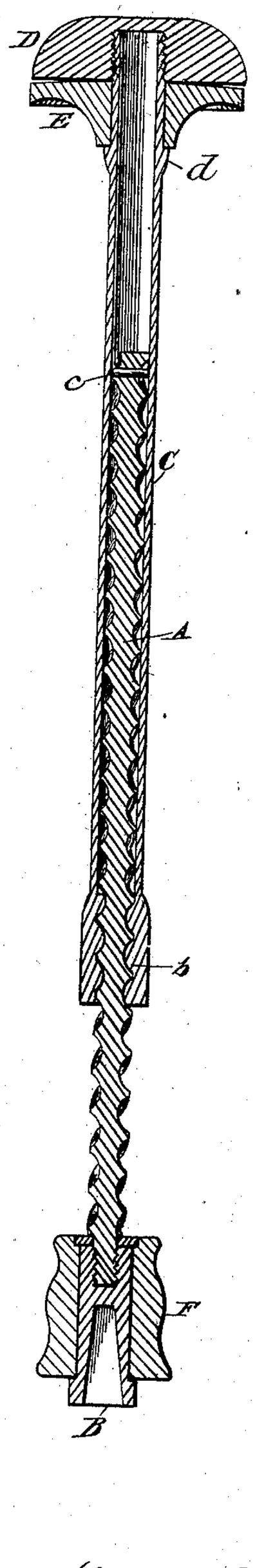

Fig. 2.

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BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 268,938, dated December 12, 1882.

Application filed July 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, A. H. REID, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Bit-Stocks, of which the following is a specification.

My invention relates to a device intended to take the place of the ordinary bit-stock for operating wood-boring tools, screw-drivers, drills, &c. The implement consists of a chuck or tool-holder attached to a spirally-threaded spindle, which is rotated by means of an outside sleeve or body arranged to reciprocate thereon.

The principal aims of the invention are to adapt the device to turn the tool always in the same direction and avoid a backward rotation as the sleeve is drawn back, and to permit the operator to hold and steady the tool during the boring operation.

With these ends in view the invention consists in combining with the body or sleeve a fixed head, by which it is driven forward and prevented from turning, and a loose head, or its equivalent, by which it is retracted and permitted to revolve freely around the tool-holding spindle, which remains in the meanwhile at rest. The spindle is provided at its forward end with a loose collar or sleeve, by which it may be held and the tool guided, subjected to more or less pressure, and withdrawn after the completion of the boring operation.

Figure 1 represents a side view of my device; Fig. 2, a vertical central section through the same.

A represents a spindle, provided with external spiral threads or grooves of rapid pitch, and also provided at one end with a socket or chuck, B, of any desired form, to receive and hold the boring-tool or other instrument.

C represents a tubular sleeve or body, arranged to slide endwise over the spindle, and provided in its lower end with a nut or threaded surface, *b*, which engages with the spindle to rotate the same as the sleeve advances thereon. At its upper end the spindle has a head or collar, *c*, by which it is prevented from escaping from the sleeve. The upper end of the sleeve is provided with a head or knob, D, fixed firmly thereon, and also, below or in front of the same, with a second and loosely-revolving head, E, which may be secured in place by a collar, *d*, or in any other suitable manner. On the lower end of the spindle A there is secured a loosely-rotating sleeve or handle, F, of a size and form to be conveniently grasped by the operator.

In operating the device the operator, grasping the sleeve F in one hand, holds and steadies the instrument and directs the tool to the desired point. He then applies the pressure of his remaining hand or his body to the head D, and, holding the same against rotation, forces the same forward, causing the sleeve to slide over the spindle and impart thereto and to the tool a forward rotation. Relaxing his grasp upon the head D and drawing outward upon the head E, he causes the sleeve to slide outward to its original position, the sleeve, in so doing, revolving loosely in the head E and around the spindle, permitting the latter and the tool therein to remain at rest. It will be seen that in this manner the tool is driven intermittingly in one direction, instead of being turned alternately forward and backward.

By means of the non-rotating sleeve E the pressure may be applied and graduated and the tool guided with great nicety; but in the manufacture of cheap stocks for coarse work the sleeve may be omitted.

The sleeve may be applied by constructing the chucks separately from the spindle, with a neck inserted through the sleeve and pinned fast in a hole in the spindle, or any other equivalent construction employed.

While it is preferred to make use of the fast and loose heads on the sleeve, a single revolving head mounted loosely thereon, and connected thereto by a pawl and ratchet, could be employed, the pawl being in such case arranged to lock the parts together during the advance of the sleeve.

Having thus described my invention, what I claim is—

1. In combination with the spirally-threaded spindle or tool-holder, the external reciprocating sleeve and the two heads, one fast and the other loose upon the sleeve.

2. In combination with the threaded spindle or tool-carrier, the reciprocating sleeve exposed and adapted to be held against rotation by

hand, a loose head or handle applied to said sleeve, as described, whereby the sleeve may be retracted and permitted to revolve meanwhile upon the spindle.

3. The combination of the threaded spindle or tool-carrier, a reciprocating sleeve or body for rotating the same, and the loosely-rotating collar F, applied to the forward end of the spindle independent of the reciprocating sleeve.

4. The combination of the sleeve or body, the fast and loose handles, the threaded spindle, and the handle or collar loosely applied to the forward end of the spindle.

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