H. De L. BRIGHAM.

BENCH-DRILLS.

No. 195,085. Patented Sept. 11, 1877.

Fig. 1.

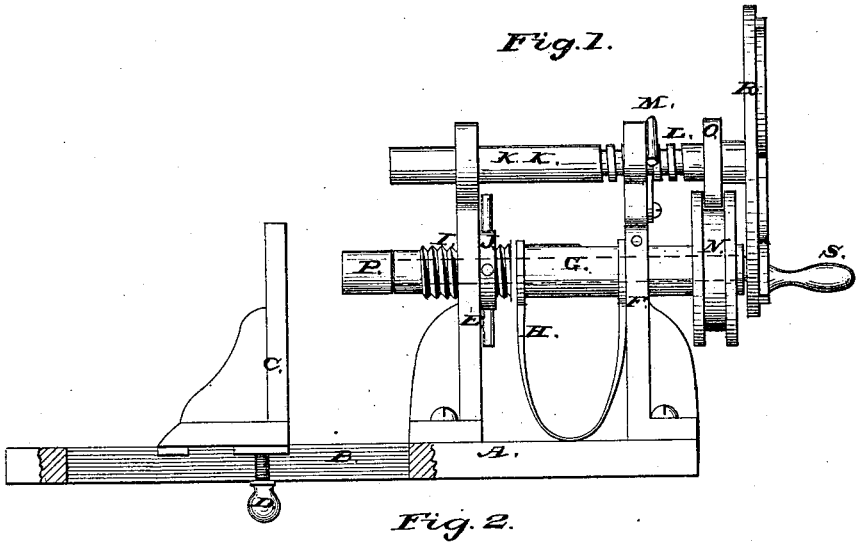
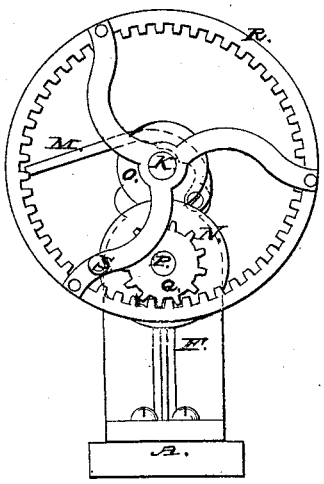


Fig. 2.



Attest:

H. M. Gale

A. J. Williams.

Inventor.

H. De Lacy Brigham

UNITED STATES PATENT OFFICE.

H. DE LANCY BRIGHAM, OF UNADILLA, NEW YORK.

IMPROVEMENT IN BENCH-DRILLS.

Specification forming part of Letters Patent No. **195,085**, dated September 11, 1877; application filed January 24, 1877.

To all whom it may concern:

Be it known that I, H. DE LANCY BRIGHAM, of Unadilla, county of Otsego, State of New York, have invented certain new and useful Improvements in Bench-Drills and Wood-Boring Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a side view of the invention. Fig. 2 is an end view of the same.

This invention relates to certain improvements in bench-drills and wood-boring machines operated by hand or any other power; and consists in the construction and arrangement of parts, all as will be hereinafter more fully described, and pointed out in the claim.

In the accompanying drawing similar letters of reference indicate like parts in the several figures.

A represents the bed-plate, provided at one end with the centrally-arranged slot B, in which is adapted to be fitted the sliding rest C, having a hand-screw, D, attached to the under part, so that the rest C may be adjusted and held in the desired position in the slot B by operating the said screw. To the rear of the bed-plate are secured the standards E and F, arranged at a suitable distance apart, and provided with bearings for the reception of the sleeve G, which is provided with a spring, H, adapted to furnish the desired feed for pressing the drill forward when in operation. The sleeve G is also provided with a screw-thread, I, upon which works the hand-wheel J in the rear of standard E, said wheel having a corresponding screw-thread inside the hub, which engages with the screw-thread I, so that when the wheel is turned to the right it presses against the standard E, thereby forcing the sleeve G back, carrying with it the spring H, thereby securing a ready and easy adjustment. The wheel J is used as a gage, also, to prevent the drill from punching through the metal or wood when the hole is nearly through.

K is a shaft at the upper ends of standards E and F, having its bearings therein. L represents a thread upon shaft K. M is a lever, passing over shaft K, fastened at the back and on the edge of standard F. By pressing lever M into thread L, and turning the main drive-wheel backward, it will be seen that ready and rapid adjustment of sleeve G and spring H is attained. N is a groove-wheel at the extreme end of sleeve G, and fastened thereto. O is a flange upon shaft K, working in a groove upon groove-wheel N, holding the gears in place and keeping them in mesh; also aiding to adjust the sleeve and spring, when lever M is brought into requisition for adjusting instead of hand-wheel J. P is the spindle passing through sleeve G, and in which the drill is set for operation. Q is a small pinion, fastened at the extreme and rear end of spindle P. R represents the main drive or inside gear wheel, working with and around pinion Q, and attached to shaft K at its extreme end, and by which the working mechanism is put in motion. S is the handle of drive-wheel R, by which drive-wheel R is propelled back or forward.

By this construction great speed and ready adjustment are attained; also, a self-feed and a self-controlling feed. What is meant by "self-controlling feed" is a feed that does not crowd the drill faster than it cuts, either in soft or hard metal, the same feed answering for both.

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

The sleeve G provided with the screw-thread I, wheel J, groove-wheel N, and spring H, in combination with the shaft K having the screw-thread L, and provided with the lever M, flange O, and driving-wheel R, the several parts being constructed, arranged, and combined to operate substantially as and for the purpose specified.

In witness whereof I have subscribed my name hereto in the presence of two witnesses this 1st day of January, 1877.

H. DE LANCY BRIGHAM.

Witnesses:

H. M. GATES,

A. J. WILLIAMS.