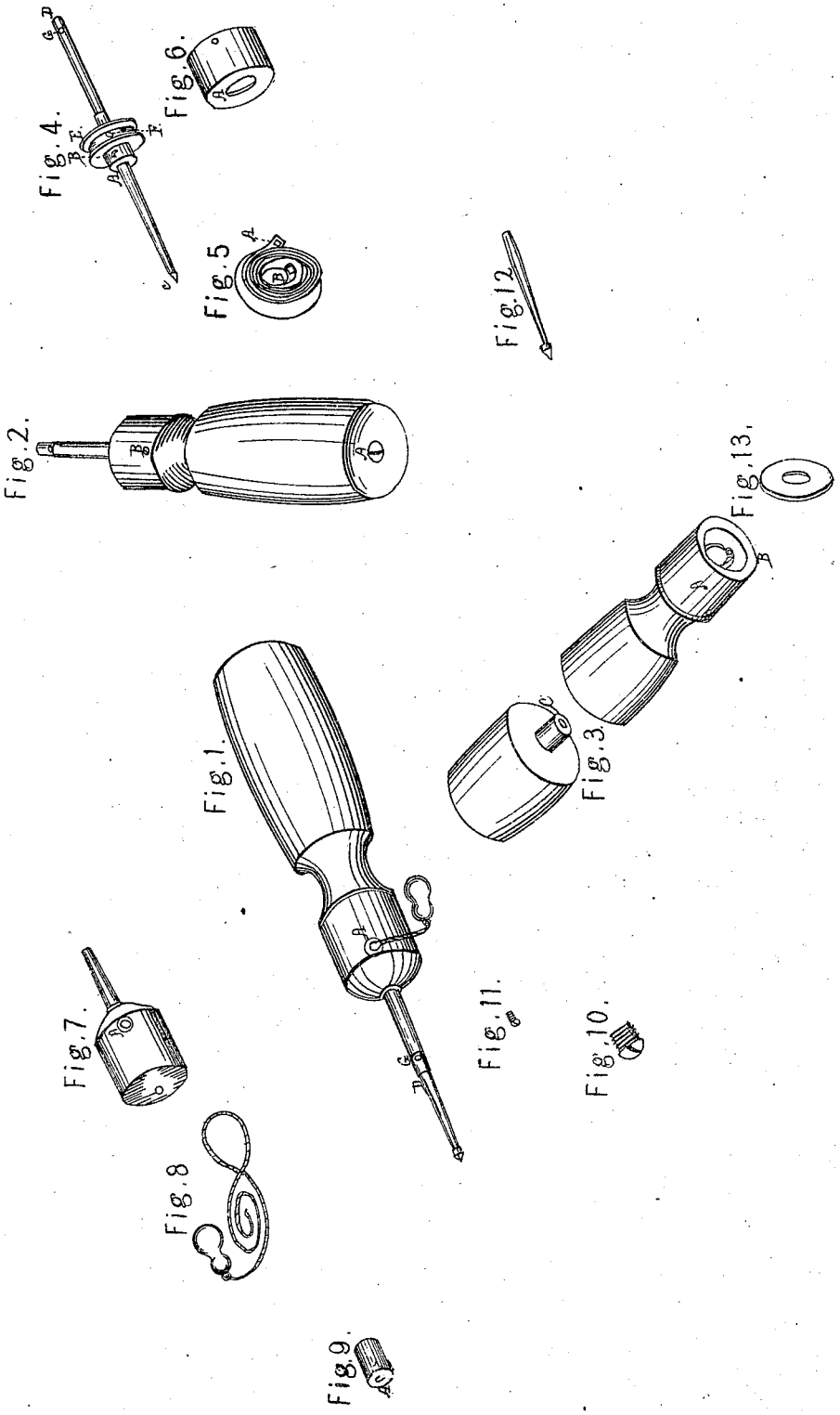
L. D. Walter.

Dentist's Drill.

No. 5,121. Patented May. 15. 1847.



UNITED STATES PATENT OFFICE.

L. D. WALTER, OF FORT PLAIN, NEW YORK, ASSIGNOR TO JOHN L. DAYTON AND S. KELLOGG.

DRILL FOR DENTISTS, &c.

Specification of Letters Patent No. 5,121, dated May 15, 1847.

To all whom it may concern:

Be it known that I, LORENZO D. WALTER, of Fort Plain, in the county of Montgomery and State of New York, have invented a new and useful Machine, called a "Spring-Drill," for the Use of Surgeons and Dental Practitioners and Also for Drilling Iron, Steel, Brass, Ivory, Wood, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a perspective view; Fig. 2, another view of the same; Fig. 3, a transverse section; Fig. 4, the drill stock, drum and arbor; Fig. 5, the mainspring; Fig. 6, the mainspring barrel; Fig. 7, the ferrule and sheath; Fig. 8, the string and knob by which the machine is worked; Fig. 9, the steel bed piece in which runs the pivot of the drill stock; Fig. 10, the screw which closes the magazine in the end of the handle; Fig. 11, the small screw which holds the ferrule upon the handle; Fig. 12, the drill point and Fig. 13 the head of the mainspring barrel.

The handle of the machine is made of ivory, wood, or any suitable material, of any convenient size or shape, with a hole drilled through it from end to end, for the admission of the bed piece, Fig. 9, and the pivot end of the drill stock Fig. 4.

The bed piece is situated about in the center of the handle, as seen letter C, Fig. 3, with a hole in the center of one end for the pivot of the drill stock to run in; see Fig. 9, letter A. Between the bed piece and the screw, Fig. 10, in the end of the handle is a space, or magazine, for containing drill points, see letter A Fig. 2. The mainspring barrel is made of brass, or other suitable metal see Fig. 6. It is fastened on to the end of the handle as seen in Fig. 3 letter A, by means of a rivet, which barrel incloses the mainspring Fig. 5. The head of the mainspring barrel has a hole in it, letter A to admit the arbor on the drill stock, Fig. 4, letter A. On the inside of the mainspring barrel is a small hook, similar to the hook letter B on the arbor, letter A, Fig. 4, on which the end of the mainspring letter A, Fig. 5, catches.

The mainspring, Fig. 5, is similar to the mainspring of a watch, of any convenient size, according to the use to which the machine is to be applied, is made of steel and has a hole in each end. The hole letter A, to fasten on to the hook in the mainspring barrel and the hole letter B to fasten on the hook letter B on the arbor letter A Fig. 4. It is coiled in the barrel as seen in Fig. 3, letter B.

The drill stock is made of steel, Fig. 4. On one end is the pivot letter C, which runs in the hole in the end of the bed piece Fig. 9. In the other end, is a hole, letter D, in which to insert the drill point, countersink, trepan, or any instrument requiring a rapid circular motion. On the drill stock is fastened the arbor letter A, and the drum, letter E. In the drum is a hole letter F, in which the string is fastened by a knot, which works the machine. The string winds on the drum, and the mainspring on the arbor. Near the end, of the drill stock is a hole letter G to admit an instrument to crowd out the drill point. The ferrule and sheath are made of silver, Fig. 7, and cover the mainspring barrel, drum, and a portion of the drill stock as far as the hole, letter G, Fig. 1. The sheath being to prevent the stock turning upon the lip when used in the mouth. In the ferrule is a hole letter A, through which runs the string with which the machine is worked.

Fig. 8 is the string and knob, the string is fastened on to the drum, Fig. 4, letter E, in the hole F, by the knot on the end of the string, and is wound on the drum, when the machine is not worked. The knob is of ivory or other substance, and has a hook in one end in which the other end of the string is fastened.

The screw, Fig. 11, fastens the ferrule upon the mainspring barrel as seen in Fig. 2 letter B. The drill point is made of steel as seen in Fig. 12, and is inserted in the end of the drill stock at letter D, Fig. 1.

Fig. 13, is the head of the mainspring barrel, which sets into the barrel and can be taken out at pleasure.

The operation of the machine is as follows: The string is fastened to the drum, as above described; the other end is passed through the hole in the ferrule and fastened to the knob. The end of the drill stock marked C, is then inserted into its place in the handle, with the pivot in the bed piece, the mainspring hooked on to the arbor and

the ferrule put in its place. The string, being unwound, is pulled through the hole in the ferrule its full length—then by holding the handle in the right hand and the ferrule in the left, keeping the ferrule stationary, and turning the handle toward the body, the string is wound upon the drum and the machine is ready for use. By pulling the string by the knob and letting the spring react the machine is worked. By turning the handle once, or partly, around, after the string is wound up, the spring is strained or wound around the arbor which gives the machine greater power.

What I claim as my invention and desire to secure by Letters Patent is—

The combination of the mainspring pulley and cord, with the drill, for the purposes of drilling, countersinking, trepanning, &c., substantially as herein described.

LORENZO D. WALTER.

Witnesses:

JAMES HYDE,

WM. N. PRINCE.