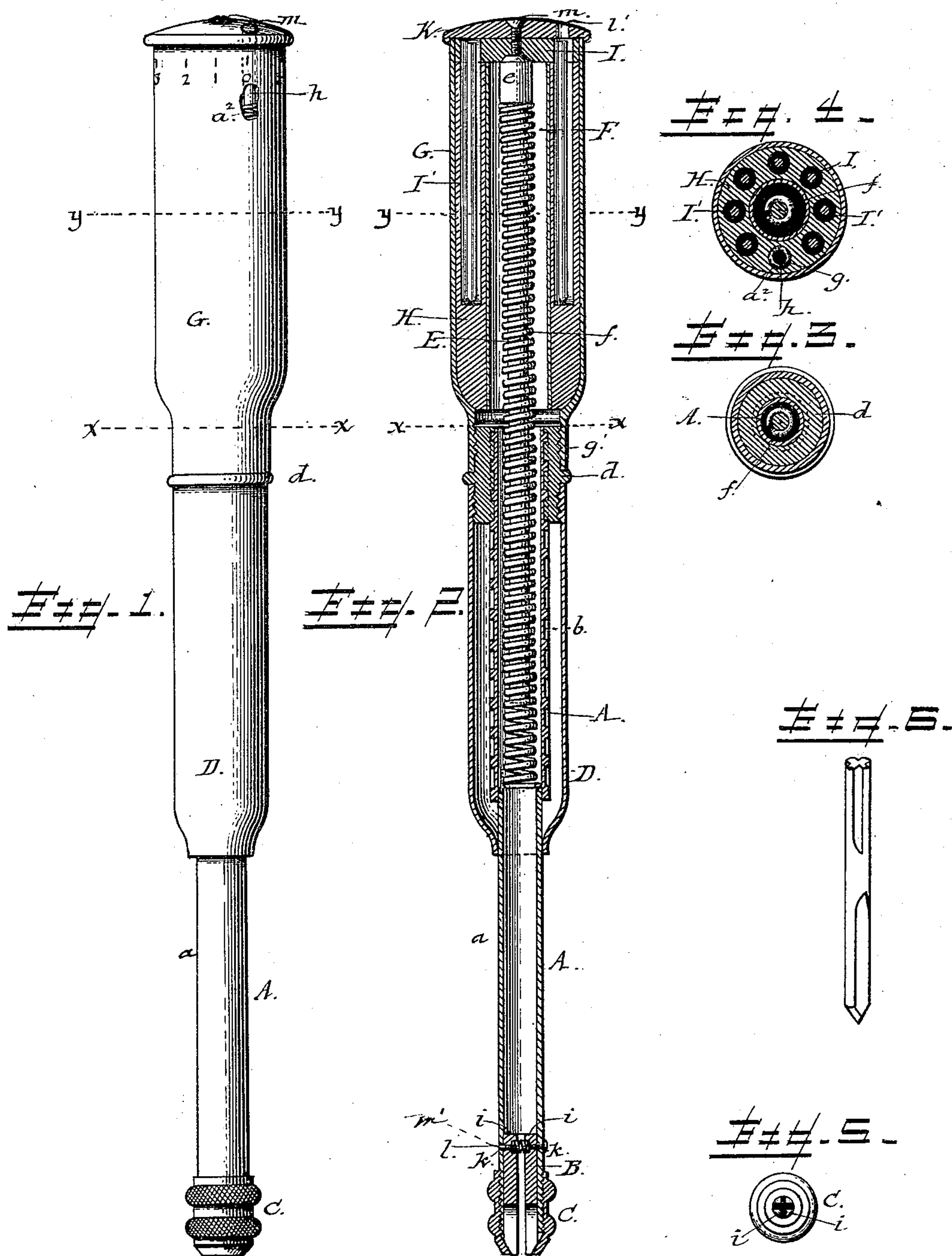


A. D. & H. E. GOODELL.
DRILLING TOOL.

Patented Nov. 17, 1891.



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UNITED STATES PATENT OFFICE.

ALBERT D. GOODELL AND HENRY E. GOODELL, OF SHELBURNE FALLS,
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DRILLING-TOOL.

SPECIFICATION forming part of Letters Patent No. 463,507, dated November 17, 1891.

Application filed January 29, 1891. Serial No. 379,539. (No model.)

To all whom it may concern:

Be it known that we, ALBERT D. GOODELL and HENRY E. GOODELL, citizens of the United States, residing at Shelburne Falls, in the
5 county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Drilling-Tools; and we do hereby declare the following to be a full, clear and exact description of the invention, such as
10 will enable others skilled in the art to which it appertains to make and use the same.

Our present invention relates to certain improvements in tools for drilling holes in wood and other materials of a like nature by the
15 exertion of pressure repeatedly upon the handle of the same to automatically revolve the bit. The invention, however, has to do more particularly with that portion of the tool which forms the holder for the drill-bits not
20 in use, and this in combination with the operating portion of the tool.

In the drawings illustrating our invention, Figure 1 is an elevation of the tool complete. Fig. 2 is a longitudinal section of the same.
25 Fig. 3 is a sectional view through the plane x of Figs. 1 and 2. Fig. 4 is a sectional view through the plane y of Figs. 1 and 2. Fig. 5 is an end view of the bit-holding device. Fig. 6 is an elevation of one of the drill-points.

30 Similar reference-letters in the drawings represent like parts in all of the figures.

Referring to the drawings, A is a tube, a part of the exterior of which is smooth, as at a , and the rest spirally ribbed, as at b , with
35 several threads. The smooth portion of the tube A has its end screw-threaded to receive a nut C, correspondingly screw-threaded and having a conical end. In one end of this tube A a clip B is inserted, and this clip, together
40 with the conical end nut C, serves to hold the bits used in drilling while work is being performed with them. The clip B is formed of two pieces i , each slotted in part and provided with holes k , and they are separated
45 when in position within the tube A by a spiral spring l , through which and the tube A passes a pin m .

C is the nut, which is to be screwed to place on the tube A to clamp the holding-clip upon
50 the bit to be used.

D is a cylindrical shell, which incloses the tube A in part, having at one end a disk d , with notches adapted to receive the threads of the tube A. The disk d is fixed to the shell D and causes the tube A to revolve when
55 said tube is pushed axially in either direction. A spindle E, having a head e to form a shoulder, has coiled about it a spiral spring f , one end of which is fixed in the tube A, while its opposite end bears against the shoulder formed by the head e of the said spindle E. The spindle E and spring f are inclosed in the shells of the tool and will be referred to hereinafter.
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The handle of the tool is preferably made
65 larger in diameter than the shell D, and is composed chiefly of three parts—viz., an inner metallic tube F, closed at one end, an outer metallic shell G, and an intermediate wooden body H, provided with cells longitudinally
70 formed therein. The shell G has an end g' of small diameter screw-threaded within and adapted to fit over the screw-threaded end of the nut of the shell D. A disk I, perforated in a line concentrically as to the axis with a
75 number of holes, is fitted and secured within the larger end of the shell G, and over this disk and shell is pivoted a cap K, provided with a single hole l' , coinciding with either of the holes in the disk I and cells of the wooden
80 body H. The cells I' of the wooden body form receptacles for the drill-bits, and one of them a^2 —a shallow one—receives a spiral spring g and a spindle or pin h , which rests on said spring. The cap K is secured to the disk I
85 by a screw m , which latter passes through said disk and forms its center of motion.

The several bits may be dropped into their respective cells in the wooden body as the cap K is revolved and the hole l' comes opposite
90 either of them. The head of the spindle or pin h is rounding, and the cap K when moved rides upon said pin, the latter returning to normal position, however, when the hole l' and it are coincident to lock the cap
95 and disk together over the cells I' .

The exterior of the shell G near its upper end is numbered or lettered to indicate the several bits inclosed within.

The several bits for the tool are cylindrical
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in general form and fluted on opposite sides to provide four cutting-edges and pointed at the end conically, while at the opposite ends of said bits rectangular grooves (four in number) are formed, corresponding with the angular formation of the splits in the jaws of the clip B, previously described.

In the operation of the tool pressure is exerted upon the handle against the tension of the spiral spring E, and as the tube A, with its spirally-threaded portion, passes through the nut *d* the bit in the lower end of the tool revolves, working its way into the material to be drilled. When the pressure is withdrawn from the handle, the spiral spring forces the tube A out and the drill is revolved in an opposite direction to clear the hole which is being formed. The movement of pushing and yielding is kept up until the hole is formed.

In the manufacture of our holders for the drill-bits we prefer to use the intermediate wooden body pierced with cells for the bits, so they may be completely separated from each other, although we may dispense with said wooden body and still have a good holder.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a drilling-tool with the shell G, of the wooden filling provided with longitudinal cells for the bits, the tube F, the disk I, cap K, having the hole *l'* coincident with the drill-cells, and screw *m*, as and for the purpose specified.

2. In a drilling-tool, the combination, with the tube A, of clips *i i*, inclosed in said tube, the spring between said clips, the pin passing centrally through said tubes, spring, and clips, and the nut C, as and for the purpose set forth.

3. The combination of the shell G, the wooden filling provided with cells, the tube F, disk I, cap K, with hole *l'* coincident with the drill-cells, screw *m*, the tube A, and shell D, all arranged substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ALBERT D. GOODELL.

HENRY E. GOODELL.

Witnesses:

ALEXANDER H. SWEET,

A. K. HAWKS.