No. 611,947. Patented Oct. 4, 1898.

W. H. SKINNER.

DRILLING TOOL.

(Application filed Jan. 5, 1897.)

(No Model.)

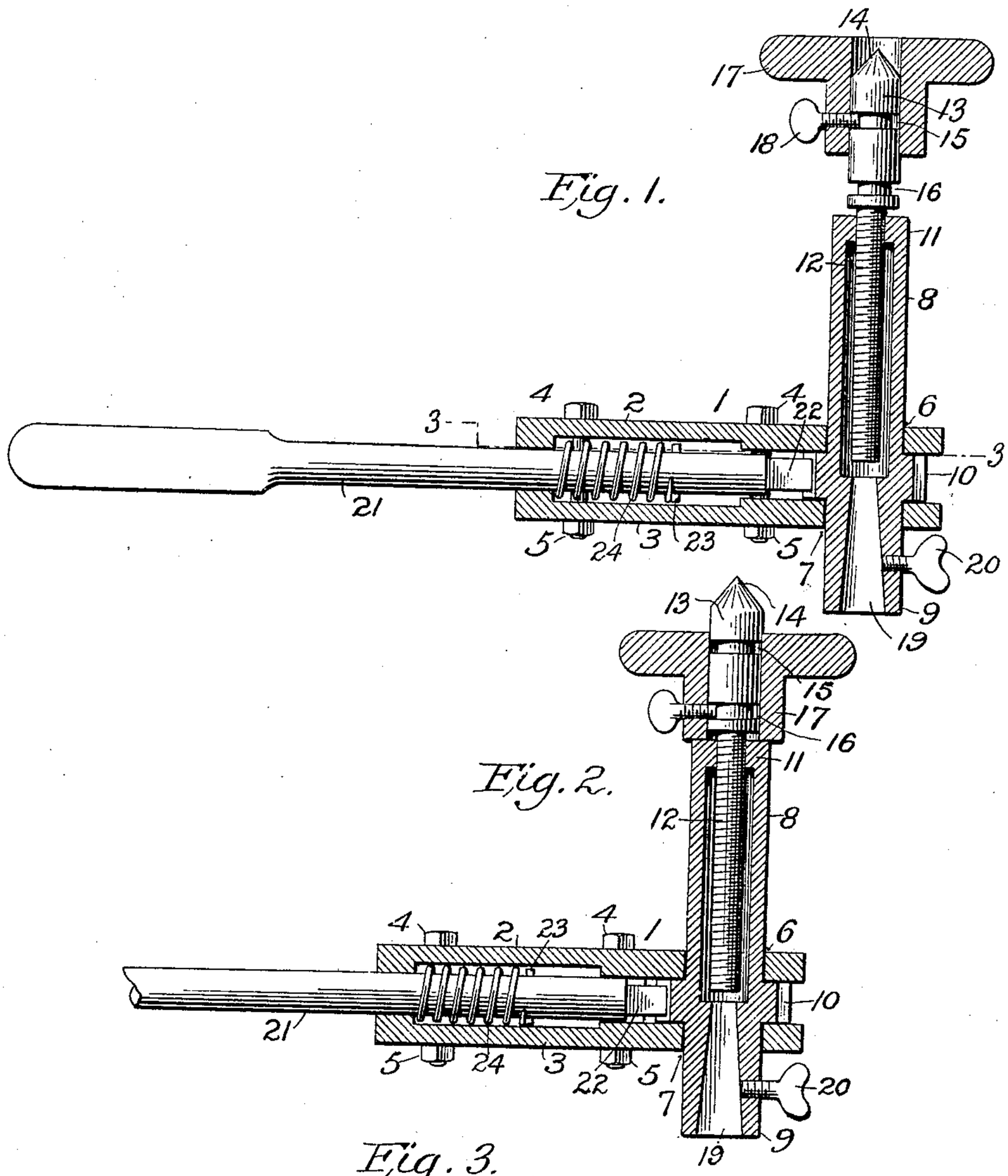

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES

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DRILLING-TOOL.

SPECIFICATION forming part of Letters Patent No. 611,947, dated October 4, 1898.

Application filed January 5, 1897. Serial No. 618,048. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY SKINNER, a citizen of the United States, residing at Darlington, in the parish of St. Helena and State of Louisiana, have invented certain new and useful Improvements in Drilling-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to drilling-tools, and has for its object the production of a tool of this character that will be equally efficient in wood and metal working.

With this end in view my invention consists in certain parts and combinations and arrangement of the same, which I shall first describe, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of my device with the parts adjusted for wood-boring. Fig. 2 is a similar view with the parts adjusted for metal-boring; and Fig. 3 is a horizontal section on the line 3 3, Fig. 1.

The casing 1 of my improved tool is formed of two plates 2 3, one above the other and fastened together by bolts 4 and nuts 5. At the forward end of the casing 1 it is provided with an opening extending through both plates 2 and 3, as at 6 7, and in such opening is fitted to rotate the bit-stock 9, held from longitudinal movement by a ratchet-wheel 10, with which it is preferably integral.

At its upper portion—that is, that portion which is above the upper plate 2, (designated 8 in the drawings)—the bit-stock 9 is hollow and at its end 11 is internally screw-threaded to receive the feed-screw 12, which latter is provided at its outer end with a centering-point 14 and with grooves 15 and 16 below said point. A cap 17, with a broad plane top, is fitted over the end of the feed-screw 12 and is provided with a set-screw 18, adapted to enter one of the grooves 15 and 16, for a purpose to be hereinafter described. At the end opposite the end 11 the bit-stock is provided with a polygonal socket 19 to receive the shank of an auger or drill, the said shank being secured therein by the screw 20.

An operating-handle 21 is inserted between the plates 2 3, in which it is free to rotate, and is formed at its forward end with a preferably integral pawl 22, held in engagement with the ratchet-wheel 10 by a coil-spring 24, confined within the casing between the rear end of the same and a stud 23 on the handle. As best seen in Fig. 3, the pawl 22 has one side straight and the other inclined, so as to enable it to slip over the teeth when the handle is moved in a negative direction.

Now it will be seen that by reason of the handle being mounted to rotate about its longitudinal axis in its bearings in the plates 2 and 3 it is enabled to effect a positive movement in either direction. In other words, it is only necessary to slightly retract the handle and rotate the same through an arc of one hundred and eighty degrees, so that the straight edge of the pawl will engage the opposite side of the ratchet-teeth to effect an opposite movement of the bit-stock.

In practice when it is desired to use the tool for boring wood the cap 17 is held to cover the centering-point 14 of the feed-screw by means of the set-screw 18 entering the upper groove 15, as shown in Fig. 1. When the parts are in this relative position, the cap 17 acts as a central bearing for the feed-screw. On the other hand, when the device is to be used as a metal-drill the centering-point 14 is unsheathed and the cap 17 held in the position shown in Fig. 2 by means of set-screw 18 entering the lower groove 16. In both cases—that is, whether in metal or wood working, in light or heavy work—the shank of the cutting-tool is received and held in the socket 19.

It will be seen that my invention consists of a highly-efficient device which can be used equally well in woodworking and metal-working and which is very simple in construction and operation.

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

1. The combination with the casing, the bit-

stock mounted to rotate therein and provided with a socket end, and means for operating said bit-stock, of the feed-screw fitted in the end of said bit-stock opposite the socket end and provided with a centering-point, a cap fitted over the end of said feed-screw and means substantially as described for holding said cap on the screw with the centering-point of the latter exposed or covered, as and for the purpose set forth.

2. The combination with the casing, the bit-stock mounted to rotate therein, and provided with a socket end, and means for operating said bit-stock, of the feed-screw fitted in the end of said bit opposite the socket end and provided with a centering-point and two grooves below said point, a cap fitted over the end of said feed-screw and a set-screw in said cap and adapted to enter either of said grooves to cover or expose the said centering-point, as set forth.

3. In a device of the character described, the combination with a casing provided with a revoluble handle having a pawl end, of a toothed wheel in engagement therewith, a bit-stock, a feed-screw engaging internal threads in the bit-stock and provided with a centering-point, a cap for said point, and means for adjusting said cap upon said point, as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM HENRY SKINNER.

Witnesses:
W. H. McCLENDON,
W. T. HOLLAND.