J. M. DUNLAP.

DRILL GAGE AND COUNTERSINK.

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1,279,302.

Patented Sept. 17, 1918.

Fig. 1.

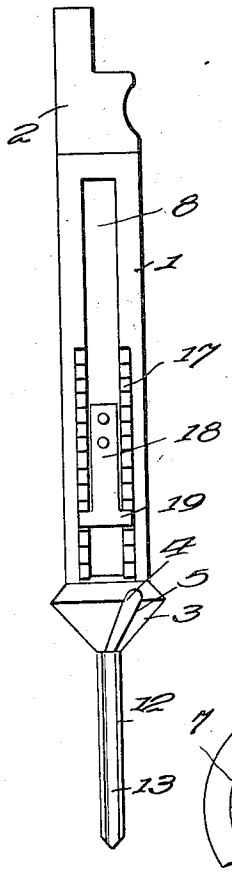


Fig. 2.



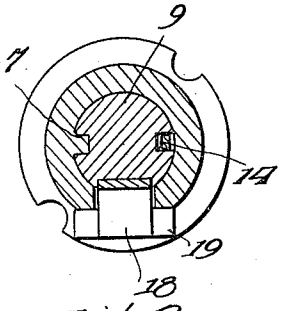


Fig. 3.

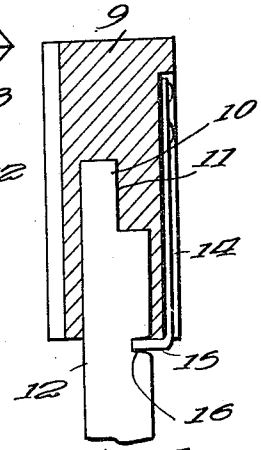


Fig. 4.

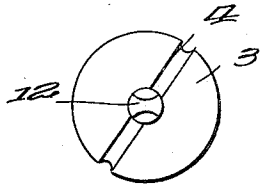


Fig. 5.

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DRILL-GAGE AND COUNTERSINK.

1,279,302. Specification of Letters Patent. Patented Sept. 17, 1918.

Application filed February 12, 1918. Serial No. 216,730.

To all whom it may concern:

Be it known that I, JESSE M. DUNLAP, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in Drill-Gages and Countersinks, of which the following is a specification.

This invention relates to new and useful improvements in drills, and the primary object of the invention is to provide a new and improved type of drill, that is slidably mounted within a holder and which is provided with means for locking said drill in various adjusted positions, whereby the projecting portion thereof may be varied according to the depth of the hole desired.

Another object of the invention is to provide a device of this character, which is provided with a holder having an adjustable drill mounted therein provided with means whereby its length may be varied, and a countersink attachment formed on the lower end of the drill, that forms the countersink at the same time that the hole is being bored.

A further object of the invention is to provide a device of this character which is easily and simply constructed, inexpensive to manufacture, and one which will be very efficient in operation.

With these and numerous other objects in view, my invention consists of the novel features of construction, combination and arrangement of parts which will be herein referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings:

Figure 1 is a side elevation of my new and improved drill with the attachment,

Fig. 2 is a similar view taken at right angles to the first view,

Fig. 3 is a horizontal section through the drill,

Fig. 4 is a vertical section through the lower portion of the drill showing the means for detachably connecting the drill with its engaging member, and

Fig. 5 is a bottom plan view of the device.

In describing my device, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views.

The numeral 1 designates a tubular holder which has positioned in the upper end thereof the conventional type of connecting means 2, which is ordinarily employed in drills of this character. The lower end of the holder 1 is enlarged, and tapered or cone shaped as shown at 3, the surface of the tapered portion being provided with screws 4 at opposite points, which have one edge thereof 5 forming a cutting edge. The extremity of the lower end of the groove is opened, so as the drill 6 may be mounted therethrough. Extending longitudinally along the holder 1 and projecting from the inner surface thereof, is a longitudinally extending rib 7 for a purpose to be hereinafter described. The holder 1 is provided with a longitudinally extending slot 8 through which the fastening means of the drill project.

Slidably mounted within the holder 1 is a drill engaging member 9 which has an open lower end 10 that is stepped as shown at 11, and which is adapted to receive the upper end of the drill 12. This drill projects through the bottom of the holder, and is provided on opposite sides with longitudinally extending grooves 13 as is common to this type of device. The drill is detachably held within the holder 9, by means of a spring 14 that is secured within this countersunk portion in the lower outer face of the holder 9, and which has its lower extremity bent laterally as shown at 15 and adapted to be positioned in a groove 16 in the drill. By this means the drill will be securely held in the holder, but if desired it may be detached therefrom.

The opposite faces of the holder adjacent the slot 8 at the lower end thereof are provided with teeth 17, and secured to the portion of the holder 9 that alines with the slot 8 is a flat spring 18, which has its lower end extending outwardly through the slot, and enlarged by projecting laterally at each side as shown at 19, said projecting portion being adapted for engagement with the teeth 17 to lock the drill engaging member in various adjusted positions.

When the various parts of this drill are assembled, as clearly shown in Figs. 1 and 2 of the drawings, the grooves in the drill 13 aline with the grooves 4 in the countersunk portion of the holder, for the purpose of which is obvious. The drill is operated in the usual manner, and bores the hole, as well as a countersink at the upper end thereof. The adjustable drill engaging member 9 within the holder 1, permits the length of drills projecting from the holder to be ad-

justed according to the depth of the hole desired to be drilled. This adjustment is easily made, by shifting the spring agent 18 and moving the holder, and consequently the drill to the desired position, whereupon upon releasing the spring the same will automatically engage with the teeth and any upward movement of the drill will be prevented. The drill is easily detachable from the holder, as the connection 2 at the top of the holder is removable, and the drill engaging member and drill may be taken from the device. This device forms a simple tool of this character for performing the two operations above described and the adjustability of the drill further enhances the value and increases the efficiency of a tool of this character.

The drill engaging member and the end of the holder may be so constructed as to receive the conventional type of drill head, and to connect with various types.

From the foregoing description of the construction, operation and advantages of my invention, it is thought that a clear and comprehensive understanding of the construction and advantages of this device will be had, and while I have described and shown a specific device, I desire that it be understood that such changes may be made in said structure as do not depart from the spirt and scope of the invention as claimed.

Having fully described my invention, what I claim is new, and desire to secure by Letters Patent, is:

1. A device of the class described including a tubular holder, a drill extending through the lower end of said holder, a drill engaging member slidably mounted within said holder, said holder having a longitudinally extending slot therein, teeth adjacent the opposite edges of said slot, a spring member carried by said holder and projecting through the slot, and lateral extensions on the lower end of said spring engageable with said teeth to prevent upward movement of the drill, but permitting its adjustment when said member is disengaged from the teeth.

2. A device of the class described including a tubular holder, a drill extending through the lower end thereof, a drill engaging member slidably mounted within said holder, means for detachably connecting the drill with the member, a longitudinally extending slot in said holder, means carried by the drill engaging member projecting through said slot for engaging the outer face of the holder to lock said member in various adjusted positions, and a countersink means formed on the lower end of said holder.

In testimony whereof I affix my signature hereto.

JESSE M. DUNLAP.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."