No. 635,999. Patented Oct. 31, 1899.

# A. C. GRUBER.

## DRILL GRINDER.

(Application filed July 14, 1899.)

(No Model.)

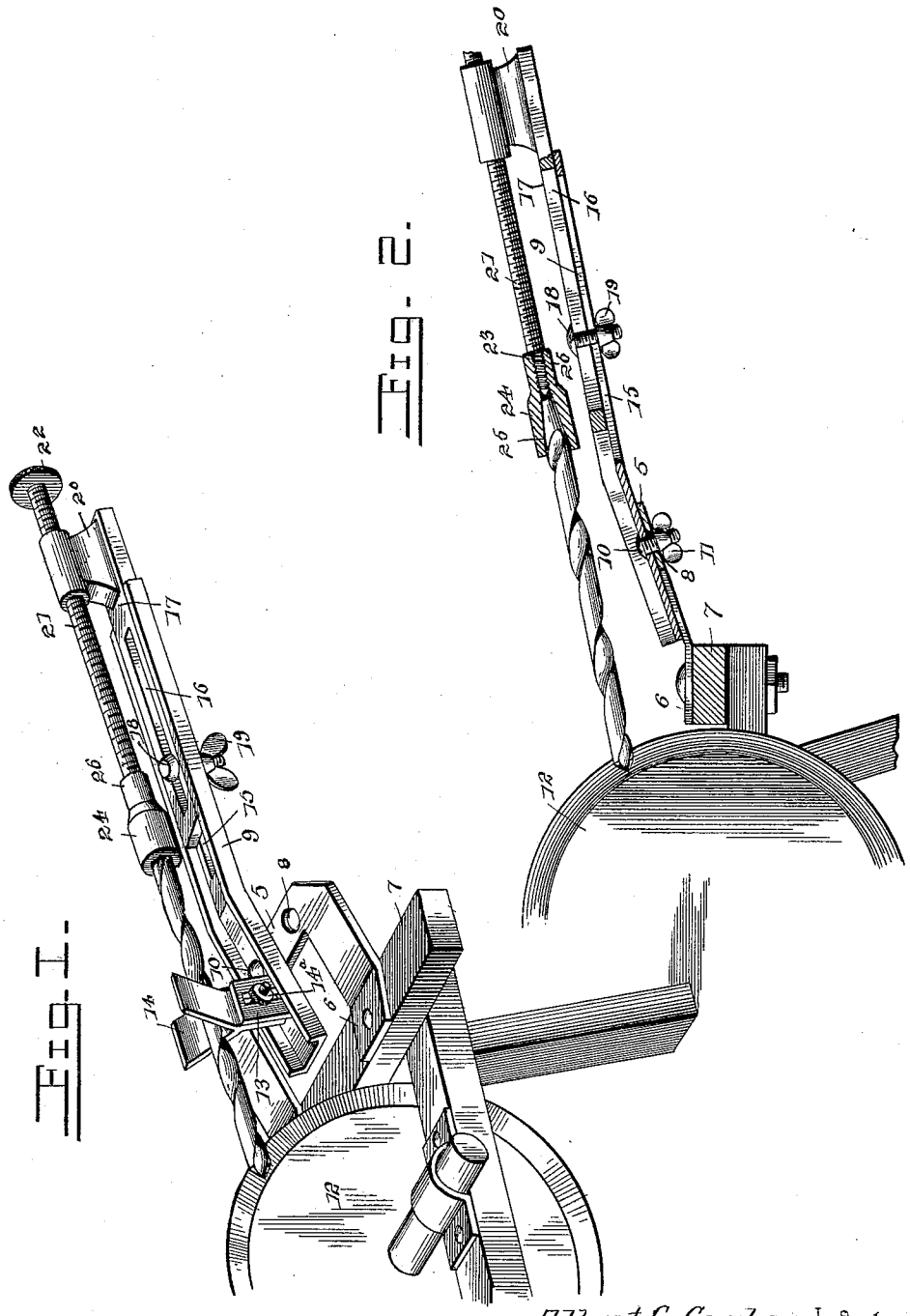


Fig. 1.



Fig. 2.

Witnesses
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# UNITED STATES PATENT OFFICE.

ALBERT C. GRUBER, OF WARREN, PENNSYLVANIA.

## DRILL-GRINDER.

SPECIFICATION forming part of Letters Patent No. 635,999, dated October 31, 1899.

Application filed July 14, 1899. Serial No. 723,798. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT C. GRUBER, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented a new and useful Drill-Grinder, of which the following is a specification.

This invention relates to means for holding a tool with respect to a grindstone during the operation of grinding, and more particularly to that class known as "twist-drill" grinders, the object of the invention being to provide a construction in which the drill may be held in proper relation to the grindstone.

In the drawings forming a portion of this specification, and in which like numerals of reference designate corresponding parts in both views, Figure 1 is a perspective view showing the holder applied to the frame of a grindstone and the position of a drill held thereby. Fig. 2 is a longitudinal section of a portion of the holder, other portions thereof being shown in elevation.

Referring now to the drawings, 5 represents a U-shaped plate, the extremities of the legs 6 of which are fastened upon the upper surface of a beam 7 of the grindstone-frame lying at right angles to the plane of movement of the stone and which beam forms an element of the usual style of wooden frame. The connected extremities of the legs 6, secured to the grindstone-frame, lie in a common horizontal plane, rearwardly of which the plate is bent upwardly at an angle of substantially forty degrees, the web of the plate lying in a common plane with the upwardly-bent portion of the legs.

The web of the plate 5 has a plurality of perforations 8 therein for the removable connection of a channel-iron 9, one end of which is bent downwardly at an angle and is provided with a perforation through which is passed a bolt 10, adapted to enter one of the perforations 8, and in which it is held through the medium of a winged nut 11. By removal of this nut the iron 9 may be adjusted both pivotally and transversely of the plate 5 to lie at different angles to the plane of rotation of a stone 12, rotatably mounted in the frame comprising the beam 7.

Connected to or formed integral with the downwardly-bent end of the iron 9, which lies adjacent the stone 12, is a slotted ear 13, through which is passed a clamping-bolt 14, adapted to adjustably hold to said ear a Y-shaped rest 14, through a perforation in the stem of which said bolt is passed. The converging members of the rest 14 are adapted to conjointly support a drill during the grinding operation.

The rear end of the iron 9 is provided with a longitudinal slot 15, coöperating with which is a similar slot 16 in a slide 17, mounted between the upturned edges of the iron 9, and through which slots is passed a clamping-bolt 18, having a winged clamping-nut 19, through the medium of which the slide may be clamped in an adjusted position with respect to the iron 9.

Upon the outer end of the slide 17 is formed or secured a stock 20, having a threaded perforation therein through which is passed a screw 21, having a milled adjusting-head 22 at its outer end. The inner end of the screw 21—that is, the end adjacent the stone—is reduced in diameter, as shown at 23, and is screw-threaded to receive the correspondingly-threaded diminished opening at the rear end of a chuck 24 and which latter has in its opposite end a frusto-conical recess 25, terminating at its outer end in a cylindrical extension 26. This frusto-conical recess is adapted to receive pressure of the rear end of the stem of a drill when the latter has no center and when the said drill is lying in the rest 14, as shown in the drawings. After the drill has been thus adjusted the rest is adjusted with respect to the ear 13 to bring the drill into axial alinement with the chuck, and the screw 21 is then manipulated to press the cutting edge of the drill into engagement with the stone and to hold it in this position.

When operating upon a drill which has a center therein, the chuck 24 is removed and the conical extremity of the diminished portion of the screw 21 is brought to lie in said center.

In order that this apparatus may be employed in connection with stones of different shapes and in order that the drill may be held at different angles to the plane of rotation of the stone, the adjustable connection between the iron 9 and the plate 5 is provided, and it will be seen that by manipulation of the ad-

justing means the drill may be presented to either the face or the side of a stone, as desired.

It will of course be understood that in practice the proportions of the parts and the material employed will be optional and also that the adjustable connection of the slide 17 with the iron 9 enables the adjustment of the device to receive and operatively hold drills of different lengths.

Having thus described the invention, what is claimed is—

1. A device of the class described comprising a U-shaped plate adapted for attachment to the frame of a stone, a channel-iron connected with the plate, a chuck carried by the plate and movable with respect thereto, and a rest within the inclosure of the channel-iron and adapted for adjustment with respect thereto to hold the body in axial alinement with the chuck.

2. A device of the class described comprising a U-shaped supporting-plate adapted for attachment to a stone-frame, a channel-iron adjustably connected with the plate, a slide mounted within the inclosure of the channel-iron, a chuck carried by the slide and adjustable with respect thereto and movable therewith with respect to the channel-iron and a rest carried by the channel-iron and adapted for adjustment to support a body in axial alinement with the chuck.

3. A device of the class described comprising a U-shaped supporting-plate having its ends bent at an angle thereto and adapted for attachment to the frame of the stone, a channel-iron adjustably connected with the plate, a slide mounted within the inclosure of the channel-iron and adapted for adjustment with respect thereto, a stop mounted upon the slide, a screw mounted in the stop and having an operating-wheel, a chuck carried by the screw and a rest carried by the channel-iron and adapted for adjustment to aline with the chuck.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT C. GRUBER.

Witnesses:

CHAS. DINSMORE,

E. H. BESHLIN.