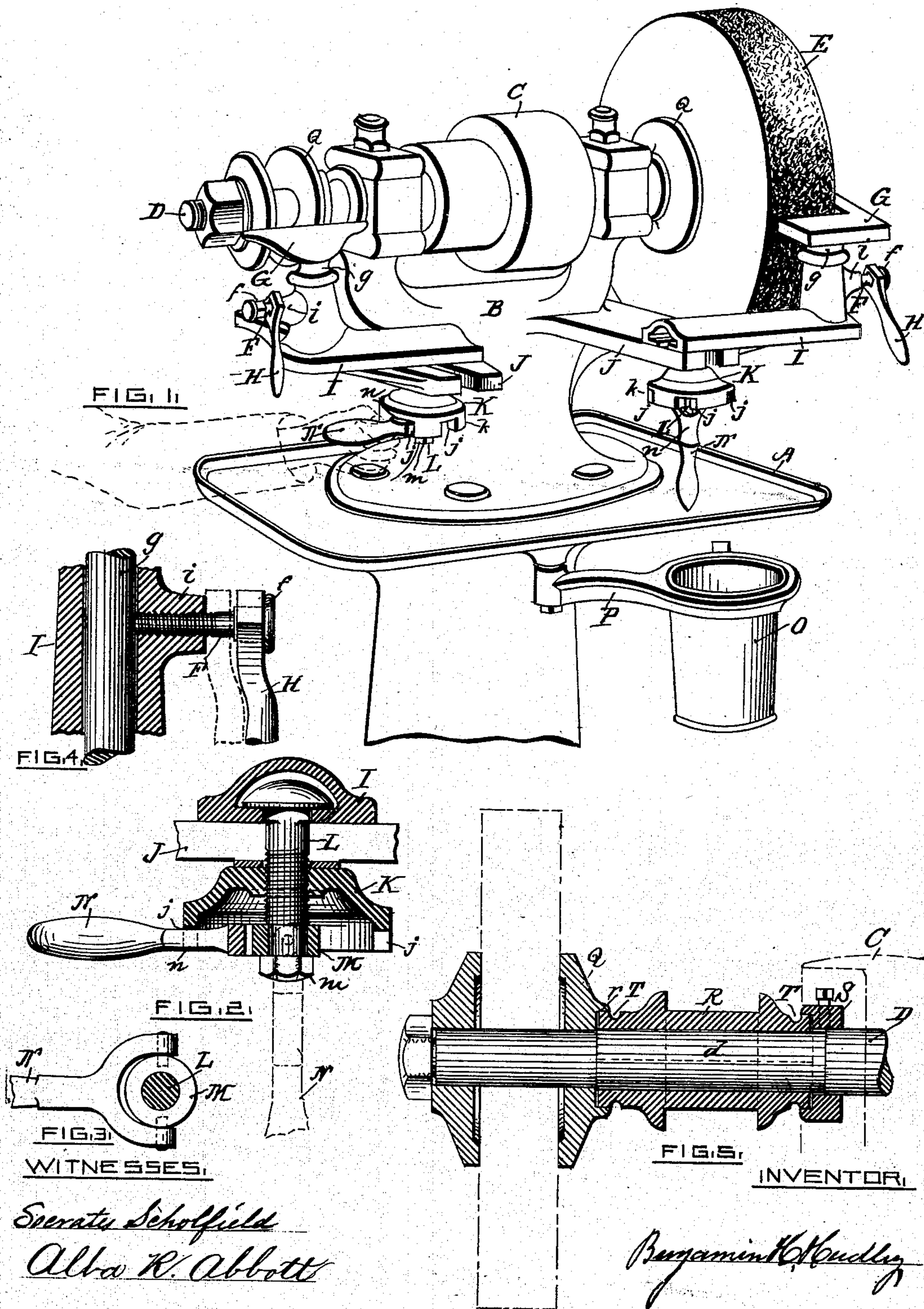


(No Model.)

B. H. HADLEY.  
EMERY GRINDER.

No. 261,848.

Patented Aug. 1, 1882.





# UNITED STATES PATENT OFFICE.

BENJAMIN H. HADLEY, OF PROVIDENCE, RHODE ISLAND.

## EMERY-GRINDER.

SPECIFICATION forming part of Letters Patent No. 261,848, dated August 1, 1882.

Application filed April 5, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN H. HADLEY, of Providence, in the State of Rhode Island, have invented an Improvement in Emery-Grinders, of which the following is a specification.

My invention consists in an improvement in the journal-boxes whereby the dust and loosened emery is prevented from reaching the bearings, and also in improvements in the devices for securing the rest to the bracket of the grinder-frame, as hereinafter fully set forth.

Figure 1 represents a perspective view of the grinder; and Figs. 2, 3, 4, and 5 are detail views, illustrating my improvements.

In the drawings, A represents the table; B, the grinder-frame attached to the table; C, the driving-pulley secured to the shaft D, and E the emery-wheel.

In operating the set-screw F, which serves to secure the rest G at the desired elevation in the rest-holder I, I employ a wrench, H, so arranged relatively to the head *f* of the screw that when the shank *g* of the rest is held by the point of the screw, as shown in the section, Fig. 4, there will be sufficient room between the head of the screw and the hub *i* of the rest-holder I to allow the wrench to hang vertically from the shank of the screw, and allow the wrench, when in this position, as shown by the dotted lines in the figure, and held in the same vertical plane, to be turned over and over around the screw without acting to turn the screw in either direction; and the head of the screw is so constructed that the wrench, when brought outward upon the head, will be prevented from outward removal therefrom, and will be retained in proper position for turning the screw in either direction, as desired. The advantages of this improvement are that the wrench cannot be lost or misplaced, and is always in position for ready use, and after it has been used upon the head of the screw may be passed to a pendent position on the shank of the screw, so as to be wholly out of the way and free from accident. The enlargement which serves to retain the wrench from outward removal from the head of the screw may be produced in a variety of ways—as, for instance, the head of the screw may be made in the form of

a truncated pyramid, the outer portion of the head being its base, the wrench being correspondingly constructed to fit the head, or a shoulder may be formed upon the head, as shown in the drawings, or even a pin passed through an elongated head to prevent the outward movement of the wrench may be employed.

The rest-holder I is secured to the slotted bracket J of the grinder-frame by means of the nut K, provided with a downward-turned flange, *k*, in which are cut the notches *j* at regular intervals.

Upon the lower end of the holding-screw L is loosely fitted a collar, M, held between a shoulder upon the screw and the nut *m*, and to the collar M is pivoted the hand-lever N, as shown in Fig. 3. The hand-lever may thus be carried to any desired point around the screw, and when not in use will drop to a pendent position, as shown in Fig. 1, and by the dotted lines in Fig. 2.

To use the hand-lever N for the purpose of tightening or loosening the nut K the lever is to be brought from its normal pendent position to a position in which its shank *n* will be made to occupy one of the notches *j* in the flange of the nut, as shown in Figs. 1 and 2. The nut may now be turned by means of the lever to a convenient extent, and the lever may be then depressed, so as to pass out of the notch of the nut and be brought back and elevated into another of the notches, and this operation may be continuously repeated until the desired movement of the nut is effected, and my above-described improvement provides conveniently-operated powerful means for securing the rest-holder firmly to the bracket in any required position.

The water-cup O, necessarily employed in connection with an emery-grinder when grinding tempered tools, is held by an arm, P, pivoted under the table A, so that when not in use the water-cup may be swung back under the table A, and be there protected from accident and from grinding dust or emery, which tends in a short time to foul the water in the cup and render it undesirable for use, and the described method of supporting the cup for convenient accessibility and protection when not



in use is a highly desirable improvement in emery-grinders, tending to cleanliness in the use of such machines.

In order to still further improve the machine  
5 by preventing the emery-dust from reaching the surface of the journal-bearings *d* of the shaft D, I provide a recess, *r*, at the back of the fixed collar Q, as shown in Fig. 5, to receive the outer end of the journal-box R, and  
10 at the inner end of the journal-box I provide a recessed collar, S, held upon the shaft by means of a set-screw, and within the hollowed end of the pulley C, and I also provide a circumferential groove or depression, T, around  
15 the ends of the journal-box in line with the projecting flanges of the collars Q and S, which grooves, in conjunction with the recesses of the collars, serve to prevent the entrance of the fine grinding-dust at the ends of the journal-  
20 boxes so as to reach the bearing-surfaces of the journals. The end wear of the journal-box may be readily taken up by moving the collar S as required.

I claim as my invention—

1. In an emery-grinder, the combination of 25 the journal-box, provided with the circumferential grooves, with the recessed collars, one made fixed upon the shaft and the other made movable thereon, substantially as and for the purpose specified.

2. In an emery-grinder, the combination of 30 the rest-holder and rest-holding bracket with the fastening-bolt, the pivoted lever loosely secured to the bolt, and the notched nut, substantially as described.

3. In an emery-grinder, the combination of 35 the rest-holder and rest-holding bracket, the pivoted lever loosely secured to the fastening-bolt, and the notched nut, with the rest, the rest-holding screw, and the loose pendent 40 wrench, all arranged substantially as described.

BENJAMIN H. HADLEY.

Witnesses:

SOCRATES SCHOLFIELD,  
HARMON S. BABCOCK.