

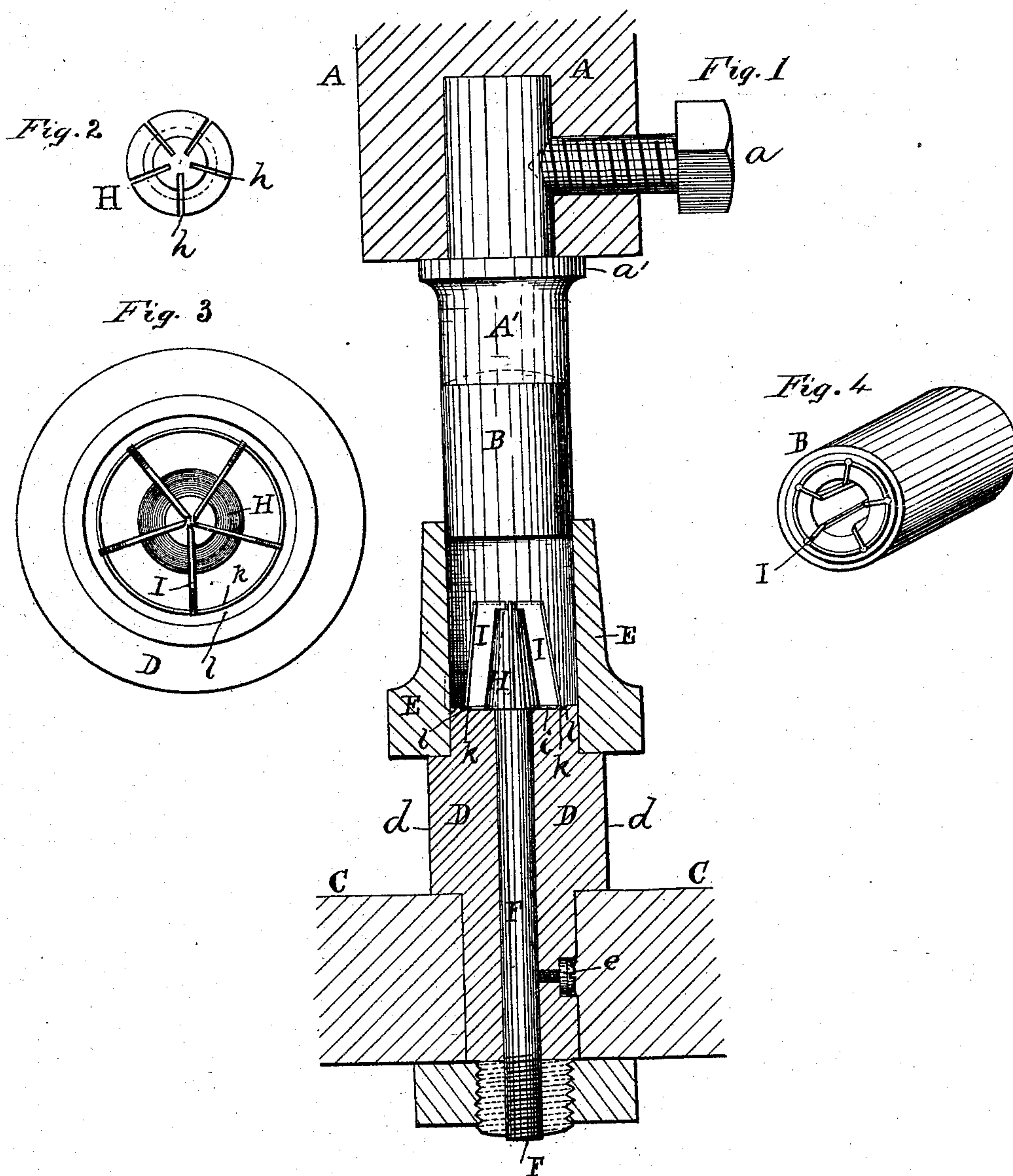
(No Model.)

F. RHEYDT.

Machine for Making Slate Pencil Sharpeners.

No. 235,815.

Patented Dec. 21, 1880.



WITNESSES

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# UNITED STATES PATENT OFFICE.

FERDINAND RHEYDT, OF CHICAGO, ILLINOIS.

## MACHINE FOR MAKING SLATE-PENCIL SHARPENERS.

SPECIFICATION forming part of Letters Patent No. 235,815, dated December 21, 1880.

Application filed June 16, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND RHEYDT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Machine for Making Slate-Pencil Sharpeners, of which the following is a specification.

My invention relates to machines for setting and securing a series of knife-blades radially in a hollow cylinder of wood, so that the straight cutting-edges of said blades will converge from their forward to their rear ends to adapt them for pointing or sharpening a slate-pencil or other similar instrument; and the object of my invention is to provide means for holding said knife-blades in their proper relative position to each other and to the hollow cylinder while forcing the cylinder upon the blades to set them in its walls; second, to provide means for clinching the blades in the cylinder simultaneously with setting them; and, finally, to provide means for preventing the cylinder from splitting while setting and securing the blades. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical and partly sectional view of my invention, showing its attachment to the stock and bed-plate of an ordinary press, such as is used in stamping out metals. Fig. 2 is a plan view of the radially-grooved mandrel for holding the knife-blades. Fig. 3 is a plan view of my device with the plunger removed, and Fig. 4 a perspective of the slate-pencil sharpener when finished.

Similar letters refer to similar parts throughout the several views.

A represents the stock of an ordinary press, provided with a set-screw, *a*, and receiving a plunger, A', having a shoulder, *a'*, and concave upon its end, as indicated in dotted line in Fig. 1, to conform to the end of cylinder B of the sharpener.

C is the bed-plate of the press, and D a cylindrical anvil passing through and seated in said plate by means of a collar or shoulder, *d*, which also supports a collar or ring, E, fitting loosely upon the shoulder, and extending above the face of the anvil D a distance slightly in excess of the length of the sharpener-cylinder. This ring E is of sufficient diameter to

permit the cylinder B and plunger A' to move freely but not loosely in same when seating the blades.

The anvil D is provided with a longitudinal perforation to receive a mandrel, F, which is held in position by a set-screw, *e*, passing through the anvil and pressing upon the mandrel, and terminates at its upper end in a cone, H, the base of which rests upon the anvil. Cone H is provided with a series of radial grooves, *h*, the rear walls of which are parallel with the face of the cone, as indicated in dotted line in Fig. 1, said grooves being of sufficient size to receive a corresponding series of knife-blades, I, having parallel faces and sides, but beveled upon their inner side to form a cutting-edge. The anvil D is slightly depressed at the center of its face at *i*, said depression being surrounded by a raised annulus or ring, *k*, which, in turn, is surrounded by a corresponding depression, *l*, the purpose of which will hereinafter be fully explained.

In operating my device the ring E is removed from the anvil, and the blades I are then placed in the grooves of the cone, in the position shown in Fig. 1, with their backs outward, when the ring is returned to its original position. I then place the hollow cylinder of wood B in the ring E, and, depressing the plunger upon the same, force the backs of the blades in the walls of the cylinder, as shown in Fig. 4. As the lower ends of the blades rest upon the ring *k* the pressure of the cylinder upon the blades will cause the ring to press out and form a projection or stud upon the blades, which projection will, when the sharpener is in use, prevent the blade from being pressed farther into the cylinder by the pressure exerted when sharpening the pencil, or from becoming loosened or misplaced by constant use, the ring E serving to prevent the spreading, and consequently splitting, of the cylinder as the blades are being forced into it.

After the operation above described the plunger is withdrawn, the ring removed, and the cylinder with the attached blades withdrawn from the cone in a condition for immediate use.

Although I have shown the cone as provided for five blades, it is obvious that by having a

greater or less number there would be no substantial departure from my invention.

So, also, the anvil D may be dispensed with and the mandrel passed through the bed-plate, or the cone be directly secured to said plate with the ring E resting upon the same, although I consider the present arrangement as most convenient.

Having thus described my invention, what I claim is—

1. The combination hereinbefore set forth of the plunger, the radially-grooved cone receiving the knife-blades, and the removable collar or ring.

2. The combination, with the plunger and with the radially-grooved cone, of the anvil

provided with annular depressions and with a raised ring, substantially as and for the purpose described.

3. The combination, with the plunger, the radially-grooved cone, and the anvil having the depressions and ring, of the removable ring E, substantially as and for the purpose set forth.

4. The combination, with the plunger and with the removable ring or collar, of the anvil, the mandrel, and the grooved cone.

FERDINAND RHEYDT.

Witnesses:

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