

No. 687,063.

Patented Nov. 19, 1901.

T. H. PROSKE.
SHARPENING MACHINE FOR DRILL BITS.

(Application filed Nov. 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.

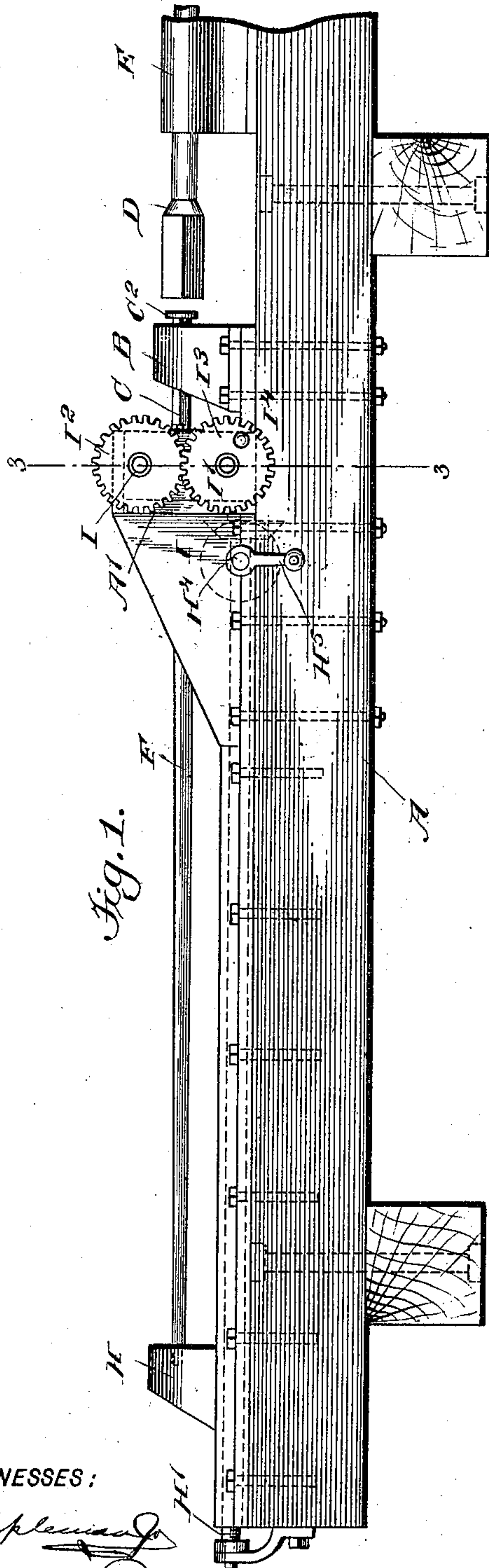


Fig. 1.

Fig. 8.

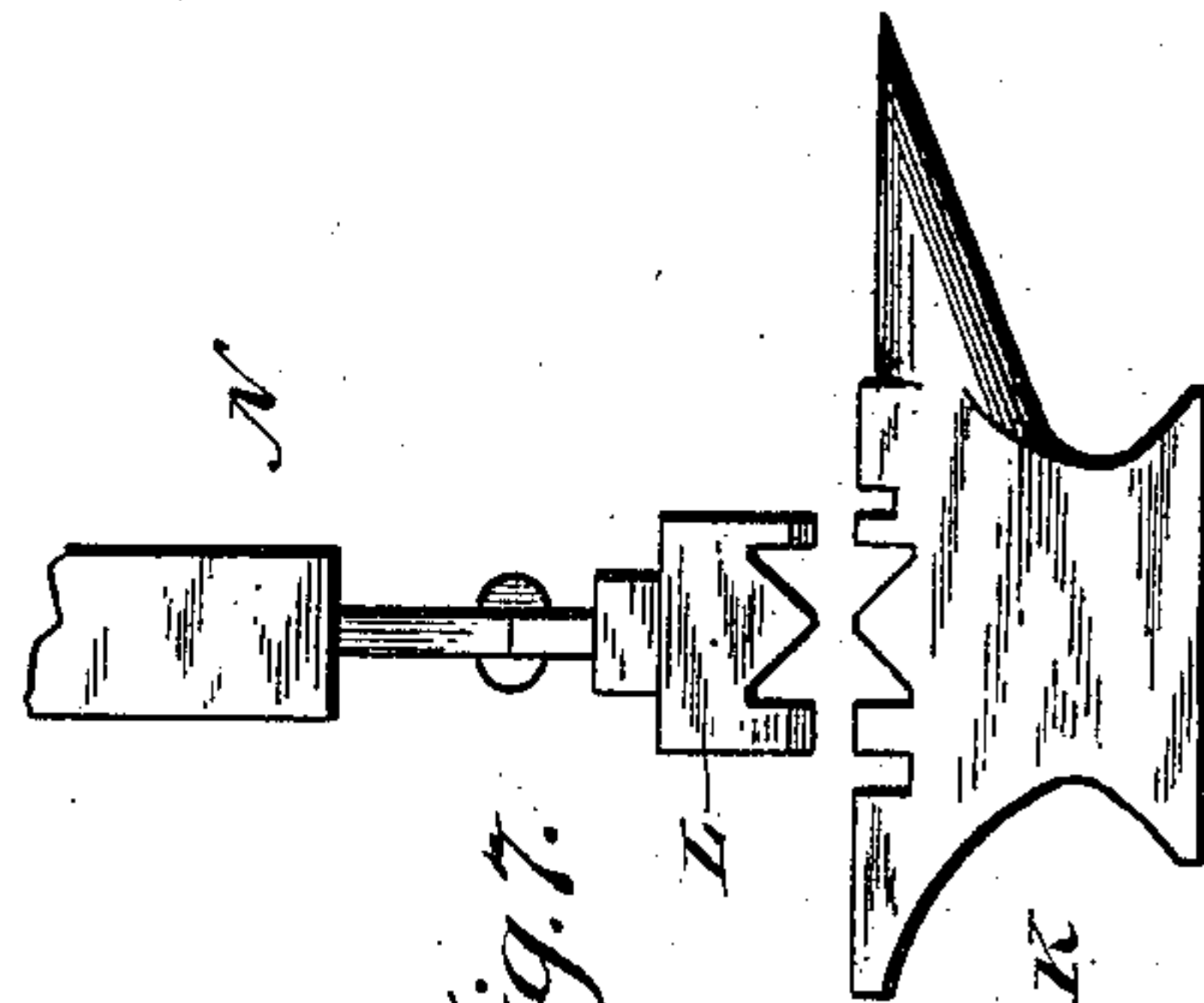


Fig. 7.

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Fig. 6.

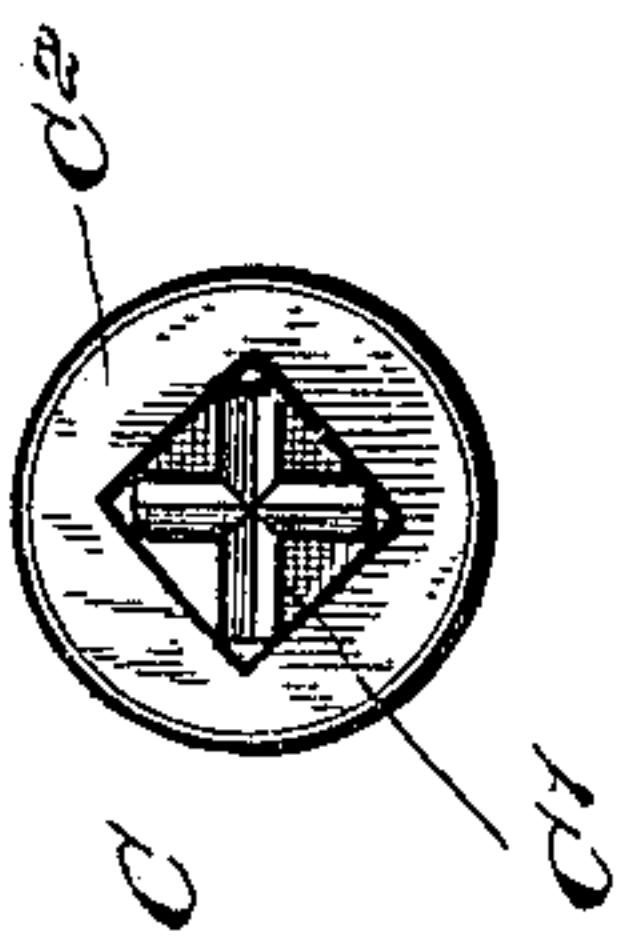


Fig. 5.

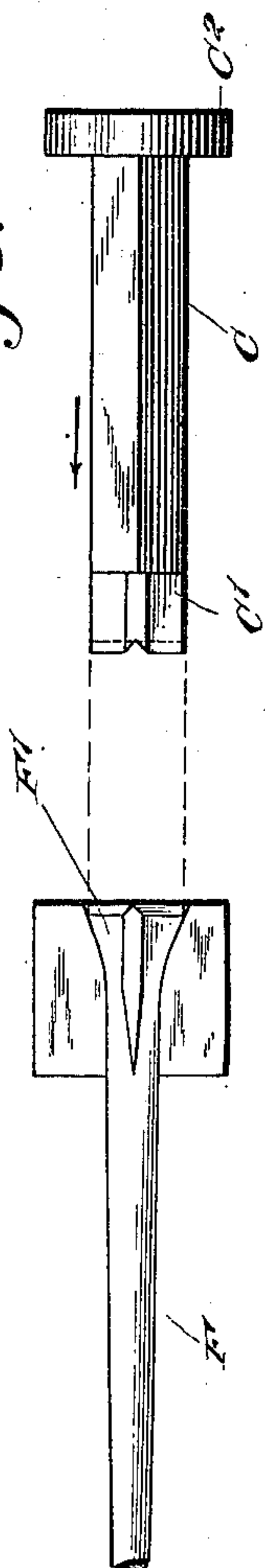


Fig. 4. A

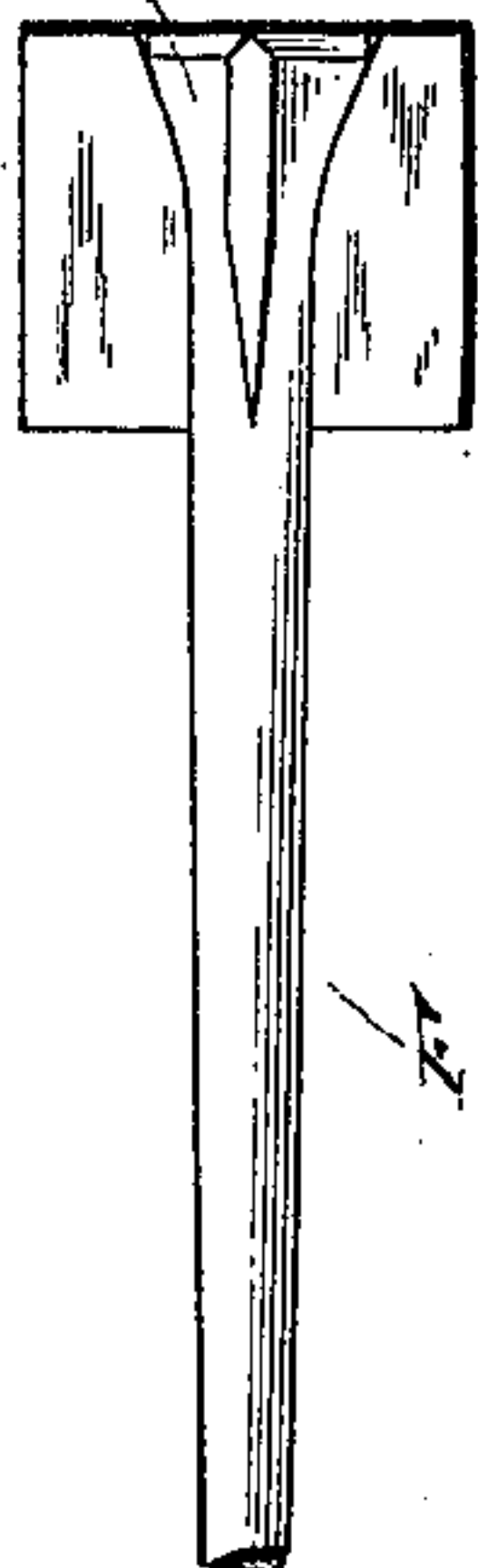


Fig. 2.

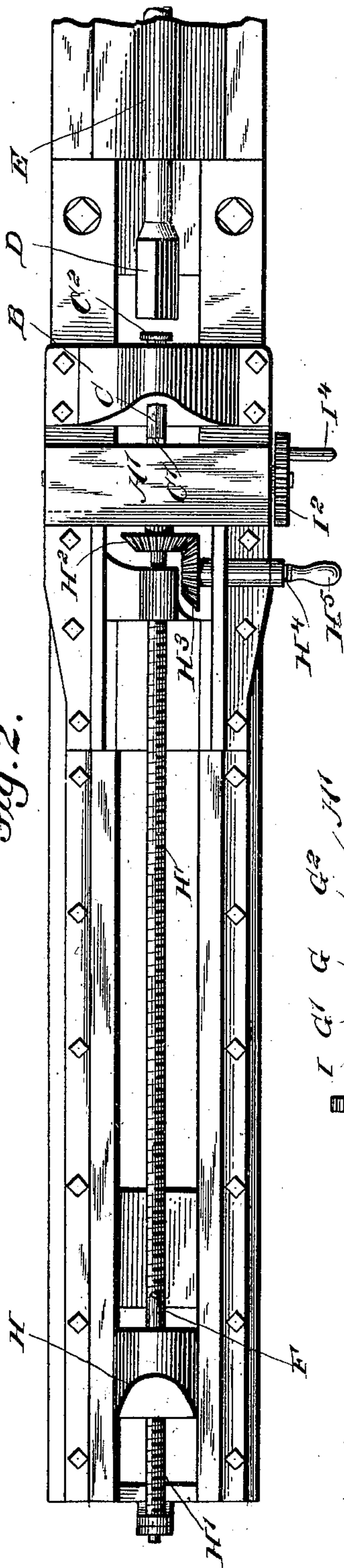
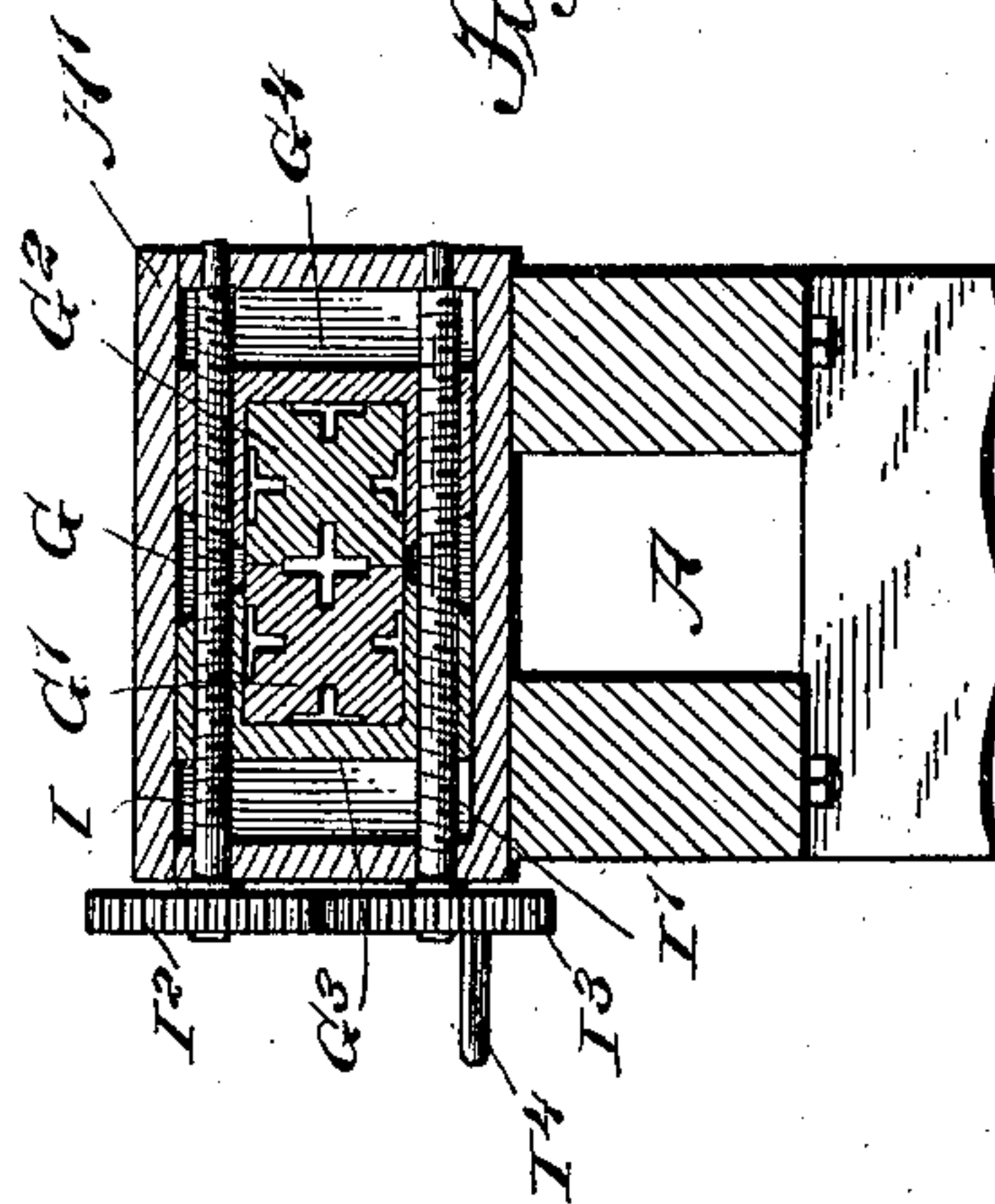


Fig. 3.



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UNITED STATES PATENT OFFICE.

THEODORE HIRAM PROSKE, OF VICTOR, COLORADO, ASSIGNOR OF
ONE-HALF TO HERBERT C. COLBURN, OF VICTOR, COLORADO.

SHARPENING-MACHINE FOR DRILL-BITS.

SPECIFICATION forming part of Letters Patent No. 687,063, dated November 19, 1901.

Application filed November 21, 1900. Serial No. 37,215. (No model.)

To all whom it may concern:

Be it known that I, THEODORE HIRAM PROSKE, a citizen of the United States, and a resident of Victor, in the county of Teller and State of Colorado, have invented a new and Improved Sharpening-Machine for Drill-Bits, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved sharpening-machine for quickly and accurately fashioning and sharpening the bits of machine-drills and other drills, the sharpening-machine being simple and durable in construction, little liable to get out of order, easily manipulated, and arranged to permit sharpening of drill-bits of various sizes.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement with a drill in position to be sharpened. Fig. 2 is a plan view of the same with the drill broken out. Fig. 3 is a transverse section of the same on the line 3 3 in Fig. 1. Fig. 4 is an enlarged side elevation of a section of the anvil-die with the drill-bit in position. Fig. 5 is an enlarged side elevation of the dolly. Fig. 6 is an end view of the same. Fig. 7 is a side elevation of the device for trimming the drill-bit prior to fastening and sharpening it, and Fig. 8 is an end elevation of the same.

The improved sharpening-machine is mounted on a suitably-constructed frame A, supporting a guide B, upon which a dolly C is loosely mounted to slide in a longitudinal direction, said dolly having a die end C', corresponding to the shape of the bit to be sharpened, the dolly also having a head C², adapted to be engaged by a reciprocating striker, such as the drill-chuck D of a drilling-machine of any approved construction, for imparting blows to the dolly C to fashion and sharpen the drill-bit, as hereinafter more

fully described. The shank of the chuck D is mounted to slide in suitable bearings E, attached to the frame A, which also supports the rest of the drilling-machine. (Not shown.)

The bit F' of the drill F to be fashioned or sharpened is placed into an anvil-die G, while the end of the drill-shank rests in an abutment H, mounted to slide longitudinally in suitable bearings carried on the frame A. The die G is preferably made in sections G' G², held in boxes G³ G⁴, respectively, mounted to slide transversely in guideways A', attached to the frame A. The boxes G³ G⁴ are engaged by screw-rods I I', each having right and left hand threads, so that upon turning said screw-rods the boxes G³ G⁴ are simultaneously moved toward or from each other to close or open the die-sections G' G².

In order to rotate the screw-rods I I' in use, I provide their outer ends with gear-wheels I² I³, in mesh with each other, the gear-wheel I³ carrying a crank-arm I⁴ under the control of the operator. When the crank-arm is turned in one direction, the die-sections G' G² are moved apart to open the die for the insertion of the bit, and when the crank-arm is turned in the opposite direction the die-sections G' G² close to hold the bit securely in position during the time the die end C' of the dolly strikes the end of the bit, and thereby fashions the same according to the die G and at the same time sharpens the edges of the bit.

The abutment H is engaged by a feed-screw H', journaled in suitable bearings on the frame A and carrying a bevel gear-wheel H², in mesh with a bevel gear-wheel H³, secured on a shaft H⁴, mounted to turn in suitable bearings arranged on the frame A adjacent to the bearing A'. On the outer end of the shaft H⁴ is arranged a crank-arm H⁵ under the control of the operator to turn the shaft H⁴ and transmit its rotary motion by the gear-wheels H³ H² to the feed-screw H', so that the abutment H is moved toward or from the die G, according to the length of the drill under treatment at the time.

Prior to fashioning and sharpening the drill it is necessary that the same be trimmed, and for this purpose an anvil K is provided, over

which operates a die L, connected with the reciprocating piston-rod of a drilling-machine to move the die L toward or from said anvil K and cut the drill-bit prior to placing it into the anvil-die G. It is understood that the drill is heated previously to trimming the same at the anvil K and the die L, and while it is still in a hot condition it is placed in the anvil-die G and acted upon by the dolly, as previously described, to give the desired shape and sharp cutting edges to the drill-bit.

The die-sections G^1 G^2 are preferably made square in cross-section, with part of a die on each face, and the die parts being of different sizes, so that when the sections G^1 G^2 are adjusted in the boxes G^3 G^4 , the die can be used for receiving drill-bits of various sizes. (See Fig. 3.)

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A sharpening-machine for drill-bits, comprising a frame, dies carried thereby and adapted to hold a bit, mechanism for striking blows upon the bit while held in the dies, a slide movable lengthwise and adapted to hold the shank of the bit, a longitudinal screw journaled in stationary bearings and engaging said slide, and means for turning the screw.

2. A machine for sharpening bits, comprising a frame, a pair of dies for holding one

end of the bit, means for actuating the dies, a dolly for forming the face of the bit, means for actuating the dolly, a movable abutment for engaging the other end of the bit, and mechanism, controllable at will, for actuating said movable abutment into engagement with bits of different lengths.

3. A machine for sharpening bits, comprising a frame, dies for holding one end of the bit, means for forming the face of the bit, an abutment slidably mounted upon the frame for engaging the other end of the bit, and a manually-operated screw for moving said abutment at will.

4. A machine for sharpening bits, comprising a frame, dies for holding one end of the bit, means for forming the face of the bit, an abutment slidably mounted upon the frame and movable longitudinally thereof, a screw extending longitudinally of the frame for actuating said abutment, a manually-operated crank member at right angles to said screw, and bevel-gears connecting said screw and said crank member.

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

THEODORE HIRAM PROSKE.

Witnesses:

T. B. JONES,

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