No. 858,558. PATENTED JULY 2, 1907.

W. A. BEASON.

PENCIL SHARPENER.

APPLICATION FILED NOV. 13, 1906.

Fig. 1.

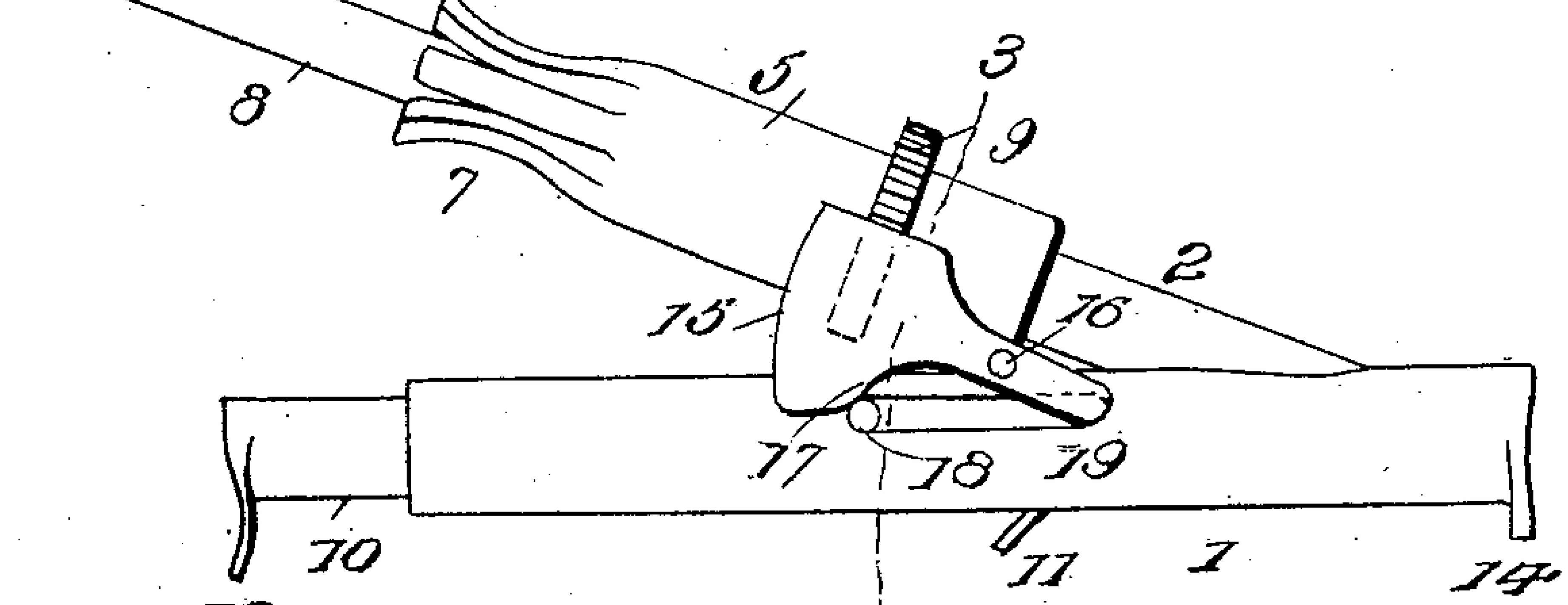


Fig. 2.

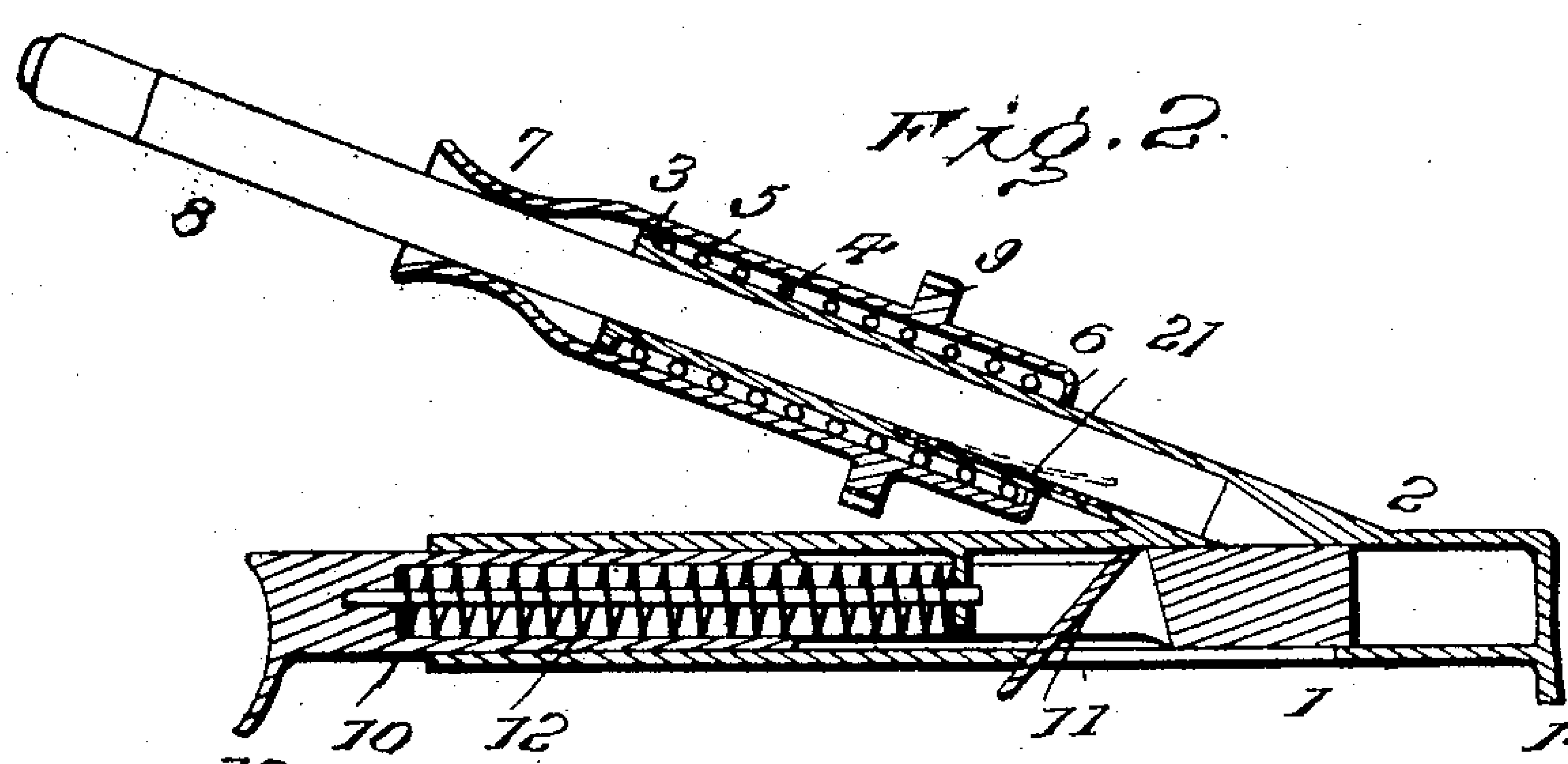
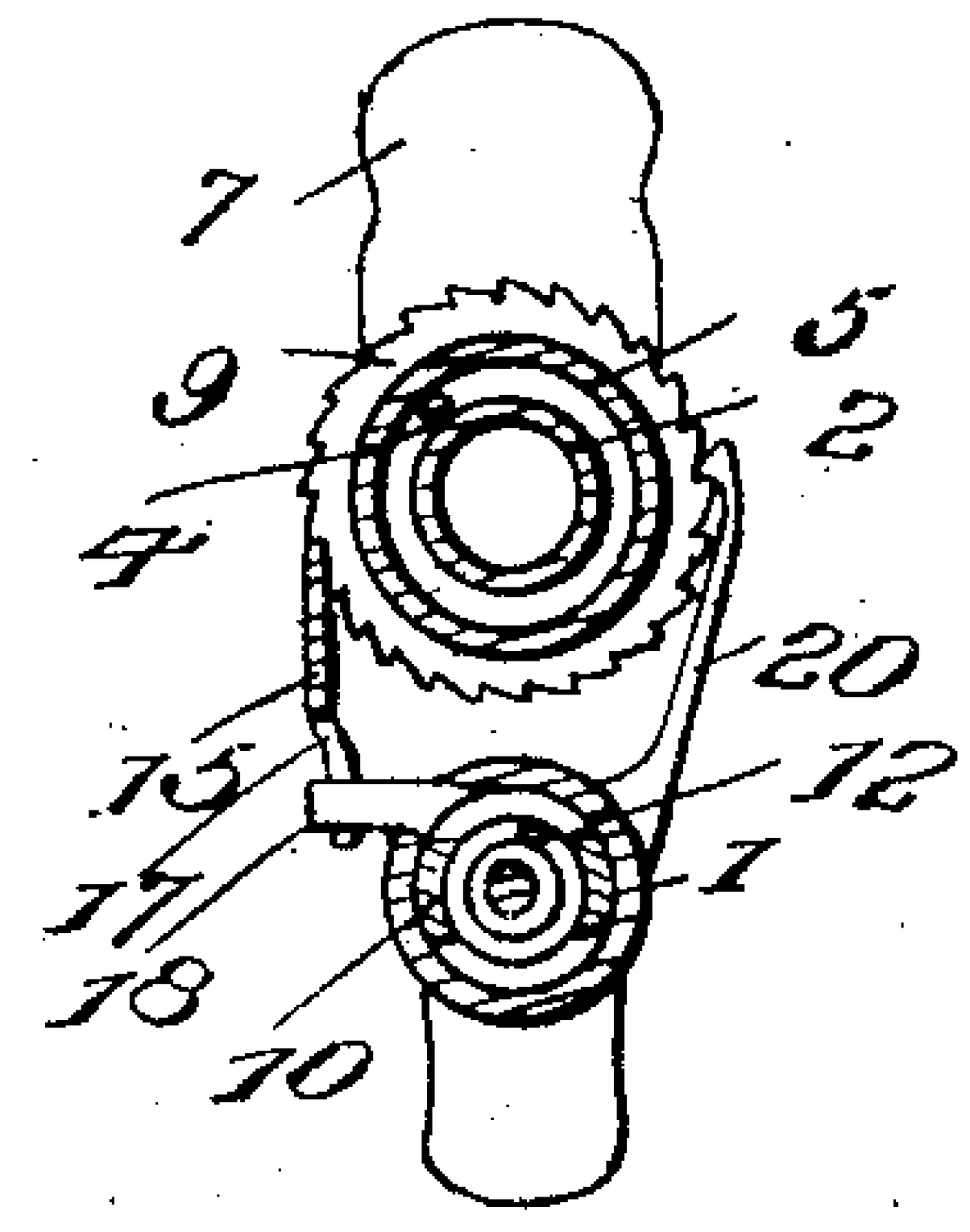


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM A. BEASON, OF ASHVILLE, ALABAMA.

PENCIL-SHARPENER.

No. 858,558. Specification of Letters Patent. Patented July 2, 1907.

Application filed November 13, 1906. Serial No. 343,229.

To all whom it may concern:

Be it known that I, WILLIAM A. BEASON, a citizen of the United States, residing at Ashville, in the county of St. Clair and State of Alabama, have invented certain new and useful Improvements in Pencil-Sharpeners, of which the following is a specification.

This invention relates to means for pointing pencils, the same embodying a reciprocating cutting mechanism and a feed mechanism for turning the pencil at each stroke of the cutter so as to bring a new part in position for removal of a shaving or cutting in the pointing operation.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side view of a pencil sharpener embodying the invention. Fig. 2 is a central longitudinal section of the device. Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The sharpener comprises a frame, which is adapted to receive the pencil to be pointed and the cutting, and feed mechanisms. The frame comprises a longitudinal portion 1, and an inclined portion 2, both parts being hollow. The inclined portion 2 is preferably of circular form in transverse section, so as to snugly receive the usual pencil, and is provided at its outer end with an offstanding flange 3 against which the outer end of a coil spring 4 abuts. A sleeve 5 is loosely fitted upon the tubular portion 2 of the frame, and is adapted both to turn and to slide thereon, and is provided at its inner end with a flange 6 forming an abutment for the inner end of the spring 4. The outer end of the sleeve 5 is provided with a series of grippers 7, which are adapted to take a firm hold of the pencil 8, and which form an integral part of the sleeve 5. The spring 4 is of the coil type, and is mounted upon the tubular portion 2 and is inclosed within the sleeve 5, being confined between the outer flange 3 and the inner flange 6 and normally pressing the sleeve 5 inward upon the part 2. Ratchet teeth 9 are provided around the sleeve 5 and may be a part thereof, or formed separate therefrom and secured to the sleeve in any convenient and substantial way.

A slide 10 is mounted to reciprocate within the longitudinal portion 1 of the frame, and is provided near its inner end with a cutter 11, which projects slightly, so as to engage with a portion of the pencil 8 and remove a shaving therefrom as the slide is pressed inward. The spring 12 normally presses the slide 10 so as to return it and the cutter to a normal position after the slide has been pressed inward and released from the compressive force. The spring 12 is of the expansible coil type, and is interposed between projecting parts of the slide 10 and part 1 of the frame. The finger rests 13 and 14 are provided at the outer ends of respectively, the slide and the frame, the rest 13 adapted to provide a purchase for the thumb, and the rest 14 to provide a purchase for the fore-finger of the hand.

A feed dog 15 is arranged upon one side of the frame, and is pivoted at 16 thereto, and one end thereof is arranged to coöperate with the ratchet teeth 9 so as to effect a turning of the sleeve 5 and the pencil 8 fitted thereto in the operation of the sharpener. The feed dog 15 has its outer portion formed with a cam edge 17, which projects across the path of a pin 18, which in the outward movement of the slide causes the dog to move and impart a partial rotation to the sleeve 5. The pin 18 projects from the slide 10 and moves therewith. The inner end 19 of the dog, is adapted to project across the path of the pin 18 so as to return the dog to normal position. It will thus be observed that the dog is positively actuated at each movement of the slide 10.

In the operation of the device the pencil 8 to be sharpened is pressed into the outer gripping portion of the sleeve 5 and enters the tubular part 2 of the frame, the sleeve 5 being drawn outward so as to press the spring 4 with the result that said spring normally tends to move the sleeve 5 inward, and to advance the pencil as the sharpening progresses. The grippers 7 are of such construction as to take a firm hold of the pencil and prevent slipping thereof and insure movement of the pencil with the sleeve both in the rotation of the sleeve, and in the forward movement thereof in the operation of the device. After the pencil 8 has been properly positioned, the slide 10 is moved inward, thereby carrying the cutter 11 across the inner end of the pencil with the result that a shaving is removed therefrom. Upon removal of the pressure from the slide, the spring 12 regaining itself returns the slide to normal position and the pin 18 coming in contact with the cam portion 17 of the feed dog 15 effects a partial rotation of the sleeve 5 and the pencil 8 carried thereby so as to bring a new portion of the pencil in position for the next operation of the cutter upon pressing the slide 10 inward. For convenience the device when in operation is gripped between the thumb and fore-finger of the hand, pressure being alternately exerted upon the slide by contraction of the thumb and fore-finger as will be readily comprehended.

A detent pawl 20 coöperates with the ratchet teeth 9 to prevent backward rotation of the sleeve 5 when the slide is moved forward to advance the cutter. In the event of the pencil 8 being of less diameter than the tubular portion 2 of the frame, the same is held against upward displacement by means of a spring 21, arranged within the part 2. Said spring normally ex-

erts a pressure laterally against the pencil to hold it against the upper side of the part 2, hence upon forward movement of the cutter a shaving is removed from the pencil as will be readily understood.

Having thus described the invention, what is claimed as new is:

1. In a pencil sharpener, the combination of a pencil holder, a reciprocating cutting mechanism, a spring coöperating with the pencil holder to normally advance the same and the pencil held thereby, a feed mechanism for intermittently rotating the pencil holder and actuated by the reciprocating movements of the cutting mechanism.

2. In a pencil sharpener, the combination of a reciprocating cutting mechanism, a tubular frame member, a sleeve mounted upon the tubular frame member and adapted to move longitudinally and rotatably thereon and provided with means for gripping a pencil, a spring interposed between said sleeve, a tubular member to normally press the sleeve forward and advance the pencil as the sharpening progresses, ratchet teeth surrounding the sleeve, and a dog for coöperation with the ratchet teeth, and adapted to oscillate by the reciprocating movements of the cutting mechanism to effect intermittent rotation of the sleeve and the pencil carried thereby.

3. In a pencil sharpener, the combination of a reciprocating cutting mechanism, a tubular member arranged relatively at an angle to the cutting mechanism, pencil holding means mounted upon said tubular member to receive both a longitudinally and rotary movement thereon, ratchet teeth surrounding the sleeve, a feed dog adapted to coöperate with the ratchet teeth, and means for oscillating the feed dog operated by the reciprocating movements of said cutting mechanism.

4. In a pencil sharpener, the combination of a reciprocating cutting mechanism, a relatively inclined tubular guide member, a sleeve mounted upon said guide member and provided with gripping means to take hold of the pencil to be sharpened, a spring inclosed by said sleeve and adapted to normally press the same forward and advance the pencil carried thereby, ratchet teeth surrounding the sleeve, a feed dog adapted to coöperate with the ratchet teeth, and means for oscillating the feed dog connected with the cutting mechanism to reciprocate therewith.

5. In combination, a frame comprising longitudinal and angular portions, a slide mounted upon the longitudinal portion and provided with a cutter, a spring for returning the slide to normal position, a sleeve mounted upon the before mentioned angular portion of the frame and adapted to receive both a longitudinal and a rotative movement thereon and provided with grippers to take firm hold of the pencil to be sharpened, a spring inclosed within the sleeve and adapted to normally press the same and the pencil held thereby forward, ratchet teeth surrounding the sleeve, a pivot feed dog, and a projecting part extending from the slide and adapted to oscillate the feed dog and effect intermittent rotation of the sleeve and the pencil during the sharpening operation.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. BEASON. [L. S.]

Witnesses:
OSCAR MCCAIN,
EMBRY GARRETT.