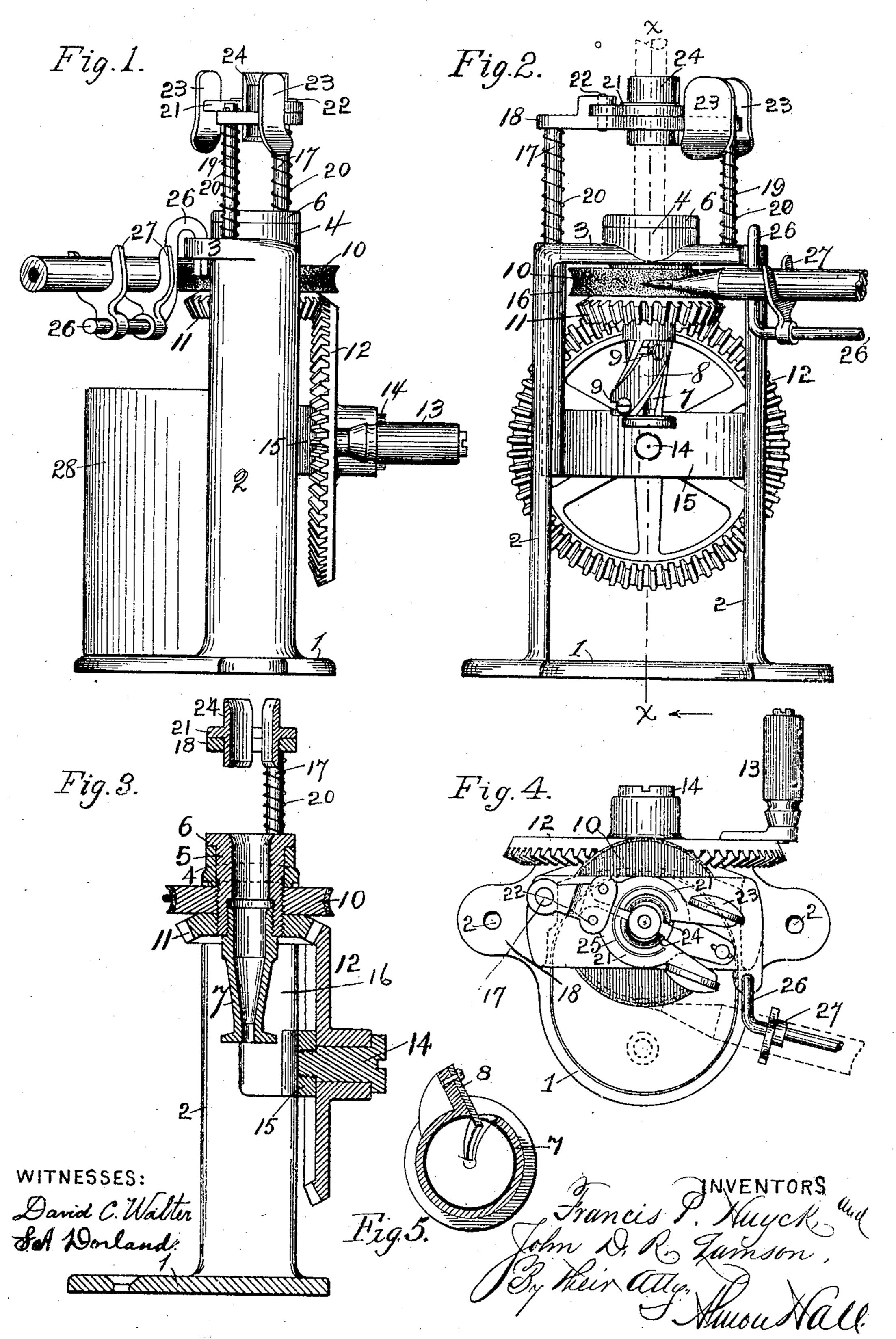
## F. P. HUYCK & J. D. R. LAMSON.

## PENCIL SHARPENER.

APPLICATION FILED JULY 11, 1902.

NO MODEL.



## United States Patent Office.

FRANCIS P. HUYCK, OF SWANTON, AND JOHN D. R. LAMSON, OF TOLEDO, OHIO.

## PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 774,880, dated November 15, 1904.

Application filed July 11, 1902. Serial No. 115,161. (No model.)

To all whom it may concern:

Be it known that we, Francis P. Huyck, of Swanton, Fulton county, and John D. R. Lamson, of Toledo, Lucas county, Ohio, citizens of 5 the United States, have jointly invented certain new and useful Improvements in Pencil-Sharpeners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in 10 the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

A familiar difficulty encountered in the use of pencil-sharpeners is that the knives employed for shaping the wood and the lead, unless great caution is exercised, breaks the lead. In a pencil-sharpener in which a grinder is 20 employed for shaping the wood and the lead the operation of grinding the wood portion of the pencil is too slow. Attempts have been made to employ both knives and grinders in a single pencil-sharpening machine; but 25 these machines have been so heavy, cumbersome, and complicated, as well as expensive, as to not find favor with users.

Our invention relates to a combined pencil sharpener and grinder in which the wood 3° portion of the pencil is sharpened by a knife and the lead portion of the pencil is pointed by a grinding-wheel—such, for instance, as an emery-wheel.

The object of our invention is to furnish a 35 cheap, simple, compact, and durable device of a small compass and great efficiency.

Our invention also relates to a knife especially adapted for use in our machine.

Our invention also relates to certain details 40 of construction hereinafter described, and pointed out in the claims.

We attain the objects above stated by means of the devices and arrangement of parts hereinafter described and shown, and 45 illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of our device; Fig. 2, a side elevation of the same; Fig. 3, a

central vertical sectional view taken on line x x, Fig. 2; and Fig. 4, a top plan view of our 50 machine: Fig. 5 is an enlarged cross-sectional view of the pencil-sharpening socket.

Like numerals of reference indicate like

parts throughout the drawings.

In the drawings, 1 is a base from which 55 rise at opposite sides two standards 2, connected at top by a horizontal plate 3. Through the center of the plate 3 is a vertical hole having at the top a boss 4.

5 is a vertical hollow shaft having at top a 60 flange 6, which rests upon the top of the boss 4. Screwed into the bottom of the short tubular shaft 5 is a tubular longitudinallyslotted barrel 7, having a downwardly-tapered axial bore.

8 is a knife having its cutting edge inclined. at the angle upon which the end of the pencil is to be tapered and secured upon the barrel 7 by screws 9 in such manner that its cutting edge projects inwardly beyond the surface of 70 the inner tapered wall of the barrel 7.

While a straight inclined knife usually employed in connection with pencil-sharpeners having hollow tapered barrels may be used in connection with our machine, we pre- 75 fer to employ a special knife, such as is shown in Fig. 2, in which the knife-blade is curved to conform to the desired contour of the finished point and in which the cutting edge of the knife forms the segment of a 80 taper spiral. By means of this construction our knife cuts with a "shear" cut instead of across the grain of the wood as heretofore.

The lower end of the hollow shaft 5 is exteriorly screw-threaded, and onto this thread-85 ed portion is screwed just below the plate 3 a grinding-wheel 10, which is thus secured to the shaft in such manner that the grindingwheel revolves with the shaft. Upon the lower end of the hollow threaded shaft 5 is 90 tightly screwed a beveled pinion 11, the upper side of which rests against the grinding-wheel, the lower side of the pinion being at the top of the knife 8. The pinion 11 is driven by a vertical beveled gear-wheel 12, having a hand- 95 crank 13. This gear-wheel is journaled upon

774,880

a stub-shaft 14, projecting from a horizontal cross-bar 15, which is secured at its opposite ends to the uprights 2.

Depending from the plate 3 is a tubular 5 socket-piece 16, in which moves vertically a rod 17, which carries at its top a horizontal

plate 18.

19 is a small standard projecting vertically from the top of the plate 3 and passing through 10 a hole in the plate 18 at its margin opposite its point of attachment to the rod 17. The parts 17 and 19 form guides upon which the plate 18 may be moved vertically.

Upon the upright rods 17 and 19 are coiled 15 springs 20, interposed between the top of the plate 3 and the bottom of the plate 18, which springs hold the plate 18 normally elevated.

21 21 are jaws pivoted at one end to the top of the plate 18, as at 22, and having at their 20 opposite ends finger-pieces 23. In the adjoining margins of the jaws 21 are coincident indentations, in which are secured segments of a tube or thimble 24, the lower ends of which extend through an opening in the plate 18. 25 This opening is large enough to receive the parts 24 in their separated position. The jaws are held normally asunder by means of a

curved spring 25, the opposite extremities of which are secured, respectively, to the two 30 jaws. The opening through the plate 18, the jaws 21, and the segmental clamping-pieces 24 is axially coincident with the axis of the opening through the hollow shaft and the barrel

7 of the pencil-sharpener.

26 is a heavy wire bent as illustrated in Figs. 1, 2, and 4 and having one of its ends swiveled in an opening in the margin of the plate 3, so that the straight opposite extremity of the wire will swing in a horizontal plane. 40 Secured to the straight portion of the wire 26 are two forked pieces 27, the crotches of which pieces are turned upwardly and which are of a size to conveniently receive the pencil to be sharpened. The swinging bracket 26 and the 45 holders 27 are so disposed in relation to the grinding-wheel 10 that the point of a pencil resting horizontally in the holders 27 may be thrown into contact with the middle of the

grinding-face of the grinding-wheel. The operation of our device is as follows: The base of the machine is secured by means of a clamp, screws, or otherwise to a suitable support, such as the ledge of a table or desk, and the end of the pencil to be sharpened is 55 inserted into the open top of the hollow shaft

5 with its end resting in the barrel of the piece 7. The body of the pencil, which passes between the pieces 24 on the clamping-jaws 21, is now clasped firmly by the clamping-jaws

60 by means of the finger-pieces 23, which are pressed between the thumb and first finger of the left hand of the operator. At the same time the finger-pieces are pressed downwardly with sufficient force to overcome the upward 65 thrust of the springs 20 and to bring the lower

end of the pencil into contact with the inwardly-projecting edge of the knife 8. The crank 13 is now turned by the right hand of the operator, the pencil standing fast, and the knife revolves rapidly around the pencil, cut- 7° ting the wood into tapered form. The opening through the lower end of the barrel 7 is of such diameter and the arrangement of the knife is such that the lead core of the pencil is not touched during this part of the operation.

When the wood has been sufficiently cut away in tapered form, the finger-pieces are released, the clamping-jaws are automatically opened by the spring 25, and the plate 18 is lifted by springs 20 to its normal position. 80 The pencil is now withdrawn from the revolving socket and is laid in the crotches of the parts 27 with the end of the lead touching the periphery of the grinding-wheel. The supporting-bracket 26 may now be swung 85 horizontally, so that the pencil will occupy any desired tangent to the circumference of the wheel and so that any desired taper may be given to the lead as it is ground into shape by the abrading-surface of the wheel 10. In 99 practice it will be found convenient to have the periphery of the wheel 10 made in channeled or convex form, as shown.

It will be found desirable to provide the machine with a small cup 28, which will fit 95 between the standards 2 and below the lower end of the barrel 7 for the reception of shav-

ings and the powdered graphite.

A special advantage of the vertically-movable clamping-jaws found in our device is that 100 when a pencil is dropped point downward into the tapered socket of the barrel 7 the open clamping-jaws may be slipped down upon the pencil any desired distance and may be then caused to clamp the pencil at any de- 105 sired point in the manner above described. Now the distance between the lower ends of the clamping-pieces 24 and the top of the flange 6, which forms a stop, will show exactly how much wood will be cut away when 110 the jaws have been pressed downwardly during the cutting operation to their lowest limit. Thus the amount of wood to be cut from the pencil may be readily gaged.

Having described our invention and its op- 115 eration, what we claim, and desire to secure

by Letters Patent, is—

1. In a pencil-sharpener, a frame, a revolving tapered socket-piece revolubly mounted in the frame, a knife projecting into the cham- 120 ber of the socket-piece, clamping-jaws for holding a pencil in alinement with the bore of the socket-piece, and a spring-controlled support for the jaws, which permits the jaws to move toward and away from the socket-piece. 125

2. In a pencil-sharpener, a revoluble barrel having a tapered socket and a knife, a clamping mechanism for holding the pencil to be sharpened in axial alinement with the socket of the barrel, said clamping mechan- 130

ism being capable of movement in the direction of the length of the pencil, and a stop which limits the movement of said clamping mechanism.

3. In a pencil-sharpener, in combination with a knife, a pair of clamping-jaws for holding the pencil when presented to the knife, a spring for holding said jaws normally asunder, a plate on which said jaws are pivotally

supported, and a spring-controlled sliding to standard which supports said plate.

In testimony whereof we have affixed our signatures in presence of two witnesses.

FRANCIS P. HUYCK. JOHN D. R. LAMSON.

Witnesses:

H. J. CHITTENDEN, S. A. DORLAND.