No. 817,479. PATENTED APR. 10, 1906.

H. P. FOWLER.

RAZOR SHARPENER.

APPLICATION FILED AUG. 19, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

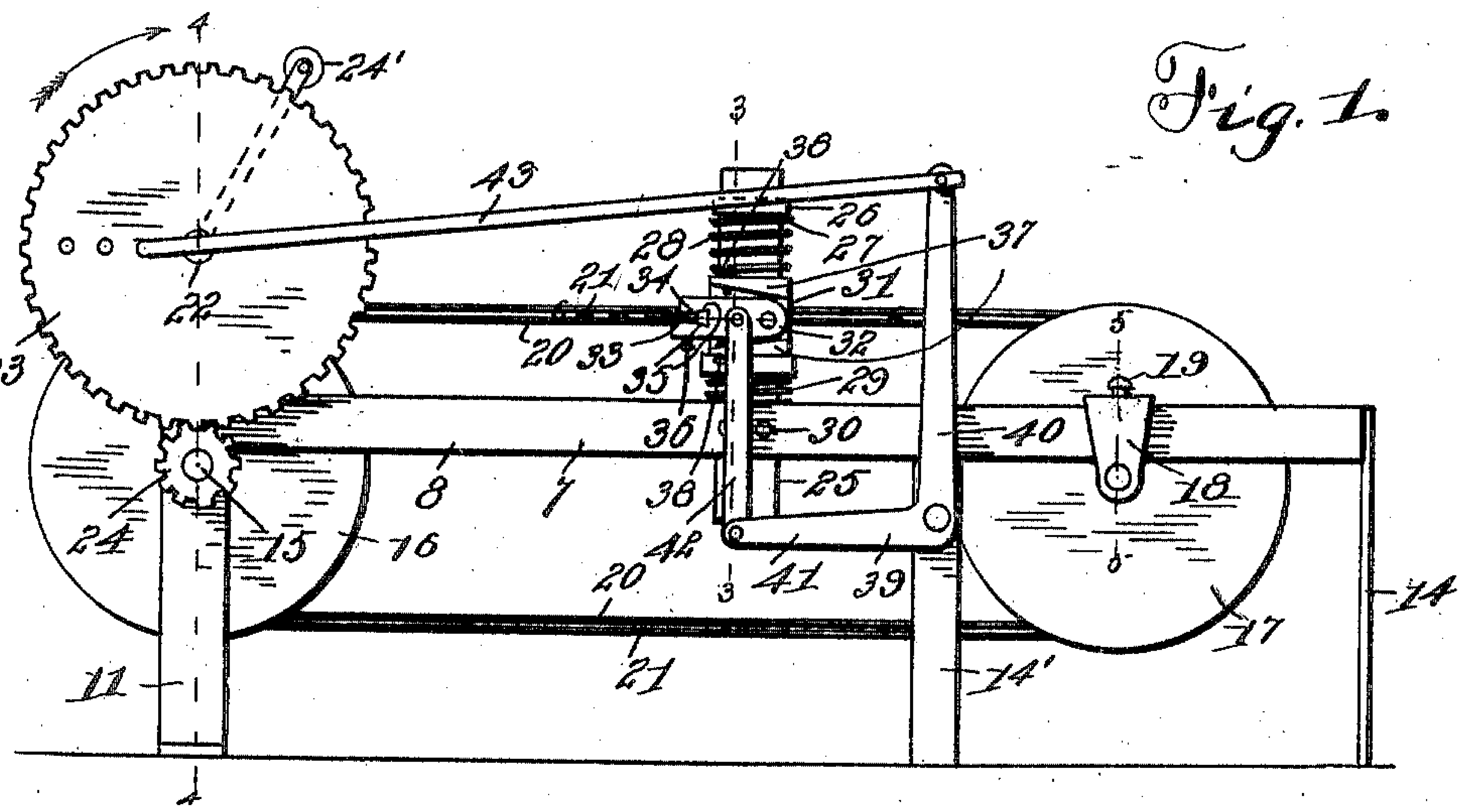


Fig. 2.

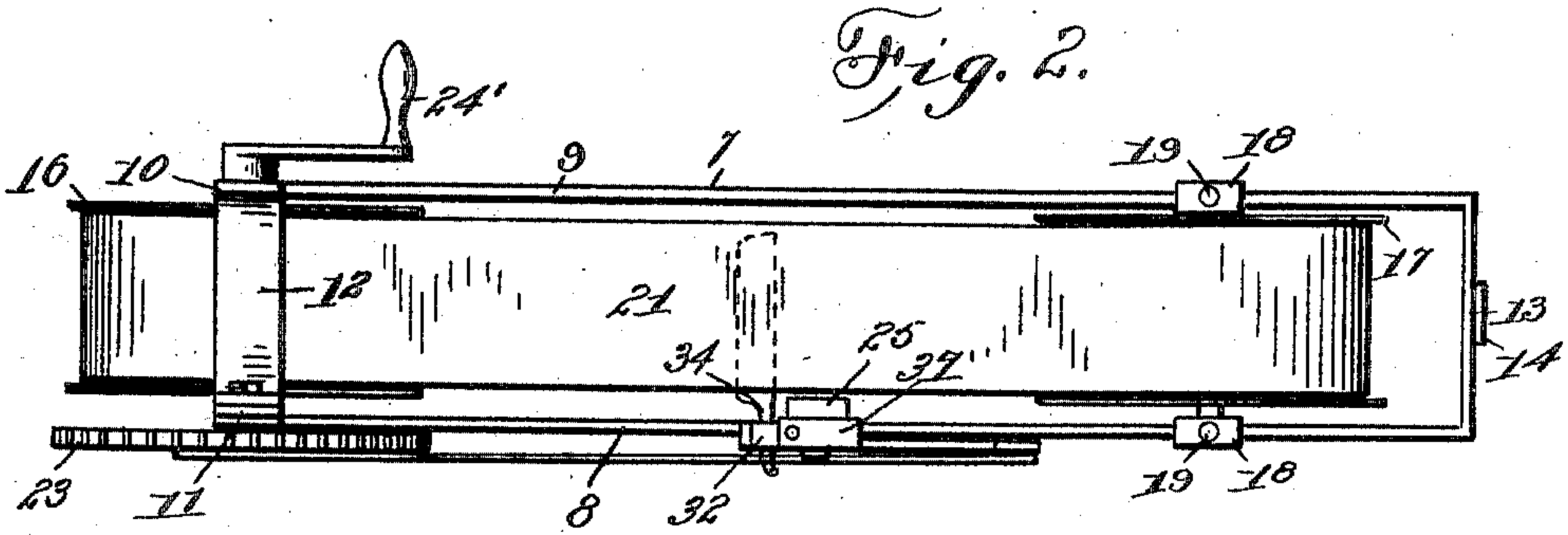
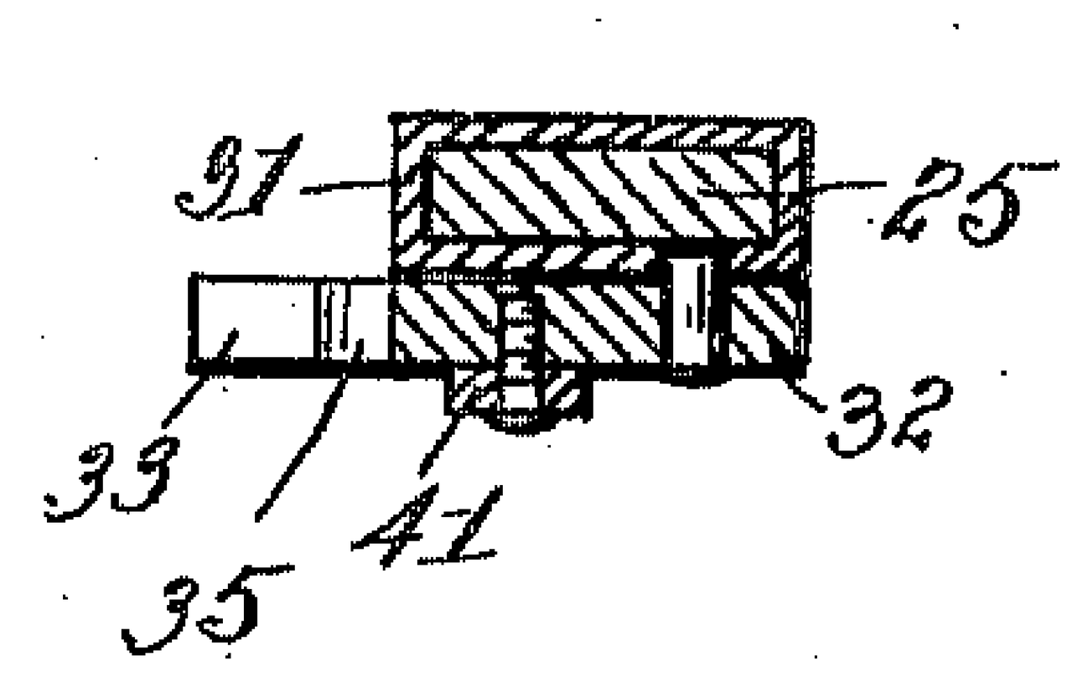


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 3.

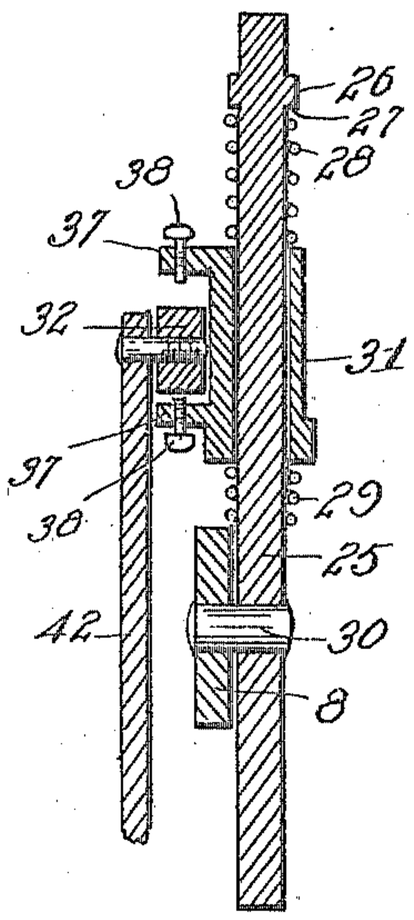


Fig. 4.

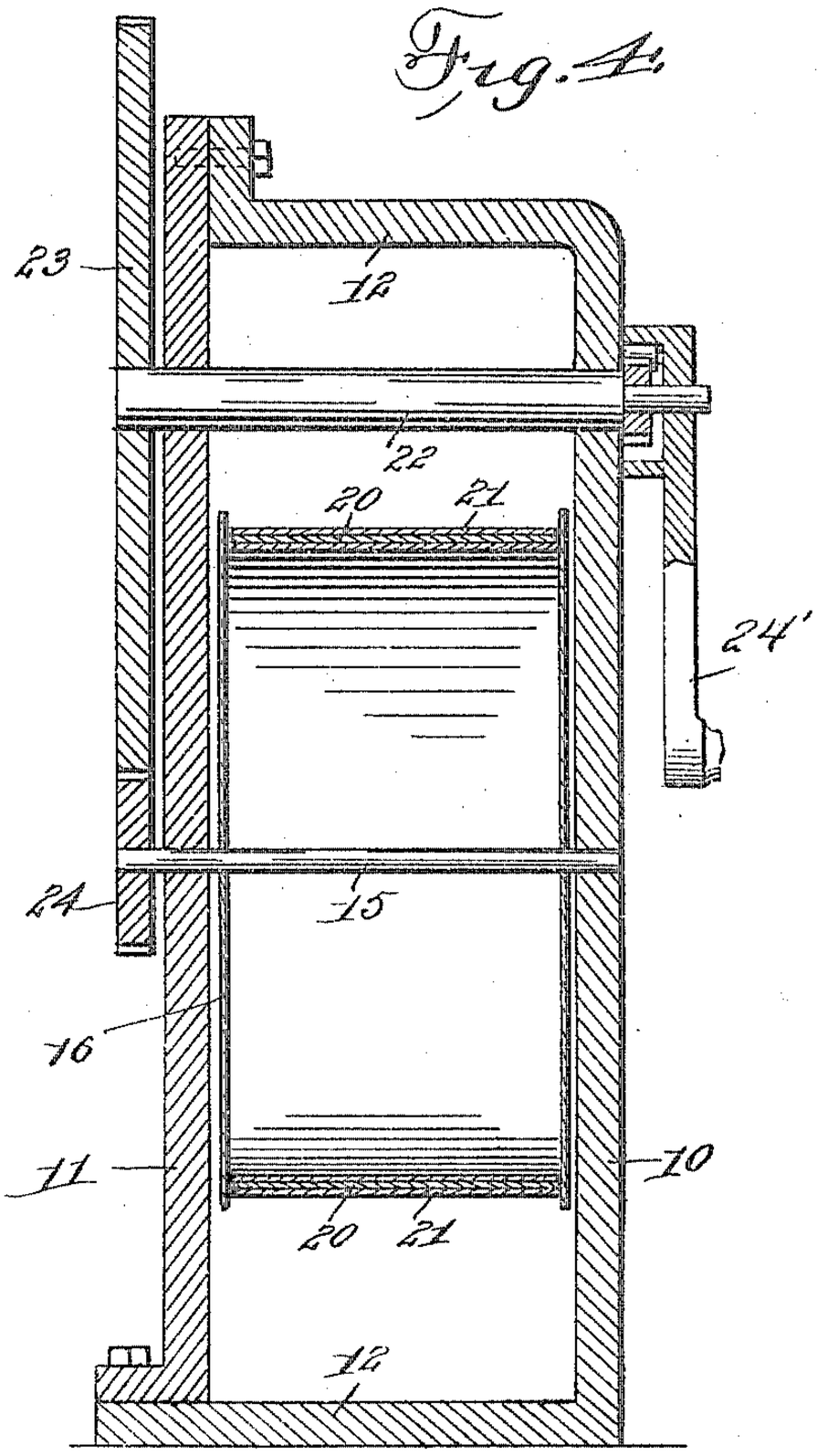
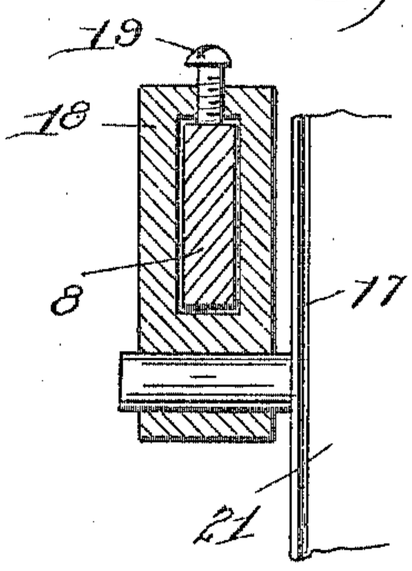


Fig. 5.



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RAZOR-SHARPENER.

No. 817,479. Specification of Letters Patent. Patented April 10, 1906.

Application filed August 19, 1905. Serial No. 274,880.

To all whom it may concern:

Be it known that I, HAMILTON P. FOWLER, a citizen of the United States, residing at Simpsonville, in the county of Greenville, State of South Carolina, have invented certain new and useful Improvements in Razor-Sharpeners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to sharpeners, and more particularly to razor-sharpeners, and has for its object to provide an operative mechanism by means of which a razor may be quickly and easily sharpened.

Another object is to provide a sharpener including two movable belts and means for holding the belts taut at times, this means being so arranged that the belts may be permitted to lie slack when the sharpener is not in use.

Another object is to provide a novel arrangement of parts tending to produce a simple, cheap, and efficient sharpener of the above-mentioned type.

Other objects and advantages will be apparent from the following specification, which describes an embodiment of the present invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the complete sharpener. Fig. 2 is a top plan view. Fig. 3 is a vertical section through the upright, taken on line 3 3 of Fig. 1. Fig. 4 is a section on line 4 4 of Fig. 1, taken through the drive-shaft and illustrating the clutch connection of the crank with the shaft. Fig. 5 is a detail section on line 5 5 of Fig. 1, illustrating the sliding hanger for the movable pulley. Fig. 6 is a section on line 6 6 of Fig. 1, taken horizontally through the upright and blade-holder and illustrating the pivotal connection of the latter with the sleeve.

Referring now to the drawings, the present invention comprises a frame 7, consisting of two parallel horizontal bars 8 and 9, which at their forward ends are secured to uprights 10 and 11, the former having a laterally-turned end portion 12, to which the upright 11 is secured, the lower portion 12 forming a foot, as shown. Adjacent to their rearward ends the bars 8 and 9 are connected by a horizontal cross-brace 13, and secured to this cross-brace there is a depending supporting-leg 14.

Journaled horizontally in the uprights 10 and 11 there is a shaft 15, which between the uprights carries a pulley 16, and at the rearward end of the frame there is a corresponding pulley 17, journaled in hangers 18, which are slidably engaged with the bars 8 and 9, set-screws 19 being provided to hold these hangers at different points of their movement upon the bars. The two pulleys occupy a common vertical plane, and engaged with the pulleys there are a pair of belts 20 and 21, the former lying within the latter.

A drive-shaft 22 is journaled in the frame above the shaft 15 and has mounted thereupon exteriorly of the frame a gear-wheel 23, which meshes with a pinion 24, carried by the shaft 15, these two shafts being thus arranged for simultaneous rotation. The opposite end of the shaft 22 from the gear 23 carries a crank 24′, which has a clutch connection with the shaft for rotation of the shaft with the crank in one direction only.

Secured to the bar 8 therebetween and adjacent to the pulley 17 there is an upright 25, which lies at one side of the belts 20 and 21, extending thereabove. Adjacent to its upper end this upright has a surrounding flange 26 and a resultant shoulder 27, and engaged with the upright below the shoulder there is a helical spring 28, a similar spring 29 being engaged with the upright above the bolts 30, which secure it to the bar 8 and against which the lower end of this spring rests. A sleeve 31 is slidably engaged with the upright 25 between the two springs, the ends of which rest thereagainst, and the sleeve is thus held yieldably against movement upon the upright in both directions. Pivoted upon the opposite side of the sleeve 31 from the belts there is a blade-holder 32, which extends in the direction of the forward end of the frame beyond the upright. This blade-holder is in the form of a block and has a recess 33 cut in its forward end and opening through its side faces, this recess being adapted for the reception of the shank 34 of a razor-blade and having notches 35 in its walls for the reception of the broadened rearward portion of the shank, a set-screw 36 being arranged for operation to impinge against the shank to hold the latter against displacement. The central longitudinal axis of the blade-holder lies normally in the horizontal planes of the belts 20

and 21, though the blade-holder is movable vertically in both directions with the sleeve 31, as will be readily understood.

Laterally-extending projections 37 are carried by the sleeve and lie above and below the blade-holder with their forward ends normally in spaced relation to the holder, and engaged in these forward portions of the projections there are set-screws 38, which are operable to extend at different distances beyond the projections in the direction of the blade-holder for engagement of the latter to limit the movement of the blade-holder upon its pivot, it being thus possible to vary this movement.

An angle-lever 39, having a vertical arm 40 and a horizontal arm 41, is pivoted at the union of these arms to the supporting-leg 14′ for movement in a vertical plane. The arm 41 is connected, by means of a link 42, with the blade-holder 32 forwardly of the pivot-point of the latter, and it will thus be apparent that movement of the angle-lever will move the blade-holder upon its pivot. The arm 40 is connected, by means of a pitman 43, with the gear 23, upon the surface of which one end of the pitman is eccentrically mounted, and it will thus be apparent that rotation of the gear will result in oscillation of the angle-lever 39.

In use the shank of a razor-blade is disposed in the blade-holder with the blade proper lying between the belts 20 and 21, and the pulley 17 having been adjusted to tighten the belts the crank 24 is operated to revolve the several shafts and move the belts over the blade, it being understood that the ratchet connection of the crank with the shaft 22 is such that the belts cannot be moved against the cutting edge of the razor. As the gear 23 is revolved the angle-lever 39 is operated, as mentioned above, and the blade-holder is moved alternately upwardly and downwardly upon its pivot. This brings the blade into engagement with the two belts alternately, so that both sides of the blade are sharpened, and, as will be readily understood, the sleeve 31 also moves to some extent upon the upright 29, and the blade is thus brought to lie flat against the belt which it engages.

What is claimed is—

1. In a sharpener, the combination with spaced pulleys adjustable toward and away from each other, of means for holding the pulleys at different points of their movement, belts engaged with the pulleys, one within the other, and means for holding a blade between the belts, said blade-holding means being arranged for movement to bring the blade into successive engagement with the two belts.

2. A sharpener comprising spaced pulleys, belts engaged in the pulleys, one within the other, means for holding a blade between the belts, said means being movable to bring the blade into engagement with the belts successively, means for revolving the pulleys to move the belts, said means being arranged for operation to move the belts in one direction only, and connections between the blade-holder and the belt-moving means for simultaneous operation thereof.

3. In a sharpener, the combination with sharpening-surfaces, of a blade-holder arranged to hold a blade between the sharpening-surfaces, said holder being movable bodily to move the blade toward and away from sharpening-surfaces, means for holding the blade-holder yieldably against such movement, said holder being also arranged for pivotal movement to bring the blade into engagement with the sharpening-surfaces successively, and means for limiting the pivotal movement of the holder.

4. A sharpener comprising spaced sharpening-surfaces, an upright, a sleeve slidably mounted upon the upright, means for holding the sleeve yieldably against movement in both directions, a blade-holder pivoted to the sleeve, means for varying the pivotal movement of the holder, said holder being arranged to hold a blade between the sharpening-surfaces and when moved pivotally, to bring the plate into engagement with the sharpening-surfaces successively, an angle-lever, connections between the angle-lever and the blade-holder to move the latter when the angle-lever is moved, a revoluble shaft, and connections between the shaft and the angle-lever for oscillation of the latter when the shaft is revolved.

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

HAMILTON P. FOWLER.

Witnesses:

J. M. RECTOR,

S. D. HAMMETT.