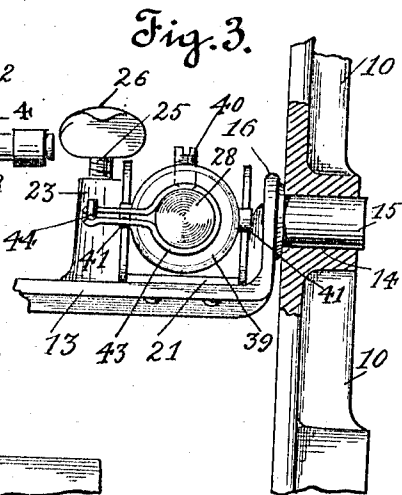
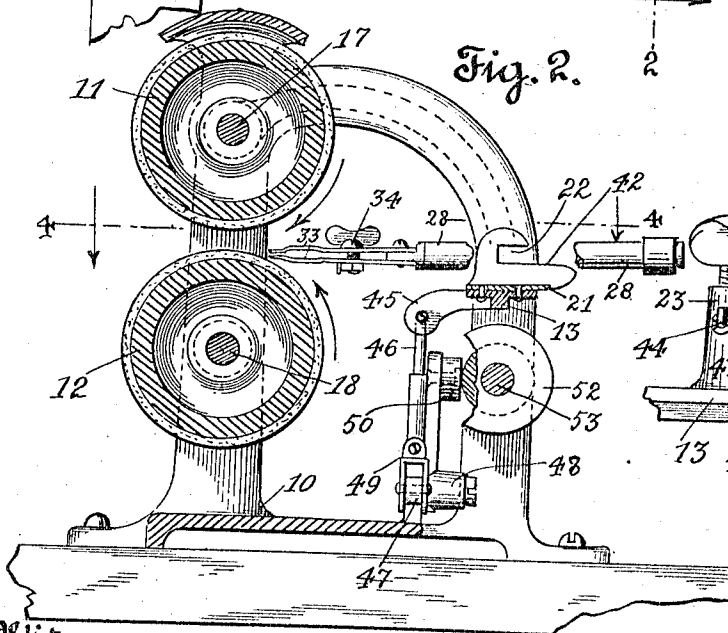
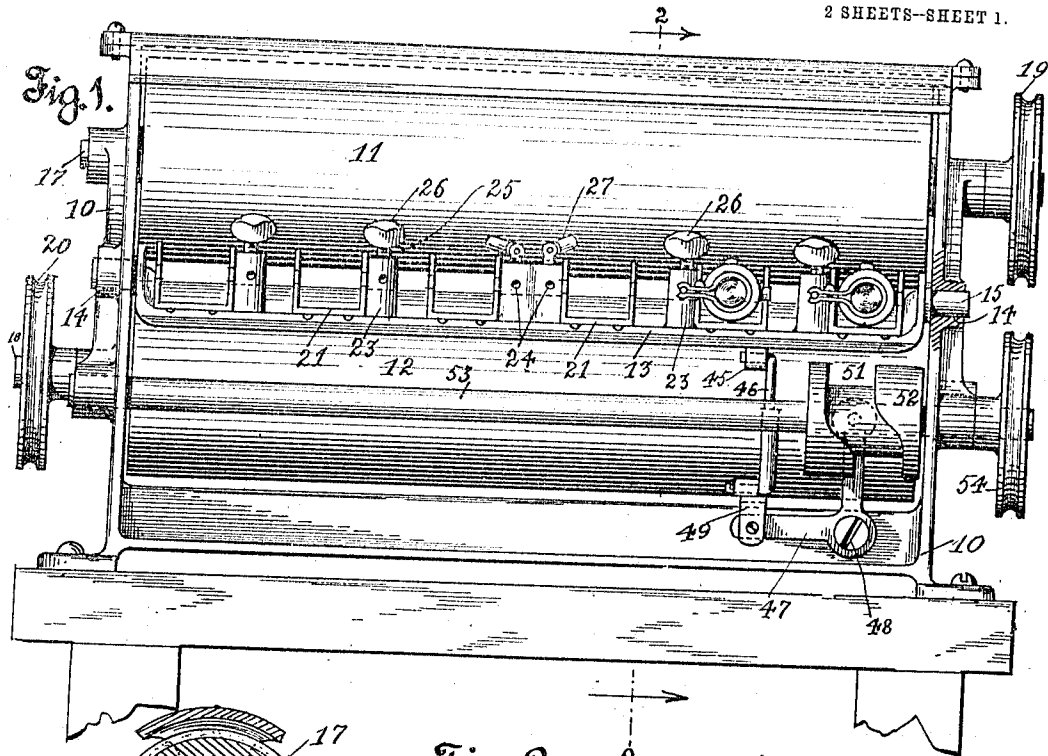


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 RAZOR SHARPENING MACHINE.
 APPLICATION FILED DEC. 27, 1910.

1,051,817.

Patented Jan. 28, 1913.

2 SHEETS-SHEET 1.



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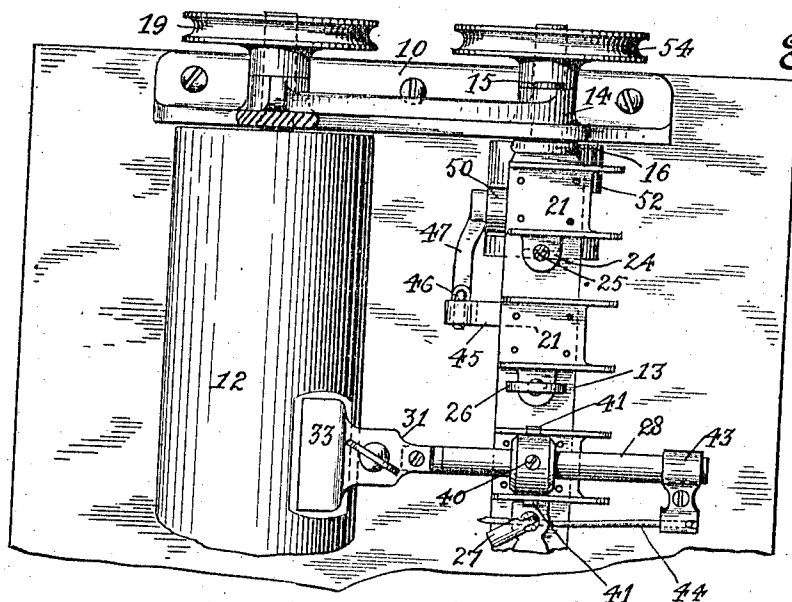


Fig. 4.

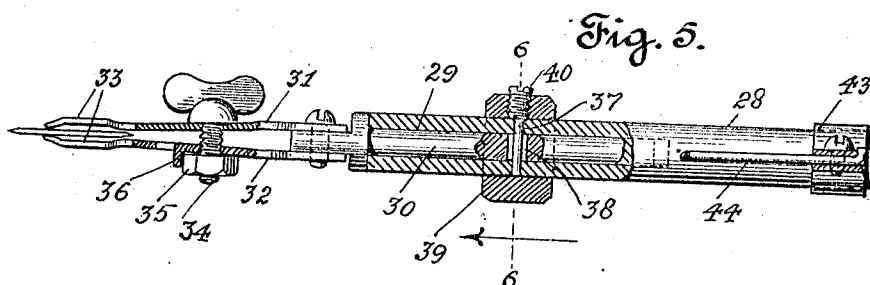


Fig. 5.

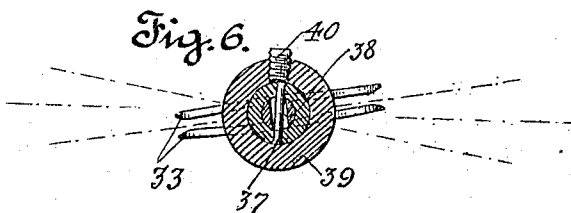


Fig. 6.

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UNITED STATES PATENT OFFICE.

LEVI J. ODELL, OF GLENDORA, CALIFORNIA.

RAZOR-SHARPENING MACHINE.

1,051,817.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed December 27, 1910. Serial No. 599,462.

To all whom it may concern:

Be it known that I, LEVI J. ODELL, a citizen of the United States, residing at Glendora, in the county of Los Angeles and State of California, have invented new and useful Improvements in Razor-Sharpener Machines, of which the following is a specification.

This invention relates to improvements in machines for stropping razor blades, and has reference more particularly to that class of blades commonly employed with safety razors and an important object of the invention is the provision of a machine that will quickly and accurately resharpen such blades in a uniform manner, the proper provision being made for the pressure of the blades against the stropping members during the operation.

It is a further object of the invention to provide a mechanism in which a number of blades may be applied to the stropping mechanism at a time, the mechanism being such that any one or more of the blades may be removed and replaced in the machine or others substituted therefor without interfering with the operation of the machine or the sharpening of other blades.

In the drawing forming a part of this specification, Figure 1 is a side elevation of the improved stropping machine, looking at the same from the side upon which the blades are inserted. Fig. 2 is a transverse sectional view taken upon the lines 2-2 of Fig. 1. Fig. 3 is a detailed view partially in section and partially in elevation showing the mounting of the bar or member which removably supports the razor blades and their holders. Fig. 4 is a top plan view of a portion of the machine one end thereof being broken away. Fig. 5 is an enlarged detail view of one of the blade holders, a portion thereof being shown in section and a portion in elevation. Fig. 6 is a transverse sectional view taken upon the line 6-6 of Fig. 5.

In the drawing the preferred embodiment of the invention has been illustrated and the said invention will now be more particularly described, reference being had to said drawing in which 10 indicates a frame, 11 and 12 upper and lower stropping rolls or cylinders and 13 a blade carrying bar which is journaled at its ends in the frame 10, suitable journal bearings 14 being provided in the end uprights of the frames. The jour-

nals 15 of said bar 13 are preferably formed upon upwardly projecting extensions 16 formed at each end of the said bar so that the bar will always hang below the journals and thus remain in proper position for holding the razor blades and their holders.

The stropping rolls 11 and 12 are of any desired construction being usually made hollow and of a suitable length to extend opposite a number of razor blade holders carried by the bar 13. Their outer surfaces are formed with any suitable sharpening or grinding surface for placing an edge upon the razor blades that are pressed against them. The said rollers 11 and 12 are placed apart and are usually mounted one above the other as clearly shown in Fig. 2. The shafts 17 and 18 of the said rollers project beyond their bearings in the frame 10 at one end or the other as found most desirable, and driving pulleys as 19 and 20 are applied thereto. The pulley 19 of the roller 11 is usually at one end of the machine while the pulley 20 of the roller 12 is at the other end. These pulleys 20 are usually grooved and thus adapted to be driven by any ordinary or desired belting not shown. The rolls 11 and 12 are driven in the direction indicated by the arrows in Fig. 2 so as to turn away from the blade or blades inserted between them. The said bar 13 is provided with a number of brackets 21 which are preferably U-shaped in cross section, and are riveted or otherwise secured to the said bar 13 at suitable intervals thereon. The upright portions of the brackets 21 form side standards which are provided with holder receiving recesses 22 which open outwardly from the rollers 11 and 12, as shown in Fig. 2.

To one side of each bracket 21 is a standard or binding post 23 having a lateral hole or aperture 24 passing through the same for receiving a securing pin carried by the blade holder as will be hereinafter described. Set or clamping screws 25 are threaded into the upper ends of the said binding posts 23 and are capable of being screwed down to the holes 24 for clamping the portions of the holders that are inserted therein. The said clamping screws may be provided with any desired heads as for instance flattened thumb engaging heads as 26 or pivoted short handles 27 by which the screws may be turned. Where the binding posts are arranged in close proximity to each other as shown at the center of the machine, the pivoted han-

dles 27 are preferred, as they do not interfere with each other.

The blade holders are formed with shank portions 28 having a bore 29 extending inwardly from the end thereof. A spindle 30 extends into said bore at one end while its outer end is flattened and has secured to it by means of a screw rivet or other suitable securing means, the spring jaws 31 and 32 of the blade gripping means.

The outer ends of the jaws 31 and 32 are usually broadened as at 33 to fit upon the razor blade and firmly grip the same as clearly shown in the drawing. The gripping plates 31 and 32 are brought together by means of a thumb screw 34 and a nut 35 applied thereon as clearly indicated in Fig. 5. The nut 35 is prevented from turning by engaging an upturned lug 36 struck from the plate 32.

The spindle 30 is loosely mounted in the bore 29 so that it has a swivel action therein, and the blade carried thereby may accommodate itself to any unevenness upon the surface of the stropping rollers. In order to prevent the spindle from becoming disconnected from the shank 28 of the holder, retaining means usually in the form of a pin 37 is passed through the said shank and through an enlarged opening 38 formed in the spindle 30. The said opening 38 is of sufficient size to permit a proper amount of swivel action in the spindle 30 with respect to the shank 28, as will be clearly understood by reference to Fig. 6. The said shank 28 of the blade holder is carried by a sleeve 39 which is clamped to the shank by a set screw as 40 and is provided with lateral projecting trunnions 41, there being one trunnion on each side of the said sleeve. The trunnions 41 project in such a manner that they may be readily slipped into the recesses 22 when the blades are to be inserted between the stropping rolls. The said trunnions 41 slide into and out of position on the brackets 21, upon an elongated bearing edge 42 upon each standard of each of said brackets.

In order to hold the shank 28 in place under a spring action, a clip 43 is applied to its end and projects laterally therefrom a sufficient distance to carry a spring securing pin 44 which extends approximately parallel with the said shank 28 as clearly shown in the drawing. The pin 33 is made of sufficient length to engage and project through the apertures 24 in the binding posts when the trunnions 41 of the holders are placed in position in the recesses 22, and by turning the clamp screws 25 the holders are firmly held in place.

In order to bring the blades successively in engagement with the rollers 11 and 12 the journal bar 13 is adapted to be rocked upon its journals 15 by means of a lever

projection 45 formed thereon. The lever 45 is connected by means of a suitable link 46 with a bell crank 47 which is pivoted to the frame 10 at 48. The lower end of the said link 46 is usually connected with the said bell crank by means of an intermediate link 49 having pivoted engagement with both the said lever and the said link and thus permitting of a free and easy articulation of the parts. One end of the bell crank lever 47 projects upwardly and is provided with an anti-friction roller 50 which fits into a cam path 51 formed upon a cam 52 which is secured to a shaft 53. The shaft 53 extends parallel to the stropping rollers and is usually journaled in the frame 10 below the bar 13. The roll 53 is provided with a driving pulley 54 by which it may be driven at a proper rate of speed for causing the rocking of the plate 13 up and down in forcing the blades of the blade holders first into engagement with one stropping roll and then with the other.

The use of the machine will be readily understood from the above description. The stropping rollers are kept in continuous motion and after placing the blades between the plates 31 and 32 and clamping them in position, the holder is put in place by sliding trunnions 41 into the recess 22 of one of the brackets 21, the pin 44 being at the same time inserted in the aperture 24 of the adjacent binding post. The pin 44 is then secured in place by turning the clamping screw 25. This can be readily done while the bar 13 is being rocked, for forcing the blade against one of the rollers. By loosening the clamp screw 25 the holder can be easily taken from position. Any number of holders may be in place at the same time and they can be removed and new blades put in them from time to time without interfering with the sharpening of the blades held by other holders. The machine can thus be made of any desired capacity and a large number of blades can be operated upon at a given time.

What I claim is:—

1. A stropping device, comprising stropping rollers arranged opposite to each other, a rocking bar extending parallel with said rollers, a plurality of blade holders adapted to carry blades to be stropped, and arranged to project laterally from said bar to points between said rollers, and means mounted upon said bar into which the blade holders may be slipped without stopping the rocking of the said bar, and yielding means for holding the blade holders on said bar for presenting the blades between the said stropping rollers.

2. A stropping mechanism comprising oppositely arranged parallel stropping rollers, an elongated rocker bar mounted parallel thereto and opposite the space between the

rollers, blade holders having lateral supporting projections, means carried by said bar for receiving the said lateral projections of the blade holders, the said blade holders being capable of withdrawal from their holding means while others are held in place, spring means for holding the said blade holders on said bar and means for rocking the bar to carry the blades held by the holders against the stropping rollers.

3. A stropping mechanism comprising an elongated stropping roller, a rock bar mounted parallel therewith and having recesses for receiving blade holders. Blade holders having projections thereon adapted to be slipped into said recesses when the bar is rocking or stationary, the said blade holders carrying the blades to be sharpened against the roller, and spring means connecting the blade holders with said bar and causing them to press the blades against the roller and means for rocking said bar.

4. A razor stropping mechanism, comprising parallel stropping rolls, a holder carrying bar extending parallel with said rolls and journaled so as to move with respect thereto, a plurality of blade receiving seats mounted upon the said bar, blade holders having supporting projections adapted to be inserted in said seats, and preventing the holders from turning axially, the said blade holders being thus adapted to be thrown between the stropping rolls, means for rocking the said bar for pressing the blades against the stropping rolls and spring rods for locking the holders on said bar and causing them to press the blades against the stropping rolls, and means for clamping the said spring rods in position.

5. A razor stropping mechanism comprising stropping rolls a journal bar arranged opposite thereto, U shaped brackets secured to the said bar and having standards with recesses opening outwardly, blade carrying holders having trunnions capable of fitting in said recesses, and means of securing razor blades upon the said holders, the rocking of the journal bar operating to press the said blades against the stropping rolls successively.

6. A stropping mechanism comprising parallel stropping rolls, a rocking bar extending parallel thereto, brackets secured to the said bar for receiving blade holders, the said brackets having outwardly opening recesses, blade holders adapted to be inserted in said brackets and having means for engaging said recesses, and means for holding the blade holders upon said bar with a spring tension whereby the rocking of the bar will cause the blades carried by the holders to be pressed against the stropping rolls.

7. A razor stropping mechanism comprising power driven stropping rolls, a space being left between the said rolls, razor blade holders adapted to extend into said space between the rolls each having a spindle, shanks for holding the said spindles with a swivel action, retaining means for movably holding the spindles in conjunction therewith, a rocking means for supporting the said razor blade holders and causing them to apply the blades to the stropping rolls under considerable pressure.

8. A stropping mechanism comprising a plurality of stropping rolls, razor blade holders adapted to press the blades against each of said rolls, each of said holders comprising a hollow shank, a swivel blade gripping means mounted therein, trunnion projections secured to the shanks, spring securing means also secured to said shanks, a rocking bar having brackets for engaging the trunnions of the blade holders, binding posts for engaging the said spring securing means, and means for movably clamping the said spring securing means for holding the blade holders in position on the rocker bar.

9. A stropping mechanism comprising oppositely mounted stropping rolls, a rocking bar journaled parallel therewith and opposite the space between said rolls, removable blade holders mounted on said bar, means for holding the blade holders upon said bar under spring tension, a bell-crank lever connected with said bar for rocking it and a cam for operating the said bell crank lever, and means for rotating the cam.

10. A stropping device comprising oppositely mounted stropping rolls, a rocking bar journaled parallel therewith and opposite the space between said rolls, a torsional spring holding means mounted upon said bar and adapted to carry blades to be stropped, and means for rocking the bar for pressing said blades against the stropping rolls.

11. A blade sharpening machine including a pair of sharpening rolls, a rocking blade carrier, a blade carrying plate applied to the blade carrier and formed with lugs, a blade holder pivoted upon the lugs, and a spring engaging the blade holder for holding the blade in a yielding engagement with the rolls.

In witness that I claim the foregoing I have hereunto subscribed my name this 17th day of December 1910.

L. J. ODELL.

Witnesses:

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EARLE R. POLLARD.