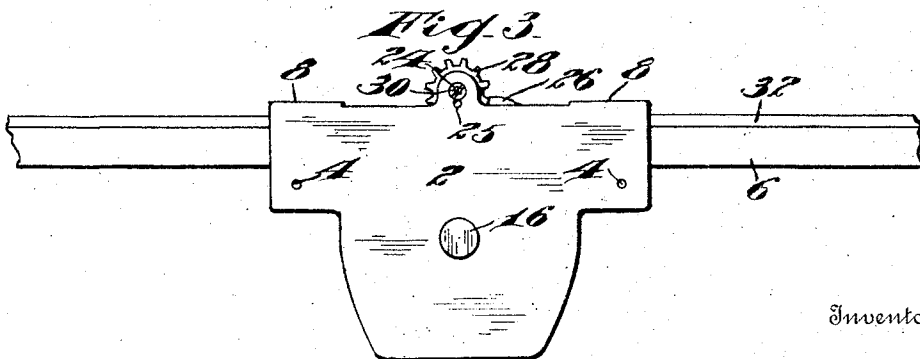
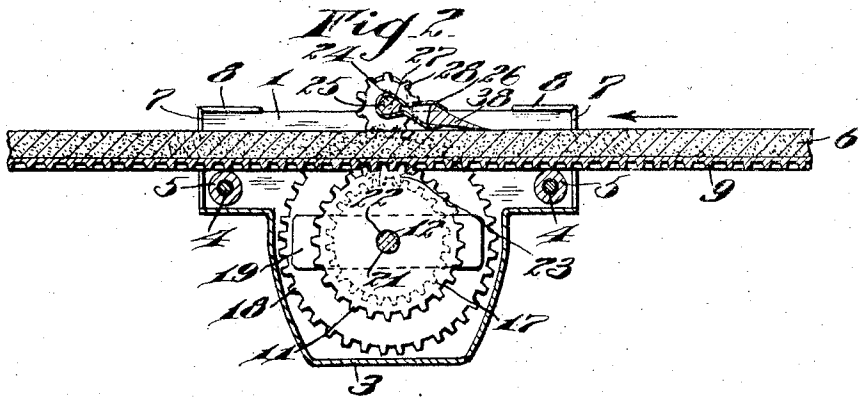
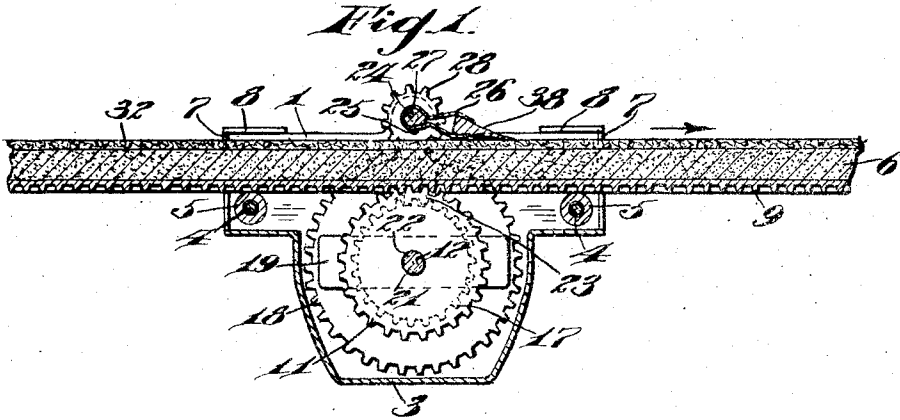


E. A. CONWAY.
 RAZOR SHARPENING MACHINE.
 APPLICATION FILED AUG. 12, 1909.

948,369.

Patented Feb. 8, 1910.

3 SHEETS—SHEET 1.



Inventor

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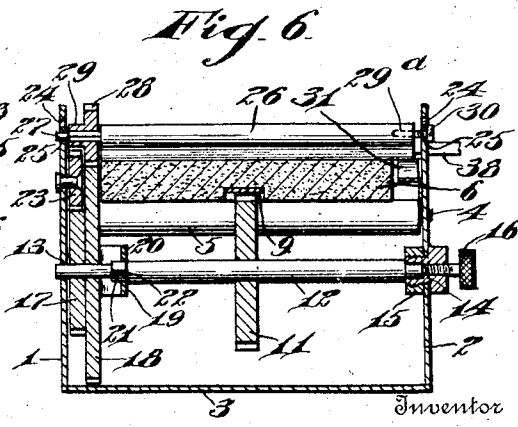
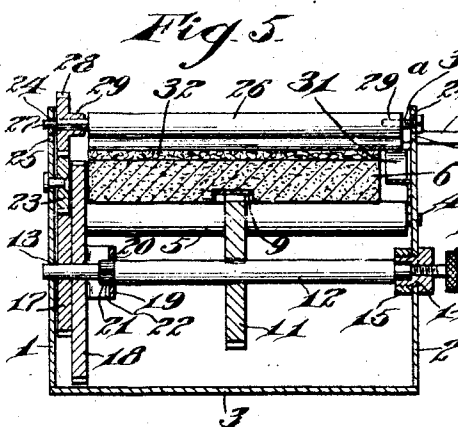
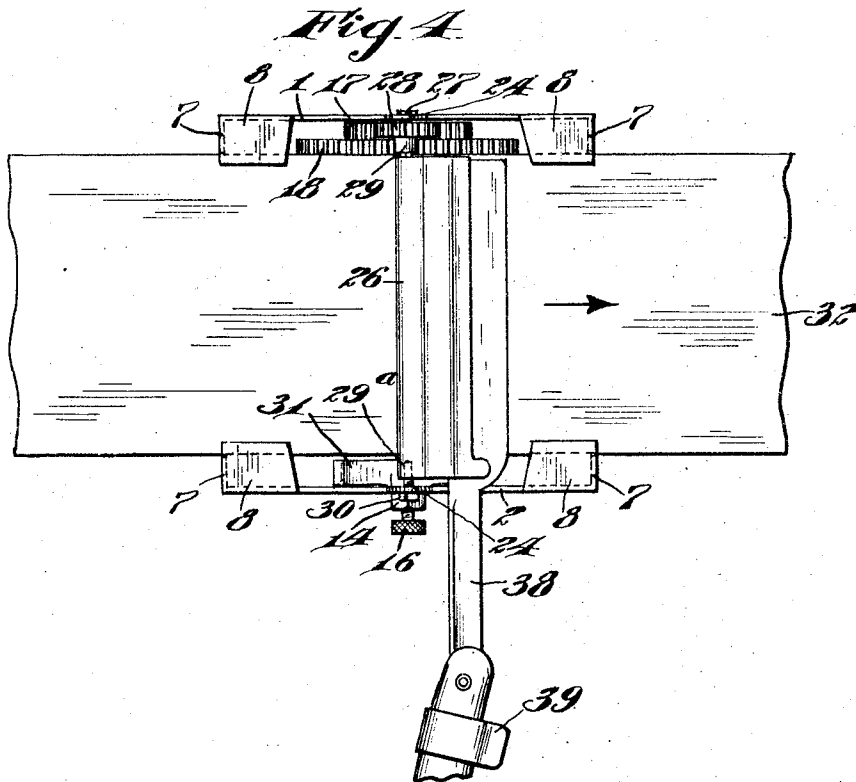
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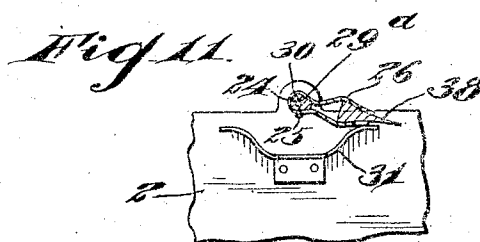
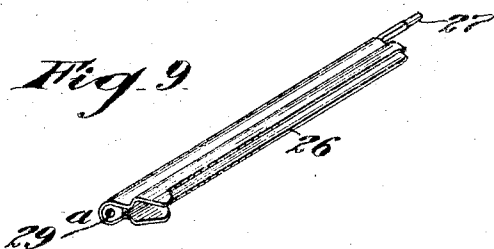
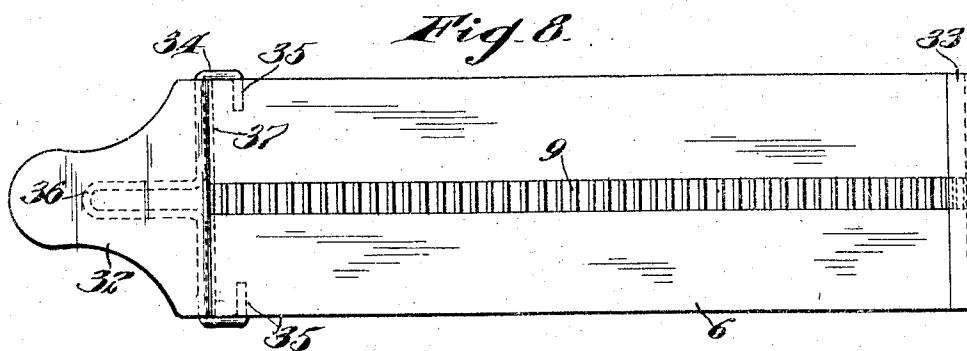
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 3 SHEETS—SHEET 3.



Inventor

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UNITED STATES PATENT OFFICE.

ELISHA ASBURY CONWAY, OF PARKESBURG, PENNSYLVANIA.

RAZOR-SHARPENING MACHINE.

948,369.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed August 12, 1909. Serial No. 512,521.

To all whom it may concern:

Be it known that I, ELISHA A. CONWAY, a citizen of the United States, residing at Parkesburg, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in Razor-Sharpening Machines, of which the following is a specification.

My invention relates to an improved razor sharpening machine, an object of the invention being to provide an improved machine of this character, which can with a few interchanges of parts, operate with equal effectiveness as a hone or strop.

A further object is to provide a razor sharpening machine which, when the hone, or hone and strop are reciprocated in my improved frame, will serve to swing the razor holding clamp back and forth, to properly position the razor as in hand honing, or stropping.

A further object is to provide an improved hone with an improved strop, which latter may be secured on the hone, when the machine is to be used for stropping.

With these and other objects in view, the invention consists in certain novel features of construction and combination and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1, is a view in longitudinal section illustrating the position of parts when stropping. Fig. 2, is a view, similar to Fig. 1, showing the position of parts when honing. Fig. 3, is a view in side elevation of Fig. 1. Fig. 4, is a top plan view of Fig. 1. Fig. 5, is a view in cross section of Fig. 1. Fig. 6, is a view in cross section of Fig. 2. Fig. 7, is a view in longitudinal section of the combined hone and strop. Fig. 8, is a bottom plan view of the hone with strop thereon. Fig. 9, is a detail perspective view of the razor holding clamp. Fig. 10, is a perspective view of the razor handle clamp, and Fig. 11, is a fragmentary view partly in elevation and partly in section illustrating the cushioning spring for the razor holding clamp.

1 and 2 represent parallel side plates, spaced apart and connected around their lower edges by the hood or casing 3 forming a supporting frame. The plates 1 and 2 are also connected by rods 4, on which rollers 5 are mounted to turn and support my improved hone 6 as the latter is reciprocated.

The side plates 1 and 2 are provided with inwardly projecting vertical flanges 7 at their ends to engage the hone and limit its lateral movement and horizontal flanges 8 at the upper edges of the plates, at their ends, overlap the hone and prevent upward tilting movement of the hone at both ends of the machine.

The hone 6 is provided on its under face with a countersunk toothed rack 9 secured by rivets 10 at the ends of the rack. This rack is adapted to mesh with the gear wheel 11 keyed on a shaft 12. Shaft 12 is supported at one end in an opening 13 in plate 1, and at its other end, in a sleeve 14 mounted in an opening in plate 2. This sleeve 14 is made with an enlarged outer end and a screw threaded inner end, to receive a clamping nut 15. A thumb screw 16 located in the sleeve 14, engages screw threads in the sleeve, and bears at its inner end, against shaft 12 so that the shaft may be adjusted longitudinally, for a purpose which will hereinafter appear.

On shaft 12 adjacent plate 1, two gears 17 and 18 respectively, are locked to turn together but are loose on the shaft. The inner gear 18, is of appreciably greater diameter than gear 17 and is frictionally engaged, on its inner face, by a spring 19. This spring is bowed and made with a central rectangular opening 20 to fit over a rectangular portion 21 of shaft 12, so as to turn with the shaft, and a shoulder 22 on said shaft bears against the spring to press the ends of the latter against gear 18 and move the gear 18 when it is free to turn, and when not free to turn, the spring will slide over the face of the gear. By adjusting the thumb screw 16 the shaft may be adjusted longitudinally to secure just the proper frictional engagement of the spring with the gear 18. A small idler gear 23 having rotary support on plate 1, just above gear 17, is in mesh with, and turned by the latter.

The upper central portion of plates 1 and 2 are made with two pairs of aligned openings 24 and 25 respectively, affording bearings for the rotary support of my improved razor clamping holder 26. In this holder, and locked to turn with the holder, is a shaft 27 having a round portion at one end to fit the openings 24 and 25 in plate 1; and back of said round portion, and between the same and to end of holder 26, the shaft 27 is made angular to receive the angular bore of a

pinion 28, which latter is made with a hub extension 29 on one side to approximately fill the space between the plate 1 and the end of holder 26 regardless of the way the pinion 5 is shifted. The other end of shaft 27 terminates flush with the end of holder 26 and is made with an opening or socket 29* in its end to receive the smooth end of a thumb screw 30, the latter adapted to be screwed 10 into either of the openings 24 and 25 in plate 2. A bow spring 31 is secured to the inner face of plate 2 and its ends are in position to be engaged and depressed by the razor holder, in shifting or turning the razor and 15 this spring prevents any banging of the razor edge against the hone or strop.

32 represents my improved strop which has secured at one end, an angle bar 33 adapted to be hooked over the end of the 20 hone. The other end of the strop, after the latter has been drawn taut on the surface of the hone, is secured by a wire clamp 34, having its end bent inwardly forming trunnions 35, positioned in sockets in the side 25 edges of the hone, to give to the wire clamp the necessary pivotal support. The wire forming the clamp, is bent between its ends to form a tongue or finger hold 36 and the clamp is adapted to bind against the strop, 30 clamping the same tightly over the end of the hone and pressing the strop into a groove 37 in the end of the hone, most effectually secures the strop against slipping and holds it flat and smooth on the upper face of the 35 hone.

38 represents a razor to be honed and 39 is a sheet-metal spring clamp adapted to clamp over the razor handle adjacent the pivot of the blade and prevent the handle from pivotal movement during the sharpening operation. 40

In the operation of stropping as shown in Fig. 1, the shaft 27 is supported in the upper pair of holes 24 and pinion 28 is turned so 45 as to mesh with idler 23. As the strop is moved in the direction of the arrow, to draw the strop below and away from the edge of the razor, motion is transmitted through the medium of rack 9, gear 11, shaft 12 and 50 spring 19 to frictionally turn gears 17 and 18 and gear 17 turns idler 23 and the latter pinion 28 to frictionally hold the razor edge against the strop. When the latter is reciprocated in the opposite direction, rack 9 55 will turn the parts above described in the opposite direction, to turn the holder 26 and razor 38 to present the opposite side of the edge to the strop, the spring 19 sliding on gear 18 just as soon as the razor blade is 60 properly pressed against the strop and this spring will maintain this pressure throughout the stroke of the strop. In honing, the hone must move toward the edge of the razor as indicated by the arrow in Fig. 2. To 65 hone, screw 30 is removed, and holder 26

with shaft 27 and pinion 28 are removed from between plates 1 and 2. Pinion 28 is reversed on shaft 27 so that its hub extension 29 projects outwardly and the shaft 27 is then positioned in the lower pair of holes 70 25 and secured by the screw 30. Pinion 28 will then mesh with gear 18 which will insure the holder 26 and razor 38 being properly turned at both ends of the stroke of hone 6 to so position the razor that the hone 75 will be moved toward the edge of the razor as is necessary to properly hone.

The razor clamping holder 26 is constructed so that the razor blade is to be slid in from the end of the holder, but I do not re- 80 strict myself to any particular form of razor holder.

Various slight changes might be made in the general form and arrangement of the parts described without departing from my 85 invention and hence I would have it understood that I do not restrict myself to the precise details set forth but consider myself at liberty to make such changes and alterations as fairly fall within the spirit 90 and scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a machine of the character described, 95 the combination with a frame, of a sharpening device adapted to be reciprocated in the frame, a razor holder in the frame above the sharpening device, a rack on the lower face of the sharpening device, a shaft in the 100 frame, a gear fixed to said shaft and in mesh with the rack on the sharpening device, a large gear adapted to transmit motion to the razor holder to turn the latter at the end of each stroke of the sharpening device, and a 105 spring on said shaft frictionally engaging said large gear.

2. In a machine of the character described, the combination with a frame, of a sharpening device adapted to be reciprocated in the 110 frame, a razor holder in the frame above the sharpening device, a rack on the lower face of the sharpening device, a shaft in the frame, a gear on said shaft meshing with the rack, a large gear loose on the shaft and 115 adapted to transmit motion to the razor holder to turn the latter at the end of each stroke of the sharpening device, a spring on said shaft frictionally engaging said large gear, and means for adjusting said shaft 120 longitudinally to adjust the tension of the spring and its frictional engagement with the gear.

3. In a machine of the character described, the combination with a frame, of a sharpening device adapted to be reciprocated in the 125 frame, a razor holder in the frame above the sharpening device, a shaft in the frame, a gear fixed on the shaft, a rack on the sharpening device meshing with the gear, a large 130

gear loose on the shaft, and adapted to transmit motion to turn the razor holder at the end of each stroke of the sharpening device, a spring on the shaft frictionally engaging the large gear, a sleeve in the frame supporting one end of said shaft, and a screw in said sleeve engaging the end of the shaft and adapted to move the same longitudinally to adjust the tension of the spring and regulate the frictional engagement of the spring with the large gear.

4. In a machine of the character described, the combination with a frame, of a sharpening device adapted to be reciprocated in the frame and comprising a hone and a strop removably secured thereon, a razor holder above the sharpening device, two train of gearing operated by the reciprocating sharpening device, said frame having two pairs of bearings for the holder one to be used when honing and the other when stropping, a

shaft supporting the razor holder and a pinion on said shaft adapted to be positioned on the shaft to engage either of the trains of gearing.

5. In a machine of the character described, the combination of a sharpening device, comprising a hone and a strop, said strop having an angle at one end located over one end of the hone, and a spring wire clamp on the other end of the hone to bind that end of the strop, said hone having a groove in its end into which the strop is held by the clamp.

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

ELISHA ASBURY CONWAY.

Witnesses:

JACOB WAGNER,
EDWARD LOWRY.