

No. 751,422.

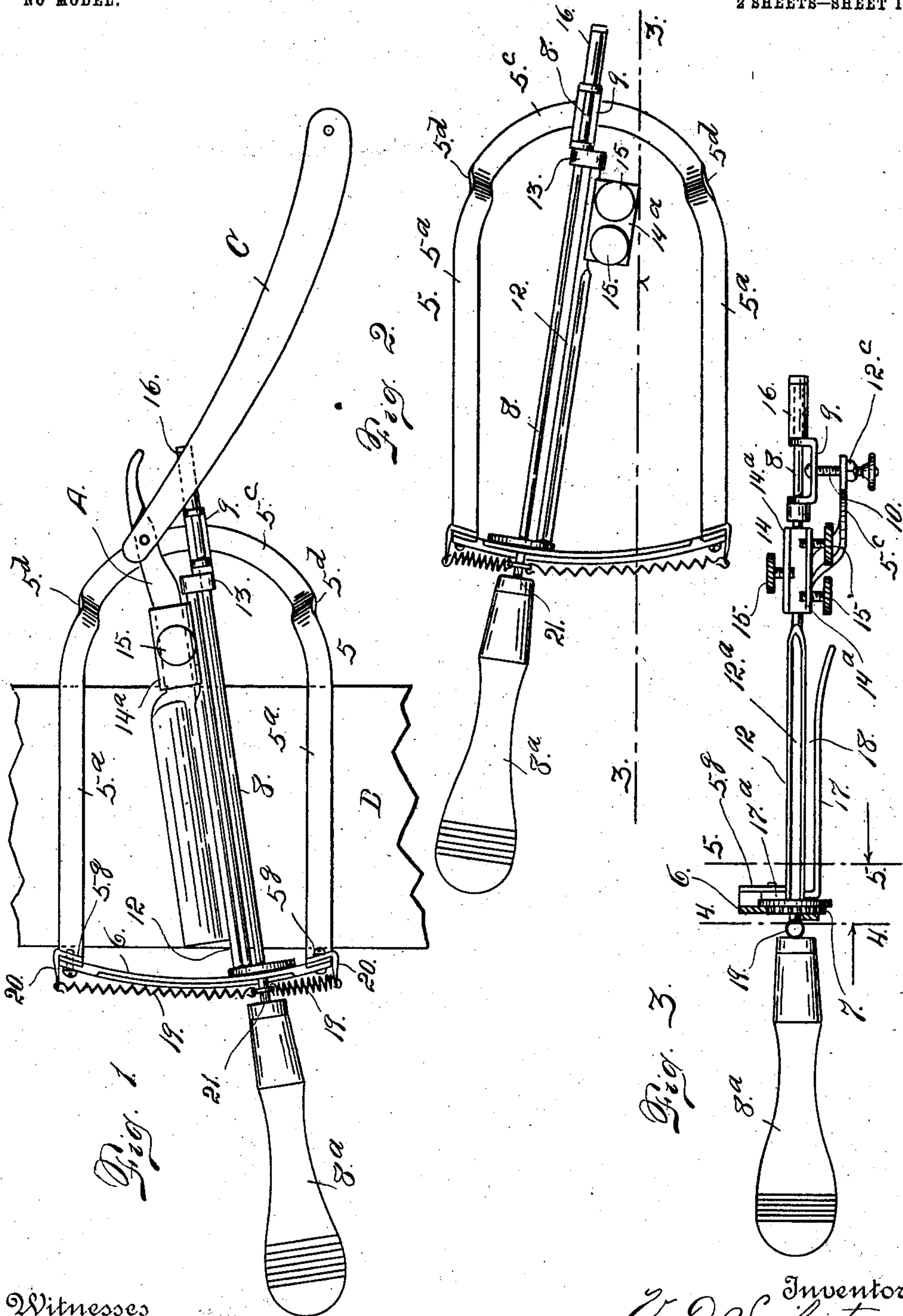
PATENTED FEB. 2, 1904.

V. D. SWIHART.
RAZOR STROPPER.

APPLICATION FILED AUG. 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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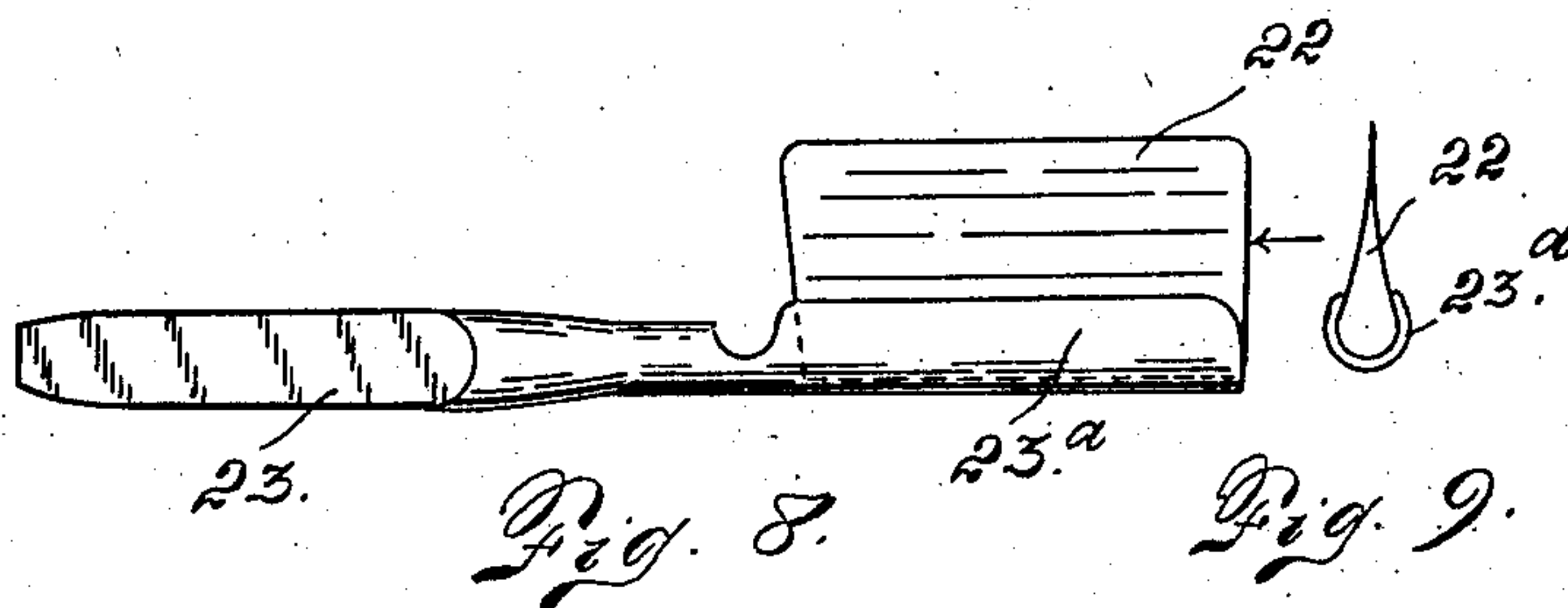
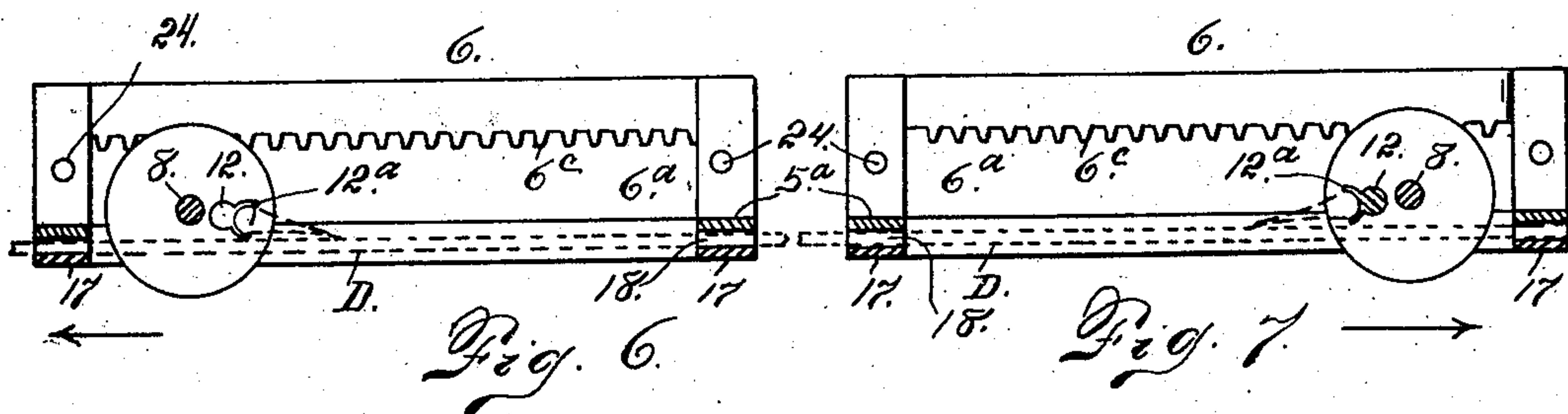
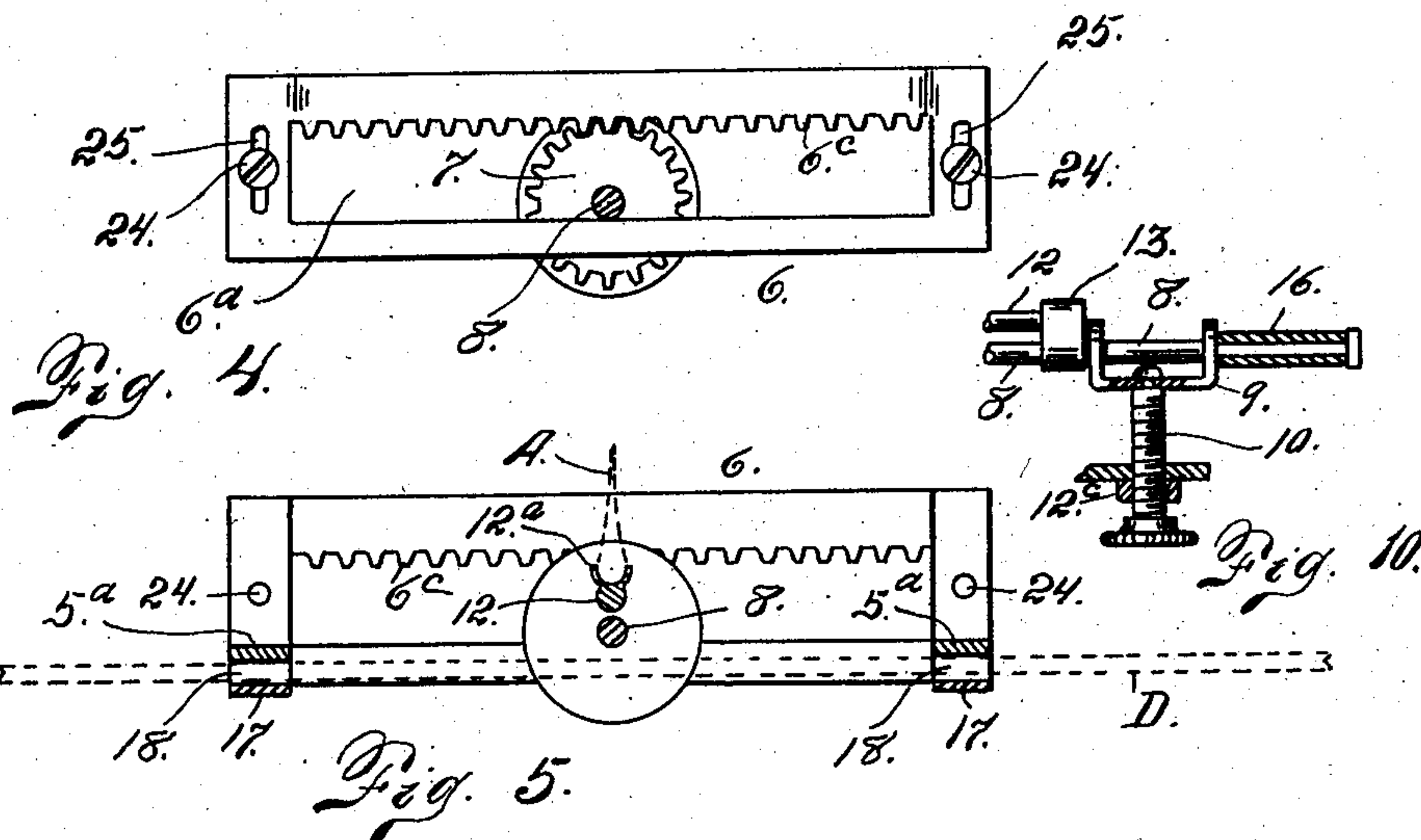
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UNITED STATES PATENT OFFICE.

VIRGIL D. SWIHART, OF DENVER, COLORADO.

RAZOR-STROPPER.

SPECIFICATION forming part of Letters Patent No. 751,422, dated February 2, 1904.

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To all whom it may concern:

Be it known that I, VIRGIL D. SWIHART, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Razor-Stroppers; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in razor-stropping devices, my object being to provide an article of this class which shall enable the user to sharpen a razor without the exercise of any particular skill.

The device consists of a frame upon which a shaft is mounted to oscillate, the said shaft being provided with a handle which is made fast thereto. Upon this shaft is journaled a pinion and a short crank, the pinion and crank being suitably separated. The razor-holder is attached at one extremity to the pinion a short distance from the center of the latter and at the opposite extremity of the crank. This pinion meshes with or engages a toothed rack mounted on the frame, whereby as the handle is moved back and forth and the shaft is oscillated the holder is given partial rotations in reverse directions to the end that the razor to be sharpened may be rapidly turned from one side to the other, as is necessary during the stropping operation. Located underneath the body of the frame and supported thereby is a pair of arms which support the strop during the sharpening operation in the proper position to engage the razor as the latter is manipulated.

Having briefly outlined my improved construction and the function it is intended to perform, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a top or plan view of my improved device, showing the razor in place. Fig. 2 is a similar view of the de-

vice with the razor removed. Fig. 3 is a section taken on the line 3 3, Fig. 1, viewed in the direction of the arrow. Figs. 4 and 5 are sections taken on the lines 4 4 and 5 5, respectively, Fig. 3, viewed in the direction of the arrows and shown on a larger scale. Figs. 6 and 7 are views similar to Fig. 5, showing the razor-blade in two different positions. Fig. 8 is a detail view of a safety-razor and holder, the latter being adapted for use with my improved device. Fig. 9 is an end view of the same. Fig. 10 is a detail view of the adjusting-screw upon which the razor-holder oscillates.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate a frame composed of two arms 5^a, connected at one end by an integral part 5^c, depressed below the plane of the arms, as indicated by the bends 5^d. The arm extremities remote from the part 5^c are connected by a slotted frame 6. Above the opening or slot 6^a of this frame the latter is cogged or toothed, as shown at 6^c, forming a rack, which is engaged by a pinion 7, loose on a shaft 8, whose extremity remote from the pinion is mounted on a U-shaped bracket 9. This bracket is journaled on the upper extremity of a screw 10, the latter being threaded in the center of the part 5^c of the main frame and held in the desired position of adjustment by a lock-nut 12^c.

The shaft 8 is provided with a handle 8^a, the latter being made fast to the shaft. As this handle is moved back and forth in a horizontal plane the shaft 8 oscillates from the screw 10 as a center. The pinion or gear 7 being mounted on the shaft and meshing or engaging the rack 6^c is made to make partial rotations in reverse directions as the handle and shaft are oscillated.

The razor-holder 12 consists of a small bar made fast to the pinion just beyond the shaft 8 at one extremity and to a short crank 13 at the opposite extremity, the said crank being journaled on the shaft 8. A portion of the bar 12 is grooved, as shown at 12^a, to fit the back of the razor when the latter is in place. Mounted on the bar 12, near the rear end thereof or that farthest to the right in Figs.

1, 2, and 3, is a clamping device composed of a part 14, having two sides 14^a arranged to embrace the blade of the razor on opposite sides. In these two side parts 14^a are threaded set-screws 15. As shown in the drawings, two of these screws are threaded in one part 14^a and one screw in the other part. When the razor is in place, as shown in Fig. 1, the shank A is inserted in the part 14, while the heel or back of the blade engages the groove 12^a of the holding-bar 12. The set-screws 15 are then tightened on opposite sides of the shank, thus holding the razor securely in place. The rear extremity of the shaft 8 extends beyond or to the right of the bracket 9, as shown at 16, and this protruding part of the shaft passes between the two parts of the razor-handle C when the razor is applied to the holder, as heretofore explained. By virtue of this construction the razor is more securely held in place on the stropper during the sharpening operation.

Between the upwardly-bent extremities 5^a of the main frame-arms 5 and the slotted frame 6 are secured the upwardly-bent ends 17^a of arms 17, which extend below the main frame-arms and, in combination with the frame-arms 5^a, forming a guideway for the razor-strop D. (See Fig. 1 of the drawings.) This guideway, which is designated 18 in Fig. 3 of the drawings, is opened at its rear or right-hand extremity to permit the entrance of the razor-strop preparatory to use.

In order to maintain the razor-holder normally in such a position as to cause the edge of the razor to point upwardly, I employ two coil-springs 19. The outer extremities of these springs are connected with projections 20, mounted on the frame, while their inner extremities are connected with a ring 21, made fast to the shaft 8 between the pinion and the adjacent extremity of the handle. During the razor-sharpening operation these springs are alternately compressed and distended. When the razor-holder, the shaft, and the handle are in the position shown in Fig. 1, one of the springs 19 is compressed and the other is distended or stretched, as shown in said figure, while when the corresponding parts are in the position shown in Fig. 2 of the drawings the condition of the springs is reversed, the one previously distended being compressed and the one previously compressed being distended. The strength and arrangement of these springs are such that when the handle and its connected parts are left to themselves the handle will assume a central position midway between the two arms of the main frame, thus retaining the razor-holder in position for the insertion of the razor or, if the razor is in place, in such a position as to throw its edge upwardly, whereby it may be readily removed after the completion of the sharpening operation.

From the foregoing description it is be-

lieved that the use and operation of my improved device will be readily understood.

Assuming that the razor is applied to the holder in the manner heretofore explained, the strop D, which is held in the usual way, is slipped into the guide 18 of the frame. The handle 8^a is then moved sufficiently in one direction to throw one of the flat sides of the razor against the strop D. The razor-stropping device is then moved on the strop the desired distance in one direction. Then the handle 8^a is moved sufficiently in the opposite direction to throw the other flat side of the razor to engagement with the strop. This is accomplished by virtue of the engagement of the pinion 7 with the rack of the slotted frame. The razor-stropping device is then moved on the strop in the opposite direction. In this way the handle is moved back and forth and the stropping device also moved back and forth on the strop, as will be readily understood, until the sharpening operation is completed. The three positions of the razor are illustrated in Figs. 5, 6, and 7. In Fig. 5 the edge of the razor is pointed upwardly, indicating that the holder is in the normal position. In Fig. 6 one side of the blade is thrown against the strop D, while in Fig. 7 the opposite side of the blade is thrown against the strop.

In Figs. 7 and 8 a safety-razor 22 is illustrated. In order to sharpen the blade of a safety-razor, I employ a special construction of holder, which is designated 23 in the drawings. One extremity 23^a of this holder consists of a spring-clasp, in which the blade 22 may be inserted, while the other part of the holder consists of a handle 23^c, adapted to be placed in the clasp of the holder and held by the said screws, which are applied thereto on opposite sides in the same manner as they are applied to the shank of the ordinary razor, as heretofore explained. Hence for the purpose of sharpening a safety-razor the only change made is the employment of a holder 23 for the safety-blade. The sharpening operation is then completed in the same manner as just explained when speaking of sharpening the ordinary razor.

The slotted frame 6 is connected with the main frame by means of set-screws 24, passing through slots 25 and threaded in the upturned extremities of the main frame. By the movement of the slotted frame up or down the razor-holder may be vertically adjusted with reference to the razor-strop, whereby the position of the blade of the razor when thrown downwardly or toward the strop may be regulated as desired. It will also be understood that by the proper manipulation of the set-screws which clamp the razor in place the razor-blade may be laterally adjusted at will, since the clasp in which the shank of the blade is inserted is considerably wider than the thickness of the shank. This construction permits

adjustment of the character just explained. While the slotted frame 6 permits adjustment of the razor-holder at one end of the frame, the set-screw 15 provides for the corresponding adjustment at the opposite end of the frame.

Having thus described my invention, what I claim is—

1. A razor-stropper comprising a main frame, a shaft mounted to oscillate thereon but having no rotary movement, a handle made fast to the shaft, a pinion journaled on the shaft and engaging a rack formed on the frame at the extremity remote from the center of oscillation of the shaft, a crank journaled on the shaft remote from the said pinion, and a razor-holder connected at one extremity with the pinion outside of its center and at its other extremity with the crank, the lower portion of the main frame being provided with a holder and guide for the razor-strop, substantially as described.

2. The combination of a main frame consisting of two separated arms, connected at one extremity with an integral part depressed below the plane of the arms, the opposite extremities of the said arms being connected by a slotted frame having a toothed or cogged rack located above the slot, a shaft mounted to oscillate on the frame, from a point remote from the slotted frame, a lateral projection loosely mounted on said shaft, a gear or pinion loosely mounted on the shaft and meshing with the toothed rack of the slotted frame, a razor-holder whose respective extremities are connected with the pinion and the said lateral projection, and a handle applied to the shaft whereby the latter may be oscillated and the razor-holder given alternate movements in reverse directions, substantially as described.

3. In a razor-stropping device, the combination of a main frame, a slotted frame having a rack on one side of the slot, a razor-holder, and means for turning the razor from side to side as required in the stropping operation, the frame of the device being provided with an open guideway for the strop.

4. The combination of a main frame having two separated arms, a guide for the strop connected with the frame, the arms of the main frame being connected at both extremities, the connection at one extremity of the frame con-

sisting of a slotted part having a toothed rack, a non-revoluble shaft mounted to oscillate from a point at one end of the frame, and projecting through the opening of the slotted part at the other end of the frame, a pinion or gear journaled on the shaft and engaging the toothed rack of the frame, and a razor-holder mounted to travel with the shaft and rotate with the pinion.

5. In a razor-stropper, the combination with a main frame, of a slotted frame located at one end of the main frame and having a cogged rack, a shaft mounted to oscillate on the main frame and projecting through the slot of the slotted frame, a pinion loose on said shaft and engaging the rack of the slotted frame, and a razor-holder mounted to turn on the shaft and connected in operative relation with the pinion.

6. In a razor-stropping device, the combination of a main frame, a slotted frame attached to the main frame and having a rack on one side of the slot, a non-revoluble shaft projecting through the slot and mounted to oscillate on the main frame, and a razor-holder mounted to rotate on the shaft, and a pinion loose on the shaft with which pinion the razor-holder is connected beyond the axis of the pinion.

7. The combination of a frame, a razor-holder mounted thereon to oscillate and rotate, and means for adjusting the said holder vertically with reference to the frame.

8. The combination of a main frame having a set-screw at one extremity and a slotted frame at the other extremity, the slotted frame having a rack, a razor-holder mounted to oscillate from the set-screw as a center and passing through the opening of the slotted frame, a pinion engaging the rack of the slotted frame and connected with the razor-holder for rotating the same, the slotted frame being vertically adjustable on the main frame, and cooperating with the set-screw to adjust the razor-holder.

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

VIRGIL D. SWIHART.

Witnesses:

A. J. O'BRIEN,
DENA NELSON.