G. F. PATTERSON.

AUTOMATIC RAZOR STROPPER.

APPLICATION FILED MAR. 12, 1910.

982,859. Patented Jan. 31, 1911.

2 SHEETS—SHEET 1.

FIG. 1

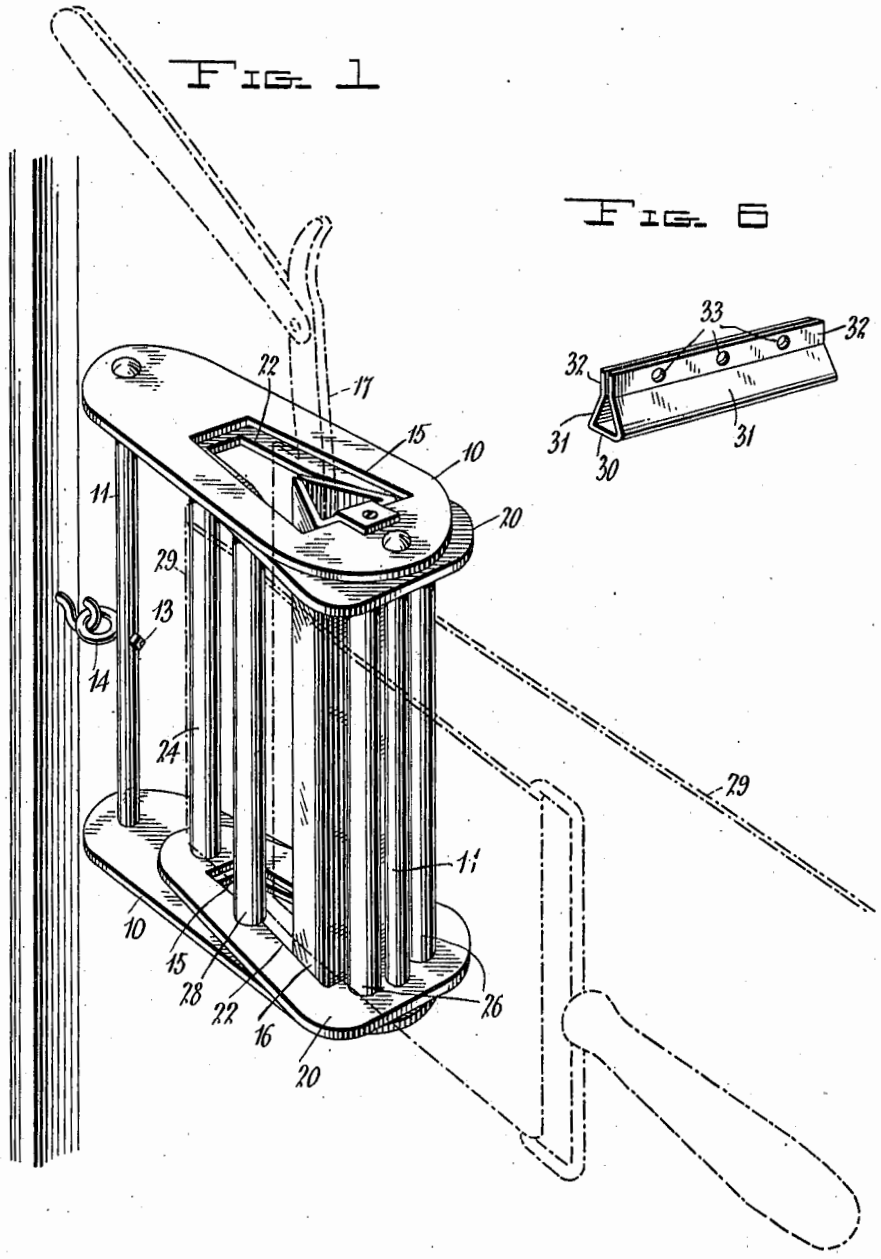

FIG. 6

Witnesses

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2 SHEETS—SHEET 2.

FIG. 2

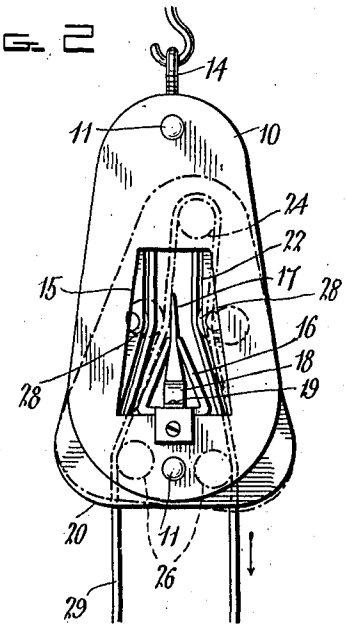


FIG. 3

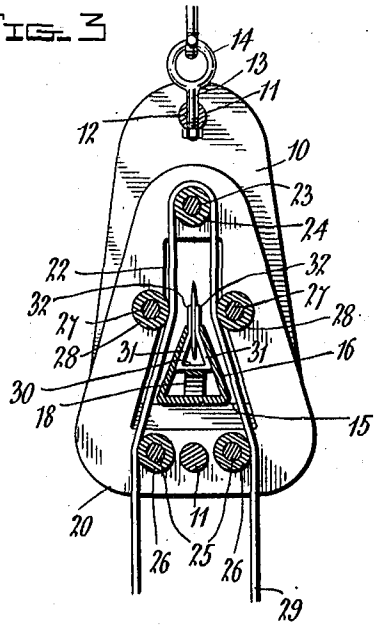


FIG. 4

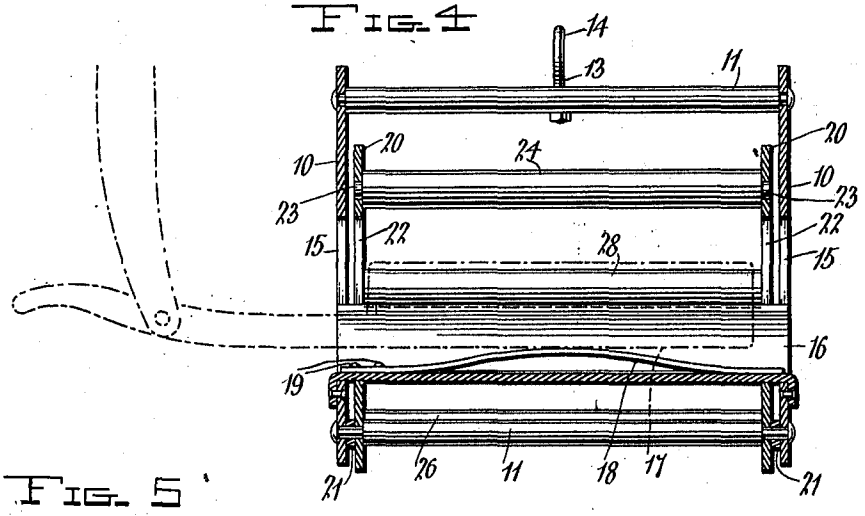
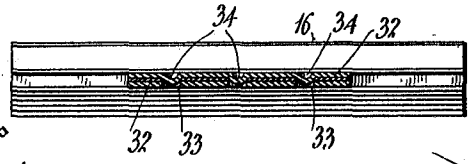


FIG. 5



Witnesses

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AUTOMATIC RAZOR-STROPPER.

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Application filed March 12, 1910. Serial No. 548,943.

To all whom it may concern:

Be it known that I, GEORGE F. PATTERSON, a citizen of the United States, residing at Tennallytown, District of Columbia, have invented certain new and useful Improvements in Automatic Razor-Strop pers; 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 razor stroppers.

In the razor stroppers heretofore employed the strop itself has been supported on the main frame and the blade which it is desired to sharpen has been carried in a blade holder which, by means of certain mechanism, shifts from side to side of the main frame as the strop is drawn to and fro through the machine. This results in more or less vibration being given to the blade, and the principal object of the present invention is to provide an automatic razor stropper wherein the blade will be held stationary in the main frame while the strop supporting member will move from side to side of said main frame, being suitably connected thereto to permit such movement.

Another object of the invention is to provide a stropper of this class with a main frame whereto the strop carrying member is pivoted in such manner that before the strop shall begin to move through the stropper the member will be so positioned that the razor blade will lie against the strop with its edge disposed in the direction of movement of the strop, thus preventing any possibility of cutting the strop.

A third object of the invention is to provide a stropper of this character wherein the strop carrying member will move automatically from side to side without the intervention of springs or the like, the pull of the strop accomplishing this movement by direct action on the strop carrying member.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claim.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a perspective view of the stropper showing it in position ready for use and with the strop indicated in dotted lines the better to show the construction of the stropper. Fig. 2 is an end view of the stropper. Fig. 3 is a transverse section through the stropper. Fig 4 is a side view of the stropper. Fig. 5 is a detail showing the blade holding clip with means for holding safety razor blades held therein. Fig. 6 is a perspective view of the novel means for holding safety razor blades.

The main frame of this invention consists of a pair of end plates 10 and these end plates are connected at the top and bottom by means of rods 11 the upper rod whereof is provided with reduced ends which fit through suitable openings in the end plates and which provide for a shoulder at each end of said rod. The lower rod is similar in construction but the reduced ends are somewhat longer for a purpose hereinafter to be described. These reduced ends are preferably riveted over the end plates 10 and in the upper rod 11 there is provided an opening 12 wherethrough passes the stem 13 of a hanger 14 by means of which the device may be suspended. The main frame is provided with openings 15 in the end plates 10 and extending from one of these openings to the other is the blade clip 16. This blade clip consists of a plate of metal bent to form a triangular tube, the edges of the plate lying upward and in closely spaced relation. The plate 16 is preferably of resilient material so that when a razor is inserted between the edges of the plate as indicated at 17 these edges will spring apart slightly and will hold the razor firmly in position.

In order that the razor blade may project properly from the clip 16 there is provided a leaf spring 18 upwardly bowed at the middle and one end of this leaf spring is fixed to the clip 16 as shown at 19 while the other end rests on the bottom of said clip. It will be observed from the various figures that when a razor is inserted it is in such position that the back of the razor rests on the upwardly bowed portion of the spring 18 with the consequence that its edge is protruded properly through the edges of the plate forming the clip 16. The main frame and this clip thus constitute the razor supporting element of the device.

Upon the lower rod 11 is pivoted a pair of secondary frame ends 20 each of which is spaced from a respective main frame end 10 by a washer 21. It will now be understood that the rod 11 necessarily has its ends re-

duced for a greater length in order to permit these frame members 20 to lie inside of the main frame. The frame members 20 are provided with openings 22 similar to the openings 15 previously described. Connecting the upper ends of the frame members 20 is a rod 23 whereon is a sleeve 24, the latter being freely revoluble on the rod 23. On each side of the lower rod 11 the frame members 20 are connected by means of a rod 25 and these last rods are each provided with a sleeve 26. Between the top and bottom of the frame are also provided other rods 27 whereon are sleeves 28. From an inspection of Fig. 3 it will be observed that the position of the rods 23, 25 and 27 is such than when their sleeves are in position a strop stretched over these rods as indicated at 29 will be flexed inwardly by the sleeves 28 between the upper and lower sleeves 24 and 26 respectively. Considerable friction will thus be set up so that if the strop be pulled upon in the direction indicated by the arrow in Fig. 2 the strop carrying member or auxiliary frame will immediately swing to the position indicated by the dotted lines of said figure. This effect will be produced by the pull of the strop and by swinging the strop to such position as to be out of contact with the sleeve 26 a greater pressure may be obtained between the ascending side of the strop and the edge of the razor, this pressure varying with the angle at which the descending side of the strop is pulled.

In Figs. 3, 5 and 6 is illustrated the device for holding safety razor blades. This device consists of a metal plate having a central portion 30 from the longitudinal edges of which extend upwardly and inwardly bent portions 31 which terminate in parallel portions 32 closely juxtaposed. The metal of which this holder is made is resilient and the shape is such that the spring 18 will bear against the portion 30 and the sides of the clip 16 will engage the portions 31 while the portions 32 will project upward through the edges of said clip when the holder is in proper position in said clip. The holder furthermore has openings 33 formed through one of the portions 32 and struck up projections 34 in the other portion 32 arranged opposite to said openings to coact therewith. These projections serve to pass through the openings common in safety razor blades and hold the same firmly.

In the operation of the device the razor blade is inserted in the clip 16 as previously described and the ends of the strop, these being preferably provided with handles not deemed necessary here to be shown, are grasped and alternately pulled. If the hands are kept close together the pressure on the blade will be relatively light while the farther the hands are spread apart the greater will this pressure be.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is wished to include all such forms as properly come within the scope of the appended claim.

Having thus described the invention, what is claimed as new, is:—

In a razor stropper, a main frame including end plates and upper and lower tie rods, said end plates having centrally disposed openings formed therein, a secondary frame including end plates pivoted to the lower tie rod, said last mentioned end plates being provided with centrally disposed openings adapted in certain positions of the secondary frame to register with the openings of the plates of the main frame, a blade-carrying clip projecting through the said openings of the frames, said clip being provided with ears relatively arranged to engage over the outer faces of the plates of the main frame, an upper roller centrally disposed and connected to the upper ends of the plates of the secondary frame, spaced lower rollers disposed on either side of the lower tie rod and connected to the last mentioned plates, rollers disposed intermediate the said upper and lower rollers and connected to the said plates on either side of the openings thereof, and a strop led outside of one of the bottom rollers inside the intermediate roller on the same side of the frame over the upper roller, inside of the remaining intermediate roller and thence outside of the remaining bottom roller.

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

GEORGE F. PATTERSON.

Witnesses:
M. T. Miller,
S. R. Brattan.