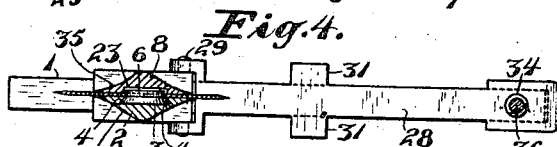
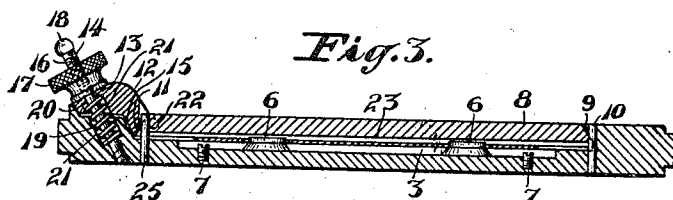
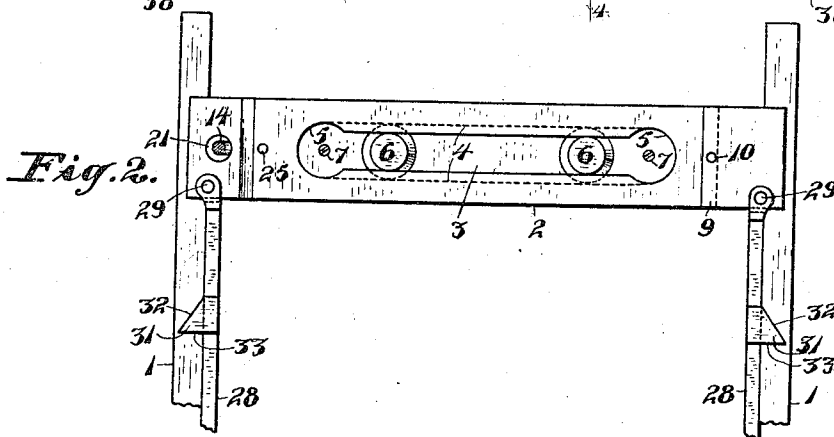
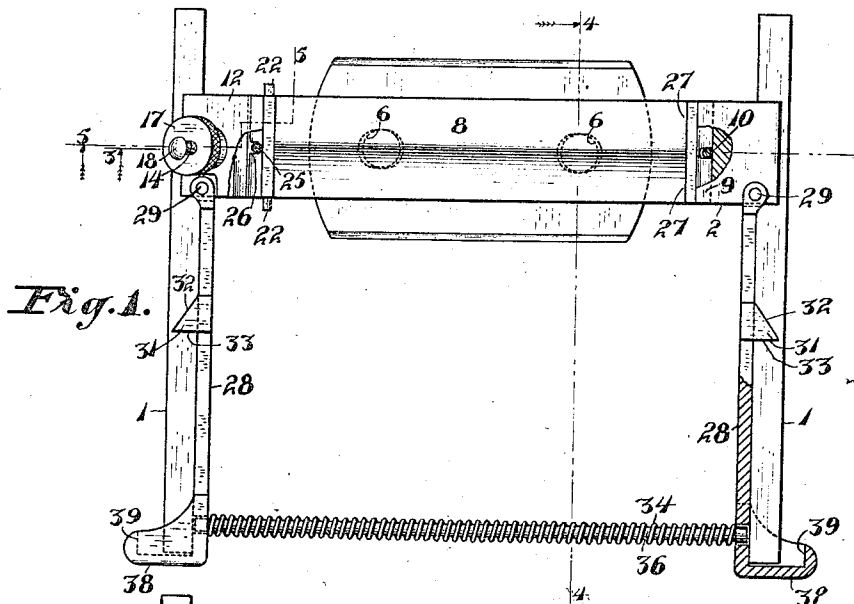


J. A. CARDINELL.
 RAZOR BLADE HOLDER.
 APPLICATION FILED MAR. 12, 1913.

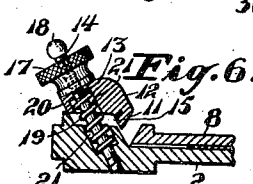
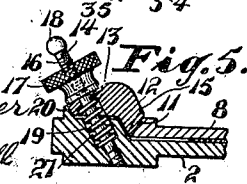
1,064,886.

Patented June 17, 1913.



WITNESSES:

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JOHN A. CARDINELL, OF SAN FRANCISCO, CALIFORNIA.

RAZOR-BLADE HOLDER.

1,064,886.

Specification of Letters Patent. Patented June 17, 1913.

Application filed March 12, 1913. Serial No. 753,739.

To all whom it may concern:

Be it known that I, JOHN A. CARDINELL, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Razor-Blade Holders, of which the following is a specification.

The present invention relates to devices for holding safety razor blades when sharpening the blade, and the object of the invention is to provide such a device which will securely hold almost any kind of razor blade and so constructed that the blade can very quickly and easily be inserted in, and removed from, the holder.

In the accompanying drawing, Figure 1 is a plan view, parts being broken away, of my improved holder, showing a blade therein; Fig. 2 is a broken similar view, an upper clamping plate being removed and the blade not being shown; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 1; and Figs. 5 and 6 are detail sectional views of a clamp in different positions.

Referring to the drawing, 1 indicates two parallel side bars of my improved holder, connected with each other near their inner ends, by a lower clamping plate 2. The upper surface of this lower clamping plate is depressed in the middle and for the greater portion of its length, and is flat, except that, in the center, there is a longitudinal groove 3, having sides 4 undercut for the greater part of its length but not at its ends 5, which are rounded. Within said groove are slidable pins 6, of which I have herein shown two, each pin being in the present instance circular in form and having an enlarged or beveled base engaging the undercut sides of the groove and thereby retaining the pin in the groove. At the ends of the groove, however, said pins can be removed from the groove by unscrewing small screws 7, screwed into the bottom of the groove at about the centers of said ends 5 and projecting above said bottom, and which normally prevent the pins from being moved into said ends. Upon said lower clamping plate an upper clamping plate 8 of the same width as the lower clamping plate is secured in the following manner: At both ends it is sloped outwardly downward or beveled, one end engaging an undercut raised portion 9 of the lower

clamping plate 2, and having a central recess adapted to engage a pin 10 by which said end can be quickly centered, while the other end is adapted to be engaged by an undercut side 11 of a clamp 12 having an oblique hole 13, through which passes a stem 14, screwed into the corresponding end of the lower clamping plate and extending upward therefrom obliquely away from the other end of the clamping plate, its upper portion 16 being threaded. Said clamp is formed with two oblique surfaces, 15, 20, parallel with said stem, which engage similar oblique surfaces of the adjacent end of the lower clamping plate, and guide said clamp in its downward movement. Engaging the threaded portion 16 is a nut 17, which, when screwed upon said stem, bears down upon an upper surface of said clamp and presses it upon the corresponding end of the upper plate, firmly clamping it to the lower plate. A stop 18, screwed upon the extreme upper end of said stem, limits the outward movement of the nut 17. When the nut 17 is unscrewed, a spring 19 around stem 14 in recesses 21 in the lower and upper clamping plates, automatically raises said clamp, so as to release the corresponding end of the upper clamping plate. Said latter end is formed with laterally projecting fingers 22, which can be easily grasped by the fingers of the user, to raise the upper clamping plate from the lower. The upper clamping plate is formed with a longitudinal groove 23 into which extend the upper ends of the pins 6, and which is of just sufficient width to receive the ends. It is for the purpose of permitting the pins to pass through holes in safety razor blades of various styles, that said pins are movable in the groove 3 to any position. It can readily be seen that by means of these pins and the clamp 12, the blade is very firmly secured between the clamping plates 2, 8. The engagement of the upper ends of the pins with the groove 23 of the upper clamping plate facilitates the placing of said clamping plate in position upon the lower clamping plate. For a razor blade which does not have any holes, slots or notches, and with which, therefore, the pins have to be removed from the groove 3, I provide, for the purpose of centering the upper clamping plate relatively to the lower, a vertical stationary pin 25 at the end next to the clamp 12, of the depressed portion of the lower clamping plate, which

engages a notch 26 in the adjacent end of the upper clamping plate.

The side bars 1 are adapted to slide in guides in a blade-holding frame of a sharpening machine, such as disclosed in my application Serial No. 729,213, filed Nov. 4, 1912, for U. S. patent, and by being slid in said grooves to be brought into proximity to two oscillatory abrading rollers, a blade held in said holder being vibrated, so that opposite edges of the blade are alternately abraded on opposite sides by said rollers. In order to permit said rollers to so engage the opposite sides of edges of the blade, the outer sides of the clamping plates are formed with central ridges 27, and are concaved, as shown at 35, from said ridges to the edges. To secure a holder in the blade holder frame of said machine, I provide latch bars 28, contacting with the inner sides of the bars 1, and each pivoted to the corresponding bar at its inner end 29, closely adjacent to the clamping plates. Each latch bar is formed with latches 31 respectively in contact with the upper and lower surfaces of the corresponding bar 1, each latch being formed with a beveled or oblique inner face 32 and a square or transverse outer face 33. These latches are adapted to engage correspondingly formed notches in the guides of the blade holder frame and the inner faces of the latches are made oblique in order that they will be automatically pushed inward or toward one another when the blade holder is moved inwardly in the guides of said frame. When the rear faces of the latches have passed the rear faces of the notches in the guides, the latches are caused to move outwardly by a coiled spring 34, pressing against their inner sides, and coiled around a rod 36 passing through holes in the latch bars and the ends of which, abutting against the inner sides of the outer terminal portions of the side bars, prevent said portions moving inward or toward each other. To allow the blade holder to be withdrawn, said latch bars are pressed inwardly, or toward one another, to release the rear faces of the latches from the rear faces of the notches in the guides, by means of two handles 38 at the outer ends of the respective latch bars, which handles surround the outer ends of the side bars and have outer portions 39 which, by abutment against the outer sides of the side bars, limit the inward movement of the latch bars.

I claim:—

1. A blade holder comprising side bars, upper and lower clamping plates between said side bars, one of said clamping plates having a longitudinal groove, blade-holding pins slidable in said groove, and means for securing the other clamping plate to the first-named plate.

2. A blade holder comprising side bars,

upper and lower clamping plates between said side bars, one of said clamping plates having an undercut longitudinal groove, a blade-holding pin slidable in said groove having an enlarged base engaging the undercut portion of the groove to be retained therein, and means for securing the other clamping plate to the first-named plate.

3. A blade holder comprising side bars, a lower clamping plate connecting said side bars and having a longitudinal groove, blade-holding pins slidable in said groove, a removable upper clamping plate having a longitudinal groove arranged to receive the pins, and means for securing said upper clamping plate to the lower.

4. A blade holder comprising side bars, a lower clamping plate connecting said side bars and having a longitudinal undercut groove, a blade-holding pin slidable in said groove having an enlarged base engaging the undercut sides of the groove to be retained therein, a removable upper clamping plate having a longitudinal groove arranged to receive the head of the pin, and means for securing said upper clamping plate to the lower.

5. A blade holder comprising side bars, a lower clamping plate connecting said side bars, means carried thereby for engaging a razor blade, a removable upper clamping plate said lower clamping plate having an undercut terminal portion, and the upper clamping plate having downwardly and outwardly sloping terminal portions, one of them adapted to engage said undercut terminal portion, a movable clamp having a part adapted to engage the other downwardly and outwardly sloping portion of the upper clamping plate, and means for pressing said clamp thereon.

6. A blade holder comprising side bars, a lower clamping plate connecting said side bars and having a longitudinal groove, a slidable blade-holding pin carried thereby, a removable upper clamping plate recessed to receive the pin, said lower clamping plate having an undercut terminal portion, and the upper clamping plate having downwardly and outwardly sloping terminal portions, one of them adapted to engage said undercut terminal portion, a movable clamp having a part adapted to engage the other downwardly and outwardly sloping portion of the upper clamping plate, and means for pressing said clamp thereon.

7. A blade holder comprising side bars, a lower clamping plate connecting said side bars and having a longitudinal groove, a blade-holding pin movably carried thereby, a removable upper clamping plate recessed to receive the pin, said lower clamping plate having an undercut terminal portion, and the upper clamping plate having downwardly and outwardly sloping terminal portions,

one of them adapted to engage said undercut terminal portion, a movable clamp having a part adapted to engage the other downwardly and outwardly sloping portion of the upper clamping plate, and means for pressing said clamp thereon.

8. A blade holder comprising side bars, a lower clamping plate connecting said side bars, a slidable blade-holding pin carried thereby, a removable upper clamping plate recessed to receive the pin, said lower clamping plate having an undercut terminal portion, and the upper clamping plate having downwardly and outwardly sloping terminal portions, one of them adapted to engage said undercut terminal portion, a movable clamp having a part adapted to engage the other downwardly and outwardly sloping portion of the upper clamping plate, and means for pressing said clamp thereon, comprising an upwardly and outwardly extending pin secured to the lower clamping plate and threaded at its upper portion, said pin passing through an aperture in the clamp, and a nut screwed on said pin to impart pressure to the upper surface of said clamp.

9. A blade holder comprising side bars, a lower clamping plate connecting said side bars and having a longitudinal undercut groove, blade-holding pins slidable in said groove each having an enlarged base engaging the undercut sides of the groove to be retained therein, a removable upper clamping plate having a longitudinal groove arranged to receive the heads of the pins, said lower clamping plate having an undercut terminal portion, and the upper clamping plate having downwardly and outwardly sloping terminal portions, one of them adapted to engage said undercut terminal portion, a movable clamp having a part adapted to engage the other downwardly and outwardly sloping portion of the upper clamping plate, and means for pressing said clamp thereon.

10. A blade holder comprising side bars, a lower clamping plate connecting said side bars, means carried for engaging a razor blade, a removable upper clamping plate, said lower clamping plate having an undercut terminal portion, and the upper clamping plate having downwardly and outwardly sloping terminal portions, one of them adapted to engage said undercut ter-

minal portion, a movable clamp having a part adapted to engage the other downwardly and outwardly sloping portion of the upper clamping plate, means for pressing said clamp thereon, comprising an upwardly and outwardly extending pin secured to the lower clamping plate and threaded at its upper portion, said pin passing through an aperture in the clamp, a nut screwed on said pin to impart pressure to the upper surface of said clamp and a spring for normally raising said clamp.

11. A blade holder comprising side bars, upper and lower clamping plates between said side bars, means for securing said clamping plates together, one of said clamping plates having an undercut longitudinal groove, a blade-holding pin slidable in said groove having an enlarged base engaging the undercut portion of the groove to be retained therein, said groove having ends enlarged at the top, and screws screwed into the bottom of said groove in said ends to prevent movement of the pins thereinto.

12. A blade holder comprising side bars, upper and lower clamping plates between said side bars, means carried by one of said clamping plates for engaging a razor blade, means for securing the other clamping plate to the first-named plate, and means for centering said upper clamping plate upon the lower.

13. A blade holder comprising side bars, means extending between said side bars for holding a razor blade, latch bars pivoted at one end to said side bars apertured at their free ends, a rod passing through said apertures, its ends abutting against the side bars and a spring around the rod.

14. A blade holder comprising side bars, means extending between said side bars for holding a razor blade, latch bars pivoted at one end to said side bars apertured at their free ends, a rod passing through said apertures, its ends abutting against the side bars and a spring around the rod, said free ends loosely surrounding ends of the side bars to limit the movement of the side bars.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN A. CARDINELL.

Witnesses:

FRANCIS M. WRIGHT,
D. B. RICHARDS.