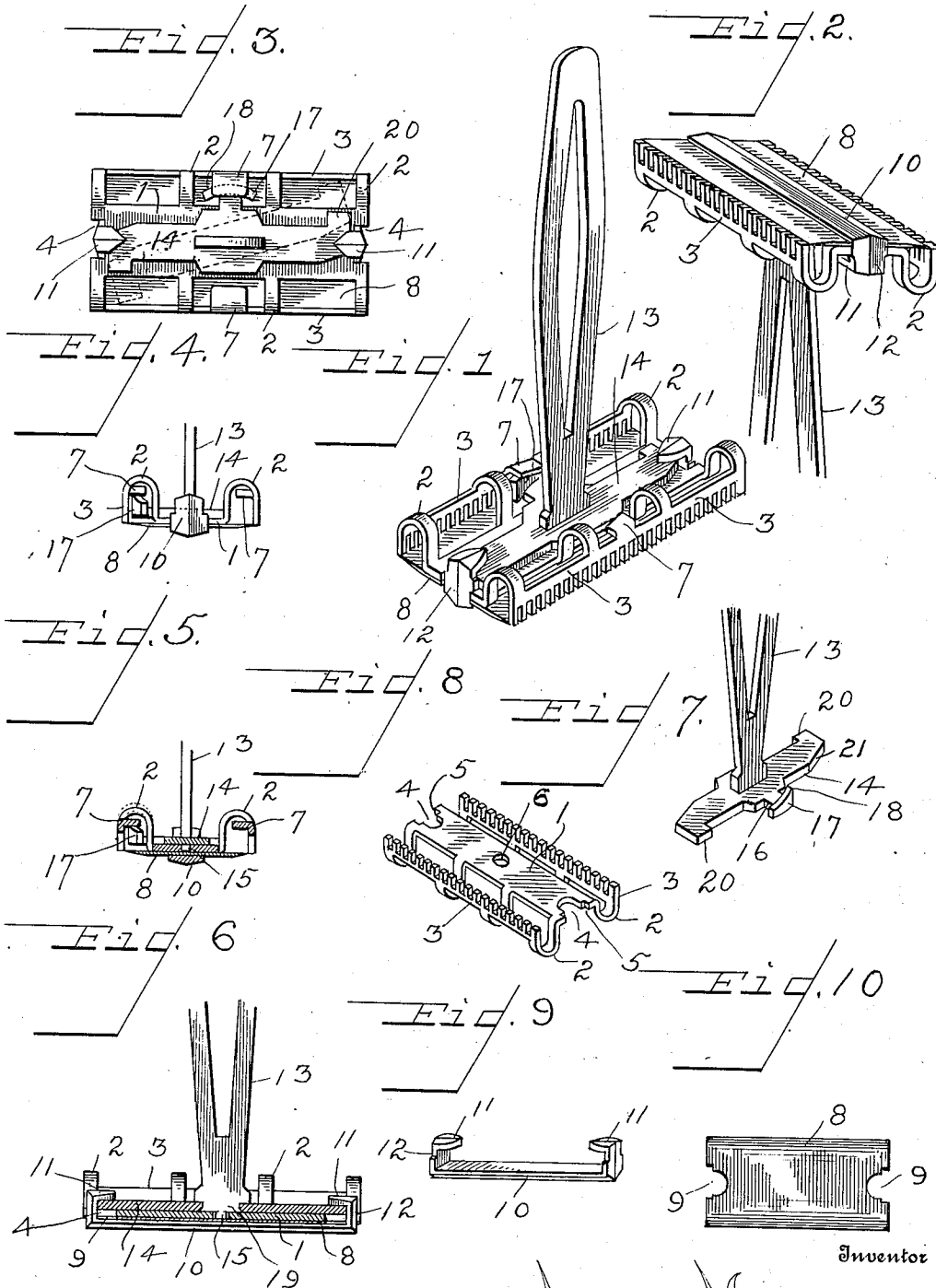


J. MOORE.
ADJUSTABLE SAFETY RAZOR.
APPLICATION FILED OCT. 17, 1910.

1,058,082.

Patented Apr. 8, 1913.



Witnesses
Harry F. McLean
E. Long

James Moore
J. Dewelllyn Walker Attorney

UNITED STATES PATENT OFFICE.

JAMES MOORE, OF DAYTON, OHIO.

ADJUSTABLE SAFETY-RAZOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES MOORE, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Adjustable Safety-Razors, of which the following is a specification.

My invention relates to razors, and particularly to that type of razors known generally as "safety" razors.

The object of the invention is to simplify the structure of such devices, whereby they will not only be cheapened in construction, but will be more efficient in use; light in weight, compact in form, made up of a minimum number of parts which are easily assembled or separated for cleaning or replacement of the blade, the parts being of such shape as to be interchangeable, and capable of being manufactured at minimum cost, and whereby the device will be unlikely to get out of repair.

A further object of the invention is to provide in such a device adjustment features whereby the blade and guard members may be relatively adjusted, enabling the user to shave to different degrees of closeness.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

Referring to the drawings, Figure 1 is a perspective view of the assembled device. Fig. 2 is a similar view of the device in reverse position. Fig. 3 is a plan view of the assembled device. Fig. 4 is an end elevation thereof. Fig. 5 is a transverse sectional view. Fig. 6 is a longitudinal sectional view. Fig. 7 is a perspective view of the handle member showing the engaging head. Fig. 8 is a perspective view of the frame member in inverted position. Fig. 9 is a perspective view of the binding bar. Fig. 10 is a plan view of the blade. Figs. 1 to 6 inclusive are drawn on an enlarged scale of approximately one-and-one-

half size, while Figs. 7 to 10 inclusive are approximately full size.

Like parts are indicated by similar characters of reference throughout the several views.

The instrument forming the subject matter hereof comprises four separable parts or members, the blade, the frame member, a binding bar, the blade being clamped between the binding bar and frame member, and a handle member having a head portion engaging the binding bar to hold the parts in adjusted position.

The frame member comprises a central plate portion 1, from the opposite edges of which project integral arms 2 curved into arch or U shapes and carrying the marginal toothed or serrated guard strips 3. The central or plate portion of the frame is flat throughout and is provided with notches or recesses 4 in the opposite ends thereof. The notches 4 are preferably although not necessarily shouldered as at 5, for the engagement of the binding bar as hereinafter described. The plate portion 1 is provided with a central opening 6. The frame member is preferably constructed of resilient or spring metal whereby the arched arms 2 will possess a limited degree of elasticity or resiliency.

The marginal guard strips 3 carried by the arms 2 occupy positions perpendicular to the plane of the central portion 1, and the guard strips terminate substantially flush or level with the under surface of the plate portion 1. The edges of the guard strips 3 are provided with a plurality of regularly spaced notches or recesses, thereby forming a series of teeth. The said guard strips are of a comb like formation, the ends of the teeth terminating level with the inner surface of the plate 1 to the plane of which the teeth extend perpendicularly. Located on each of the guard strips and projecting inwardly midlength thereof is an inclined lug 7. The frame member including the plate portion, the spring arms, the guard strips and lugs, is preferably formed integral from a single sheet of metal.

The blade 8 is of steel of extreme thinness, sharpened on its opposite edges, and

provided in its opposite ends with notches 9 corresponding to the notches 4—5 of the frame member. The blade 8 corresponds in length and width with the dimensions of the frame member, the sharpened edges of the blade extending substantially flush with the inner faces of the guard strips 3, and the notches 9 registering with the notches 4—5 of the frame member when the blade is in position, resting on the plate portion 1 of the frame member.

The blade is secured in position on the frame member by the binding bar 10 which comprises a straight bar centrally longitudinally disposed on the outer side of the blade 8, and having upwardly and inwardly bent extremities forming inwardly projecting lugs 11 extending through the notches 4 and 9 of the frame and blade respectively to a point beyond the plate portion 1 of the frame. The upright portions 12 of the binding bar engage in the shouldered portions 5 of the notches 4 of the frame and likewise in the notches 9 of the blade. The notches 4 and 9 are of sufficient size to permit the lug 11 of the binding bar to readily pass through said notches. The blade 8 is clamped in position between the binding bar and the plate portion 1 of the frame, and is held in proper alinement with the frame by the engagement of the ends 12 of the binding bar 10 in the notches 9 of the blade. The handle 13 may be of any suitable shape or material. A transversely arranged head 14 is carried on the handle, the length of which is substantially equal to the interior length of the binding bar 10 between the upwardly bent ends 12 thereof. On its under side the head 14 is provided with a projecting stud or pin 15 adapted to engage in the hole 6 in the plate 1 of the frame and form a pivotal connection upon which the handle 13 and head 14 are revolvable about the longitudinal axis of the handle 13. The opposite ends of the transverse head 14 are adapted to engage under the inwardly projecting lugs 11 of the binding bar to hold the parts in assembled position. This is accomplished by placing the handle portion on the frame member in a diagonal position as shown in Fig. 3 by dotted lines, with the stud 15 of the head engaging in the hole 6 of the frame, and giving to the handle and head a partial rotation which causes the extremities of the head 14 to pass under the lugs 11 of the binding bar as shown in solid lines in said Fig. 3 and as also shown in Figs. 1 and 6. The engagement of the head 14 under the lugs 11 will hold the parts securely in adjusted position until the head 14 is again turned to a diagonal position as shown by dotted lines, when the parts may be readily separated.

In order that the blade and frame may be

relatively adjusted to enable the user to shave more or less closely, or to compensate for the wearing away of the blade by repeated sharpening, there is provided upon the head 14, a lateral projection 16 carrying an inclined or cam shaped head 17, adapted to engage under the inwardly projecting lug 7 of one of the guard strips 3.

The relation of the inclined cam head 17 and the lug 7 is such that when the head 14 is in its normal position of engagement with the lugs 11 of the binding bar, the guard strip will be unaffected. However upon the rotation of the handle and head 14 to an extreme position, the opposite of that shown by dotted lines in Fig. 3, such as to bring the high point 18 of the cam head 17 under the lug 7, the guard strip 3 will be elevated away from the edge of the blade 8, the spring arms 2 yielding to permit such movement. Upon the return rotation of the head 14, whereby the cam head 17 is moved from under the lug 7, the spring arms 2 will return the guard strip 3 to normal position in proximity to the edge of the blade 8. The relative adjustment of the guard strip and blade may be regulated by giving to the handle and thereby by the head 14 and cam head 17, a greater or less rotation. The handle 13 and head 14 are reversible, so that the cam head 17 may be made to engage the lug 7 of either of the guard strips 3.

In attaching the handle 13 and head 14, the head is provided with a mortise to be engaged by a tenon 19 on the handle, from which tenon the stud 15 projects, as shown in Fig. 6. This form of connection is only incidental, and is not an essential feature of the construction. In order that the blade may be tightly clamped at all times, and to compensate for any slight variation in the thickness of the blade, or wear upon the parts, or any inequalities of manufacture, the ends of the head 14 are slightly curved upwardly, the head being to a slight degree resilient or flexible. To facilitate the entrance of the ends of the head 14 under the lugs 11, the advance corners of the head are chamfered as at 21. To maintain the engagement of the head 14 with the lugs 11 of the binding bar when the head is rotated to an extreme position for the purpose of adjusting the guard strip 3, the extremities of the head are provided with lateral extensions 20 which maintain the engagement with the lugs 11 of the binding bar when the head is in extreme position.

From the above description it will be apparent that there is thus produced an instrument of the character described, possessing the particular features of advantage before enumerated as desirable, but which

obviously is susceptible of modification in its form, proportions, detail construction, and arrangement of parts without departing from the principle involved, or sacrificing any of its advantages.

Having thus described my invention I claim:

1. The combination of a blade, a frame member comprising a bearing portion upon which the blade is secured, lateral spring arms extending from said bearing portion, a guard member carried by the lateral spring arms adjacent to the edges of the blade, a movable handle, an arm carried by the handle, a lug carried by the guard and engaged by the arm upon the revoluble movement of the handle whereby the spring arms will be flexed to adjust the guard member in relation to the blade, substantially as specified.

2. The combination of a blade, a frame member, a guard member having a flexible connection with the frame member and normally tending to approach the blade, a revoluble handle, a cam member carried by the handle, a lug on the guard engaged by the cam member whereby a revoluble movement of the handle will move the guard away from the blade against the tension of the flexible connection thereof.

3. The combination of a blade, a frame member, a binding bar, the blade being adapted to be clamped between the frame

member and the binding bar, a guard member extending adjacent to the edge of the blade and adjustable in relation thereto, a revoluble handle, means carried by the handle adapted on the initial movement thereof to lock the binding bar and frame member whereby the blade will be secured in position and further means brought into operation by an additional movement of the handle adapted to adjust the guard member in relation to the blade.

4. The combination of a blade, a frame upon which the blade is removably secured, comprising a bearing portion on which the blade rests, spring arms projecting from the bearing portion, a guard member carried by the spring arms and extending adjacent to the edge of the blade, a lug projecting from the guard member, a revoluble handle, a cam head carried by the handle and engaging the lug of the guard member whereby the guard member may be adjusted in relation to the blade against the tension of the spring arms by the revoluble movement of the handle.

In testimony whereof, I have hereunto set my hand this 26th day of September 1910.

JAMES MOORE.

Witnesses:

EZRA M. KUHN,
F. L. WALKER.