(Model.)

R. M. KEATING.

SHAVING APPARATUS.

No. 358,979. Patented Mar. 8, 1887.

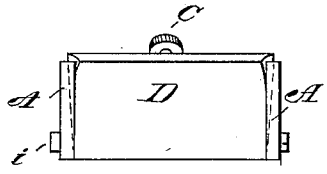


Fig I,

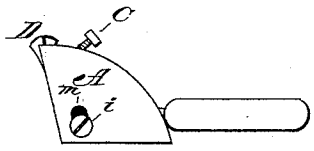


Fig II,

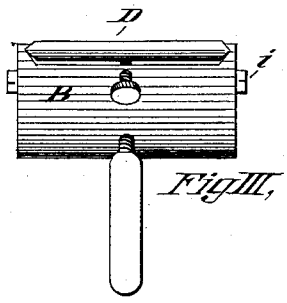


Fig III,

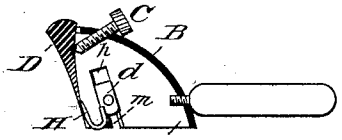


Fig IV,

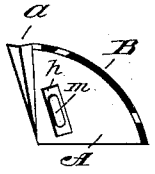


Fig V,

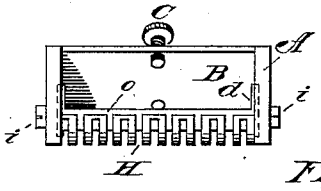


Fig VI,



Fig VIII,

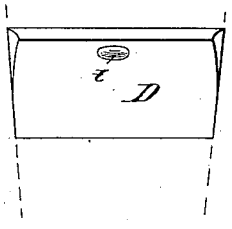


Fig VII,

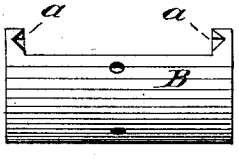


Fig IX,

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R. M. Keating,
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UNITED STATES PATENT OFFICE.

ROBERT M. KEATING, OF SPRINGFIELD, MASSACHUSETTS.

SHAVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 358,979, dated March 8, 1887.

Application filed November 24, 1886. Serial No. 219,771. (Model.)

To all whom it may concern:

Be it known that I, ROBERT M. KEATING, a citizen of the United States, residing at Springfield, Hampden county, State of Massachusetts, have invented a new and useful Improved Shaving Apparatus, of which the following is a specification.

My invention relates more particularly to that class of shaving apparatus in which the blade and guard are held between side plates or cheek-pieces; and it consists in the combination and construction as hereinafter described, and more particularly pointed out in the claims.

The invention is fully illustrated in the accompanying drawings, in which—

Figure I is a front view of the apparatus; Fig. II, an end view; Fig. III, a plan view; Fig. IV, a transverse section through the back, blade, and guard; Fig. V, the same with all detachable parts removed from the frame; Fig. VI, a front view with the blade removed; Fig. VII, a plan view of the blade; Fig. VIII, an end view of the blade, and Fig. IX a plan view of the frame having all detachable parts removed.

Heretofore shaving apparatuses have been constructed to retain the blade between cheek-pieces framed together by seating the ends of the blade in corresponding sockets or grooves in said cheek-pieces, and then drawing the cheek-pieces by a screw to clamp the blade in the direction of its longer axis, and at the same time clamp, also, the guard in place between the cheek-pieces, by means of which the blade was made easily removable and adjustable relative to the guard, as it could not be with clips, as a means of holding the blade, which, though theoretically a provision for the adjustment of the blade, require in practice the skill of a mechanic to rebend the clip to change its configuration in cross-section, and thus precluding its use with the many having little of such skill; and although compressible cheek-pieces having sockets to perfectly fit and correspond to the ends of the blade to be received therein enables the blade to be withdrawn and replaced without special care, and the guard to be fixed relative thereto in the same movement of clamping the blade by its cheek-pieces, yet in practice such is the intractable nature of the steel of which the blade is formed that it is nearly impossible to make a number of blades to each conform to sockets themselves uniform; and as the blade has to fit the sockets exactly in order to enable it to be held rigidly thereby, and in order to enable the guard to be rigidly clamped at the same time, it is difficult to construct a number of frames, guards, and blades all or any of which shall be interchangeable. I obviate this difficulty as follows:

A A are two cheek-pieces, in the form approximately of quadrants of a disk.

B is a back of a corresponding quadrant of the shell of a cylinder, and joining the segmental edges of the cheek-pieces A A, as shown more particularly in Fig. III.

a a are V-shaped grooves opposite each other in the cheek-pieces A A, as seen more particularly in Fig. V, to receive the ends of the blade.

D is a blade, having its ends beveled upon each side to form a V in cross-section.

C is a clamp-screw seated in the back B, having its length approximately at a right angle to the plane between the grooves *a a*, and adapted to have its end run to and from the blade when within said grooves. The grooves *a a* are peculiar, in that being deepest at the top of the cheek-pieces A A they run out at the bottom, as seen in Fig. V, at the bottom corner of the cheek-pieces A A, so that the edge of the blade at that point is in prolongation with the front edges of the cheek-pieces, as shown in Figs. I and IV, by means of which no shoulder or projection of the frame prevents the blade from cutting over its entire length.

The blade D is the segment of a wedge, as shown in Fig. VII by the tapering of its extreme ends to conform to the converging grooves *a a*, and is beveled upon its ends upon both sides to form a V in cross-section corresponding to the grooves *a a*. The cheek-pieces and back B form a rigid frame, all the parts of which are trussed against any spring; and it will be seen that instead of three or four surfaces having to coincide, as in the case of sockets, before the blade can be held rigid in the frame, it is only necessary in this device that

the plane-surface of the front bevel of the blade D should coincide with the corresponding face of the groove *a*, as the screw C, when clamped against the blade, as shown in Fig. III, firmly holds the blade in the frame, and in practice it is not necessary that the blades should be of the same thickness, contour, or depth in transverse section, but only that they should be milled to the same bevel upon their ends, which can without trouble be done accurately.

The conformation of the back B enables a nut to be made of it to hold the screw C to bear against the rear side of the blade, and, besides enabling it to be clamped upon one surface, leaves the blade clear to be withdrawn or inserted without interference from it.

Although a blade so constructed and arranged may be adjusted to any of the ordinary fixed guards in general use, I prefer to combine with the rigid cheek-pieces A A a guard, H, adjustable to the edge of a fixed blade, by means of which the guard may be removed at any time for cleaning it of lather or hair without disturbing the blade, which is always more or less liable to be dulled or gapped when removed from its frame.

The end pieces, *d d*, of the guard are adapted to slide in a countersink, *h*, in the cheek-pieces A, to and from the edge of the blade D, and be secured to the cheek-pieces A by the head of a screw, *i*, the stem of which passes through an elongated slot, *m*, in the check-pieces A, and is screwed into the pieces *d*, by means of which the guard may be adjusted relative to the blade.

The guard may be sprung into or out of the countersink governing the direction of its movement, or said countersink may extend to the edge of cheek-piece A, as seen in Fig. IV, so that the guard may be slid in or out when released by its clamp-screws *i*.

In place of the walls of the countersink, lugs upon the inner faces of cheek-pieces A A may compel the ends *d d* to move in the required direction.

As it is the guard which is soonest choked up by lather and hair, by having an easily-removable one the apparatus is quickly cleaned, and in this device, when the guard is removed, there are only the smooth surfaces of the back, side walls, and blade, which a few shakes in water will at once clear of everything.

The teeth of guard H spring from a bar, *o*, connecting the pieces *d d*, and every other pair of teeth are connected by a cross-bar at their ends, as shown in Fig. VI, by means of which the size of the teeth and the size of the interstices may be reduced to the minimum, while preserving sufficient rigidity in the teeth, which are adapted to spring against the blade at a short interval removed from its edge and yield a passage to the hair and lather between them and the blade upon slight pressure.

It should be observed that with blades of a hollow back, as shown, it is necessary to form a slight scoop, *t*, upon the inner side of the blade, to form a bearing for the end of screw C in a direction to enable it to hold the blade down, while also bearing it broadside against grooves *a*.

Now, having described my invention, what I claim is—

1. The within-described improved shaving apparatus, consisting of two cheek-pieces, A A, a back, B, rigidly framing the cheek-pieces together, grooves *a a*, V-shaped in cross-section and arranged opposite each other in one edge of the cheek-pieces, a blade, D, provided with beveled ends conforming to the planes of the outer surfaces of grooves *a a*, a guard extending between the cheek-pieces, and a binding-screw, C, combined substantially with the back B and blade D, as shown, and adapted to bear upon the inner side of the blade to bind the outer faces of its ends against the corresponding walls of the grooves *a a* and hold it down in said grooves, as and for the purpose set forth.

2. The within-described improvement in shaving apparatus, consisting of a rigid frame formed of cheek-pieces A A, united by a back, B, to form in effect the quadrant of a hollow cylinder, V-shaped grooves *a a*, arranged in the cheek-pieces, as shown, to be deepest at their top ends, a blade, D, beveled at its ends to conform in cross-section to the grooves *a a*, and the segment of a wedge to conform to the converging bottoms of grooves *a a*, a guard, H, secured to the cheek-pieces A A, and a screw, C, arranged in the back B and adapted to bear in the back B and against the inner side of the blade D, to bind it in the grooves *a a*, substantially as shown and described.

3. In shaving apparatus, the combination, with cheek-pieces A A and back B, rigidly holding them, and with a blade rigidly held in said cheek-pieces, of a guard, H, arranged to have its ends slide in the cheek-pieces to and from the edge of the blade, and provided with means, substantially as shown, for guiding the movement of said ends and clamping them to the cheek-pieces, as and for the purpose set forth.

4. In shaving apparatus, the combination, with cheek-pieces A A, framed to inclose a blade and guard between them, and with a blade clamped between said cheek-pieces, of a guard, H, adapted to be detached from the cheek-pieces without releasing or disturbing the blade therein, as and for the purpose set forth.

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Witnesses:
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