Nov. 7, 1933. E. J. GRAY 1,934,422

RAZOR

Filed July 31, 1930

Fig. 1.

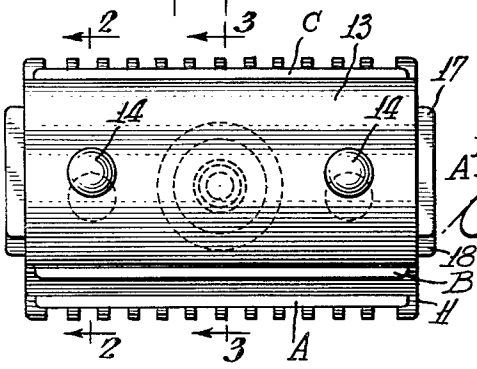


Fig. 2.

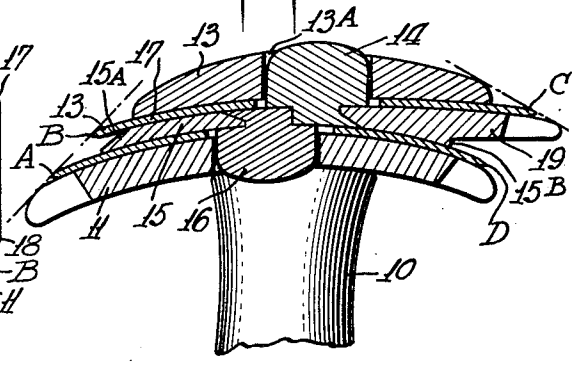


Fig. 4.

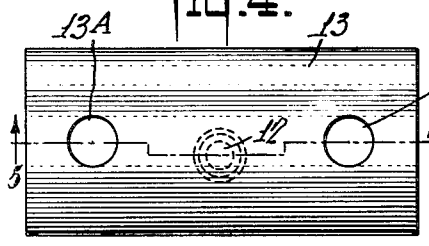


Fig. 3.

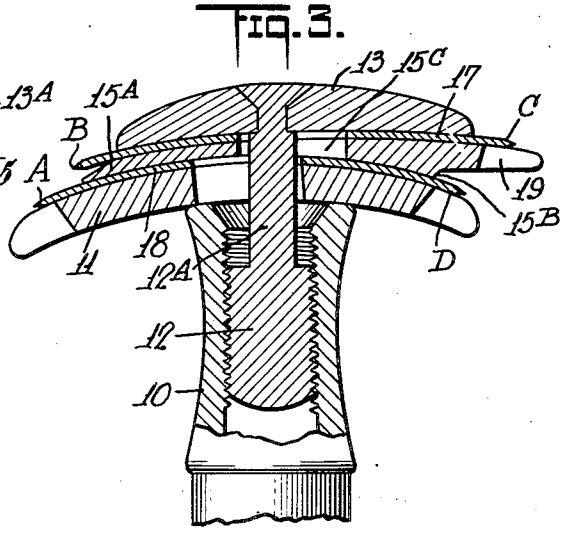


Fig. 5.

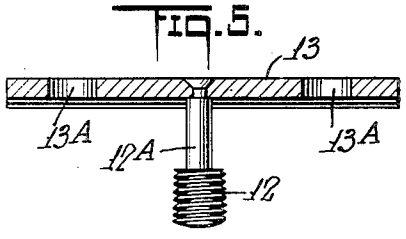


Fig. 6.

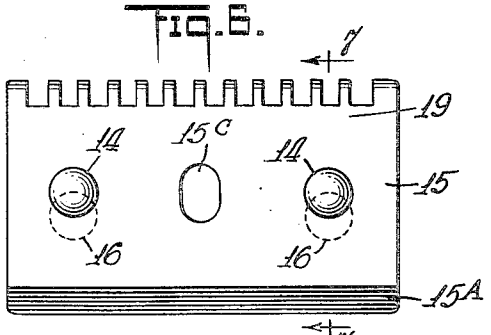
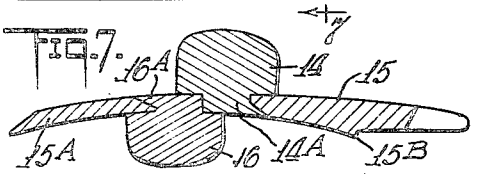


Fig. 7.



INVENTOR
Edward J. Gray
BY
Dean, Fairbank & Hirschler Foster
ATTORNEYS

B-147

Patented Nov. 7, 1933

1,934,422

UNITED STATES PATENT OFFICE

1,934,422

RAZOR

Edward J. Gray, East Orange, N. J.

Application July 31, 1930. Serial No. 471,921

6 Claims. (Cl. 30—12)

The present invention relates broadly to multiple blade razors, in which the blades are disposed to provide a plurality of cutting edges. The invention, while broadly applicable, is particularly designed to provide supplemental means for safety razors to convert the standard type razor into a multiple blade razor.

It is among the objects of the invention to provide an assembly arranged for use in conjunction with the conventional Gillette style razors to operatively dispose therein a plurality of conventional Gillette style double edged wafer blades, whereby the razor may be inexpensively converted to provide the benefits of a multiple blade razor.

Another object is to provide a simple and efficient razor assembly, which disposes for use three separate cutting edges, each lying in a different plane to provide individual cutting characteristics for the edges. Thus the various cutting characteristics are selectable to conform with skin and beard characteristics and the type of shave desired, and the equivalent of a plurality of different razors is provided for the user.

Another object is to provide a supplemental assembly applicable to a standard razor of the Gillette type to dispose a pair of simultaneously operable interdependent cutting edges on one side of the razor and a separate independent cutting edge on the opposite side of the razor.

Another object is to provide a razor assembly utilizing a minimum number of parts to accomplish the retention, guarding, and backing of a plurality of conventional wafer type double edged razor blades.

Another object is to provide a simple construction by which a single intermediate adaptor member provides for the retention and alignment of associated blade and guard members to dispose a plurality of properly guarded blades in terraced relation, whereby upon a single stroke a double shaving action is accomplished.

Another object is to provide a device of the character set forth, which may be assembled and disassembled with convenience and facility, which may be easily cleaned by running water without loosening or disassembling the structure, and which is particularly adapted to meet the demands of economic manufacture.

Another object is to provide a razor embodying the above desiderata in a simple, efficient and sturdy structure, which may be marketed as a composite razor, or which provides a supplemental assembly designed for sale as an adjunct to a conventional style razor.

While the invention in its broader sense is widely applicable to razors of various types, a preferred embodiment includes an intermediate member which acts as a backing plate for a lower blade supported in the usual manner upon a guard of a conventional razor, and which further acts as a guard for an upper blade. The intermediate member includes projections receivable in the guard to dispose it slightly out of alignment with the usual handle and further includes projections on the opposite surface arranged to secure the upper blade, the member acting as a guard therefor. Preferably the upper projections are receivable within a backing plate including a depending externally threaded securing stud, engageable with the handle to retain all of the parts in correctly assembled relationship and with the two blades properly clamped in position. The upper and lower projections of the intermediate member are out of alignment, so that the blades, while retained with their edges parallel, are in staggered position. Thus the structure provides for the disposition of two blade edges in terraced relation and at different angles to provide immediately successive once over and close shaving cuts by a single stroke of the razor. On the opposite side, only one blade edge is exposed for service and is arranged to cut at an angle intermediate the angles of the other two cutting edges.

In the accompanying drawing, in which is shown one of various possible embodiments of the several features of the invention,

Fig. 1 is a top plan view of a razor formed in accordance with the present invention.

Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a similar section taken on line 3—3 of Fig. 1.

Fig. 4 is a top plan view of the backing plate.

Fig. 5 is a longitudinal sectional view taken on line 5—5 of Fig. 4.

Fig. 6 is a top plan view of the intermediate or adaptor member of the assembly, and

Fig. 7 is an enlarged transverse sectional view taken on line 7—7 of Fig. 6.

As shown in the drawing, the preferred embodiment of the invention utilizes a conventional Gillette type razor handle 10 and guard plate 11. The usual backing plate is replaced by an apertured backing plate 13 from which a threaded post 12 having a reduced unthreaded neck 12A extends inwardly at the center and slightly out of line with the longitudinal axis thereof, thus

to dispose the plate 13 out of alignment with the handle 10.

The plate 13 receives within aligned central apertures 13A thereof upwardly directed studs 14 of an intermediate adaptor member 15, upon which rests the upper blade 17, through which the studs 14 extend, the blade including the usual cutting edges B and C. The member 15 is also provided with downwardly directed studs 16, slightly offset with respect to the projections 14 and which extend through the apertures or slot of a lower blade 18 having the edges A and D and through apertures in the standard guard 11. The preferred construction of the intermediate member 15 provides an elongated central hole 15A, while the studs 14 and 16 are swaged through spaced apertures on either side thereof as shown in Fig. 7. The inner ends of the studs are shaped, as at 14A, to interlock with each other, each stud being oppositely swaged through the apertures, as at 16A. The upper studs 14 are on the longitudinal axis of the adaptor member while the lower studs are slightly offset from such axis.

The mating blade clamping surfaces of the members 11, 13 and 15 are arcuate in transverse section so that the blades will be flexed thereby as an incident of clamping. The cross sectional thickness of the intermediate member 15 decreases from one side, 15A, to the opposite side, which is provided with a shoulder 15B, from which extends outwardly a toothed guard portion 19, which underlies the cutting edge of the upper blade and which overlies and projects beyond the edge D of the lower blade. The different curvatures of the opposite faces of adaptor member 15, which faces match with the adjacent clamping faces of the member 11 and 13, cause the blades to be flexed each to a different extent.

The edge 15A of the member 15 is untoothed. The edges A and B of the blades are thus arranged in terraced relation and at various angles with respect to the plane of the razor handle, so that in action they will be disposed against the skin at different cutting angles. The edge C lies at an angle intermediate the angles of the edges A and C, and preferably at the conventional normal angle at which a blade is retained in the type of razor used.

In the assembly of the present invention, the upper and lower blades 17 and 18 are disposed on either side of the intermediate member and the plate 13 is mounted with its stud 12 extending through the blades and through the intermediate member, as well as through the guard 11. The reduced shank 12A of the stud provides for the out of line retention of the guard 11 and of the blades 17 and 18. Such retention is provided by the interengagement of the intermediate member's projections 14 and 16, and by the off-center position of the stud 12 with respect to the plate 13. When the handle is securely screwed in position, as shown in Fig. 3 the guard 11 is canted over to one side, its blade being retained in alignment therewith and off-center with respect to the handle. The member 15 as clearly illustrated in Figs. 2 and 3 is displaced laterally with respect to members 11 and 13; so that it has an off center position.

The configuration of the blade clamping members is such that edge A is set at an appreciably smaller cutting angle than edge B while edge C is set at an angle somewhere between the cutting angles of A and B. The edge D is disposed well under the guard 19 and out of operative position. The edge A is set to give a coarse once over shave, edge B to give a close shave and edge C to give a medium shave.

In the use of the razor, a single cutting stroke with the blades A and B against the face will provide a rough, mowing action by the blade edge A (cutting say at a 22° angle) immediately followed by a close shaving action by the edge B (cutting at say a 30° angle). By turning the razor over, the edge C which may be set at about a 26° cutting angle may be used to give a normal intermediate shaving stroke. The angularity of the cutting edges A, B and C is governed by the configuration of the intermediate member 15, which may be varied to provide variations in cutting characteristics of the blade edges. In the assembly of the device, the normal backing plate of the conventional razor is dispensed with, and in addition to the usual guard 11 and one blade mounted thereon, such as the blade 17, the intermediate member 15, the upper blade 18 and the plate 13 are utilized. The plate 13 is retained in fixed relation with the handle through the shank 12. The intermediate member is retained in alignment with the handle through interlocking with the plate by its projection 14, which also retains the upper blade 17. The guard 11 and its blade 17 are retained in position by the studs 18.

It will thus be seen that there is herein described apparatus in which the several features of this invention are embodied, and which apparatus in its action attains the various objects of the invention and is well suited to meet the requirements of practical use.

As many changes could be made in the above construction, and many apparently widely different embodiments of this invention could be made without departure from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A supplementary assembly for use in conjunction with a razor including a backing member adapted for association with a razor handle an intermediate member arranged for retention in off center operative position by engagement with the backing member, said assembly providing for the operative position in the razor of a pair of similar blades, said backing member and intermediate member being constructed to dispose a pair of blade edges in terraced relation, the opposite edge of one of the blades being disposed in operative position at the opposite side of the razor head, while the opposite edge of the other blade is inoperatively disposed, said intermediate member constituting a guard for both the cutting edges of the blade disposed thereon.

2. A supplementary assembly for use in conjunction with a razor including a backing member adapted for association with a razor handle an intermediate member arranged for retention in off center operative position by engagement with the backing member, said assembly providing for the operative position in the razor of a pair of similar blades, said backing member and intermediate member being constructed to dispose a pair of blade edges in terraced relation, the opposite edge of one of the blades being disposed in operative position at the opposite side of the razor head, while the opposite edge of the

other blade is inoperatively disposed, said intermediate member constituting a guard for both the cutting edges of the blade disposed thereon, and a backing member for a blade carried thereunder.

3. A razor comprising a handle, a backing member with a shank projecting eccentrically therefrom to engage the handle, a slotted guard member through which the shank passes to be mounted in eccentric position on the handle, an intermediate member between the guard member and the backing member, a razor blade between the intermediate member and the backing plate, and another razor blade between the intermediate member and the guard member, said intermediate member having studs projecting from both faces out of alignment with each other and engaging the guard member and the backing plate.

4. A razor including a handle, a guard member, a backing member and an intermediate member disposed between said guard and backing member, means for clamping all of said members together, means carried by said intermediate member for coacting with the guard and the backing member respectively for positioning a pair of flexible double-edged razor blades on opposite sides of said intermediate member, said intermediate member serving to guard two edges of one blade and maintain one edge of the other blade in an inoperative position.

5. A razor including a handle, a guard member, a backing member and an intermediate member disposed between said guard and backing member, means for clamping all of said members together, means carried by said intermediate member for coacting with the guard and the backing member respectively for positioning a pair of flexible double-edged razor blades on opposite sides of said intermediate member, said intermediate member serving to guard two edges of one blade and maintain one edge of the other blade in an inoperative position, said guard, backing member and intermediate member all having their longitudinal axes off-center with respect to the longitudinal axis of the handle.

6. A razor including a handle, a guard member, a backing member and an intermediate member disposed between said guard and backing member, means for clamping all of said members together, means carried by said intermediate member for coacting with the guard and the backing member respectively for positioning a pair of flexible double-edged razor blades on opposite sides of said intermediate member, said intermediate member serving to guard two edges of one blade and maintain one edge of the other blade in an inoperative position, said, guard backing member and intermediate member all having their longitudinal axes off-center with respect to the longitudinal axis of the handle, the blade positioning means comprising studs carried by the intermediate member entering recesses in the guard and backing plate, the two sets of studs being out of alignment with each other.

EDWARD J. GRAY.