H. J. GAISMAN.

RAZOR.

APPLICATION FILED JUNE 6, 1912.

1,171,605.

Patented Feb. 15, 1916.

2 SHEETS—SHEET 1.

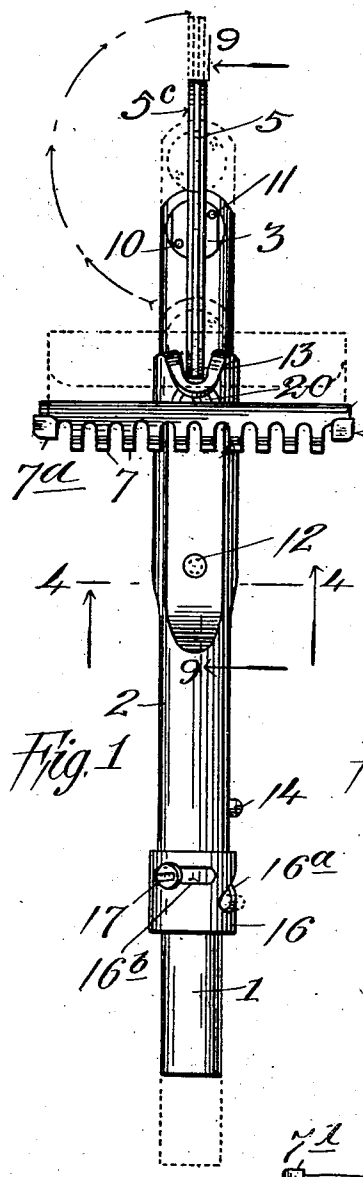


Fig. 1

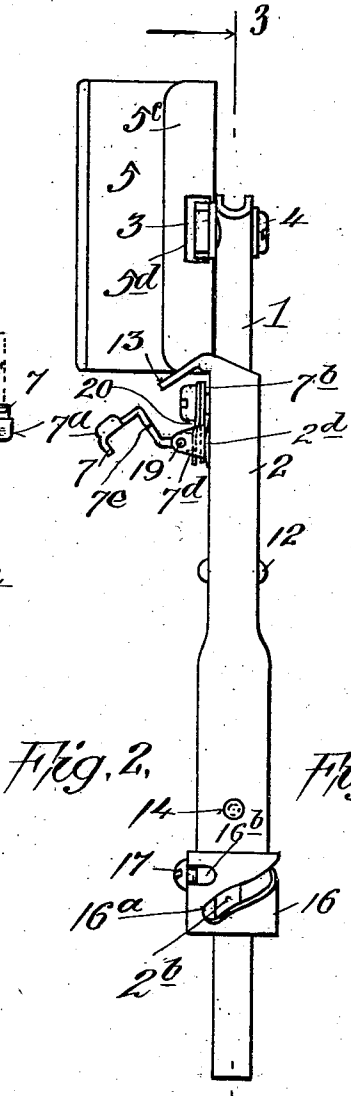


Fig. 2.

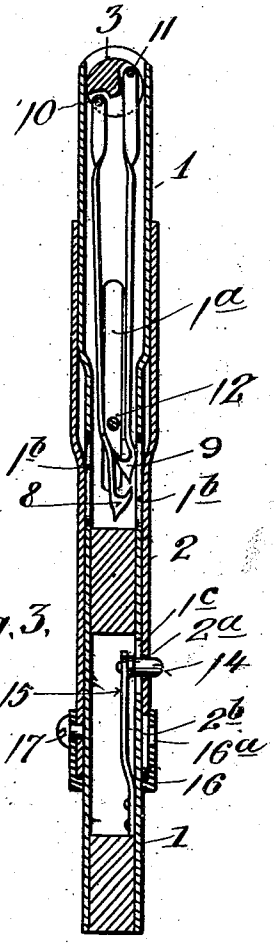


Fig. 3.

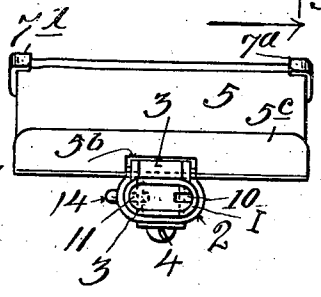


Fig. 5.

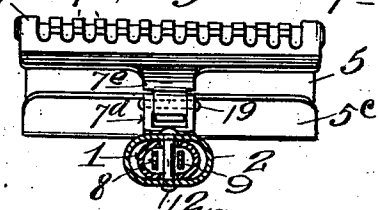


Fig. 4.

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2 SHEETS—SHEET 2.

Fig. 6.

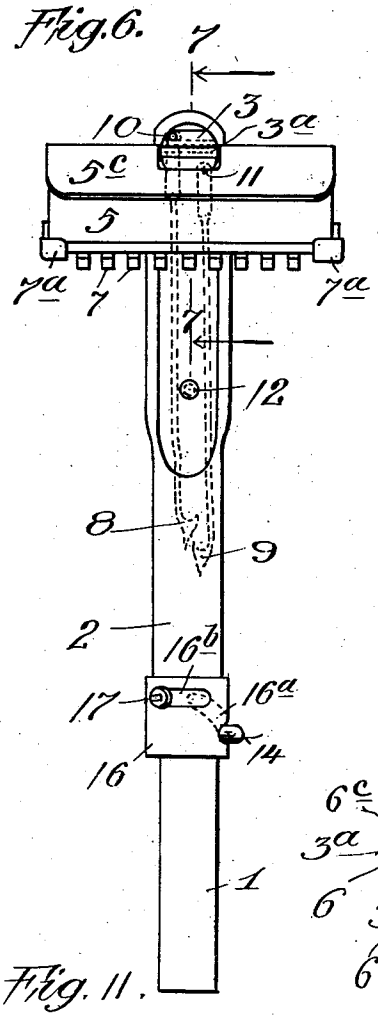


Fig. 8.

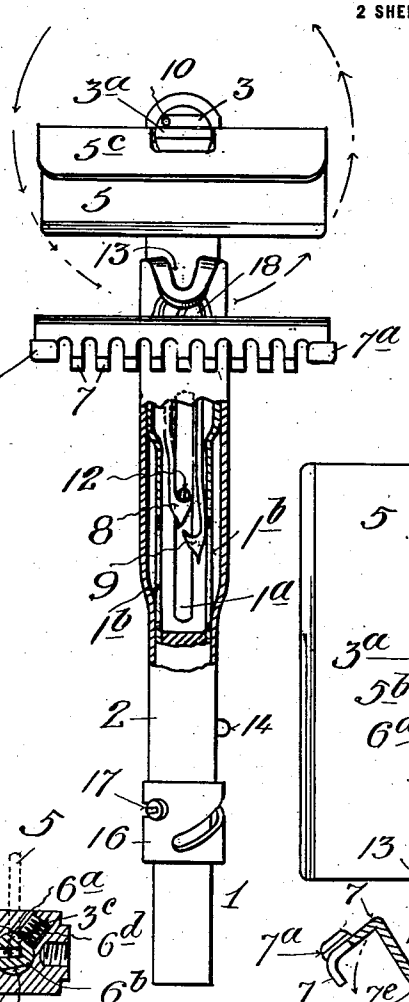


Fig. 9.

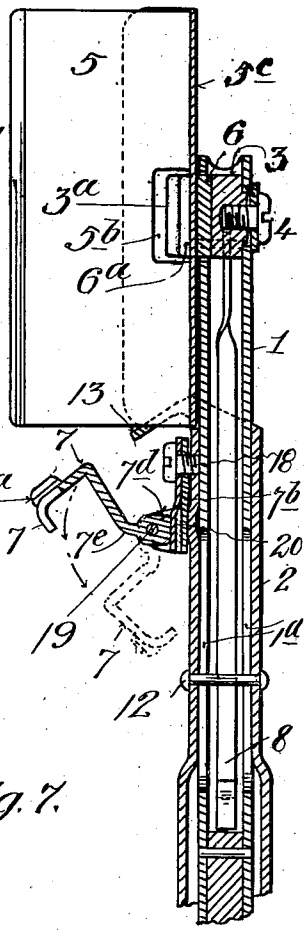


Fig. 10.

Fig. 11.

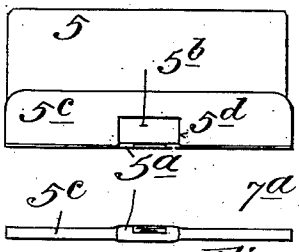


Fig. 12.

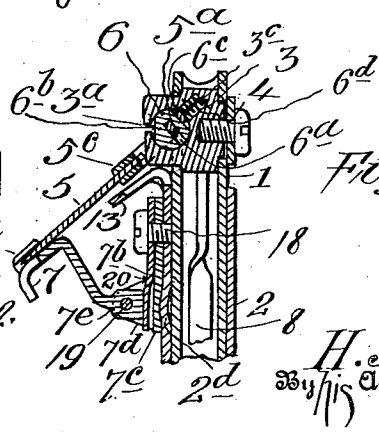


Fig. 7.

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UNITED STATES PATENT OFFICE.

HENRY J. GAISMAN, OF NEW YORK, N. Y., ASSIGNOR TO AUTO STROP COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RAZOR.

1,171,605. Specification of Letters Patent. Patented Feb. 15, 1916.

Application filed June 6, 1912. Serial No. 702,006.

To all whom it may concern:

Be it known that I, HENRY J. GAISMAN, a citizen of the United States, and resident of New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Razors, of which the following is a specification.

The object of my invention is to provide a safety razor wherein the blade may be adjusted to a position away from the guard and be retained in such position to permit the blade edge to be drawn along a strop, substantially in the manner of stropping the edge of an ordinary razor blade, and whereby the blade may be replaced in shaving position with respect to the guard, and to enable such adjustments to be performed without requiring the blade to be removed from the blade holder in the frame.

My invention comprises novel details of improvement and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1 is a front view of a safety razor embodying my invention, showing the blade in position for stropping; Fig. 2 is a side view thereof; Fig. 3 is a section on the line 3, 3, in Fig. 2, looking in the direction of the arrows; Fig. 4 is a section on the line 4, 4, in Fig. 1, looking in the direction of the arrows; Fig. 5 is a plan view of the razor in position for shaving; Fig. 6 is a front view thereof; Fig. 7 is a section on the line 7, 7, in Fig. 6; Fig. 8 is a front view showing the parts in a position different from Fig. 6, and also partly in section; Fig. 9 is a vertical section showing the parts in the position illustrated in Fig. 2; Fig. 10 is a detail sectional view of the blade holder showing it in position to receive a blade; Fig. 11 is a face view and Fig. 12 is an edge view of a blade adapted to be used with my improvements.

Similar numerals of reference indicate corresponding parts in the several views.

The handle 1 of the razor illustrated is a blade carrying member, and a guard carrying member 2 is slidable upon or relatively to handle 1, the member 2 being shown receiving the handle. Handle 1 is provided with a bladeholder or support 3, journaled to rotate thereon, as by being set partly within the bore thereof, and held in position by screw 4, part of the holder 3 projecting through handle 1 and being provided with a slot 3^a in its forward face, adapted to receive a retaining web 5^a of a blade 5. The web 5^a of the blade may be formed directly in the blade by making an opening 5^b, or by means of a folded backing 5^c secured upon the blade in a well-known manner, and provided with an opening 5^d in alinement with opening 5^b of the blade. Within holder 3 is a rotative blade locking and holding plug 6 having a slot or recess 6^a adapted to aline with slot 3^a in holder 3 (Fig. 10). When the blade is to be attached to holder 3, and the parts 3 and 6 are in the position shown in Fig. 10, the blade will be applied by turning its cutting edge upwardly and passing its web 5^a through slot 3^a into slot or recess 6^a of plug 6 (Fig. 10), the openings 5^b, 5^d of the blade receiving the upper portion of holder 3, and the relatively flat web 5^a by engaging slot 6^a causes plug 6 to rotate when the blade is swung down and recess 6^a passes away from slot 3^a, locking the blade in the holder, as illustrated in Fig. 7. To remove the blade from the holder the blade is swung upwardly until recess 6^a alines with slot 3^a when the blade may be pulled out from the holder. To retain plug 6 in set position it is shown provided with flat faces 6^b against which a piece 6^e may bear, a spring 6^d in a bore 3^c of holder 3 pushing said piece against a flat face of plug 6, Figs. 7 and 10.

Means are provided for causing holder 3 and the blade to rotate from the shaving position respecting the guard 7, that is carried by member 2 (Figs. 5, 6 and 7) to a position parallel with handle 1, and to be locked or retained in the last named position to enable stropping the edge of the blade upon a strop, as in Figs. 1, 2 and 9. To this end I have shown hooks 8 and 9 located within the bore of handle 1 and pivotally connected at their outer or upper ends, as at 10, 11 with holder 3 on opposite sides of the axis of rotation of the latter (Fig. 3). The hooks 8, 9, are so related to each other that when the blade is extending transversely of the handle, or in shaving position with respect to the guard, the hook 9 is below the hook 8, Figs. 6 and 8. The member 2 is provided with a pin 12 that passes through slots 1^a in the opposite walls of handle 1 (Fig. 9), which pin 12 is

in position to engage the hooks 8, 9, one after another. With the parts in the positions shown in Fig. 8 member 2 may be pushed upwardly toward the blade, or handle 1 pulled downwardly, to bring the guard into shaving relation, as in Fig. 6, but with the parts in the position shown in Fig. 8 if it be desired to rotate the blade to a position parallel with the handle and projecting from one side thereof, the member 2 will be drawn down relatively to handle 1, or handle 1 pushed up relatively to member 2, whereupon pin 12, by engaging hook 8, will draw the latter downwardly and rotate holder 3 and blade 5 from the position shown in Fig. 8 to the position parallel with the handle, and then members 1 and 2 will be moved back to the position shown in Figs. 1 and 2 to draw the lower end of the blade into a holding or retaining jaw 13 on member 2, whereby the blade is locked or retained from swinging movement (Figs. 1, 2 and 9). Jaw 13 is shown centrally disposed on member 2 to retain the blade centrally on and projecting from handle 1. During such movement of hook 8 and holder 3 the hook 9 will be changed from the position shown in Fig. 8, where it is below hook 8, to the position shown in Fig. 3 where hook 9 is above hook 8, the hooks suitably passing each other for such purpose, slots 1^d in member 1 (Figs. 3 and 8) permitting the hooks to pass each other. With the parts in such position the blade may be reciprocated along the strop by holding the handle in the manner of stropping the blade edge of an ordinary razor. When it is desired to restore the blade to the guard for shaving, the member 2 is pulled down relatively to handle 1, or the handle 1 is pushed up relatively to member 2, to release the blade from jaw 13, and the pin 12, by now engaging hook 9, will draw the latter downwardly thereby rotating holder 3 and the blade from the position shown in Fig. 1 to the position shown in Fig. 8, the hook 9 passing again downwardly below hook 8 and the latter rising to the position shown in Fig. 8, and then member 2 is pushed upwardly or handle 1 is pulled downwardly, relatively to one another, to apply the blade to the guard, as in Fig. 6. The guard is shown provided with lugs or hooks 7^a adapted to receive the blade edge and retain the latter in shaving position upon the guard.

I provide means to retain the parts 1, 2, in the shaving position with relation to the guard shown in Fig. 6, in the stropping position shown in Fig. 1, and in the intermediate position shown in Fig. 8. To this end I have shown a spring-pressed pin 14, shown carried by a spring 15 secured in handle 1, said pin being movable in a hole 1^c in said handle and adapted to enter hole 2^a and slot 2^d in member 2, Fig. 3. When pin 14 is in hole 2^a the parts will be retained in the position shown in Figs. 1, 2 and 8, and when pin 14 is in slot 2^b the parts will be in the position shown in Fig. 6. By pressing pin 14 inwardly with the finger it will permit parts 1 and 2 to be moved relatively to one another. In order to enable adjustment of the guard with respect to the blade edge, to provide for a coarse or close shave, a sleeve 16 is mounted to rotate upon member 2, and is provided with an angularly disposed slot 16^a adapted to receive pin 14 when the latter is in slot 2^b. Sleeve 16 is shown guided for rotation on member 2 by means of a pin or screw 17 carried by member 2 and entering a properly disposed slot 16^b in sleeve 16. The arrangement is such that by rotating sleeve 16 when pin 14 is in the slots 2^b and 16^a, and the blade edge is upon the guard, the parts 1 and 2 will be moved relatively to each other to cause the blade edge to project more or less forwardly with respect to the guard, and thereby the desired adjustment of the blade for shaving may be obtained.

While the guard in position for use in shaving is located transversely with respect to the handle, I have shown means for rotating the guard to a position substantially parallel with the handle. For this purpose the guard has an angularly disposed base piece 7^b fitted upon and pivotally attached to member 2, by screw or the like 18, and a stop 2^d may be formed on member 2 to engage a recess 7^c in guard base 7^b (Fig. 7) to retain the guard in shaving position. While the guard may be formed integral with the base 7^b I have shown the guard pivotally carried by said base by means of lugs 7^d formed on the base and receiving the pivot 19 passing through the guard extension 7^e. The guard extension 7^e has flat portions adapted to engage a spring 20 shown retained by screw 18 and normally pressed against the guard extension. By this means the guard may be retained in shaving position, or may be swung down away from shaving position, as shown in dotted lines in Fig. 9. With the guard in the latter position or removed from the razor, and the blade parallel with handle 1 and held by jaw 13 the blade may be used for shaving in the manner of an ordinary razor.

From the foregoing it will be apparent that by a simple adjustment of the parts the blade may be removed from shaving relation to the guard and swung into a suitable position for stropping the blade edge, and again moved back to such shaving position, and also that the blade may be separated from the guard and retained in the holder in convenient position for cleaning the parts; and the blade may be readily removed and replaced by merely swinging it upon its web 5^a; also that by swinging the blade and the

guard parallel with the holder the razor may be conveniently packed in a relatively narrow case with the blade attached to its holder ready for use, or that the razor may be used in the manner of an ordinary or straight razor if desired.

Having now described my invention what I claim is:—

1. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, and coacting means movable relatively to said handle to rotate said holder relatively to said guard.

2. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, and means connected with said member and with said holder to coact to rotate said holder upon relative movement of said handle and member with relation one to another.

3. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, said holder having actuating devices connected with it on opposite sides of its axis of rotation, the guard-carrying member having means to coact with said device to rotate said holder when said handle and member are moved relatively one to another.

4. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, said holder having hooks, and the guard-carrying member having a pin to coact with said hooks to rotate said holder when said handle and member are moved relatively one to another.

5. A razor comprising a handle, a hollow member thereon, a guard carried by said member, and a blade holder rotatively carried by the handle, said blade holder having hooks within said handle, the guard-carrying member having a pin to coact with said hooks to rotate the blade holder upon movement of said handle and member relatively one to another.

6. A razor comprising a handle, a hollow member thereon, a guard carried by said member, and a blade holder rotatively carried by the handle, said blade holder having hooks within said handle, the guard-carrying member having a pin, the handle having one or more slots receiving said pin, said pin being adapted to coact with said hooks to rotate the blade holder when said handle and member are moved with relation one to another.

7. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, coacting means movable relatively to said handle to rotate said holder relatively to said guard, a blade for said holder, and means to retain said blade in stropping position upon said handle.

8. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, means to rotate said holder relatively to said guard, and a blade for said holder, the guard carrying member having a jaw to receive the blade and retain it in stropping position upon and substantially parallel with the handle.

9. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, means movable relatively to said handle to rotate said holder relatively to said guard, and a blade for said holder, the guard carrying member having a jaw disposed at the end of said member adapted to receive and retain the blade.

10. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, means upon the handle and member movable relatively to said handle to rotate said holder relatively to said guard, a blade for said holder, and means to retain said handle and member in set positions with the blade upon the guard.

11. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, means upon the handle and member movable relatively to said handle to rotate said holder relatively to said guard, a blade for said holder, and means to retain said handle and member in set positions with the blade upon the guard and with the blade released from the guard and substantially parallel with the handle.

12. A razor comprising a handle member, a movable member thereon, a guard carried by said movable member, a blade holder rotatively carried by the handle, a blade for said holder, and coacting means movable relatively to said handle to rotate said holder relatively to said guard, one of said members having a stop and the other member having means coacting with said stop to retain said members in set position with the blade upon the guard.

13. A razor comprising a handle member, a movable member thereon, a guard carried by said movable member, a blade holder rotatively carried by the handle, a blade for said holder, and coacting means movable relatively to said handle to rotate said holder relatively to said guard, one of said members having a stop and the other member having means coacting with said stop to retain said members in set position with the blade upon the guard and with the blade away from the guard and disposed substantially parallel with the handle.

14. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, coacting means movable relatively to said handle to rotate said holder relatively to said guard, a blade for said holder, and means to adjust said handle and member relatively to each other and hold them in set position with the blade upon the guard.

15. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, means to rotate said holder relatively to said guard, a blade for said holder, a slotted sleeve rotatively carried by said member, and a retainer carried by the handle to enter the slot of said sleeve whereby the guard may be adjusted and retained relatively to the blade edge.

16. A razor comprising a handle, a movable member thereon, a guard carried by said member, a blade holder rotatively carried by the handle, means to rotate said holder relatively to said guard, a blade for said holder, a slotted sleeve rotatively carried by said member, a retainer carried by the handle to enter the slot of said sleeve whereby the guard may be adjusted and retained relatively to the blade edge, and means to permit rotation of said sleeve relatively to and to prevent movement of said sleeve along said handle.

17. A razor comprising a handle, a movable member thereon, a guard pivotally carried by said member to rotate relatively thereto, a blade holder rotatively carried by the handle, and means upon the handle and member movable relatively to said handle to rotate said holder relatively to said guard to a position substantially at right angles to the guard.

18. A razor comprising a handle, a movable member thereon, a guard pivotally carried by said member to rotate relatively thereto, means to retain said guard on said member extending substantially transversely thereof, a blade holder rotatively carried by the handle, and means upon the handle and member movable relatively to said handle to rotate said holder relatively to said guard to a position substantially at right angles to the guard.

19. A razor comprising a handle, a movable member thereon, a guard pivotally carried by said member to rotate relatively thereto, said guard being pivotally supported to swing toward and from said handle, a blade holder rotatively carried by the handle, and coacting means movable relatively to said handle to rotate said holder relatively to said guard to a position substantially at right angles to the guard.

20. A razor comprising a handle, a movable member thereon, a guard having a base pivotally carried by said member, said guard being pivotally connected with said base, a blade holder pivoted on said handle, a blade carried by said holder, means upon the handle to move said holder to a position substantially parallel with the handle, and means to retain said guard in shaving position with respect to the blade and out of such position.

21. A razor comprising a handle, a movable member thereon, means to retain said member in set position upon said handle, a guard having a base pivotally carried by said member, said guard being pivotally connected with said base, said guard having spaced flat portions, and a spring to coact with said flat portions of the guard to retain the latter in shaving position respecting the blade and out of such position.

22. A razor comprising a handle, a guard carried by said handle, a blade holder rotatively carried by said handle, said holder having a slot, and a slotted plug rotatively carried in said holder, said slots being adapted to receive a portion of a blade to retain the latter upon the holder when the plug is rotated, and means to rotate said holder relatively to said guard.

23. A razor comprising a handle, a guard carried by said handle, and a blade holder rotatively carried by said handle, said holder having a bore and a slot communicating therewith, a plug rotative in said bore and having a slot to communicate with the first named slot, said slots adapted to receive a portion of a blade, said plug retaining the blade upon the holder when the plug is rotated.

24. A razor comprising a handle, a guard carried by said handle, a blade holder rotatively carried by said handle, said holder having a slot, a slotted plug rotatively carried in said holder, said slots being adapted to receive a portion of a blade to retain the latter upon the holder when the plug is rotated, means to retain said plug in set positions in said holder, and means to rotate said holder relatively to said guard.

25. A razor comprising a handle, a guard carried by said handle, a blade holder rotatively carried by said handle, said holder having a slot, a slotted plug rotatively carried in said holder, said slots being adapted to receive a portion of a blade to retain the latter upon the holder when the plug is rotated, said holder having a bore, a spring in said bore adapted to retain said plug in set positions, and means to rotate said holder relatively to said guard.

26. A razor comprising a handle, a guard carried by said handle, a blade holder rotatively carried by said handle, said holder having a slot, a slotted plug rotatively carried in said holder, said slots being adapted to receive a portion of a blade to retain the

latter upon the holder when the plug is rotated, said holder having a bore, a spring in said bore, said plug having spaced flat faces, a movable piece between said spring and plug to bear on said flat faces to retain the plug in set position, and means to rotate said holder relatively to said guard.

27. A razor comprising a handle, a blade holder movably carried thereby, a member on the handle, means upon the handle and member and movable relatively thereto to rotate the holder, a blade for said holder, means to retain the blade in a position substantially transverse to the handle, and means to retain the blade in a position substantially parallel with and projecting outwardly from the handle.

28. A razor comprising a handle, a blade holder pivotally carried thereby, a blade for said holder, a member upon the handle, means upon the handle connected with the blade holder, and means on the member to coact therewith to rotate said blade from a position substantially transverse to the handle to a position substantially parallel with and projecting from the handle, means to retain the blade in said transverse position and means to retain the blade in said parallel position with respect to the handle.

29. A razor comprising a handle, a blade holder pivotally carried thereby, a guard, means to support the guard, means upon the handle and movable relatively thereto to rotate the holder, a blade for said holder, means to retain the blade in shaving position with relation to the guard and substantially transverse to the handle, means to rotate the blade to a position substantially parallel with and projecting from the handle, and means to retain the blade in the last named position.

30. A razor comprising a handle, a blade holder pivotally carried thereby, a guard, means to support the guard, means upon the handle and movable relatively thereto to rotate the holder, a blade for said holder, means to retain the blade in shaving position with relation to the guard and substantially transverse to the handle, means to rotate the blade to a position substantially parallel with and projecting from the handle, and a jaw upon the guard supporting means to retain the blade in the last named position.

Signed at New York city, in the county of New York, and State of New York, this 4th day of June, A. D. 1912.

HENRY J. GAISMAN.

Witnesses:
P. Q. HAHN,
F. A. MILLER.