No. 759,262. PATENTED MAY 10, 1904.

H. J. GAISMAN.

SAFETY RAZOR.

APPLICATION FILED APR. 6, 1903.

NO MODEL.

Fig. 1.

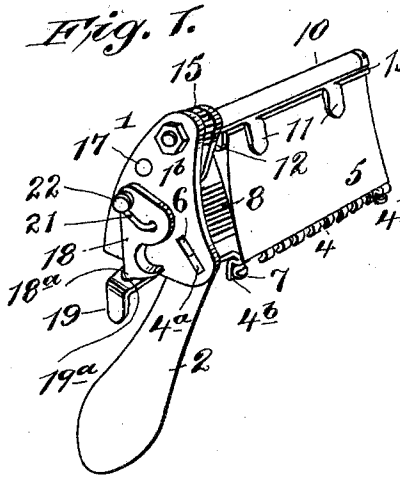


Fig. 2.

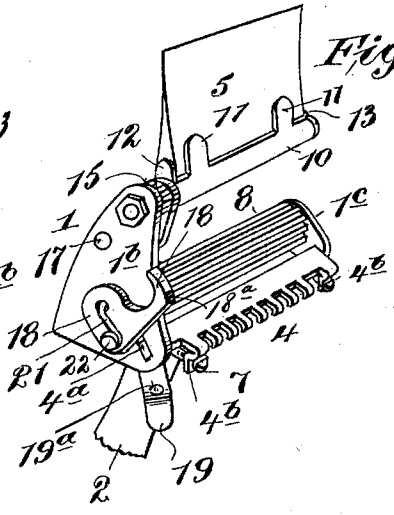


Fig. 4.

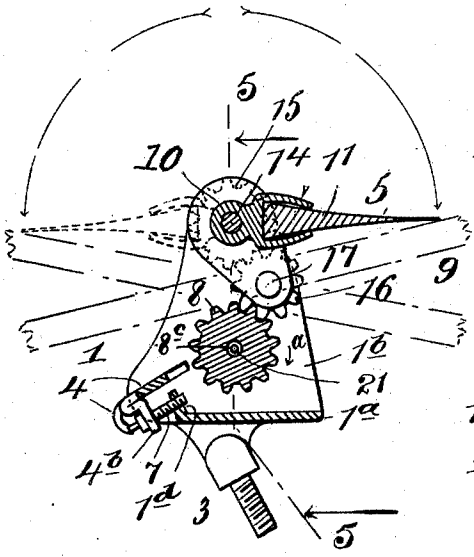


Fig. 3.

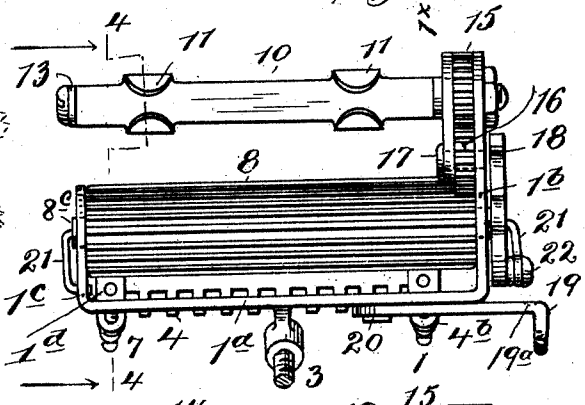
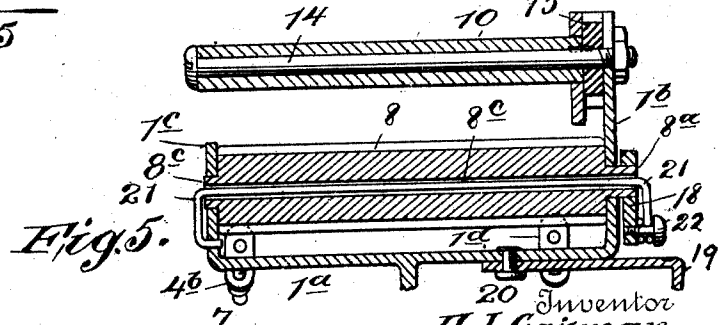


Fig. 5.



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No. 759,262. Patented May 10, 1904.

UNITED STATES PATENT OFFICE.

HENRY J. GAISMAN, OF NEW YORK, N. Y.

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 759,262, dated May 10, 1904.

Application filed April 6, 1903. Serial No. 151,253. (No model.)

To all whom it may concern:

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

In the class of razors commonly called "safety-razors" it is customary, so far as I am aware, when the blade is to be sharpened to remove the same from its holder and place it in a separate handle or machine, so that the blade may be sharpened upon a strop. This removal of the blade from the razor-frame and its replacement necessitates considerable loss of time while shaving and involves considerable trouble and exposes the blade to accident and injury.

The object of my invention, therefore, is to provide a safety-razor wherein the blade can remain connected with its holder in the frame both for shaving and while being sharpened upon a strop, whereby time, annoyance, and injury are saved, as well as the cost of extra appliances ordinarily required for stropping the blade.

In carrying out my invention I provide a suitable frame having a blade-guard with a pivotally-supported blade and means carried by the frame and connected with the blade adapted to coact with a strop to rock the blade, whereby when the strop is held taut and the frame is reciprocated along the strop the action of the strop upon said means will cause the blade to swing or oscillate and bear upon the surface of the strop, so that the opposite sides of the edge of the blade will alternately be caused to bear upon and be drawn along the surface of the strop to sharpen the blade. Provision is also made for holding or locking the blade firmly in position with its edge adjacent to the guard for shaving purposes and whereby when the blade is unlocked it will be free to oscillate for stropping purposes, and by preference I provide means to maintain the edge of the blade away from the guard when unlocked.

The invention also comprises the novel details of improvement that will be more fully hereinafter explained and then pointed out in the claims.

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

Figure 1 is a perspective view of a razor embodying my invention shown in position ready for use in shaving. Fig. 2 is a similar view showing the blade in position to be stropped. Fig. 3 is a face view of the razor, enlarged, looking from the side opposite Fig. 1, the blade being removed and its holder turned to the front position. Fig. 4 is a section on the line 4 4 in Fig. 3, showing the blade in position; and Fig. 5 is a longitudinal section substantially on the line 5 5 in Fig. 4 looking in the direction of the arrows.

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

In the drawings the main frame of the razor is indicated generally at 1 and is shown having a base part 1^a and uprights or standards 1^b 1^c at the ends.

At 2 is indicated a suitable handle which may be attached to the frame in suitable manner, as by means of a threaded stem 3, extending from the frame.

At 4 is indicated a guard adjacent or contiguous to which the cutting edge of the blade 5 is adapted to rest during the shaving operation. While said guard may be arranged and supported in any well-known manner, I have shown the same provided with lugs 4^a at its ends entering slots 6 in the uprights 1^b 1^c, screws 7 passing through lugs 4^b near the ends of the guard and entering threaded lugs 1^d on the frame, serving to adjustably support the guard with respect to the razor edge.

Pivotally supported between the uprights 1^c 1^b of the frame is a movable member or roller 8, shown in Fig. 5 as provided with pivots or gudgeons 8^a, journaled in bearings in said uprights. Said member or roller 8 is adapted to bear against a strop, (indicated at 9 in dotted lines in Fig. 4,) and by preference said roller is fluted or toothed longitudinally, whereby it will be caused to move or rock when pressed against and moved along the strop. The blade may be supported to rock in suitable manner.

At 10 is indicated a holder for the blade 5, which is shown in the form of a tubular shaft or sleeve provided with clips 11, adapted to grasp the blade and hold the same firmly. These clips are shown in the form of jaws, preferably having a spring-gripping action, and the blade is adapted to be slipped between the clips in the longitudinal direction of the holder, the blade preferably bearing against a shoulder 12 at the inner end of the holder and being adapted to spring behind a lip 13 at the opposite end of the holder to keep the blade from longitudinal movement. By lifting the blade slightly it may be drawn over the lip 13 for removal from the holder.

The blade-holder 10 is shown pivotally supported upon a rod or shaft 15, secured to the upright or standard 1^b and projecting parallel with and located above the roller 8, a space being provided between said roller and holder to receive the strop 9. As shown, the upright 1^c is shorter than the upright 1^b, the rod or shaft 14 being free at its outer end, whereby a strop may be slipped edgewise between the roller and the holder; but of course the upright 1^c could be carried outwardly corresponding to 1^b and the rod 14 supported by both uprights. The blade-holder 10 is connected with the member or roller 8 so as to be rocked or oscillated thereby, and to this end I have shown a gear 15, secured to holder 10 and meshing with a pinion 16, that is journaled upon a pin 17, secured to upright 1^b, said pinion meshing with the teeth or flutings of the roller 8; but, if preferred, a separate gear could be secured to roller 8 for the same purpose. By this means as the roller 8 is rocked the blade-holder 10 will be correspondingly rocked or oscillated in the same direction as the roller.

At 1^x is indicated a shield connected with rod 14 and pin 17, gears 15 16 being located between said shield and upright 1^d to keep the edge of the strop from engaging the gears.

To hold the blade 5 in the shaving or cutting position, as shown in Fig. 1, I provide a handle or arm 18, that is secured to member or roller 8, as to its pivot 8^a, and the handle 18 is shown located on the exterior of upright 1^b and adapted to oscillate with roller 8.

At 19 is indicated a latch pivotally supported upon frame 1, as at 20, and adapted to swing outwardly to come in contact with and lock handle 18. As indicated in Fig. 1, latch 19 is shown provided with a socket 19^a to receive the end or edge 18^a of handle or arm 18 to prevent spontaneous displacement of the latter. The latch may have spring-tension with respect to arm 18. The relation of these parts is such that when blade 5 is swung against guard 4 the handle 18 will be moved in position to be engaged by latch 19, as in Fig. 1, in which position all the parts will be held or locked firmly together. When blade 5 is to be oscillated for stropping purposes, the latch 19 is moved away from handle or arm 18 and the parts are free to move, as in Fig. 2.

By preference I provide means for maintaining the blade 5 in a substantially vertical position when not held against the guard. To this end I have shown a torsion-spring 21, that passes through a bore 8^c in roller 8 and is connected at one end to the handle 18, as by a pin 22, or to the roller, and at the other end said spring is shown suitably bent and connected with the upright 1^c. The position of the parts is such that when there is no tension upon spring 21 it will tend to hold arm 18 in such position that, through the gearing, blade 5 will be held vertically, (see Fig. 2,) and when the blade is swung down in either direction the spring will be put under tension. It is obvious, however, that the spring can be otherwise arranged to hold blade 5 away from guard 4 when not locked against the same.

My improved safety-razor may be operated as follows: When it is desired to shave with the razor, the blade is swung down against the guard and held in such position by the latch 19 and can then be used in well-known manner. When the blade is to be stropped, latch 19 is moved away from arm 18 and spring 21 causes blade 5 to swing upwardly, and thereupon a strop is inserted between roller 8 and the blade and held taut, said roller being firmly pressed against the strop. The razor is next reciprocated along the strop, and by the contact of the strop with roller 8 the latter is rocked back and forth, whereby, through the gearing, the blade will be swung from side to side, as indicated by the arrows in Fig. 4, thereby causing the edge of the blade to bear upon the strop for sharpening such edge. The arrangement of the parts is such that the edge of the blade will project behind and follow the frame as the latter travels along the strop. For instance, if the razor be moved to the left in Fig. 4 roller 8 will be caused by the strop to rotate in the direction of the arrow *a*, and the gearing will cause the blade to be swung behind the frame to drag on the strop, the roller then sliding along the strop and holding the blade edge in contact therewith, and when the pressure is relieved from roller 8 blade 5 will rise from the strop, and when the frame is moved in the reverse direction the blade will be swung over to its dotted position, (shown in Fig. 5,) so that its edge again follows behind the frame. Thus each time the direction of movement of the razor-frame is altered the blade 5 will be swung over in the reverse direction. This swinging of the blade into position behind the frame prevents the edge of the blade from injuring the strop and becoming dulled. Of course the frame can be held stationary and the strop reciprocated upon roller 8 with the same effect of rocking the blade upon the strop.

It will be understood that by means of my improvements it is not necessary to remove the blade from the frame, but that while the blade remains in the frame it can be readily sharpened, and then it is merely necessary to swing the blade down against the guard and to lock it in the cutting position. This saves the necessity of removing the blade from a holder, applying it to a different holder or machine for stropping, then removing it from the latter and placing it in the razor-frame, and avoids danger of injuring the blade, the advantages of which will be obvious.

While I have illustrated and described what I consider an advantageous and practical embodiment of my invention, it will be understood that the various details and arrangements shown may be modified and changes made without departing from the spirit of my invention.

Having now described my invention, what I claim is—

1. A razor of the class described comprising a frame, a guard carried thereby, means for pivotally supporting a blade in the frame so that the edge of the blade may lie in shaving position with respect to the guard, and means carried by the frame for rocking the blade, substantially as described.

2. A razor of the class described comprising a frame, a guard carried thereby, means for pivotally supporting a blade in the frame so that the edge of the blade may lie in shaving position with respect to the guard, and means carried by the frame and connected with the blade for causing the blade to extend in the direction opposite to the direction of the movement of the frame and a strop with respect to each other, substantially as described.

3. A razor of the class described comprising a frame provided with a guard, a pivotally-supported blade-holder adapted to permit the edge of the blade to lie in shaving position with respect to the guard, and means carried by said frame and connected with said holder for causing the latter to rock, substantially as described.

4. A safety-razor comprising a frame provided with a guard, a member carried by the frame to be engaged by a strop, a blade-holder pivotally carried by the frame and adapted to permit the edge of a blade to lie in shaving position with respect to the guard, and means interposed between said member and the holder for rocking the latter by the former, substantially as described.

5. A safety-razor comprising a frame having a guard, a movable member carried by said frame, a blade-holder pivotally carried by the frame and adapted to permit the edge of a blade to lie in shaving position with respect to the guard, and gearing connecting said member with said holder for rocking the latter by the former, substantially as described.

6. A safety-razor comprising a frame having a guard, a movable member carried by said frame, a blade-holder pivotally carried by the frame, gearing connecting said member with said holder for rocking the latter by the former, and means for holding a blade edge in shaving position with respect to the guard, substantially as described.

7. A safety-razor comprising a frame provided with a guard, a roller pivotally carried by the frame, a blade-holder pivotally carried by the frame and providing a space between itself and the roller to receive a strop and adapted to permit the edge of a blade to lie in shaving position with respect to the guard, and means connecting the roller with the holder arranged to cause the holder to rock in the same direction as the roller, substantially as described.

8. A safety-razor comprising a frame provided with a guard, a blade pivotally carried by the frame, means carried by the frame for causing said blade to rock, and means for retaining the blade in position to hold its edge in firm shaving position with respect to the guard, substantially as described.

9. A safety-razor comprising a frame having a guard, a roller pivotally carried by the frame, an arm connected with the roller, a blade-holder pivotally carried by the frame, means connecting said roller with said holder for rocking the latter, and means for holding said arm in position to maintain the edge of a blade in shaving position with respect to the guard, substantially as described.

10. A safety-razor comprising a frame having a guard, a roller pivotally carried by the frame and provided with an arm, a latch carried by the frame to hold said arm, a blade-holder pivotally carried by the frame, and means connecting the roller with the holder whereby the holder may rock and may be locked in position to hold the edge of the blade in operative relation to the guard, substantially as described.

11. A safety-razor comprising a frame having a guard, means for pivotally supporting a blade in the frame, means carried by the frame for rocking the blade, means for holding the blade in operative shaving position, and means for holding the blade away from the guard when released from shaving position, substantially as described.

12. A safety-razor comprising a frame, a guard, a movable member carried thereby, a blade-holder pivotally carried by the frame, means connecting said member and holder together to operate the latter by the former, adapted to hold a blade in shaving position with respect to the guard, and a spring arranged to normally hold the blade-holder in an intermediate position and to permit the holder to rock, substantially as described.

13. A safety-razor comprising a frame having a base portion and uprights one of which

is longer than the other, a roller pivotally supported between said uprights, a blade-holder pivotally carried by the long upright providing a space between the roller and holder that is open at one end to receive a strop, and means for rocking the holder by the roller, substantially as described.

14. A safety-razor comprising a frame having a base portion and uprights, and a toothed guard, a roller pivotally carried by said uprights, a rod or shaft carried by one of the uprights and alined with said roller, a blade-holder mounted to rock upon said shaft, and gearing connecting the roller with the holder, substantially as described.

15. A safety-razor comprising a frame provided with a guard, a roller pivotally carried by said frame and provided with teeth, a pinion meshing with said teeth, and arranged to have a strop bear on it to rock it, a blade-holder pivotally carried by the frame, arranged to hold the edge of a blade in shaving position with respect to the guard, and a gear connected with said holder and in mesh with said pinion, substantially as described.

16. A safety-razor comprising a frame provided with a guard, a roller pivotally carried by said frame and provided with teeth, a pinion meshing with said teeth, a blade-holder pivotally carried by the frame, a gear connected with said holder and in mesh with said pinion, and means for locking the blade in shaving relation to the guard, substantially as described.

17. A safety-razor comprising a frame having an upright, a blade pivotally connected therewith, a guard opposed to the blade, the blade being arranged to have its edge held in shaving position with respect to the guard, and means carried by the frame and connected with the blade to rock the latter, a space being provided between the blade-support and the guard that is open on the side opposite said upright to permit a strop to be inserted between the blade and guard, substantially as described.

18. A safety-razor comprising a frame having an upright, a blade pivotally connected therewith, a guard opposed to the blade, means carried by the frame and connected with the blade to rock the latter, a space being provided between the blade-support and the guard that is open on the side opposite said upright to permit a strop to be inserted between the blade and guard, and means for holding the blade in shaving position with respect to the guard, substantially as described.

19. A safety-razor comprising a frame provided with a guard, means for pivotally supporting a blade in the frame so that the edge of the blade may lie in shaving position with respect to the guard, means to permit adjustment of the blade edge and guard with respect to each other, means carried by the frame for rocking the blade, and means for holding the blade edge in shaving position with respect to the guard, substantially as described.

20. A safety-razor comprising a frame provided with a toothed guard, means for pivotally supporting a blade in the frame so that the edge of the blade may lie in shaving position with respect to said guard, and means for rocking the blade in the frame, substantially as described.

21. A safety-razor comprising a frame having a guard, a blade-holder pivotally carried by the frame at a distance from the guard, said holder having means for detachably holding a blade, means for rocking the holder, and means for firmly holding the blade edge in shaving position with respect to the guard, substantially as described.

22. A safety-razor comprising a frame, a handle, means for holding the handle on the frame substantially at an angle thereto, a guard carried by the frame substantially at an angle to the handle, a blade-holder pivotally carried by the frame parallel to the guard, and means for rocking said holder, substantially as described.

23. A safety-razor comprising a frame provided with a guard and a blade-holder arranged parallel to each other at a distance apart providing a space between them to admit a strop, means for rocking the holder, and means for holding the blade edge in shaving position with respect to the guard, substantially as described.

24. A safety-razor comprising a frame provided with a guard and a blade-holder arranged parallel to each other at a distance apart to admit a strop, a friction member carried by said frame adapted to engage a strop and located in the space between the guard and the holder, and means for rocking said holder by said member to cause a blade edge to bear on the strop, substantially as described.

25. A safety-razor comprising a frame provided with a guard and a blade-holder arranged parallel to each other at a distance apart to admit a strop, a friction member carried by said frame adapted to engage a strop and located in the space between the guard and the holder, means for rocking said holder by said member to cause a blade edge to bear on the strop, and means for holding the blade edge in shaving position with respect to said guard, substantially as described.

26. A safety-razor comprising a frame, a guard, a blade-holder pivotally carried by the frame, means for holding a blade edge in shaving position with respect to the guard, means for holding the blade edge away from the guard, and means for rocking the blade while in the holder for stropping the blade edge, substantially as described.

27. A safety-razor comprising a frame having a razor-edge guard, means for pivotally supporting a blade in the frame so that the edge of the blade may lie in shaving position

with respect to said guard, means for rocking the blade for stropping it, means for holding the blade edge upon the guard, and means for holding the blade edge away from the guard, substantially as described.

28. The combination of a frame, a guard, a blade-holder pivotally supported by the frame, and means for firmly holding the blade edge in shaving position with respect to the guard and for releasing the blade edge from such position to permit the blade to rock in the frame, substantially as described.

29. The combination of a frame, a blade-holder pivotally carried thereby, a guard, a latch connected with the frame, and means interposed between the latch and the holder for firmly holding the blade edge in shaving position with respect to the guard, substantially as described.

30. The combination of a frame, a guard, a blade-holder pivotally carried by the frame, an arm connected with said holder, and a latch adapted to engage said arm for firmly holding the blade edge in shaving position with respect to the guard, substantially as described.

31. The combination of a frame, a guard, a blade-holder pivotally carried by the frame, a movable member carried by the frame, means connecting said member with the holder for rocking the latter by the former, means for holding a blade edge in firm shaving position with respect to the guard, and a spring passing through said member and connected at one end with the frame and at the other end with said member for retaining the blade edge from the guard, substantially as described.

32. A safety-razor comprising a frame, a guard, and a blade pivotally carried by the frame, said frame having a space open through opposite sides thereof beneath the blade to permit the passage of a strop, and means for holding the blade edge in shaving position with respect to the guard, substantially as described.

33. A safety-razor comprising a frame, a guard, and a blade pivotally carried by the frame, said frame having a space open through opposite sides thereof and also open on one end beneath the blade to permit the passage of a strop, and means for holding the blade edge in shaving position with respect to the guard, substantially as described.

34. A safety-razor frame having two outer members provided with a space between them, one end of said space being open to admit a strop between said members, a blade pivotally carried by one member, a guard, and means for holding the blade edge in shaving position with respect to the guard, substantially as described.

35. A safety-razor frame comprising a base portion and an upright on one side, a blade-holder pivotally carried by said upright at a distance from the base portion providing a space therebetween having one end open to permit the insertion of a strop between the base portion and the blade-holder, a guard carried by the base portion, and means for holding the edge of the blade in shaving position with respect to the guard, substantially as described.

36. A safety-razor comprising a frame having a base portion and an upright, a rod or shaft carried by said upright extending substantially parallel with the base portion and providing a space therebetween having one end open for the passage of a strop between the base portion and the rod or shaft, a blade-holder pivotally carried by said rod or shaft, and means for holding the blade edge in shaving position with respect to the guard, substantially as described.

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