Nov. 27, 1956 T. H. NASH 2,771,673

RAZOR BLADE RELEASE MECHANISM

Filed Jan. 12, 1955

2 Sheets-Sheet 1

Fig. 1

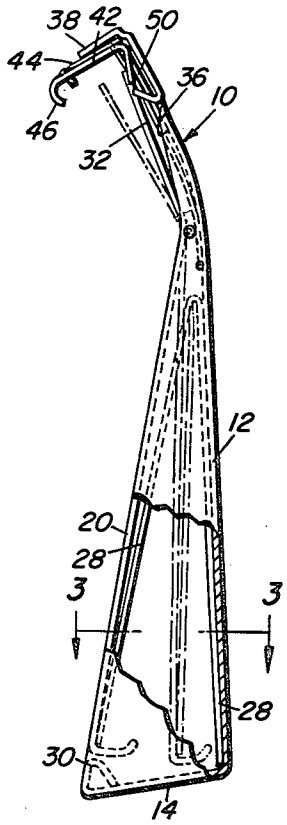


Fig. 2

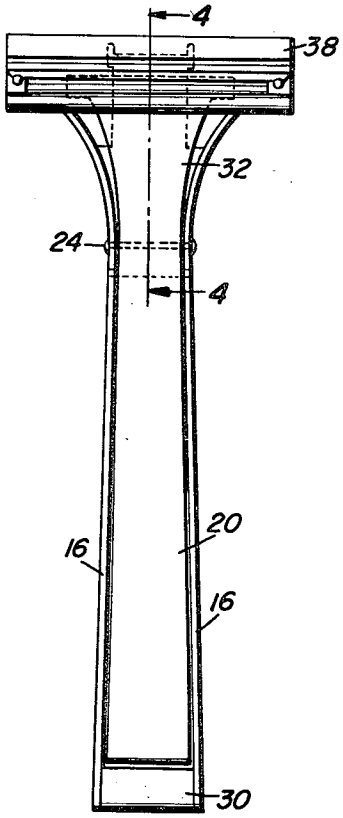


Fig. 6

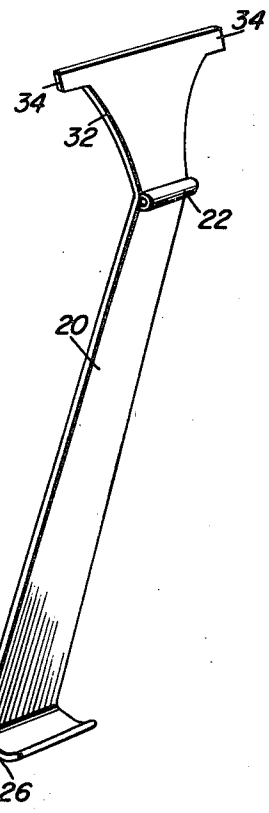


Fig. 3

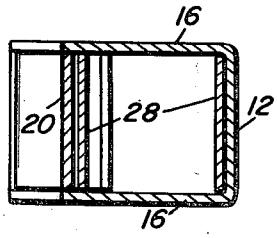
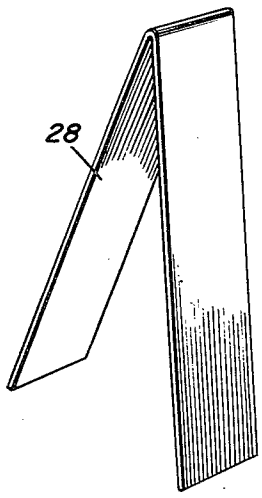


Fig. 7



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Fig. 4

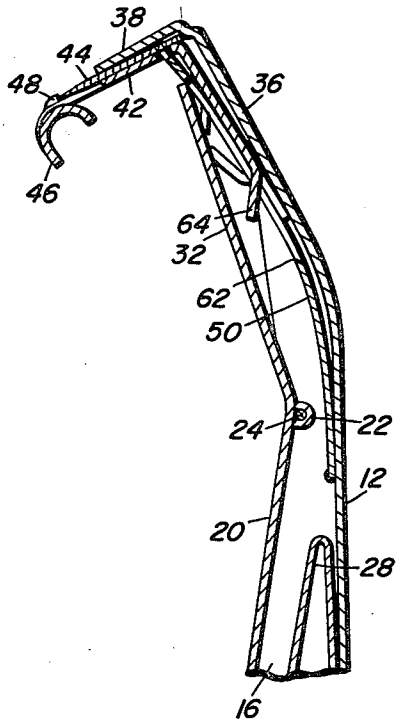


Fig. 5

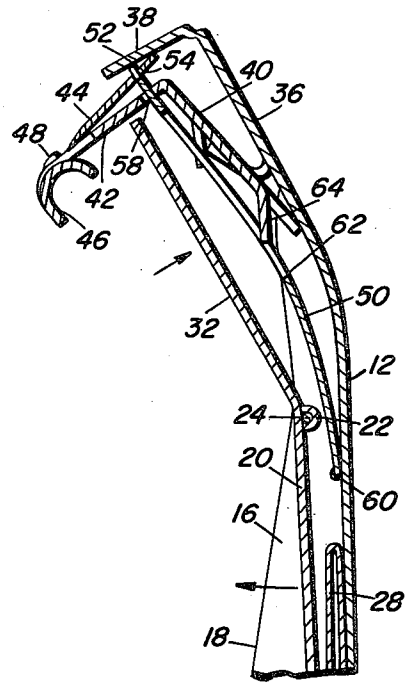


Fig. 8

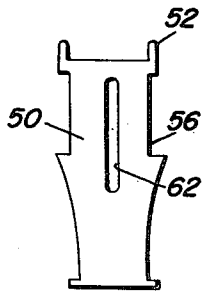
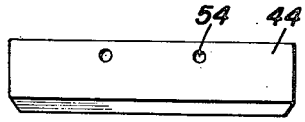


Fig. 9



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RAZOR BLADE RELEASE MECHANISM

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Application January 12, 1955, Serial No. 481,435

5 Claims. (Cl. 30—64)

This invention generally relates to a razor blade release mechanism which permits release of razor blades in the injector type razor for vibration to permit easier cleaning thereof.

In the injector type razors, it is a well known problem that the area surrounding the blade does not readily clean itself during the use thereof, thereby permitting an accumulation of material normally gathered during the shaving operation. This problem has found a partial solution in separate movable handle members or levers which must be separately loosened which will then permit vibration of the blade when a stream of water is directed thereon, thereby permitting easier cleaning of the blade. These devices are objectionable since they necessitate a complete operation by both hands of the user which is time consuming and objectionable since the shaving operation is usually done when very little time is available. Accordingly, it is the primary object of the present invention to provide a razor blade release mechanism which may be operated with the same hand utilized in holding the razor during the shaving operation so that the razor cleaning operation is conducted in a most efficient and expeditious manner.

Another object of the present invention is to provide a razor blade release mechanism including a pressure member incorporated into the handle of the razor that will be spring urged to a position for securely clamping the blade so that thumb or finger pressure may be exerted thereon for collapsing the spring and permitting a moveable member to move for releasing the razor blade from clamped position so that the blade may vibrate and move during the cleaning operation when a stream of water is directed thereon.

Still another important object of the present invention is to provide a razor blade release mechanism that is simple in construction, easy to use, time saving, safe, long wearing, well adapted for its intended purposes, and relatively inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view with portions broken away showing the razor blade construction of the present invention illustrating the normal and released positions of the constructions of the present invention;

Figure 2 is a front elevational view of the release mechanism of the present invention employed in an injector type razor;

Figure 3 is a top plan sectional view taken substantially upon a plane passing along section line 3—3 of Figure 1 showing the relationship of the movable member and the U-shaped spring member;

Figure 4 is a detailed, sectional view taken substantially upon a plane passing along section line 4—4 of Figure 2,

showing the construction of the head of the razor utilizing the release mechanism of the present invention;

Figure 5 is a sectional view similar to Figure 4 showing the release mechanism in released position wherein the blade is free to vibrate;

Figure 6 is a perspective view showing the construction of the release lever;

Figure 7 is a perspective view showing the construction of the inverted V-shaped or U-shaped flat leaf spring;

Figure 8 shows a construction of the blade holding member for retaining the blade from being discharged when in released position; and

Figure 9 is a perspective view of a razor blade.

Referring now specifically to the drawings, it will be seen that the numeral **10** generally designates the razor construction utilizing the release mechanism of the present invention which includes a generally elongated handle member **12** having a bottom **14** and side walls **16** and an open front **18**. Pivotally mounted adjacent the upper end of the handle **12** is an elongated lever **20** having a hinge barrel **22** mounted on a hinge pin **24**. The lower end of the lever **20** is inturned and rounded, as designated by the numeral **26**, for receiving the end of one leg of an inverted V-shaped flat leaf spring **28** which has the other end thereof disposed adjacent the junction of the rear wall and bottom wall **14** of the handle **12**. The bottom wall **14** terminates at its forward end in an upwardly and rearwardly directed portion **30** wherein the upwardly directed portion **30** together with the lever **20** forms a closure for the open end or front **18** of the handle **12**. The upper end of the lever **20** is provided with generally diverging side walls **32** which terminate in wing portions **34** for a purpose described hereinafter. The handle member **12** generally continues upwardly and inclines forwardly, as indicated by the numeral **36**, and terminates in a right angularly extending portion **38** at the extreme upper end thereof.

Pivotally mounted on the upper end **36** of the handle **12** is an L-shaped member **40** having a forwardly and downwardly inclined portion **42** which generally is in spaced relation to the downwardly and forwardly inclined portion **38** of the upper end **36** of the handle **12** for clamping a blade **44** therebetween. The outer end of the forwardly extended portion **42** is provided with a generally U-shaped curved portion **46** for engaging the face and guiding the whiskers in relation to the blade **44**. Also, positioning means **48** are provided on the upper surface of the L-shaped member **42** adjacent the U-shaped curved portion **46** for limiting and guiding the position of the blade **44** in relation to the L-shaped member **42**. For retaining the blade **44** between the members **38** and **42**, a retaining member **50** is provided having a pair of projecting ears **52** on the upper end thereof for engagement with apertures **54** in the blade **44**. The side edges of the member **50** are provided with recessed portions **56** for engaging an aperture **58** in the L-shaped member **42** wherein the blade **44** will be retained between the members **38** and **42** when the member **42** is moved away from the member **38**, as illustrated in Figure 5, and will be retracted from between the members **38** and **42** when the members **38** and **42** are in clamped position for holding the blade **44**, as illustrated in Figure 4. The lower end of the member **50** engages the rear surface of the handle **12**, generally as indicated by the numeral **60**. Also, a slot **62** is provided in the retainer **50** for receiving a projection **64** on the L-shaped member **42**, thereby guiding the movement of the retaining member **50**. It will be seen that the wing members **34** on the upper end **32** of the lever **20** engage the forward surface of the retaining member **50** for urging the retaining member **50** together with the member **42** towards the member **38** and the upper end **36** of the handle **12**, as shown by

the unnumbered arrows in Figure 5 thereby clamping the blade 44 between the members 42 and 38 substantially as illustrated in Figure 4. The spring 28 will normally urge the bottom of the lever 20 outwardly, thereby clamping the blade 44 in rigid position. When the front part of the lever 20 which forms the forward portion of the handle 12 is moved rearwardly against the action of the spring 28, the upper portion 32 of the lever 20 moves forwardly, thereby releasing the retaining member 50 which permits the L-shaped member 42 to pivot downwardly away from the member 38 and the upper end 36 of the handle 12, thereby permitting the blade 44 to vibrate. When the pressure against the retainer 50 is released, and the L-shaped member 42 moves forwardly, the resiliency of the retaining member 50 will urge the projecting tongues 52 upwardly through the member 42 and into engagement with the inner surface of the member 38 so that the projections 52 extend through apertures 54 in the razor blade 44, thereby retaining the blade 44 in position and permitting vibration of the blade 44 when a stream of water is directed thereon for cleaning.

It will be seen that the present invention permits easy release of the blade 44 for vibration during cleaning thereof, wherein the releasing operation may be carried out by use of a single hand rather than by manipulation of a separate hand lever or latch which necessitates the action of both hands of the user. Due to the deformation of the retaining member 50, the members 38 and 42 may be brought into very close juxtaposition for tightly clamping and positioning the blade 44 between the members 38 and 42 and in correct relation to the guide projections 48 and the U-shaped member 46 which engages the whiskers and face of the person utilizing the razor.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A razor blade release mechanism for attachment to a razor having a hollow elongated handle with an open front and a pivotal member for clamping a razor blade, said mechanism comprising a pivotal lever mounted in said handle and having a lower end projecting through the open front thereof for exerting finger pressure thereon, spring means urging the lower end of said lever outwardly, means on the upper end of said lever for engaging said pivotal blade clamping member for selectively clamping and releasing the razor blade upon pivotal movement of said lever.

2. A razor blade release mechanism for attachment to a razor having a hollow elongated handle with an open front and a pivotal member for clamping a razor blade, said mechanism comprising a pivotal lever mounted in said handle and having a lower end projecting through the open front end thereof for exerting finger pressure thereon, spring means urging the lower end of said lever outwardly, means on the upper end of said lever for engaging said pivotal blade clamping member for selectively clamping and releasing the razor blade upon pivotal movement of said lever, and means selectively engageable with the blade for retaining the blade loosely in position when it is released.

3. A razor blade release mechanism for attachment to a razor having a hollow elongated handle with an open front and a pivotal member for clamping a razor blade, said mechanism comprising a pivotal lever mounted in said handle and having a lower end projecting through the open front end thereof for exerting finger pressure thereon, spring means urging the lower end of said lever outwardly, means on the upper end of said lever for engaging said pivotal blade clamping member for selectively clamping and releasing the razor blade upon pivotal movement of said lever, a resilient blade retaining member adjacent the blade clamping member for engagement by the lever, said retaining member having projections at the upper end thereof for projecting through apertures in the blade clamping member and into apertures in the blade for generally retaining the blade in position when the blade is released.

4. A razor blade release mechanism for attachment to a razor having a hollow elongated handle with an open front and a pivotal member for clamping a razor blade, said mechanism comprising a pivotal lever mounted in said handle and having a lower end projecting through the open front end thereof for exerting finger pressure thereon, spring means urging the lower end of said lever outwardly, means on the upper end of said lever for engaging said pivotal blade clamping member for selectively clamping and releasing the razor blade upon pivotal movement of said lever, said spring means normally urging said lever to a blade clamping position, and said blade clamping means permitting vibration of said blade when released, a resilient retaining member adjacent a clamping member for engagement by the lever, said retaining member having projections at the upper end thereof for projecting through apertures in the blade clamping member and into apertures in the blade for generally retaining the blade in loose position when the blade is released for permitting vibration thereof.

5. In a razor comprising a pivotal razor blade clamping member, an elongated handle member, a lever pivotally supported on said handle, means on the upper end of the lever for engaging the blade clamping member, the lower end of the lever being disposed adjacent the handle for forming a finger receiving area and spring means urging the lower end of the lever away from the handle and urging the means on the upper end of the lever into engagement with the blade clamping member for selectively clamping and releasing a razor blade upon pivotal movement of the lever.

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