

F. F. DORSEY.
SAFETY RAZOR.
APPLICATION FILED JUNE 19, 1915.

Patented June 19, 1917.

1,230,833.

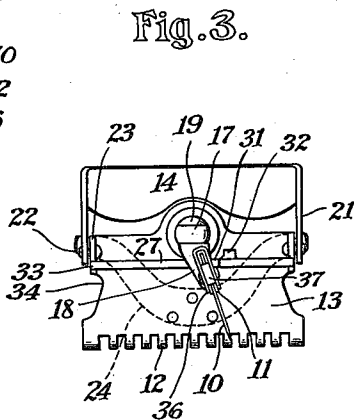
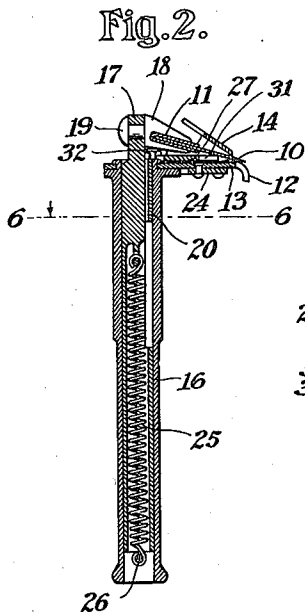
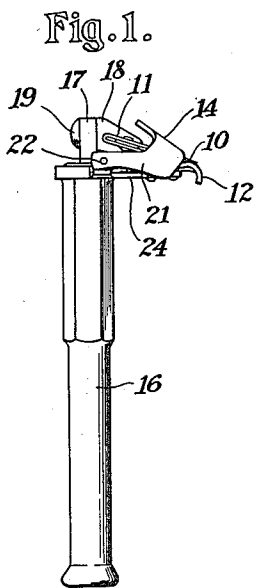


Fig. 6.

Fig. 4.

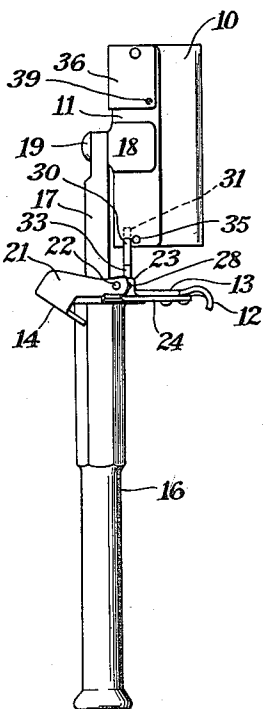


Fig. 5.

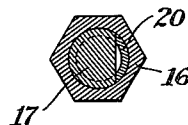
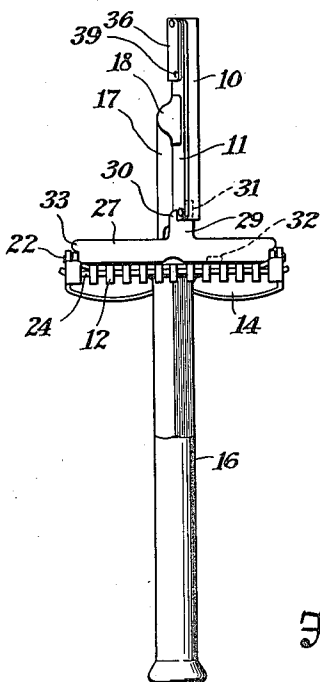
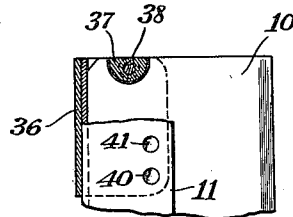


Fig. 7.



Inventor:
Farnum F. Dorsey
by his attorneys
Davis & Dorsey

UNITED STATES PATENT OFFICE.

FARNUM F. DORSEY, OF ROCHESTER, NEW YORK.

SAFETY-RAZOR.

1,230,833.

Specification of Letters Patent. Patented June 19, 1917.

Application filed June 19, 1915. Serial No. 35,101.

To all whom it may concern:

Be it known that I, FARNUM F. DORSEY, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

This invention relates to safety-razors of the type in which the blade may be stropped in the ordinary manner and with any ordinary strop, without removing the blade from the handle, or in any other way dismembering the razor.

It has previously been proposed to connect a razor-blade pivotally with a handle, so that the blade may turn about an axis transverse to its length and located at the middle of the blade, whereby the blade may be brought either into a stropping position, with its length parallel with that of the handle, or into a shaving position with its length transverse to that of the handle.

The present invention relates particularly to razors having this general construction, and one object of the invention is to improve such razors with respect to the means by which the razor-blade is held in the stropping position. To this end I employ a retaining-device for the blade-holder, and the blade is constructed and mounted so that when the blade is in shaving position this device is in a position in which it does not interfere with the coöperative adjustment of the blade and the guard of the razor, while, on the other hand, when the blade is in stropping position the retaining-device is brought to a position in which it projects substantially above the guard, so as to permit the blade in this position to be sufficiently removed from the guard for convenience in stropping.

Another object of the invention is to simplify the manipulation and improve the operation of the razor, particularly with respect to the means for retaining the blade in its respective positions for shaving and stropping. To this end I employ, in connection with two telescopically arranged members, upon which the guard and the blade-holder are mounted, a spring which connects these members and tends to move them relatively in a direction such that, by the action of the spring, the blade may be

held in either of its said positions without the use of set-screws and the like, such as have been previously employed for that purpose.

Another object of the invention is to improve the operation of the razor by providing it with a bar or shield which lies across the upper surface of the blade on the opposite side of the guard. The advantage of such a bar or shield is well known, in connection with safety-razors of other types, but it has not been employed in connection with a razor of the type to which this invention relates.

To this end I employ a bar which is associated with the razor-blade in the manner just described when the blade is in shaving position, and I mount this bar pivotally upon, or in connection with, the guard of the razor in such a manner, and at such a point, that the bar may be swung rearwardly, from operating position, through an angle of about 180° without interference with the parts by which the blade is mounted and supported, the bar when so retracted lying substantially in the plane of the guard so as not to interfere with the stropping operation or with the preliminary extension of the blade into position parallel with the handle. In connection with this bar I also employ means, preferably in the form of a spring, for retaining it in retracted position during the stropping operation.

Other objects of the invention, and the features of construction by which they are attained, will be set forth hereinafter in connection with the description of the illustrated embodiment of the invention.

In the accompanying drawings:—

Figure 1 is a side-elevation, and Fig. 2 a vertical section, of a safety-razor embodying the present invention, with the parts in position for shaving;

Figs. 3, 4 and 5 are, respectively, a plan-view, a side-elevation and a front-elevation of the same razor, with the parts in the stropping position;

Fig. 6 is a section on the line 6—6 in Fig. 2, but on larger scale; and

Fig. 7 is an enlarged detail-view, partly in section, showing the construction of the means by which the blade is retained in the holder.

The invention is illustrated as embodied

in a safety-razor adapted for using thin interchangeable blades. The blade 10, which is a strip of sheet-steel with one edge sharpened, is seated in a slot in a holder 11.

5 When in the shaving position, the blade cooperates with a guard having the usual curved teeth 12, these teeth being formed at the forward edge of a sheet-metal guard-plate 13. In this position the blade is

10 clamped against the guard by means of a clamp-bar 14, which is formed of sheet-metal and is of sufficient width to provide a smooth shield to prevent contact between the face and the upper surface of the blade and

15 the blade-holder.

The parts just described are mounted on a stock which is shown as comprising two telescopically arranged members 16 and 17. The member 16, which may be described as the "handle", is hollow, and the member 17, which may be described as the "shank", slides within the handle. The blade-holder is mounted at the upper end of the shank 17. For this purpose there is a head 18, at the

20 middle of the blade-holder, which is provided with a pivot-stud 19 arranged to turn in a perforation in the end of the shank, as shown particularly in Fig. 2, so that the blade may be swung from the shaving position shown in Figs. 1 and 2 to the stropping

30 position shown in Figs. 3, 4 and 5, in which latter position the length of the blade is parallel with that of the stock.

With the blade in stropping position the razor may be manipulated, by means of the

35 handle 16, in such a manner as to strop the blade in the ordinary manner upon any ordinary strop. It is necessary that the shank be prevented from turning within the handle

40 during the stropping operation, and accordingly the forward surface of the shank is flattened for a sufficient distance, as shown in Figs. 2 and 6, and is arranged to cooperate with a key 20 which is soldered, or otherwise

45 fixed, within the upper part of the handle.

Before moving the blade to stropping position it is necessary to remove the clamp-bar from operative position. This bar is

50 accordingly formed integrally with two lateral arms 21 which are pivoted at their rear ends, on pins 22 which project outwardly from lugs 23, these lugs being bent upwardly from the sheet-metal of the guard-

55 plate at the side-edges of the plate. This arrangement permits the clamp-bar to be swung back to the position shown in Fig. 4. In order to press the clamp-bar against the blade when the bar is in operation a flat

60 spring 24 is riveted, at its middle, to the lower surface of the guard-plate, and the ends of this spring engage the lower edges of the arms 21 adjacent the pivots 22. These edges are so formed that the spring tends

to swing the clamp-bar downwardly when it is in its forward position, as in Figs. 1 and 2, and also to retain the clamp-bar in the position shown in Figs. 3, 4 and 5 when the blade is in stropping position. The retracting movement of the clamping-bar, which

70 has just been described, has an extent of about 180°, and brings the bar approximately into the plane of the guard, but on the opposite side of the handle from the guard. In this position of the clamp-bar it

75 does not interfere either with the strop or with the hand of the user during the stropping operation.

It is desirable, though not essential, to prevent the blade-holder from moving pivotally with respect to the shank when the blade is in stropping position. For this purpose I employ means including a spring

80 25 which is located within the hollow lower portion of the shank 17, the upper end of the spring being connected with the shank, while the lower end is attached to a pin 26 fixed transversely in the handle. A detent is also employed to cooperate with the blade-

85 holder. This detent, which is formed of sheet-metal, comprises a transverse member 27 which has, at its ends, integral pivot-members 28 journaled in perforations in the lugs 23, as shown particularly in Fig. 4. Near the middle of the member 27 is an arm

90 29 which is provided with two fingers 30 and 31 with a recess between them. A stop-lug 32 projects from the detent in position to arrest the pivotal movement of the detent when it has been swung upwardly into a

100 position in which the arm 29 is vertical, as in Figs. 3, 4 and 5. After the detent has been swung to this position the blade-holder may be swung, with respect to the shank 17, in a direction to cause the end of the blade-

105 holder to engage the upper portion of the finger 31, whereby the swinging movement of the blade-holder is arrested. Upon releasing the blade-holder the spring 25 will then pull the shank downwardly, causing

110 the blade-holder to settle into the recess between the fingers 30 and 31, and the blade-holder is then locked against rocking movement about the pivot 19, while at the same time the shank is prevented from sliding

115 back into the handle under the influence of the spring 25. The detent is prevented from swinging forwardly, during the stropping operation, by engagement of the finger 30 with a projection 35 on the blade-holder,

120 as shown in Fig. 4.

The razor is restored to shaving position by pulling the blade-holder and the shank upwardly far enough to disengage the blade-holder from the detent, then swinging the

125 detent back to its normal horizontal position, swinging the blade into shaving position and permitting the blade and the shank

to fall until the blade rests upon the guard, and, finally, swinging the clamp-bar back into engagement with the blade.

The spring 25, in addition to participating in the function of locking the blade-holder against pivotal movement, assists the clamp-bar in retaining the blade and the blade-holder in the normal shaving position.

Any ordinary or suitable form of blade may be used in connection with the parts above described, by suitable modifications in the blade-holder, but I have shown the razor as adapted to use blades of a well-known form in which they are provided with notches at their ends, these notches being located near the rear corners of the blades. To retain the blade in the holder the notch at one end is engaged with a rivet, of which the projection 35 before mentioned is the head, this rivet passing through the sides of the blade-holder. In order to releasably engage the notch at the other end of the blade, the blade-holder is provided with a blade-retainer in the form of a spring sheet-metal clip 36, which embraces and slides upon the end of the holder, as shown particularly in Figs. 3 and 7. A metal block 37 is fastened between the sides of the clip, at one end, by means of a rivet 38, this block being adapted to cooperate with the notch in the blade, and the blade-holder is similarly notched at this end to receive the block. When the blade is to be disengaged the clip is slid toward the end of the holder, thus removing the block from the notch in the blade. To limit the movements of the blade-retainer, and to hold it in either its operative or its inoperative position, an inwardly-projecting bead 39 is formed at one corner of the clip, and this bead cooperates with two recesses 40 and 41 formed in the surface of the blade-holder, as shown in Fig. 7.

My invention is not limited to the embodiment thereof hereinbefore described and illustrated in the accompanying drawings, but it may be embodied in various other forms within the nature of the invention as it is defined in the following claims.

I claim:—

1. A safety-razor having, in combination, a stock comprising two telescopically arranged members; a guard mounted at the end of one of said members; a blade-holder mounted at the end of the other of said members and arranged to swing, about a transverse axis, from shaving position, transverse to the length of the stock, into a stropping position parallel with the length of the stock; a catch mounted on the first of said members in position to retain the blade-holder in stropping position; and a spring cooperating with the telescopic members and tending to move them relatively in a direc-

tion to bring the blade-holder and the catch together.

2. A safety-razor having, in combination, a stock comprising two telescopically arranged members; a guard mounted at the end of one of said members; a blade; a blade-holder mounted at the end of the other of said members and arranged to swing about a transverse axis; and a catch pivotally mounted and connected with the guard, the catch having an extremity which may be swung upwardly into position to cooperate with one end of the blade-holder when the latter is swung to stropping position.

3. A safety-razor having, in combination, a stock comprising two telescopically arranged members; a guard mounted at the end of one of said members; a blade; a blade-holder mounted at the end of the other of said members and arranged to swing about a transverse axis; and a catch movably connected with the guard and adapted to cooperate with the blade-holder when the latter is swung to stropping position, the catch having a part accessible, for manual operation, at the side of the razor.

4. A safety-razor having, in combination, a stock comprising two telescopically arranged members; a blade; a blade-holder mounted at the end of one of said members and arranged to swing about a transverse axis; a guard mounted at the end of the other of said members; a catch also mounted on the second of said members and adapted to engage the end of the blade-holder and lock it in stropping position parallel with the telescopic members; and a spring inclosed within and connecting said members and tending to move them relatively in a direction to draw the blade-holder into engagement with said catch and also to draw the blade into engagement with the guard when the blade is in shaving position.

5. A safety-razor having, in combination, a stock comprising two telescopically arranged members; a guard mounted at the end of one of said members; a blade; a blade-holder mounted at the end of the other of said members and arranged to swing, about a transverse axis, from shaving position to a stropping position parallel with the telescopic members; a clamp-bar arranged to engage the upper surface of the blade when the blade is in shaving position, the clamp-bar being pivotally connected with the first of said members and movable, from shaving position, to a position in the rear, and substantially in the plane, of the guard; and means for retaining the clamp-bar in both of said positions.

6. A safety-razor having, in combination, a stock comprising two telescopically arranged members; a guard mounted at the end of one of said members; a blade; a

blade-holder mounted at the end of the other of said members and arranged to swing, about a transverse axis, from shaving position to a stropping position parallel with the telescopic members; a U-shaped clamp-member arranged to engage the upper surface of the blade, when in shaving position, and pivoted, at its ends, to the first of said telescopic members, substantially in the plane of the stock, so as to swing rearwardly clear of the blade-holder and its connections with the stock; and resilient means for retaining the clamp-member both in shaving position, and in a rearwardly-swung stropping position with its transverse portion substantially at the level of the guard. 10 15

FARNUM F. DORSEY.