PATENT SPECIFICATION

148,581

Application Date: May 31, 1918. No. 8976/18.

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PROVISIONAL SPECIFICATION.

Improvements in Safety Razors.

I, TOM PERCY BENTLEY, of "Summerfield", 76, St. Anne's Road East, St. Anne's-on-Sea, in the County of Lancaster, Manufacturer, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in safety razors and more particularly to that type in which a thin steel blade is clamped between two metal plates, such razors being usually provided with a stem some three or four inches long by which to manipulate the razor. This arrangement necessitates the employment of a box or case of considerable size and the object of my invention is to provide an improved arrangement or form of handle which can be arranged parallel with the clamping plates and blade when not in use and to this end the handle may be pivoted or secured in such a way to the serrated guard plate that it can be turned or be collapsed into the position stated. A further feature of my invention relates to the means for clamping the blade in position.

With the aforesaid objects in view and referring particularly to the arrangement of the handle I first of all in one modification secure a nut to a short stud fixed to or forming part of the guard plate or I may employ a fixed boss at the rear side of the guard plate without a nut. In any case the nut or boss has pivoted to it by means of a clamping pin and nut a short handle made of sheet metal in the form of a fork closed at the outer end and suitably shaped for gripping purposes whilst the inner end of the fork embraces the nut or stud and is in addition provided longitudinally with slots in the two arms of the fork. By slacking back the nut of the pivot pin the handle portion can be drawn back and be turned into the vertical position in which it is held by tightening up the nut and is then ready for shaving purposes. The reverse action enables the handle to be turned into a position parallel with the plates so as to occupy but small space.

In another form the handle may be solid and its inner portion be provided with a longitudinal slot, such inner portion being located between two lugs on the clamping plate through which the clamping pin or screw is passed. By slacking back or tightening the nut the handle can be turned into and out of using position as before. At the inner end one corner of the handle can be rounded off to allow of the turning movement and the other corner be left square to assist in holding the handle in the using position.

In another case the handle may be made telescopic, the inner portion being pivoted to the stud or lugs as before.

In another case the handle may be made in collapsible form as for instance in the form of a number of links on the "lazy tongs" principle, suitable and simple means of locking the links in their extended form being employed.

I would have it understood that I do not confine myself to the foregoing forms of handle as other forms may be adopted without departing from the essential characteristic of this part of my invention.

[*Price* 1/-]

Another feature of my invention comprises an improved arrangement of the clamping plate. Instead of these being drawn together by a screw in connection with the handle I arrange to provide the outer clamping plate with two short guide pins just to pass through the blade and the inner plate or guard. The outer clamping plate is pivoted or hinged at one end to the other plate so that it may fold over the blade. The free end of the outer plate is secured to the inner plate by a small spring clamp or suitable spring catch device or by means of a pivoted screwed stud and nut which can be swung into and out of clamping position. Such a stud enables an increased pressure to be brought on the blade if desired. This arrangement enables the blade to be readily placed in or taken out of position for cleaning or renewal.

A further feature of my invention consists in forming either one or both of the clamping plates with narrow transverse ribs or fitting strips on which the blade can be clamped, thus allowing the formation of spaces through which liquid soap or water can pass during shaving.

The arrangements hereinbefore described provide a very compact razor and in some forms the blades may be made about half the width of the present blades and the other parts of the razor in proportion so that in this way the razor and a dozen blades may be packed in one of the small metal boxes such as are at present used for blades only.

Dated the 30th day of May, 1918.

WILLIAM H. TAYLOR,
3, Brown Street, Market Street,
Manchester,
Agent for the Applicant.

COMPLETE SPECIFICATION.

Improvements in Safety Razors.

I, TOM PERCY BENTLEY, of "Summerfield", 76, St. Anne's Road East, St. Anne's-on-Sea, in the County of Lancaster, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in safety razors and more particularly to that type in which a thin steel blade is clamped between two metal plates, such razors being usually provided with a fixed and rigid stem some three or four inches long by which to manipulate the razor. This arrangement necessitates the employment of a box or case of considerable size and the object of my invention is to provide an improved arrangement or form of handle which can be arranged parallel with the clamping plates and blade when not in use and to this end the handle may be pivoted or secured in such a way to the serrated guard plate that it can be turned or be collapsed into the position stated. A further feature of my invention relates to the means for clamping the blade in position.

My invention will be fully described with reference to the accompanying drawing in which

Fig. 1 is a side elevation of a safety razor guard plate with one of my improved forms of handle applied thereto,

Fig. 2 plan of same,

Fig. 3 plan showing a modified form of handle.

Fig. 4 side elevation of same,

Fig. 5 side elevation of a telescopic handle,

Fig. 6 side elevation of a collapsible handle on the "lazy tongs" principle.

Fig. 7 side elevation of the handle shown in Fig. 6, in a partially collapsed condition.

Fig. 8 side elevation of a complete safety razor provided with the handle shown in Figs. 1 and 2 and indicating the improved means for securing the blade in position, the clamping plate being shown open.

Fig. 9 elevation of the razor shown in Fig. 8, with the parts in position for use.

Fig. 10 detail sectional view showing modified means for holding the clamping plate and blade in position.

Fig. 11 sectional elevation of a modified arrangement of clamping the guard, clamping plate and blade in position.

Fig. 11[a] transverse section showing application of pivoted handle to a Gillette razor, and

Figs. 12, 13 and 14 sectional elevations of clamping plates indicating some further improvements.

With the aforesaid objects in view and referring particularly to the handle, I form on or secure to the inner face of the guard plate *a*, a projecting boss *b* pro-

vided with a transverse hole to receive a clamping bolt *c* provided with a wing nut *d* for slackening and tightening the bolt. The bolt forms the pivot for a short handle *e* made of sheet or other metal in the form of a fork closed at the outer end *f* and suitably shaped at *g* for gripping purposes whilst the inner end of the fork embraces the boss *b* and is in addition provided longitudinally with slots *h* in the two arms of the fork. By slackening back the nut *d* of the bolt *c* the handle portion can be drawn into the position shown in Fig. 1 and be turned into the vertical position as in Fig. 9 in which it is held by tightening up the nut and is then ready for shaving purposes. The reverse action enables the handle to be turned into position parallel with the guard plate so as to occupy but small space, the unusing position being as shown in Fig. 4.

In another form of the handle Figs. 3 and 4 it may be solid and be provided with a single longitudinal slot *i*, the handle being located between two projecting lugs *j* on the clamping plate in place of one as in Figs. 1 and 2. The same method of clamping the handle in the using position is employed.

In Fig. 5 I have shown a telescopic handle comprised of two or more short tubes *k* adapted to slide one within the other, the inner tube being formed to fit on or between lugs such as *b* and *j* shown in Figs. 1 and 2 and 3 and 4, respectively.

In all the aforegoing forms of handle the inner ends may be rounded off at one corner *m* to allow of the turning movement into and out of using position and *vice versa*, the other corner *n* being left square to bear against the inside face of the guard plate *a* and so assist in holding the handle in the using position.

In Figs. 6 and 7 another form of collapsible handle is shown consisting of a number of links *o* pivoted to each other at *p* on the "lazy tongs" principle, the ends of the two inner links being secured to the boss *b* on the guard plate *a* and clamped in position by the bolt *c* and nut *d* as before. Fig. 6 shows the links extended into using form whilst Fig. 7 shows the links partially collapsed.

Another feature of my invention in combination with any of the forms of handle hereinbefore described comprises an improved arrangement of outer clamping plate which instead of being drawn against the blade by a screw in connection with the handle, as is usual, is arranged as shown in Figs. 8 and 9. That is to say I provide such outer clamping plate *q* with two short guide pins *r* just to pass through the usual holes *s* in the blade *t* and through corresponding holes similar to the holes *u*, Fig. 11 in the inner plate or guard *a*. The outer clamping plate *q* is pivoted or hinged at one end as at *v* to the guard plate *a* so that it may be folded over the razor blade *t* from the position shown in Fig. 8 to that shown in Fig. 9. The free end *w* of the plate *q* is secured to the guard plate *a* by a small spring clamp or suitable spring catch device *x* or as in Fig. 10 by means of a pivoted screw stud *y* and nut *z*, the stud and nut being arranged to be swung into and out of clamping position. Such a stud enables an increased pressure to be brought on to the blade *t* if desired. The arrangement of pivoted clamping plate *q* enables the razor blade to be readily placed in or taken out of position for clamping or renewal. In the modification of the invention shown in Fig. 11 and in combination with handles arranged as described the outer clamping plate *q* with its guide pins *r* arranged as before described is secured to the guard plate by means of a screwed extension 2 from the fixed boss *j*, a wing nut 3 being employed for clamping purposes and to enable the blade *t* to be interchanged as required.

In Fig. 11[a] the slotted handle *e* as before described is pivoted to a boss *m* threaded internally to engage with a short screw 2 on the clamping plate *q*; such an arrangement permitting the blade *t* to be adjusted, if required.

A further feature of my invention (Figs. 8 and 11 to 14) consists in forming either one or both of the clamping plates usually the plate *q* with narrow transverse ribs or fitting strips 4 on which the blade *t* can be clamped, thus allowing the formation of spaces through which liquid soap or water can pass during shaving. In Fig. 13 these strips 4 are formed by grooving the plate at 5. Fig. 14 shows an increased number of strips 4 and grooves 5.

The arrangement hereinbefore described provide a very compact razor and in some forms the blades may be made about half the width of the present blades and the other parts of the razor in proportion so that in this way the razor and a number of blades may be packed in one of the small metal boxes such as are at present used for blades only.

I am aware it has previously been proposed in safety razors to employ a handle, the main portion of which is in tubular form and secured rigidly to the guard

plate whilst a second tubular portion can be secured to the former by a screwed connection either to lengthen or shorten the handle. I do not claim such an arrangement. I am also aware it has previously been proposed in safety razors to hold the blade against the guard plate by a clamping plate pivoted to the latter at one end and secured to it at the other by a spring catch and likewise that the clamping plate has been secured to the guard plate by a central screw. I am likewise aware that in a double-edged safety razor of the kind in which a blade is clamped upon a toothed guard, transverse grooves are cast or otherwise formed in the guard to permit free passage of the soap and hair from one cutting edge to the other. Shallow transverse grooves may be formed in the blade instead of, or in addition to the grooves in the guard. I do not claim any such arrangements *per se*.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. In a safety razor the improved arrangement of handle comprising a fixed boss at the rear of the guard plate, a transverse hole through said boss, a handle provided with a forked extension to embrace said boss, a longitudinal slot in each extension, a gripping portion at the outer end of the handle and a clamping screw passed through the boss and the forked extension to enable the handle to be turned or collapsed parallel to the guard plate or extended at right angles thereto as required.

2. In a safety razor the improved arrangement of handle comprising a divided fixed boss at the rear of the guard plate, a transverse hole through said boss, a handle provided with a longitudinal slot, a gripping portion at the outer end of the handle and a clamping screw passed through the boss and the slotted handle to enable the latter to be turned or collapsed parallel to the guard plate or extended at right angles thereto as required.

3. In a safety razor having a handle as claimed in Claim 1, or Claim 2, a rounded corner at one end of the forked extension or single handle and a squared corner at the same end to co-operate in allowing the handle to be turned and held in using position.

4. In a safety razor the improved arrangement of handle comprising a fixed boss at the rear of the guard plate, a hole through said boss, a handle formed of telescopic slidable tubes pivoted to said boss, rounded and squared corners at the inner end of the handle and a clamping screw passed through the boss and the inner tube of the handle to enable the latter to be turned or collapsed parallel to the guard plate or extended at right angles thereto as required.

5. In a safety razor the improved arrangement of handle comprising a fixed boss at the rear of the guard plate, a hole through said boss, a handle formed of a number of links pivoted to each other and a clamping screw passed through the inner ends of the inner pair of links and through the boss to enable the handle to be collapsed or extended as required.

6. In a safety razor having a pivoted and collapsible handle secured to the guard plate as claimed in any of the Claims 1, 2, 3, 4, or 5, the means for clamping the razor blade in position against the guard plate comprising a clamping plate pivoted to one end of the said plate, fixed studs on the clamping plate to pass through holes in the razor blade and guard plate and a gripping clamp at the opposite end of the guard plate to engage with the free end of the clamping plate to hold the razor blade in using position.

7. In a safety razor having a pivoted and collapsible handle secured to the guard plate, as claimed in any of the Claims 1, 2, 3, 4 and 5, the means for clamping the razor blade in position against the guard plate comprising a clamping plate pivoted to one end of said guard plate, fixed studs on the clamping plate to pass through holes in the razor blade and guard plate and a pivoted screwed link and wing nut at the opposite ends of the guard plate to engage with the free end of the clamping plate to hold the razor blade in using position.

8. In a safety razor having a pivoted and collapsible handle secured to the guard plate as claimed in any of the Claims 1, 2, 3, 4 and 5, the means for clamping the razor blade in position against the guard plate comprising a clamping plate having fixed studs on its inner face to pass through holes in the razor blade and guard plate, a screwed extension from the fixed boss secured to the guard plate, a hole in the clamping plate through which said screwed extension passes and a wing nut on the screwed extension to bind the plates and the razor blade together.

9. In a safety razor having a pivoted and collapsible handle secured to the

guard plate as claimed in any of the Claims 1, 2, 3, 4 and 5, a clamping plate provided on its inner face with a plurality of raised fitting strips adapted to leave passages between them and the razor blade when the strips bind against said blade and so allow liquid to pass through the intervening spaces during shaving.

10. In a safety razor a clamping plate provided with a short central screw to pass through the razor blade and through the guard plate, an internally screwed boss to engage with the screw, a transverse hole in the outer end of the boss, a longitudinally slotted handle formed with a gripping part at its outer end and a clamping bolt passed through the boss and the slot in the handle.

Dated this 29th day of November, 1918.

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Agent for the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1920.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig: 1.

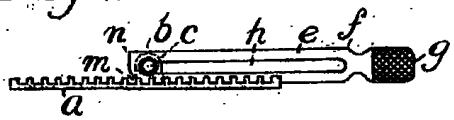


Fig: 2.

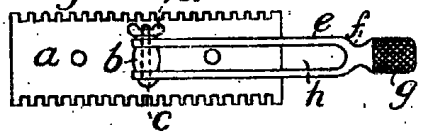


Fig: 3.

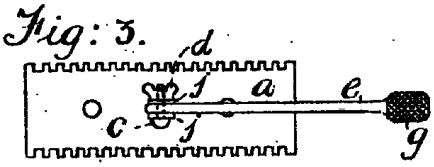


Fig: 4.

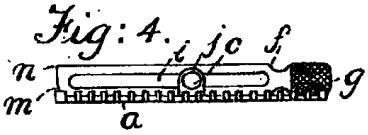


Fig: 5.

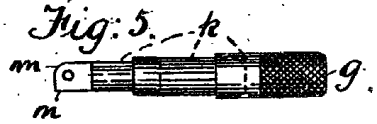


Fig: 6.

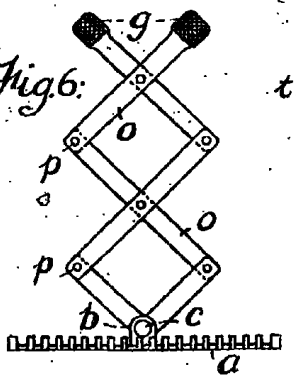
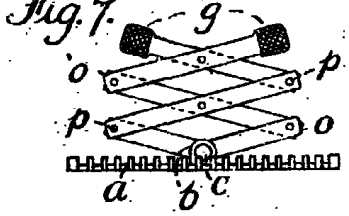


Fig: 7.



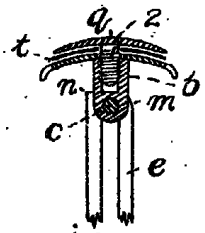
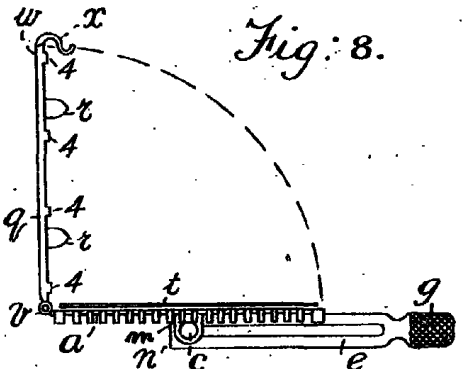


Fig: 11a

Fig: 8.



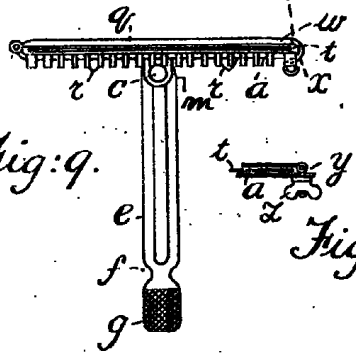


Fig: 9.

Fig: 10.

Fig: 11.

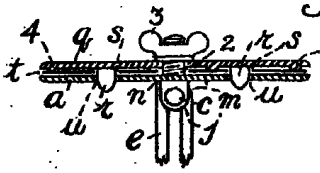


Fig: 12.

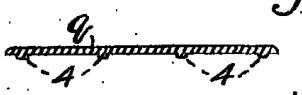
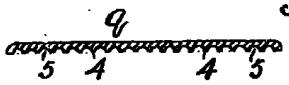


Fig: 13.

Fig: 14.



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