

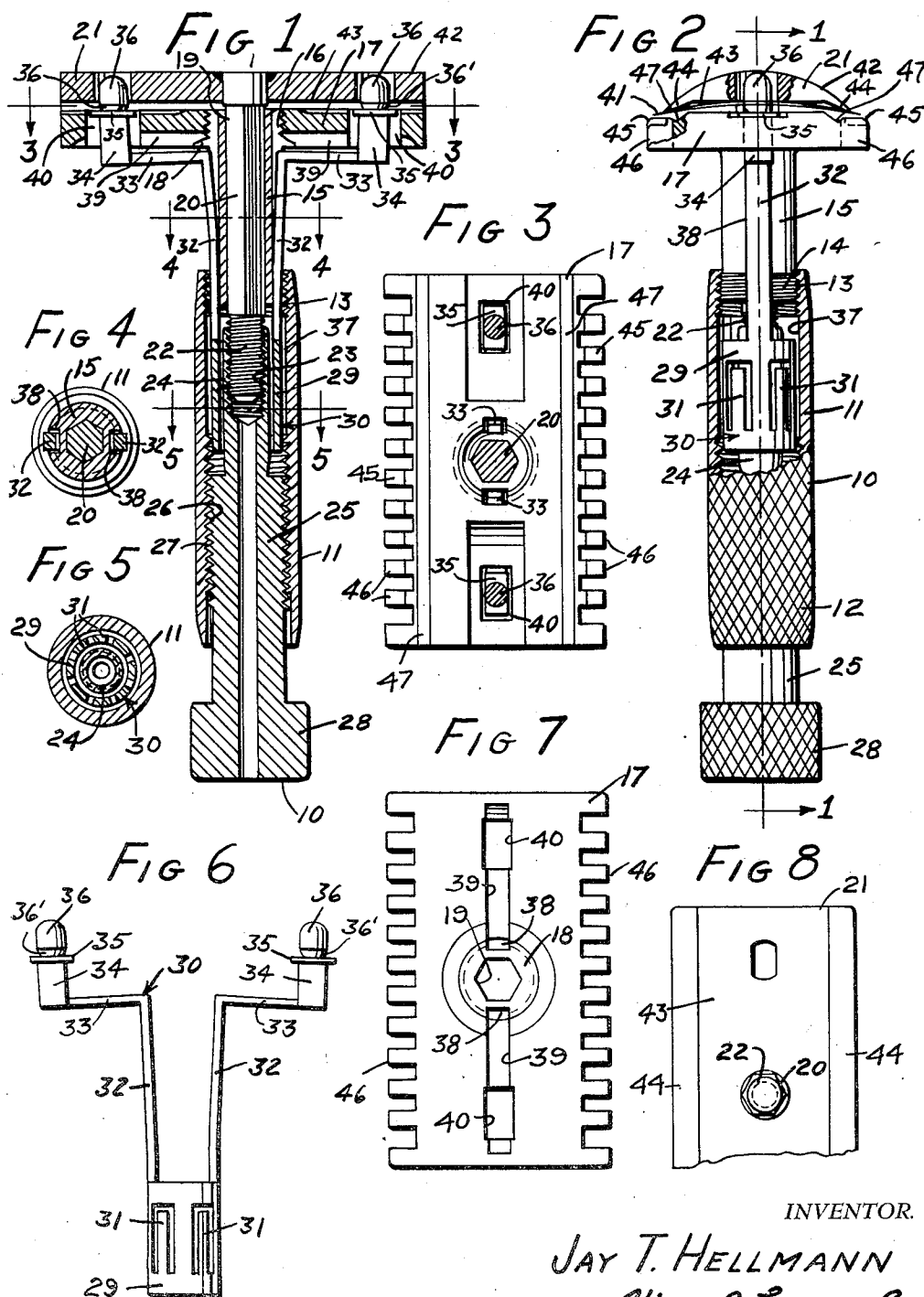
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SAFETY RAZOR

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SAFETY RAZOR

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This invention relates to improvements in safety razors, and the primary objects of the invention are to provide a safety razor of the type to be later described, that by a clamping pressure on the edge of the blade, will turn the edge of the blade slightly upward from the plane of the blade, guards on the ends of the razor to prevent cutting the shaver's face during the shaving operation, and including means for suspending the razor blade in a separated anchored position from the remainder of the razor for the drying of the blade and the movable parts of the razor.

With the above and other objects and advantages in view, the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawing in which:

Figure 1 is a vertical, sectional view of a razor embodying the invention on the line 1-1 of Figure 2;

Figure 2 is an elevational view partly in section of an edge of the razor;

Figure 3 is a sectional view on the line 3-3 of Figure 1;

Figure 4 is a sectional view on the line 4-4 of Figure 1;

Figure 5 is a sectional view on the line 5-5 of Figure 1;

Figure 6 is an elevational view of the blade tension member;

Figure 7 is a bottom plan view of the guard and

Figure 8 is a bottom plan view of the clamp member.

Referring more in detail to the drawing, the razor embodying the invention is generally designated by the numeral 10. The razor is constructed of five parts and comprises the tubular stem or handle 11, having an outer knurled periphery 12 which is internally threaded at one end at 13 to receive the complementary threaded portion 14 of the tubular guard stem 15. The stem 15 has a threaded portion 16 at its upper end for connection to the guard 17, and an annular shoulder 18 is formed on the stem 15 below the portion 16, and the upper end of the stem is bevelled inwardly to form a hex shaped seat at 19, and is provided with a hex shaped bore to conform to the hex shaped stem 20 of the clamp 21. The stem 20 is threaded at its lower end at 22 to engage in the internally threaded bore 23 of the reduced portion 24 of the operating screw member 25 which is externally threaded at 26 to engage the complementary threaded portion 27 of the handle 11, and a knurled knob 28 on the

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end of the member 25 permits manipulation thereof, as will be later described.

Mounted on the portion 24 of the member 25 is the tubular portion 29 of the blade tensioning member 30 having instruck portions 31 which, by their springy nature, retain the member 30 on the member 25, yet permit turning of the member 25. The tubular portion 29 is provided with spring arms 32 which are in opposed parallel relation to each other, and are provided at their upper ends with right angularly disposed projections 33 on which are formed in vertical relation thereto, the square shaped lugs 34 having square shaped shoulders 35 and oval shaped upper ends 36. Intermediate each of these shoulders 35 and the oval shaped upper ends 36 an inwardly bevelled groove 36' is provided, which engages the razor blade 41 to prevent the razor blade from slipping off of the upper ends 36.

The member 25 is threaded into the lower end of the handle 11, which has a smooth internal bore below the threaded portion 26, by a counter-clockwise motion, and the portion 29 is slipped over the portion 24 which is in alignment with the smooth bore 37 in the handle 11, intermediate the threads 26 and threads 13.

The stem 15 is then inserted into the handle 11 intermediate the arms 32, and the arms will be received in slots 38 formed on opposite sides of the stem. The stem is then moved downwardly until the projections 33 are received in the slots 39 formed in the lower surface of the guard 17 which extends in opposite directions from the stem 15 thereof, and the lugs 34 will enter the complementary shaped openings 40 in the guard.

The hexagonal shaped stem 20 of the clamping member 21 is then inserted as previously described, and drawn downwardly against the blade 41.

The clamping member 21 is provided with a curved upper surface 42, and a flat under surface 43, and the top surface extends beyond the under surface to form the longitudinally extending tapered clamping edges 44 extending downwardly at sharp angles with respect to the under surface 43. These edges serve to clamp the blade 41 flatly over 80% of its surface, which enables a second pressure to come on the blade by means of the guard ridges 45 formed adjacent the guard teeth 46 which tends to bring the clamp pressure in a reverse manner on the blade at its very edge, turning the edge of the blade upwardly. This leaves the blade edge extending diagonally outwardly with respect to the under surface of the clamp plate 21. Thus the blade is able to cut

whiskers without the angling of the razor handle, and increases the cutting qualities of the razor.

The guard notches 47 at the extreme ends of the guard serve to house the extreme ends of the blade to avoid cutting of the face during the shaving operation, and also serve with the pressure of the edges 44 of the clamp plate to give extreme pressure to the blade at its very edge. The guard ridges 45 adjacent the notches 47 are on a slightly higher plane than the intermediate ridges, to give free cutting of the blade throughout its entire length, with the edges thereof guarded to prevent cutting of the skin.

The razor can be easily taken apart for cleaning, and when reassembled is in full operative position. To operate the razor, the handle 11 is taken in the left hand and the knob 28 is turned to the left with the right hand. A few turns will open the razor to a drying position with the blade suspended and held tightly for the washing and drying thereof. Thus the blade need not be removed every time the razor is used.

To replace the blade in the razor, the knob 28 is turned as far as possible to the left, at which time the clamp plate can be removed. The blade is still anchored by the arms 32, and by pressing inwardly on the arms 32, the lugs 36 will be moved inwardly so the blade can be removed, and a new blade can be replaced. Then by turning the knob 28 to the right, the razor is brought into closed position for use again.

If the razor is taken down entirely, the knob 28 is turned to the left, the clamp plate is then removed and by turning the knob to the right, the screw member 25 will come out of the handle 11. By turning the handle 11 to the left, it will come off of the guard. The spring arms 32 will slip from the guard by the inward pressure thereon, and the razor is completely broken down into its five coacting parts. The razor is reassembled in the reverse manner in which it was broken down. The razor will use any type of standard double edged blade and provides a razor having a greater cutting efficiency than any in use at the present time.

It is believed that from the foregoing description, the construction and operation of the invention will be apparent to those skilled in the art, and it is to be understood that changes in the minor details of construction, arrangement and combination of parts may be resorted to, provided they fall within the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a razor having a tubular handle, which is internally threaded at its upper and lower ends respectively, a screw member receivable in the lower end of said handle, and engageable with the threads in the lower end thereof, a threaded bore in the upper end of said screw member, a guard member, a tubular stem on said guard member

receivable in the upper end of said handle, the improvement comprising a clamping plate, a hexagonal shaped stem on said clamping plate adapted to be positioned on the upper surface of said guard member receivable in said tubular stem and the threaded bore in the lower end of said screw member and a spring member mounted on said screw member, a pair of spring arms on said spring member disposed on opposite sides of said tubular stem in parallel relation thereto said spring arms having outwardly bent portions carrying lugs thereon to engage and retain a blade thereon between said guard member and said clamping plate.

2. The improvements in a razor as in claim 1 wherein said guard member is provided with teeth along its longitudinal edges, ridges adjacent said teeth and the clamping plate is provided with longitudinally extending ledges which are adapted to coact with said ridges to turn the longitudinal edges of said blade upwardly with regard to the horizontal plane of the clamping plate.

3. The improvements in a razor as in claim 1 wherein said guard and said clamping plate are provided with openings to receive the lugs on the arms on said spring member.

4. The improvements in a razor as in claim 1, wherein said guard plate is provided with slots to receive and house the spring arms on said spring member.

5. The improvements in a razor as in claim 1, wherein said tubular stem is provided with a hex shaped bore to receive the hex shaped stem on said clamping plate, and the outer surface of said tubular stem is provided with slots to receive and house said spring member.

6. The improvements in a razor as in claim 1, wherein the said clamping plate is provided with a flat undersurface having longitudinally extending downwardly tapered edges which engages the blade on its upper surface and guard ridges are provided on the upper surface of said guard member to coact with the tapered edges on said clamping plate to create cross pressure means for double or reverse blade pressure.

7. The invention as in claim 1, wherein said spring member is provided with a tubular portion having instructed spring portions to provide a slidable tensioned mounting on said screw member, and inwardly beveled grooves are provided on said lugs adapted to prevent a blade from slipping off of said lugs.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,496,296	Chance	June 3, 1924
1,562,445	Gaisman	Nov. 24, 1925