

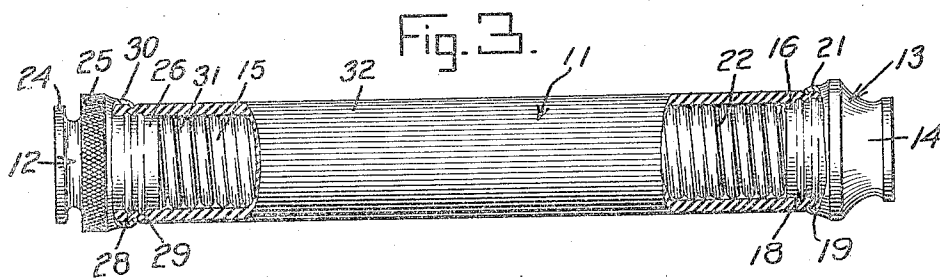
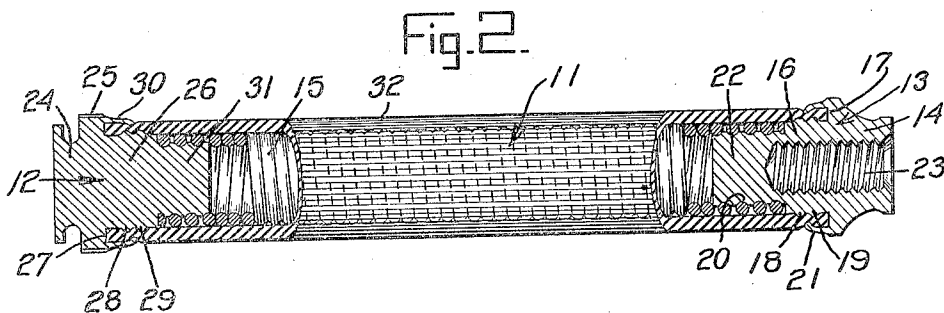
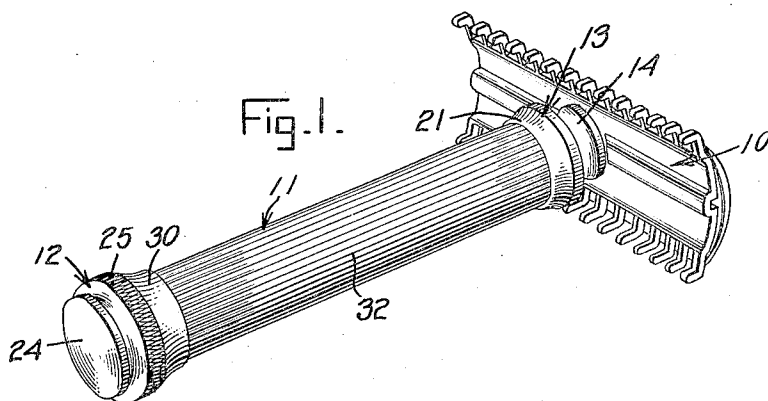
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RAZOR CONSTRUCTION

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RAZOR CONSTRUCTION

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11 Claims. (Cl. 30—85)

This invention relates to a safety razor and more particularly to the handle thereof.

One of the objects of this invention is to produce a safety razor handle which is simple and inexpensive in construction, and reliable in operation.

Another object is to provide a construction of the above nature which is thoroughly practical and durable under conditions of rigorous use.

Another object is to provide a construction of the above nature which may be rapidly made from inexpensive materials in large quantities.

Another object is to provide a construction of the above character which will be neat and attractive in appearance and sanitary in use.

Another object is to provide a construction of the above nature which will afford a good gripping surface to the user.

Another object is to provide a construction of the above nature in which various parts comprising the construction are shielded from the deteriorating effects of liquids and solids.

Another object is to provide a resilient handle for razors with means for resisting undue flexing of the handle.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is shown one of the various possible embodiments of this invention:—

Figure 1 is a perspective view of a safety razor having my handle secured thereto;

Fig. 2 is an enlarged longitudinal view partly in section of the handle shown in Fig. 1; and

Fig. 3 is an enlarged plan view of the handle shown in Fig. 1, having certain parts thereof broken away.

Similar reference characters refer to similar parts throughout the several views of the drawing.

As conducive to a clearer understanding of certain features of this invention it might here be pointed out that many flexible razor handles have annoying, undesirable and inconvenient characteristics. For example, some of these flexible razor handles are provided with uncovered coil springs. This type is particularly undesirable in that soap and other solids may clog the spring, and as it is difficult to clean it becomes un-

sanitary. Furthermore, liquids and soap have a deteriorating effect upon various parts of this type of flexible razor handle. Other razor handles have resilient sections formed in their handle which are relatively short in comparison to the length of the handle. This has been found inconvenient and unsatisfactory in that the handle must be gripped in such a manner as not to interfere with the resilient portions thereof. It also has been found that this type does not afford smooth, even pressure upon the blade-carrying head when it is in use, as the amount of pressure varies as the user's grip on the handle is shifted. One of the several objects of this invention is to provide a construction which adequately and efficiently overcomes the above-mentioned difficulties, as well as many others, in a practical manner.

Referring now to the drawing and to Fig. 1 in particular, I have shown a blade-carrying head found upon standard type safety razors secured to a handle generally indicated at 11. Handle 11 comprises end portions generally indicated at 12 and 13 (Figs. 2 and 3) connected by a metal coil spring generally indicated at 15. Surrounding spring 15 is a casing 32 which preferably is secured to end portions 12 and 13, all as will be pointed out more clearly hereinafter.

Referring now to Fig. 2, end portion 13 is turned from metal or from a similar material and comprises a base portion 14 and two reduced portions 16 and 22, all of which are preferably circular in cross section. The outer surfaces of reduced portions 16 and 22 lie in planes substantially parallel to the longitudinal axis of the handle. Reduced portion 16 is of a smaller diameter than the inner portion of base portion 14, as viewed in Fig. 2, forming a seat 17 on the inner surface of the base portion.

Upon the outer surface of reduced portion 16 are two annular ridges 18 and 19 (Figs. 2 and 3) and extending inwardly from the outer edges of seat 17, over reduced portion 16, is an annular flange 21. The outer edge of annular flange 21 preferably extends a short distance beyond the space between annular ridges 18 and 19. The purposes of ridges 18 and 19 and of annular flange 21 will be pointed out more fully hereinafter.

Reduced portion 22 has a diameter slightly smaller than reduced portion 16 and has a right hand thread 20 cut into its outer surface. This adapts this portion to be threaded into one of the ends of coil spring 15. The coil spring has an inner diameter slightly smaller than the diam-

eter of reduced portion 22 so that when it is threaded thereon it has a firm grip on the reduced portion. The outer diameter of coil spring 15 when it is threaded upon reduced portion 22 is substantially equal to the diameter of reduced portion 16.

In order to secure the handle to the blade-carrying head, end portion 13 is provided with a threaded hole 23, as best shown in Fig. 2. The size of this hole and the thread cut therein are such that they are adapted to receive the threaded boss found upon the head of the standard safety razor. The handle may thus be secured to any desired head.

End portion 12 (Figs. 2 and 3) preferably has a base portion 24 of any desired design, is circular in cross section, and its outer surface is knurled, providing a secure gripping surface 25 (Figs. 1 and 3). Integral with base 12 are reduced portions 26 and 31, the outer surfaces of which preferably lie in planes parallel to the longitudinal axis of the handle. Reduced portion 26 has a smaller diameter than the inner portion 31 of end portion 12, and a seat 27 is formed therebetween. Extending around the outer surface of reduced portion 26 are annular ridges 28 and 29 and around the inner edge of end portion 12, extending inwardly therefrom, as viewed in Fig. 2, is an annular flange 30, all of which are substantially similar in construction to the annular ridges and annular flange formed upon end portion 13.

Reduced portion 31 has a diameter slightly smaller than reduced portion 26 and is of substantially the same diameter as reduced portion 22. Its outer surface has a right hand thread thereon, adapting it to be threaded into the outer end of coil spring 14. The diameter of the spring when it is threaded upon reduced portion 31 is substantially equal to reduced portion 28. Thus a single coil spring 15 may be securely attached to both of the end portions.

It should be noted that the threads upon the reduced portions 22 and 31 are both right hand threads. When a member is threaded into a coil spring it has a tendency to spread the coils, loosening them and permitting the member to be easily inserted therein. However, when the member is twisted in the opposite direction to disengage the thread and the coil, the twisting action causes the coils of the spring to tighten and thus grip more tightly upon the member, making it very difficult to remove the member therefrom.

Thus, in this construction, when the handle is being placed upon the blade-carrying head 10 which usually has a right hand thread, the twisting action tends to screw the end portions deeper into the coil spring. When the twisting action is in the opposite direction which normally would unscrew threaded members, the coils tighten upon the end portions, as has been pointed out above, preventing them from twisting out of the coil spring. Thus, coil spring 15 is securely attached to end portions 12 and 13 and twisting action cannot disengage the coil spring from them. The knurled portion of end 12 affords a secure gripping surface to the user when it is being fastened to, or removed from, the blade-carrying head.

The casing 32, preferably of rubber or other elastic material, is placed over coil spring 15 and the reduced portions of end portions 12 and 13 so that it extends between seats 17 and 27. Preferably casing 32 has a slightly smaller inner diameter than the diameter of coil spring 15 and reduced portions 16 and 26 so that it firmly

grips their outer surfaces. Its thickness is preferably equal to the distance between the annular flanges 21 and 30 and the reduced portions 16 and 26 they extend over.

After the casing has been placed upon the handle, the outer edges of annular flanges 21 and 30 are preferably sprung inwardly so that they lie between the ridges of reduced portions 16 and 26, compressing the casing 32 downwardly thereupon. This securely grips the ends of the rubber casing and also prevents any leakage of liquids or other materials into the interior of the construction. Preferably the outer surface of rubber casing 32 is knurled or roughened, as shown in Fig. 1, to provide a secure gripping surface.

It may be noted that the best results are secured from a flexible razor handle when as the handle is flexed, the blade-carrying head can move freely through a small arc and, when it is moved outside of this arc, the resistance to flexing is greatly increased. This type of action is particularly desirable in that the blade-carrying head has sufficient resiliency to permit a smooth, even pressure but resists undue flexing so that the proper stiffness is provided after initial flexing, to allow the user to properly control the safety razor. Thus in a flexible razor handle embodying both of these features, the user may get both the smooth, even shave afforded by a flexible razor handle and the control afforded by a rigid handle.

The coaction of the resilient spring and the elastic casing achieve this result. The coil spring serves as the main body of the handle, giving it its flexibility and resiliency. The elastic casing which surrounds the spring and is secured to the end portions 12 and 13 and which is preferably of a type having a low degree of elasticity resists undue flexing of the coil spring. For example, when the handle is flexed, one side of the casing is stretched and such stretching increases its resistance to further flexing of the handle.

Thus the combination of the resilient coil spring and the elastic casing functions to produce a controlled flexibility which is most desirable in razor handles.

Thus the above-mentioned difficulties, in addition to many others have been overcome and the several objects hereinabove set forth, in addition to others, have been achieved in a thoroughly efficient and practical manner.

As many possible embodiments may be made of the above-mentioned invention, and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth, or shown in the accompanying drawing, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In razor construction, a flexible handle comprising, in combination, a pair of ends, spring means connecting and secured to said ends, and a flexible casing covering said spring means, said casing extending between said ends.

2. In razor construction, a handle comprising, in combination, a pair of ends formed with reduced portions, a coil spring connecting and secured to said ends, and a resilient casing adapted to cover said coil spring and said reduced portions.

3. In razor construction, in combination, a blade-carrying head, a pair of handle ends, spring means joining together said pair of ends, one of said ends being detachably connected to

said blade-carrying head, a flexible casing covering said spring means, and means formed on said ends for securing the ends of said casing thereto.

5 4. In razor construction, a handle comprising, in combination, a pair of ends formed with reduced portions, spring means connecting and secured to said pair of ends, a plurality of ridges formed upon said reduced portions, and a casing adapted to cover said spring means and said reduced portions.

10 5. In a razor construction, a handle comprising, in combination, a pair of ends formed with reduced portions, spring means connecting and secured to said pair of ends, a plurality of ridges formed upon said reduced portions, a casing adapted to cover said spring means and said reduced portions, and gripping means formed upon said ends for gripping said casing against said reduced portions and said ridges.

15 6. In razor construction, a handle comprising, in combination, a pair of ends formed with reduced portions, a coil spring connecting said pair of ends, a plurality of ridges formed upon said reduced portions, and resilient casing means adapted to cover said coil spring and said reduced portions.

20 7. In razor construction, a flexible handle comprising, in combination, a pair of ends provided with reduced portions threaded exteriorly thereof, a coil spring, the opposite ends of said coil spring being attached to said threaded reduced portions, and a flexible cover for the spring.

30 8. In razor construction, in combination, a

blade-carrying head, a pair of handle ends each formed with a pair of reduced portions one of which is provided with a threaded exterior surface, a coil spring secured to the threaded exterior surfaces of said ends, the other reduced portion of each end being provided with a plurality of ridges, a resilient casing covering said coil spring and extending over the ridges of said last-mentioned reduced portions, and means carried by said ends for gripping the exterior surface of said casing and holding it against said last-mentioned reduced portions and said ridges.

5 9. In razor construction, in combination, a blade-carrying head, a coil spring detachably secured to said blade-carrying head, and a resilient casing surrounding said spring and secured to the ends thereof and adapted to resist flexing of said spring.

10 10. In razor construction, a flexible handle comprising, in combination, a pair of ends, a coil spring secured to and connecting said end members, and resilient means secured to said pair of ends and extending therebetween exteriorly of said coil spring, said means being adapted to resist flexing of said spring.

15 11. In razor construction a handle comprising in combination a pair of ends provided with reduced portions each having right hand threads exteriorly thereof, a coil spring, the opposite ends of the coil spring being screwed onto the reduced portions, and a right hand threaded socket in one end for engaging a razor head.

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