

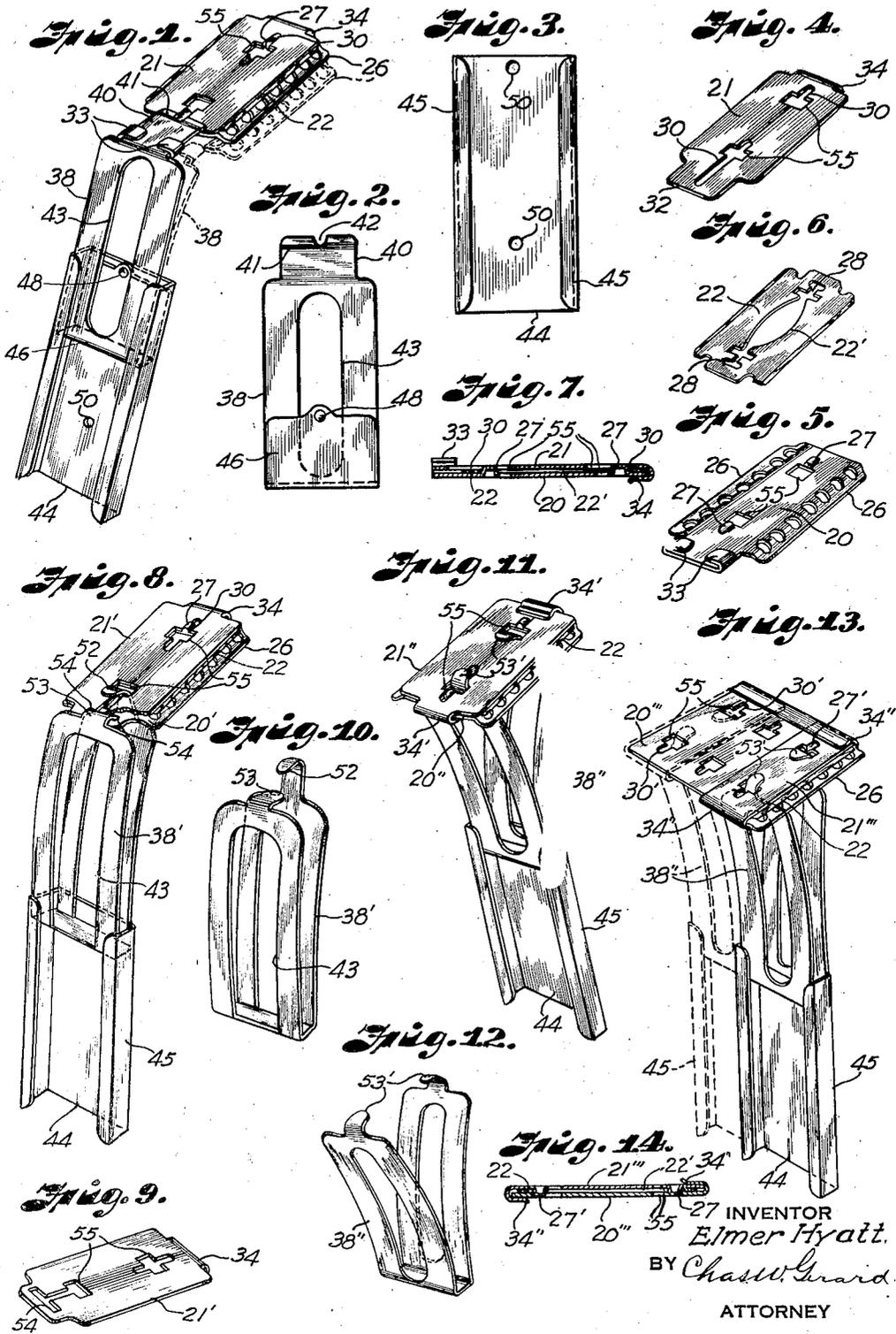
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RAZOR OR KNIFE CONSTRUCTION

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RAZOR OR KNIFE CONSTRUCTION

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5 Claims. (Cl. 30—51)

The present invention relates to cutlery devices such as knives and razors, and in particular to razors of the safety type, and aims to provide an improved safety razor construction composed of parts which may be readily assembled in operative form, or as readily disassembled into a convenient and very compact form, including one or more of the removable razor blades.

One primary object in view is to devise a construction which may be made up in several alternative forms having important improved characteristics in common,—including a preferred form comprising a shaving head having a flexible handle or holder adapted to yield in the use of the razor in the shaving operation to fit or conform to the contour of the face and thus result in an improved shaving action having an increased safety factor over various prior rigid constructions that include no provision for automatic adjustment to the facial contours of the operator or user.

It is a further object of the invention to provide a construction adapted to be made up and used as either a safety type of razor in the usual manner, or as a knife, scraper, or straight edge type of razor without said guard feature, and either with or without the use of a handle as a part of the device.

With the foregoing general objects in view, the invention will now be described with particular reference to the accompanying drawing showing forms of construction which have been devised for embodying the several proposed improvements, after which those features and combinations believed to be novel and patentable will be particularly set forth and claimed.

Referring now to said drawing—

Figure 1 is a perspective view illustrating one form of construction embodying the present improvements;

Figure 2 is a plan view of one of the flexible handle or holder elements of the construction;

Figure 3 is a plan view of the case element of the handle or holder structure;

Figures 4 and 5 are perspective views of the blade clamping and guard elements, respectively, which comprise the razor head, and Figure 6 is a perspective view of the blade;

Figure 7 is a longitudinal sectional view of the razor head parts in assembled relation;

Figure 8 is a perspective view illustrating another form of construction embodying the improvements;

Figure 9 is a perspective view of one of the

razor head elements, and Figure 10 is a similar view of one of the handle elements of said modified form of construction;

Figure 11 is a perspective view illustrating still another modified form of construction;

Figure 12 is a similar view showing one of the handle elements of said modified form;

Figure 13 is a perspective view showing a still further modified form of the device, with dotted lines representing a different operative arrangement of the parts of the head; and

Figure 14 is a longitudinal sectional view of the razor head parts assembled as shown in Figure 13.

Referring now to the drawing in detail and more particularly to Figures 1 to 7 inclusive, illustrating the preferred form of construction for embodying the improvements, this form comprises a razor head composed of blade clamping and guard means consisting of a guard element 20 (Figure 5) and a clamping plate element 21 (Figure 4) for embracing opposite sides of a conventional form of double edge blade 22 (Figure 6). The opposite edges of the guard element 20 are formed with the perforated guard extensions 26 for projecting in the usual guarding or protective relation to the cutting edges of the blade 22, and also with positioning or guide ribs or bosses 27 arranged in alinement for projecting through correspondingly located apertures 28 in the blade and alined slots 30 in the plate 21. One end of said plate 21 is reduced in width and forms an extension 32 to project beneath a pair of intumed lugs or ears 33 provided on the corresponding end of the guard element 20—while the opposite or free end of the plate 21 is provided with a terminal finger portion 34 bent into loop form for frictional clamping engagement with the corresponding free end of the guard element 20.

The alined apertures 28 and 30 are of sufficient length to permit relative sliding movement of the elements 20 and 21 in the assembly of the parts into the relation shown in Figure 7, for projecting of the extension 32 through beneath said ears or lugs 33, and simultaneously hooking of the loop or finger portion 34 into its operative clamping position.

The improvements further comprise flexible handle means for attachment to the above described clamping and guard means of the razor head structure, which flexible handle construction in the preferred form consists of a handle element 38 of flexible resilient material having an angularly projecting tongue 40 adapted for

removable engagement with the lugs 33 of the element 20. This tongue 40 is crimped along a transverse line 41 for bowing it slightly outwardly, so that it effects secure frictional engagement with the plate element 20 as it flattens against the same when inserted beneath said lugs 33—as represented in Figure 1. The tongue 40 is also preferably notched as indicated at 42, down to its crimp line 41, to lend sufficient operative flexibility to said terminal portion of the tongue, as well as clearing the adjacent boss or rib 27, in attaching or detaching the parts. Similarly, the body portion of the element 38 is made of skeleton form, by means of the longitudinal opening 43, for affording the desired flexibility.

The handle member 38 is adapted to be fitted into a case 44 (see Figures 1 and 3) having the channel side rails 45 which slidably accommodate the sides of the handle element 38, which latter in turn has one end of spring bowed form as indicated at 46 and provided with a boss 48 designed to snap into either of two openings 50 in said case 44, whereby the handle may be latched either in entirely cased relation, within said case, or in extended operative position as illustrated in Figure 1.

It will thus be seen that this form of the construction provides a safety razor with an angular handle member which is easy and flexible and thereby adapted to yield, as indicated by the dotted lines in Figure 1, to fit the face and enable the user to manipulate the same with a partly endwise, full-stroke or "barber" movement in shaving—and with substantially equal pressure all along the blade. That is to say, the flexible character of the handle is such as to enable the blade, or the razor head part of the device, to automatically adjust itself to conform to the facial contours of the user. Such a form of construction renders the device to a high degree fool-proof in that the user is enabled to apply just the right operative or shaving pressure with a minimum of likelihood of cutting the face.

Moreover, the construction comprising the alining or positioning ribs and slots insures the proper alinement of the cutting edges of the blades, and secures the same effectively in this correctly alined relation; and this is accomplished by means of a very simple and sanitary construction which employs no rivets or threads or other joints or complicated elements which would be likely to trap dirt or other foreign matter.

The construction is also such as to permit the parts to be quickly and conveniently detached and enclosed in the case 44 and latched therein by the boss 48 of the handle member snapping into engagement with the lower opening 50 (in Figure 3), as already indicated. Moreover, in this assembly or enclosed relation of the parts, the angular tongue 40 cooperates with the opposite closed end of the handle member to retain all the disconnected parts within the case 44, which may also include a suitable number of extra, or spare blades 22, if desired.

Various modified forms of the device are shown in the remaining views of the drawing.

In Figures 8 and 10 the flexible handle member is of spring bowed and skeleton form 38' adapted not only to fit the case 44 but also provide a pair of terminal and oppositely directed tongues 52 and 53—the latter tongue 53 extending through registering slots 54 (see Figures 8 and 9)

in corresponding ends of the blade clamping and guard elements 20' and 21'; while the other tongue 52 is adapted to hook through registering openings 55 in said elements 20' and 21' (Figures 4 and 5) as well as through the usual cut-out portion 22' in the blade 22 (see Figure 6), thus latching the parts together as illustrated in Figure 8. This modified form affords both the advantages of an efficient flexible construction and of the angular arrangement of the handle portion of the device, as illustrated in Figure 1. This modification also provides a construction in which all the parts, when disconnected, may be enclosed (along with extra blades) within the case when not in use.

In the construction illustrated in Figures 11 and 12, the handle element 38'' is provided with tongues 53', both of which are designed to hook through the registering openings 22' and 55 of the blade and the elements 20'' and 21''—said handle element 38'' having a spring action tending to hold said tongues normally in the relation illustrated in Figure 11, or in latching engagement with the parts as shown.

In this construction also, said elements 20'' and 21'' are both shown as provided with end fingers or loops 34', similar in construction and function to the loop or finger 34 illustrated in Figures 1, 4 and 8.

It will be noted that in each of the illustrated forms of construction described in the foregoing feature the openings 55 are in the same relation for handle-attaching purposes and the same feature is also included in the modification illustrated in Figures 13 and 14. This type of construction is somewhat similar to that shown in Figures 11 and 12, but the guard member 20''' is of wider form and its end finger or loop 34''' is also of corresponding length, while only one perforated guard edge 26 is provided, the opposite edge of the guard member being left plain, as shown in Figure 13. This enables the guard member to be provided with extra openings 55, whereby the guard and the clamping element 21''' may be secured, together with the handle structure, in either the blade guarding position illustrated by the full lines in Figure 13, or in the position illustrated by the dotted lines in said view, with the cutting edge of the blade simply projecting out past the plain straight edges of both the blade clamping and the guard plates. In this form also, the relationship of the guiding and positioning ribs and slots is shown as reversed, the ribs 27' being provided on the plate 21''', while the slots 30' are provided in the plate member 20''.

It will therefore be seen that the form of the device shown in Figures 13 and 14 may be employed either as a safety or as a straight plain edge razor—or again, as a handy knife or scraper device. It may be pointed out that the clamping and guard plates fit and hold together with sufficient security, so that the handle structure may be dispensed with, if desired. Moreover, as the blade, when not in use, may be shifted and retained in the intermediate position (for shielding both its edges), this construction provides a very simple and compact, flat device, adapted to be carried as a complete device, including a blade, in a minimum space, as in a vest pocket or bill-fold.

From the foregoing it will therefore be apparent that I have devised a practical, simple and inexpensive, and yet highly advantageous and

efficient device for carrying out the various desired objects of my invention; that the parts of the construction are of a character adapted to be produced by moulding, stamping or other economical process of manufacture, from various suitable and inexpensive materials, including plastic materials; and while I have shown and described what I have found to represent entirely satisfactory and thoroughly practical forms of construction for embodying the aforesaid improvements, I desire to be understood as expressly reserving the right to all changes or modifications which may be fairly construed as falling within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A razor construction comprising a blade and a clamping plate formed with alined longitudinal positioning passages, and a guard element and means for holding the same and said clamping plate together with said blade between them, said guard element having longitudinally alined projections cooperating with said positioning passages on relative longitudinal movement of the parts to secure the same in proper operative relation.

2. A razor construction comprising a shaving blade and a clamping plate formed with alined positioning passages, and a guard element formed with a hooked end portion for frictionally holding the guard engaged with said clamping plate with the blade between them, said guard element having projections for cooperating with said positioning passages to secure the parts together in proper operative relation.

3. A razor construction comprising a blade and a clamping element formed with alined positioning passages, a guard element having means for removably securing the same to said clamping element with the blade between them and also having projections cooperating with said positioning passages for correctly alining the parts, and a flexible handle removably connected with one end of said elements in their assembled relation.

4. A razor construction comprising a blade, a guard element and a clamping element having means for removably securing the same with the blade between said elements, said blade and elements having positioning and alining means operative on relative longitudinal movement of said parts to correctly aline the same in proper operative relation, and a removable handle member having projecting hook terminals, said blade and elements also having spaced registering openings for engagement by said hook terminals and effecting detachable engagement of said handle member.

5. A device of the character described comprising a blade, a clamping plate and a guard element adapted to embrace opposite faces of said blade, said guard element having a safety or blade-edge protecting margin and also an opposite plain margin, said clamping plate being shiftable into cooperative relation with either of said guard margins, and means for frictionally holding said plate and guard element in either of said cooperative relations.

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