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E. HYATT

2,010,304

RAZOR CONSTRUCTION

Filed Aug. 24, 1931

Fig. 1.

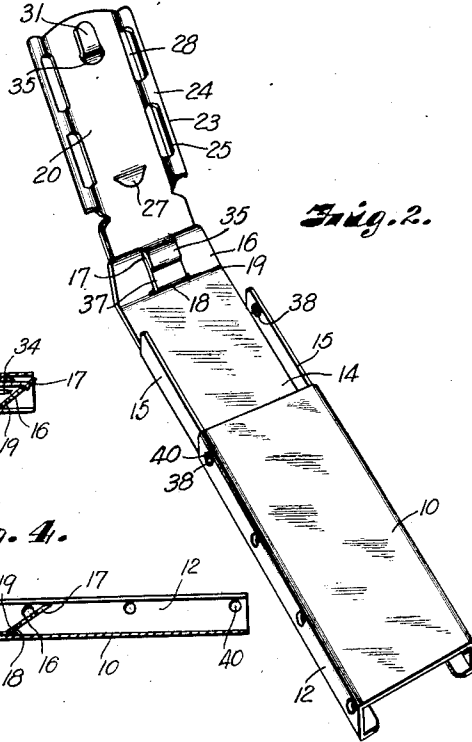
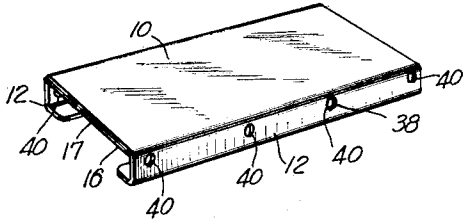


Fig. 3.

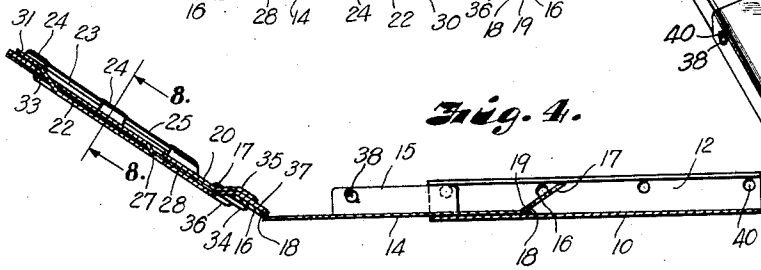
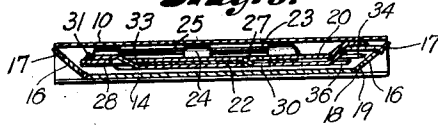


Fig. 4.

Fig. 5.

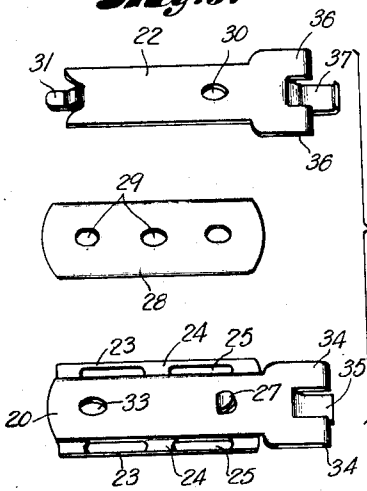


Fig. 6.

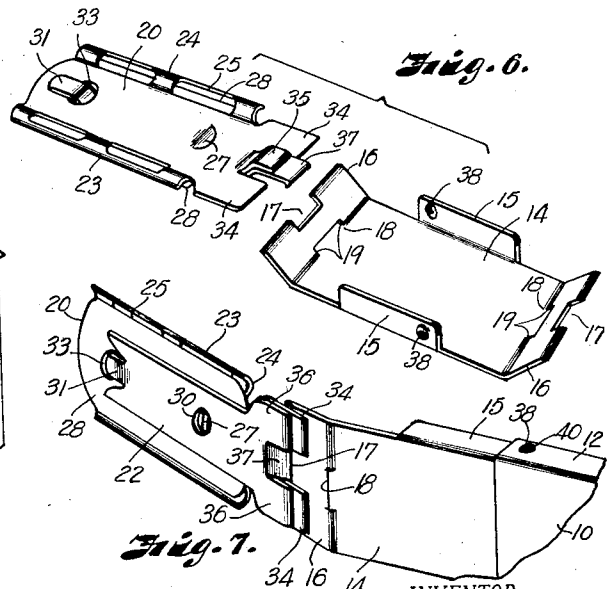
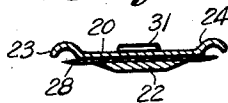


Fig. 7.

Fig. 8.



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RAZOR CONSTRUCTION

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4 Claims. (Cl. 30—12)

This invention relates to razor devices, and the primary object in view is to provide an improved knock-down construction of a very simple and compact character comprising a minimum number of parts of neat and easily assembled design, and of such a nature as to promote the manufacture of the construction in an economical manner.

Accordingly I have devised an improved construction which is adapted not only to be stamped out in the process of manufacture without any complicated processes of construction but which will result in razor parts which may be quickly assembled or taken apart with a minimum of effort, and of such a design as to facilitate all the movements necessary for carrying out the shaving operation.

Another object of the invention is to devise a safety razor of the knock-down type in which one of the parts serves as a case or housing member for the remaining parts of the construction, and one of said remaining parts functions as a closure element for confining the rest of the parts within said case or housing member.

It is a further object of the invention to provide a safety razor which is not only of a thoroughly sanitary and easily cleaned design, but also of a much more satisfactorily operating character as regards efficiency in the shaving operation, ease, smoothness and uniformity of cutting, and with less likelihood of accidentally cutting or snagging the skin, for which purpose I have devised a blade and holder construction having a certain degree of flexibility as regards the blade-holding function and arranged to present the blade itself continuously in the most effective position for shaving purposes.

With the foregoing and various other objects in view, as will appear in the course of the detail specification, the invention will now be described by reference to the accompanying drawing illustrating one form of construction for embodying the improvements, after which those features and combinations deemed to be novel and patentable will be set forth and claimed.

In the drawing—

Figure 1 is a perspective view showing my device knocked down and in packed or inoperative position;

Figure 2 is a similar view illustrating the device opened up and assembled in operative position;

Figures 3 and 4 are longitudinal sectional views of the parts shown in Figures 1 and 2, respectively;

Figure 5 is a view illustrating details of the retaining plate, blade and guard elements;

Figure 6 is a perspective view of the parts shown in Figure 5 but assembled ready for attachment to the combination holder and closure element;

Figure 7 is a similar view of the same parts in attached relation and viewing the same at a different angle; and

Figure 8 is a cross-section taken on the line 8—8 of Figure 4.

Referring now to the drawing in detail, this illustrates the improved construction as comprising a combination housing or casing and handle element 10 formed with two inturned side flanges 12 adapted for telescopically or slidingly receiving a combination closure and handle member stamped from suitable sheet material, such as sheet metal, to provide a main body portion 14 having short side flanges 15 (slightly narrower than the flanges 12)—see Figures 2, 4 and 7. The ends of the body or plate portion 14 are formed with angular blade-holding extensions 16, the angle of which determines the angular relation between the blade and handle portions of the device, each extension having a notch or recess 17 in alinement with a pocket or recess 18 cut or stamped in the metal at the angle between the extension and plate to provide shoulders 19 for a purpose hereinafter explained.

For cooperating with either extension 16 in holding the blade I provide a guard member 20 and a blade-clamping element 22, each adapted to be stamped from suitable sheet material, whereby the guard is provided with a flat body portion and longitudinal offset guards in the form of bars 23 connected by angular arms 24 and leaving openings 25 between said bars and the body or plate portion of the guard, as shown in Figures 5 to 7. The guard is also provided with a hook or lug 27 for attachment of the blade 28 (of any conventional type) by hooking one of its openings 29 over said lug, which is also adapted to project into an opening 30 in said clamping element 22, the opposite end of which is formed with an angular lug or tongue 31 for projecting through another of the blade openings 29 into retaining engagement with a similar opening 33 provided in the corresponding end of the guard plate 20. The opposite or handle attaching ends of the guard and plate 22 are each provided a set of three frictional attaching lugs or prongs offset above said guard and plate, respectively, the guard having a pair of outer prongs 34 and an intermediate prong 35, and the plate 22 having a pair of outer

prongs 36 and an intermediate prong 37 slightly longer than the prong 35. The prongs 35 and 37 are offset more than the remaining prongs, so that each set of prongs provides a fork for engagement with the opposite sides of either of the extensions 16, to which said sets of prongs are applied in superposed relation to each other, thus producing a double-forked clamping engagement with the extension, with the intermediate prong of the guard backing up and reinforcing the intermediate prong 37 of the plate 22, and the outer prongs 36 of the latter backing up and reinforcing the prongs 34 of the guard (see Figures 4, 6 and 7). In assembling the parts in this attached relation, the notch or recess 17 affords a guide for the intermediate prongs and facilitates this assembling process, in which the base of the recess engages the base of said intermediate prongs, while the end of the prong 37 seats in the pocket or recess 18.

The combined action of the frictional engagement of this double-forked prong construction and the seating of the intermediate prongs in the recesses 17 and 18 and against the shoulders 19 provides a secure as well as fairly stiff or rigid attaching function, sufficient for all necessary purposes in the use of the device for shaving or sharpening of the blade. In this relation the handle member 14 may be employed as the sole handle element if long enough to suit the particular person using it, or the member 14 may be telescoped to whatever distance may be desired within the casing 10, and bosses 38 may be provided in the side flanges 15 of the member 14 for snapping into one of the openings 40 in the flanges 12 of said casing, for retaining purposes (see Figure 4).

In assembling the parts for shaving, the blade 28 is first applied to the guard by hooking one of the openings 29 of the blade over the lug 27, after which the clamping plate 22 is placed over the blade, with the tongue 38 projecting through one of the blade openings 29 and into the opening 33 of the guard. This results in the relative position of the parts illustrated in Figure 6, with the attaching prong structure ready to engage one of the angular extensions of the plate 14, which is used either alone or partly telescoped into the casing 10 as shown in Figures 2 and 7, according to the length of handle desired. With the faces of the parts appearing in Figure 6 presented toward the operator and the blade assembly inclined slightly backward relative to the extension 16, the fork structure 34—37 and said extension are brought together with the lugs 35—37 entering the recess 17; then while exerting a continuous pushing action to force the extension in between the outer and intermediate lugs or prongs, the blade assembly is swung forward into alinement with the extension, the combined action being to pry and slightly spread the prongs to allow the extension to snap into place, seating the intermediate prongs in the recess 17 and shouldering the lug 37 in the angle between said extension and the plate 14, with the curved edge of said lug engaged between the shoulders 19 (Figure 2).

Any further pressure, such as that produced in the shaving operation, or sharpening of the blade, tending to force the blade assembly any further forward past said alined position obviously only operates to cause the extension 17 to be gripped all the more tightly and securely without any possibility of displacement by any ordinary movements, or pressures, likely to be produced by either

of said operations of shaving or sharpening of the blade.

Numerous important advantages are gained by this improved construction aside from its simplicity of construction and ease of assembly as just indicated. The position in which the blade assembly is held with reference to the handle is that which is most natural and the most efficient for shaving purposes, and enables both edges of the blade to be conveniently manipulated for executing all the required movements in shaving. The blade itself is exposed in smooth flatwise position for contact with the skin and the guard so arranged that the closeness of the shave may be conveniently regulated by varying the angle at which the blade is carried with reference to the skin, which variation may obviously be carried out between the extreme limits of full-guard protection with a minimum of cutting, or of minimum guard protection for extremely close shaving. One feature of the guard is the absence of any teeth or comb structure and the freedom from the disadvantages of such a structure, such as the tendency to become clogged and unsanitary, and the obstruction it offers to smooth shaving. It is well-known that the teeth of a comb guard produces corresponding ridges in the skin over which the blade passes with uneven cutting results. In the improved construction the guard is entirely open and uniform in its action for its entire length, and no obstruction is offered to the cutting operation of the blade, which is simply preceded by the smoothing action of the guard instead of a combing or ridge-producing action. Moreover, every portion of the blade's edges is left exposed for cutting, so that the corners of the blade are available for manipulation into those parts of the face and neck which are usually so difficult of access for most shavers.

One outstanding feature of importance in the improved construction, made especially effective by the type of guard structure just described, is the slight flexibility or resiliency of the blade-holding means, due to the inherent flexible or resilient property of the sheet material employed in the construction and the character of the connection between the handle and blade assembly. This permits an appreciable yielding of the blade assembly under the normal pressure used in applying the blade to the skin in the shaving stroke. The first distinct advantage resulting from this is the tendency of the blade assembly to conform readily and automatically to the surface of the skin throughout the length of the blade, under the ordinary pressure as applied through the handle; the ordinary rigid type of razor structure will not do this, but requires a movement of the blade and handle in unison into whatever angle is necessary for conforming the blade to the skin surface. Hence, unless the handle portion of the usual construction is held exactly in just the right position to present substantially the full length of the blade in even contact with the skin, and continuously manipulated to maintain such even contact, the blade will operate with only a part of its edge in proper cutting position during certain portions of each stroke, with corresponding inefficiency in the shaving operation. Moreover, it is not only difficult to so manipulate the blade as to cause it to conform always to the skin surface, but it is even more difficult to produce such continuous changes in its position without actually cutting the skin, even with a guard protecting the edge, because of the unyielding construction connecting the blade and handle.

With the present flexible or resilient type of construction the blade is made to conform practically automatically and continuously to the contour of the face for bringing the edge of the blade into contact therewith practically its entire length, under the regular pressure and ordinary manipulating movement of the handle, during all of which movement the cutting action is also substantially continuous.

This continuous cutting action of the improved device is due to the fact that as the blade changes its direction, either in turning or in canting to follow a ridge or depression, the cutting action is not interrupted for the reason that the edge of the blade is maintained constantly in cutting position, next to the skin surface. Neither is the protection of the guard minimized in any way, but the safety factor is rather increased by virtue of the yielding feature which allows greater freedom of movement in manipulating the razor without the danger of cutting injury always present in the rigid or less flexible types of construction.

The angle at which the blade is held with reference to the handle is also that best adapted for natural and most efficient shaving; and the double-edge with the double-guard protection combined with the flexible or resilient action of the handle connection and lightness of the whole device makes for the greatest possible convenience and speed as well as efficiency in the shaving operation, as it not only facilitates the proper slanting (or barber) stroke (admittedly the most effective for the cutting action), but also enables this character of cutting stroke to be employed in practically every conceivable position required for the blade and in the most convenient manner. If desired, the exterior face of the casing 10 may be finished with a highly polished reflective surface, so that this part of the construction may be conveniently used as a mirror, provided the part 14 provides a sufficiently long handle for shaving.

The improved handle construction also provides an efficient blade holder for honing or whetting purposes, since the blade is presented at the best angle for applying either of the blade's edges to the honing or whetting surface, and the yielding character of the holding means is such as to cause an even and uniform pressure to be applied to the blade throughout the whetting strokes.

After the shaving operation, the parts are easily cleaned and dried, there being no recesses, pockets or teeth which are likely or adapted to accumulate dirt or other foreign matter, and the parts may be left assembled for the next operation, or if preferred may be assembled in compact and convenient portable form as illustrated in Figures 1 and 3. For this purpose the member 14 is disconnected from the blade assembly and placed over the latter and then telescoped within the case or housing 10, where they are securely held by engagement of the bosses 38 with the openings 40; or the extensions 16 may be made sufficiently long for retaining engagement with the ends of the casing 10 as shown. Thus, in this compact package form the part 14 of the present construction fulfils the additional or extra function of a closure element for concealing as well as retaining the other parts of the device within the casing member. Extra blades may

also be stored in the casing, if desired, and the end or corner openings 40 may be used for attaching a chain, or the like, and the device carried in the pocket or as a pendant, if preferred.

It is thus apparent that a simple, compact and light razor construction has been devised which is adapted to be economically manufactured at a minimum of cost for labor and material. The parts may all be stamped out, each one separately, with a single cutting and stamping operation, and no assembling operation is required as a part of the manufacturing process, which expense is accordingly saved along with all the screw-threading and other expensive manufacturing methods which are commonly involved in this class of construction. The device itself when thus produced is extremely simple and easy to manipulate, with a minimum of time for putting it together or taking it apart, and while I have illustrated and described what I have found to be a practical and efficient construction for embodying the invention I desire to be understood as expressly reserving the right to make whatever changes or modifications may fairly fall within the appended claims.

What I claim is:

1. A razor construction comprising a handle formed with a resilient terminal portion, a blade, and a guard and clamping plate embracing said blade between them and each provided with a resilient fork structure in cooperative detachably clamping engagement by means of resilient prong elements in removable clamping engagement with opposite faces of said handle terminal portion.

2. A razor construction comprising knock-down parts separately stamped from sheet material and including a handle formed with a flat resilient terminal portion and blade-holding means having resilient prongs detachably connected with one end of said handle terminal portion by resilient clamping engagement with opposite faces thereof and said terminal portion being provided with a shouldered recess receiving one of said prongs for bracing and stiffening said holding means against movement within the plane of the blade.

3. A razor construction comprising knock-down parts separately stamped from sheet material and including a handle having a flat terminal attaching portion and blade-holding means comprising plates clamping opposite faces of the blade and provided with cooperating resilient prong elements detachably engaging one end of said handle terminal portion by resilient clamping engagement with opposite faces thereof and having means for bracing said holding means against movement within the plane of the blade.

4. A razor kit comprising a case having an open face and an open end, a combination handle and closure plate mounted with said case and formed with an angular extension at each end, and blade clamping elements having means for detachable engagement with either of said plate extensions, said plate and elements being adapted to be assembled within the case with said plate forming the closure for said open face and said extensions in retaining engagement with the ends of the case.

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