

June 1, 1943.

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SHAVER HEAD GUARD  
Filed Nov. 6, 1942

2,320,807

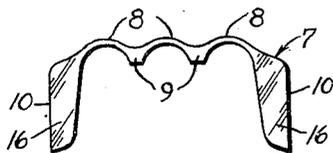
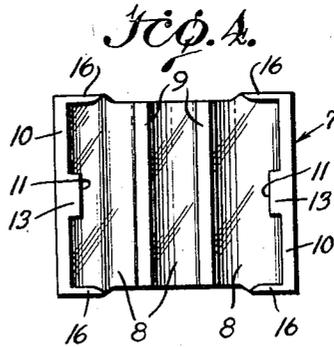
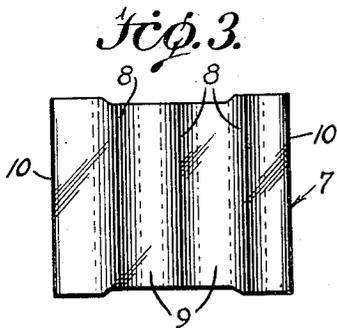
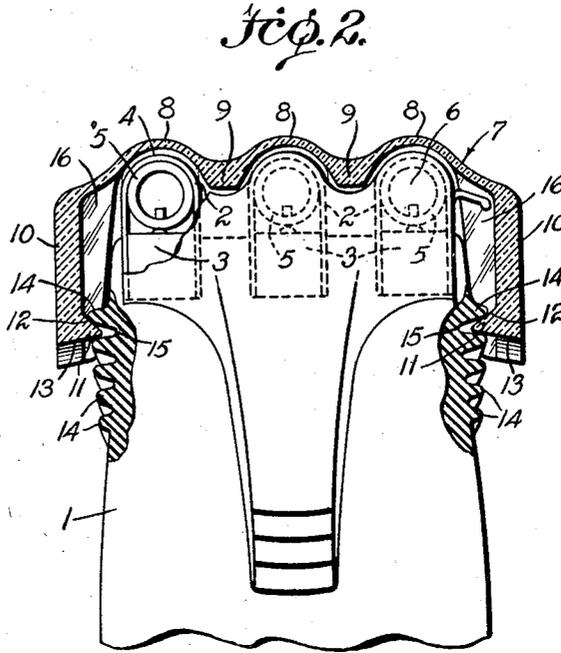
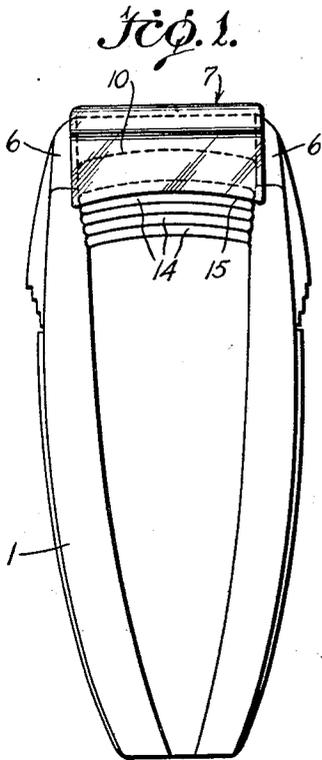
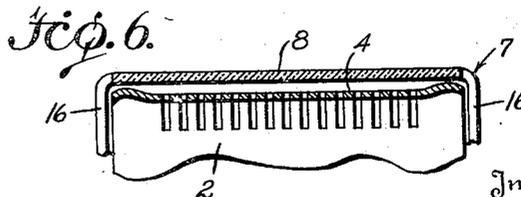


Fig. 5.



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# UNITED STATES PATENT OFFICE

2,320,807

## SHAVER HEAD GUARD

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Application November 6, 1942, Serial No. 464,767

7 Claims. (Cl. 30-90)

This invention relates to shavers and particularly to a guard for protecting the shaving head or heads thereon.

The invention comprehends the provision of a guard for a shaver head arranged for detachable mounting on the shaver case to be normally supported in spaced relation over the heads on shavers in such a way that in case the end carrying the shaver head or heads is accidentally engaged with another object, the guard will receive the force of impact.

The invention comprehends the provision of a guard for the heads of shavers having interengaging parts on the case of the shaver and the guard so that flexing of the guard will engage and disengage the parts in detachably mounting the guard on the shaver in position to protect the shaver heads from damage by impact with other objects.

The invention comprehends a guard for shavers having a head protecting section and side sections extending from opposite sides thereof in substantially parallel relation formed with parts for cooperative engagement with parts on the casing of the shaver to detachably secure the guard in position on the shaver to guard the head or heads thereon, the structure being flexible so that the parts may be engaged and disengaged in a convenient manner for detaching and applying the guard to the shaver.

The invention comprehends the provision of a guard wherein side sections extending from the head protecting section are formed at opposite ends with laterally extending protecting flanges that simulate thickness at the sides of the shaver and provide for the transmission of shock applied to the guard at the sides and corner portions direct to the casing through the flanges as well as provide a thickness simulating structure at the ends of the guard so that it may be more readily engaged for manual attachment and removal from the shaver.

The guard of this invention further comprehends the provision of a head protecting section particularly adapted for use with multiple head shavers wherein a series of separate sections may be provided so that one will cover and protect each shaver head while longitudinal ribs are formed on the guard intermediate these head protecting sections with side sections at the opposite sides of the guard formed with parts cooperating with parts of the casing to detachably secure the guard in head protecting position on the shaver.

The invention comprehends a number of other

features of construction that will be hereinafter pointed out and claimed in the following description and claims, all of the features being cooperative with those referred to above in providing a head guard for shavers that may be constructed in an economical manner and which is convenient for use.

In the drawing:

Fig. 1 is a side elevation of a shaver with the head guard applied thereto.

Fig. 2 is an enlarged fragmentary side elevation of a side adjacent to that shown in Fig. 1, with portions broken away, shown in cross section, and illustrating the head guard in cross section in assembled position on the shaver.

Fig. 3 is a top plan view of the head guard.

Fig. 4 is a bottom plan view of the head guard.

Fig. 5 is an end elevation of the head guard.

Fig. 6 is a longitudinal fragmentary cross section through the head protecting section of the guard and the adjacent shaving section of a shaver head.

A conventional form of electric dry shaver is illustrated in the drawing in which casing 1 forms the usual handle and the housing for the driving means for the shaver which may be in the form of the usual make and break contact type of electromagnetic motor (not shown). One end of casing 1 is formed with one or more channels formed to provide a seat for receiving and mounting a shaver head at 2 in each channel.

The drawing illustrates a shaver with three channels arranged in spaced parallel relation transversely across one end of the casing for receiving three shaver heads 2 as will be particularly apparent from the disclosure in Fig. 2. These shaver heads 2 may be detachably mounted in each channel in independent relation in a manner well-known in the art. Each shaver head comprises a base portion 3 engaged in the channel in casing 1 and an outwardly projecting shaving section 4 formed in a conventional manner with cutter bars (not shown). The ends of each shaver head 2 have reinforcing ribs beyond the shaving section as shown in Fig. 6 which project outwardly beyond the outer surface of the shaving section.

An inner movable cutter 5 is mounted on the inside of shaving section 4 in a conventional manner well-known in the art and has cutter bars (not shown) for cooperation with the cutter bars on shaving section 4 for cutting cooperation therewith when inner cutter 5 is reciprocated back and forth relative to shaving section 4. Any suitable means may be provided for securing each

shaver head 2 detachably in the channel in the end of casing 1, such means not being illustrated because it does not form part of the present invention.

The drawing also illustrates the shaver as being provided with hair pockets 6 to cover the opposite open ends of shaver heads 2 in order to receive the cuttings from each shaver head therein. Figs. 1 and 2 show hair pockets 6 in assembled relation on casing 1 and shaver heads 2, this structure being also of a conventional design now used in commercial shavers and forming no part of the present invention.

The invention provides a guard generally indicated by numeral 7 constructed to be detachably mounted on the shaver in a position to protect the shaver head or heads against injury. This guard has a head protecting section 8 for each shaver head. In the illustration shown in the drawing guard 7 is provided with three sections 8 of partially cylindrical shape in cross section. The central section 8 is joined with the two side sections 8 in the manner clearly illustrated in Figs. 2, 4 and 5, by means of a longitudinally extending rib 9, two such ribs being used to secure the three sections together. This rib is of considerably thicker cross section, as illustrated in Fig. 2, than head protecting sections 8 in order to form a substantially rigid guard structure longitudinally of the head.

At opposite sides of the guard, head protecting sections 8 are formed with laterally extending side sections 10 extending laterally from the outer side edges of sections 8 in a manner shown in Figs. 2 and 5. Side sections 10 extend in substantially parallel relation to each other, as shown in Figs. 2, 4 and 5, and with sections 8 and ribs 9 extend throughout the length of shaver heads 2, as illustrated in Fig. 1. Side sections 10 have a greater cross section than head protecting sections 8 in order to make them substantially inflexible while sections 8 are formed to be resiliently flexible in order to provide for a limited movement of the free edges of side sections 10 toward and from each other. The resiliency of the guard structure in head protecting sections 8 is such as to normally maintain side sections 10 in the parallel relation illustrated in Fig. 2.

The central portions of side sections 10 are formed with inwardly extending projections 11 having upper and lower inclined faces 12 and 13 respectively, arranged to form part of complementary interengaging parts or securing means for attaching the guard to shaver casing 1. Shaver casing 1 is provided on opposite sides near the end mounting shaver heads 2 with a plurality of outwardly extending transverse ribs 14 arranged in spaced relation and designed to provide a decorative effect on the exterior of casing 1. Rib 14 nearest to the end of casing 1 mounting shaver heads 2 and the groove 15 between this rib and the next adjacent rib, is so constructed that projections 11 on guard 7 will engage in grooves 15 at opposite sides of casing 1 between adjacent ribs 14 forming groove 15. Through the cooperation of ribs 14 forming one set of complementary parts or securing means to coact with projections 11 forming the other part of the securing means effective means is provided for retaining guard 7 detachably secured on shaver casing 1 in a position to protect shaver heads 2. In order to enhance the appearance of the shaver, guard 7 has the lower edges of side flanges 10 slightly curved to conform

to the curvature of ribs 14 as illustrated in Fig. 1.

Thickness simulating and protective flanges 16 are formed at opposite ends of side sections 10 and extend laterally inward therefrom in a manner shown in Figs. 2, 4 and 5, being formed integrally at the upper edges with adjacent portions of head protecting sections 8 where they extend to and merge into side sections 10. These flanges 16 provide for the convenient manual engagement of one's fingers with the guard member for flexing the guard member in attachment and removal thereof from the shaver. In addition, these flanges 16 are arranged in perpendicular relation to the adjacent portions of shaver casing 1 and hair pockets 6. These flanges are arranged so that if the end of shaver carrying head 2 is engaged with another object accidentally, the guard will receive and transmit the force of such engagement when at the sides of the shaver and at the end adjacent to sides, directly to the casing in order to protect the shaving section 4 of each shaver head from damage.

The head protecting sections 8, ribs 9 and side sections 10 also cooperate in receiving and distributing the force of impacts against the end of the shaver carrying the heads 2 so that impacts will be distributed over the end of the shaver structure and reduce the tendency of impacts from breaking some of the cutter bars. The ends of sections 8 will engage the ribs at the ends of shaver heads 2 in distributing impacts on the guard in order to protect the shaving section with its cutter bars.

Guard 7 may be molded of suitable plastic material such as any of the materials from the thermo-plastic group as well as any of the materials commonly identified as thermo-setting plastics. It is to be understood that guard 7 may be made of sheet metal, or drawn, forged or cast.

The inherent resiliency of the material including the form of construction of head protecting sections 8 provides guard 7 with a suitable and desirable resiliency and flexibility that enables the ready removal and application of the guards to the shaver. In applying the guard to the shaver it is merely placed over the end of the shaver carrying heads 2 and pushed into the position shown in Fig. 2. In pushing it toward the position shown in Fig. 2 from a position above that illustrated, the inclined faces 13 will cam side sections 10 outwardly over uppermost rib 14 as shown in Fig. 2 so that projections 11 will drop into grooves 15 and detachably secure guard 7 in position. In removing the guard from the shaver inclined faces 12 will operate to cam projections 11 out of groove 15 when the guard is pushed away from the end of the shaver in any desired manner. The guard may also be gripped at the ends of a side section 10 and manually flexed outwardly to disengage projections 11 from grooves 15 and ribs 14 in removing the guard.

The invention claimed is:

1. A guard for shaver heads wherein a shaver has a casing housing operating means for a shaver head mounted on one end thereof having a shaving section extending outwardly therefrom and said casing has a transversely extending rib on each side near the end mounting said shaver head, comprising a head protecting section engaging over said shaving section, side sections extending laterally from said head protecting section in the same direction in substantially parallel relation, and means on said side sections having detachable interlocking engagement with said

ribs for retaining said guard on said shaver in position to normally protect said head against injury.

2. A guard for shaver heads, wherein a shaver has a casing provided with driving means for operating a shaver head mounted on one end thereof with a shaving section projecting outwardly beyond the end of said casing, comprising a head protecting section engaging over said shaving section, opposite side sections extending in the same direction from said head protecting section; and complementary parts on said casing and side sections for detachably securing said guard on said casing in head protecting position.

3. A guard for shaver heads, wherein a shaver has a casing provided with driving means for operating a shaver head mounted on one end thereof with a shaving section projecting outwardly beyond the end of said casing, comprising a flexible head protecting section engaging over said shaving section, side sections extending laterally in the same direction from opposite sides of said head protecting section, and complementary parts on said casing and side sections normally interengaging to retain said guard on said shaver in head protecting position, the flexibility of said head protecting section providing for engagement and disengagement of said complementary parts and said guard on said shaver.

4. A guard for shaver heads, wherein a shaver has a casing provided with driving means for operating a shaver head mounted on one end thereof with a shaving section projecting outwardly beyond the end of said casing, comprising a molded one-piece body formed to provide a flexible head protecting section engaging over said shaving section, side sections extending laterally in the same direction from opposite sides of said head protecting section for engaging over the end of said casing carrying said head, and complementary parts on said casing and side sections normally retained in engagement by the resiliency of said flexible head protecting section to detachably retain said guard on said shaver.

5. A guard for shaver heads, wherein a shaver has a casing provided with driving means for operating a shaver head mounted on one end thereof with a shaving section projecting outwardly beyond the end of said casing, comprising a resilient flexible head protecting section engaging over said shaving section, side sections extending laterally in the same direction from opposite sides

of said head protecting section, thickness simulating and protective flanges on opposite ends of said side sections projecting inwardly therefrom, and complementary parts on said casing and side sections normally retained in engagement by the resiliency of said flexible head protecting section to detachably retain said guard on said shaver.

6. A guard for shaver heads, wherein a shaver has a casing provided with driving means for operating a shaver head mounted on one end thereof with a shaving section projecting outwardly beyond the end of said casing, comprising a partially cylindrical resiliently flexible head protecting section engaging over said shaving section, side sections extending laterally in the same direction from opposite sides of said head protecting section, thickness simulating and protective flanges on opposite ends of said side sections and adjacent portions of said head protecting section projecting inwardly therefrom, and complementary interengaging parts on said casing and side sections normally retained in engagement by the resiliency of said flexible head protecting section to detachably retain said guard on said shaver with said head protecting section and flanges mounted in close proximity to said shaver.

7. A guard for shaver heads, wherein a shaver has a casing provided with driving means for operating a plurality of shaver heads mounted on one end of said casing in adjacent relation and each shaver head has an outwardly projecting shaving section in spaced parallel relation to the shaving section of an adjacent head, comprising a head protecting section having a plurality of head enclosing portions extending longitudinally of said section in spaced parallel relation and arranged to have one portion enclose each shaving section, ribs on said head protecting section at the juncture of said head enclosing portions extending longitudinally of said section, side sections on opposite sides of said head protecting section extending in the same direction over opposite sides of said shaver case, and complementary interengaging parts on said casing and side sections, detachably retaining said guard on said shaver, said head protecting section being flexible for disengagement of said parts in detaching said guard from the shaver.

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