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CLIPPER BLADE SET

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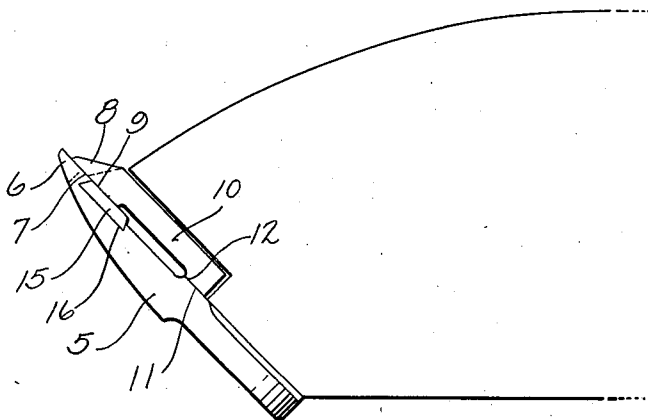


Fig. 1.

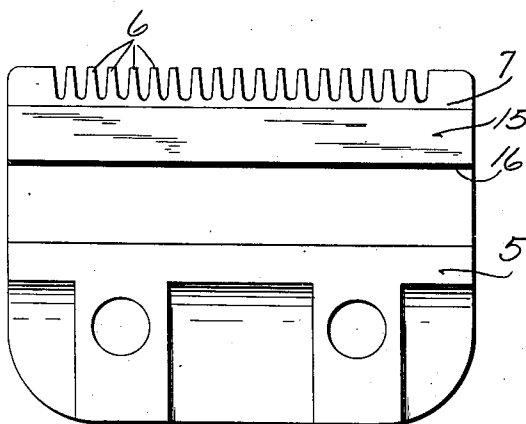


Fig. 2.

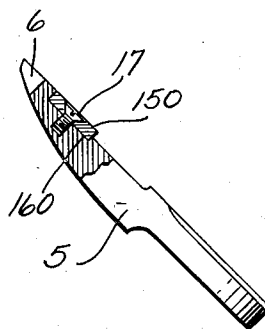


Fig. 3.

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CLIPPER BLADE SET

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5 Claims. (Cl. 30-224)

This invention relates to improvements in clipper blade sets.

It is the primary object of the invention to provide a novel and improved self-lubricating feature suitable for use in clipper blade sets such as are employed in hair clippers, animal clippers, shavers and the like. More specifically stated, it is the purpose of the present invention to provide a novel and improved arrangement in which one of two reciprocable blades may be provided with lubrication for its travel upon the other without sacrifice of adequate hardened bearing surface between the two blades.

Other objects will be apparent to those skilled in the art upon analysis of the following disclosure of the invention.

In the drawing:

Fig. 1 is a side elevation of a clipper blade set embodying the invention as it appears when applied to the combined handle and case of a hair clipper, the latter being fragmentarily illustrated.

Fig. 2 is a plan view of the lower blade illustrated in Fig. 1, such blade constituting a separate article of manufacture.

Fig. 3 is a view in side elevation of a modified embodiment of the invention partially broken away to a section exposing means for fastening a lubricating insert to the blade.

Like parts are identified by the same reference characters throughout the several views.

For purposes of illustration, the invention may be assumed to be embodied in a hair clipper of the general type illustrated in United States Letters Patents 1,861,043, May 31, 1932, and 1,980,312, Nov. 13, 1934. Since the present invention is concerned primarily with the blade set, and particularly with the lower blade, it is not necessary for the benefit of those skilled in the art that the remaining structure be illustrated in detail.

The lower blade or comb plate is illustrated at 5. It has a row of teeth at 6 upon and adjacent to which there is a bearing surface 7 engaged with firm pressure by a row of complementary teeth 8 and a complementary bearing surface 9 of the upper blade 10.

Near the rear margin of the upper blade 10, the blades have additional complementary bearing surfaces at 11 and 12, respectively. Between these bearing surfaces, one or both of the blades is channeled to provide clearance.

Since the teeth and the contiguous bearing surfaces of the respective blades are necessarily maintained in pressure contact, there will be considerable wear occasioned in the reciprocation

of the removable blade 10 unless the bearing surfaces 7 and 9 are kept well lubricated. Heretofore, there has been no means which would serve to provide adequate lubrication without radically reducing the available bearing surface. The blades 5 and 10 are made of tool steel and hard metal is required not only for the provision of adequate strength in the teeth at 6 and 8, but also for the provision of adequate resistance to wear at the bearing surfaces. Accordingly, even with lubrication, it is not good practice to excessively reduce the available bearing surface of hard metal.

By means of the present invention, lubrication is provided without excessive reduction in hard bearing surface. This is done by the provision on the insert at 15 of a porous and oil-saturated metal such as porous bronze. The insert 15 is preferably mechanically fixed in the lower blade 5 by providing at 16 in the lower blade the transverse slot having undercut margins with which the beveled margins of the porous bronze insert 15 are in dovetailed engagement, as shown in Fig. 1. However, the insert may have perfectly rectangular sides as shown at 150 in Fig. 3 and may be held in correspondingly shaped recess 160 by means of a countersunk retaining screw 17.

In either event, the disposition of the insert will preferably be such that a substantial area of bearing surface 7 at the rear of the teeth 6 will remain available for the support of the bearing surface 9 of the reciprocable blade 10. As shown in Fig. 1, the bearing surface 9 of the reciprocable blade overlaps the tooled steel bearing surface 7 and the porous, oil-filled insert 15. Thus, the lubricant picked up by the bearing surface 9 from the porous insert at 15 of bronze or the like is transferred by capillary action to the hardened bearing surface 7. At the same time, the extensive area of the bronze insert is such as to compensate, at least in part, for such of the hardened bearing surface 7 as is removed to accommodate the insert.

Thus adequate lubrication is provided for those portions of the blades which are in heavy pressure contact. While it is preferred that the porous lubricating insert at 15 or 150 should be in the lower blade, it is obviously immaterial in which blade the insert is positioned.

It is further immaterial whether the two blades have relative rectilinear reciprocation. In some clippers, the reciprocation is rectilinear. In others, it is slightly oscillatory. The device as shown will function successfully in any such construction.

I claim:

1. A blade set comprising complementary toothed blades having hardened bearing surfaces in mutual contact, one of said blades being provided with a porous oil-filled metal insert constituting an extension of its bearing surface and partially overlapped by the bearing surface of the other blade.

2. A blade set comprising a pair of hardened metal blades having complementary teeth and complementary bearing surfaces immediately adjacent their teeth in mutual pressure bearing engagement, the lower of said blades having an insert of softer porous metal constituting a lubricator and disposed as a rearward continuation of its bearing surface, the upper blade having its hardened bearing surface lapping the hardened

bearing surface of the lower blade and also said insert.

3. As a new article of manufacture, a blade for clippers and the like of hard metal provided with a row of teeth and a bearing surface adjacent the teeth and with a porous oil-filled metal element constituting an extension of said bearing surface rearwardly from the teeth.

4. The blade of claim 3 in which the metal element has beveled edges dovetailed into a correspondingly shaped groove with undercut edges with which said blade is provided.

5. The device of claim 3 in which said element is provided with screw threaded means for removably securing said element to said blade.

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