This invention relates to carpenters' planes, and the main object of the invention is the provision of a readily removable and replaceable cutting edge or blade for the plane.

It is by no means an uncommon experience, in using a plane, to strike a nail or other metallic construction which was not visible, and thus damaging the blade so that the plane is unusable without being reground. This invention consists in the provision of a removable cutter or blade well secured to the body of what is customarily the cutter of the plane. Since the removable blade of this invention is relatively very small, a worker may at all times carry spares about him so that if he damages the cutter in the plane he may readily and with a minimum loss of time remove the damaged cutter and attach in its place a fresh cutter, thus eliminating the possibility of discontinuing his work or being held up at it for a long time.

The above as well as additional objects will be clarified in the following description, wherein characters of reference refer to like-numbered parts on the accompanying drawing.

Referring briefly to the drawing, Fig. 1 is a side elevational view, with parts broken away and partly in section, of a carpenter's plane embodying the improvement presented by the instant invention.

Fig. 2 is a perspective view showing three of the improved elements of a plane in spaced relationship with respect to each other prior to assembly thereof in the plane.

Fig. 3 is a fragmentary bottom plan view of the cutter body of the improved plane with the removable blade positioned thereon, showing one means of construction therefor.

Fig. 4 is a view taken on the line 4-4 of Fig. 3.

Fig. 5 is a view taken on the line 5-5 of Fig. 4.

Fig. 6 is a fragmentary bottom perspective view, in mutually spaced relationship prior to assembly, of a modified form of cutter body and its complementarily modified form of removable blade.

Fig. 7 is a sectional view taken on the line 7-7 of Fig. 6, assuming that the blade shown in Fig. 6 has been slid into position of registration on the end of the plate and the intermediate plate in place.

Referring in detail to the drawing, the numeral 10 indicates a carpenter's plane having the usual frame 11 provided with the usual transverse opening 12 through which the cutter edge projects. The cutter body or plate 13 is secured against an inclined support 14 which is, in the usual manner, adapted to be moved forward or rearward to vary the amount of projection of the cutter edge through the opening 12, by means of the screw 15.

Instead of having the cutter edge provided on the lower end of the plate 13 as is the case with standard planes, the plate 13, in one form of the invention, although provided with a beveled edge 16 in the manner of a cutting edge, has its lower edge serve merely as a support for a removable blade 17. For this purpose of accommodating the plate 13 to receive the blade 17, the lower edge of the former is provided with two opposed right-angled cut-outs at the corners thereof, shown at 18. The walls 20 thus provided in alignment with each other are parallel with the edge 19 of the plate 13. However, those walls of the cut-outs 18 which are adjacent the walls 20, are further or additionally cut at an angle or bevel to provide the sloping walls 21. Thus a tongue 22 is provided from the lower end of the plate 13, this tongue having the sloping walls 21 at its sides and having its front edge beveled as previously mentioned at 16.

The complementary blade 17 comprises the top flat section 23 provided with downwardly extending ears 24 which are turned back under the section 23 at the same angle as that of the slope of the walls 21. Thus the blade 17 is adapted to be slipped over the tongue 22 with the ears 24 gripping frictionally and engaging the walls 21 and the rear edges of the ears registering against the cut-out walls 20. The sharpened cutting edge of the blade 17 is shown at 25.

An intermediate plate 28 is used on planes between the clamp 27 and the plate 13 for the usual reason of setting the cutter, that is, locking the plate 13 against the support 14. In the instant case, however, the intermediate plate is of improved construction, that is, the lower edge or end 28 has a relatively broad and flat foot 29 formed thereon. Thus when the improved plane containing the removable blade 17 is mounted in position, as illustrated in Figs. 1 and 4, pressure of the clamp 27 against the plate 28 forces the flat foot 29 against the upper surface of the blade 17 and thus securely locks the latter in position on the plate 13. The simple manner in which the blade 17 may be removed, when damaged, and replaced by a new blade 17, is readily apparent.

In the modified form shown in Figs. 6 and 7, the lower edge of the plate here shown at 13a, instead of having the cutouts 18 previously mentioned, is merely provided with two slits 30 cut
into the lower edge of the plate 13a longitudinally for a short distance and at equal and opposite acute angles with respect to the plane of the plate 13a, each of the slits 30 being positioned at about one-third of the width of the plate apart and from the sides of the plate. The complementary removable blade 17a comprises the flat body 23a having similarly spaced thereon two ears or flaps 31 stamped out of the body 23a and disposed at the same angles to each other as the slits 30 and similarly positioned with respect to each other and a cutting edge 25a. It is obvious that by registering the flaps 31 in the slits 30 the blade 17a may readily be slipped over the lower edge of the plate 13a. In use the plate 13a with the blade 17a thereon is mounted in the plane in the same manner as previously described for the plate 13 and its blade 17, that is, with the foot 29 of the intermediate plate 26 clamping or holding the plate body 23a against the lower edge of the plate 13a, not shown.

Obviously, various modifications may be made within the scope of the invention as defined in the claim.

I claim:

In a carpenter’s plane having a transverse opening through the bottom thereof and having an inclined plate having a lower edge adapted to protrude through said opening, and further having means for releasably locking said plate therein, the improvement comprising a removable blade releasably and slidably mounted on the lower end of said plate, said plate having longitudinal slits therein extending through said lower edge a distance into the plate at opposite and equal angles with respect to the plane of the plate, said blade having flaps extending downward therefrom at angles and in positions complementary to said slits and registrable in said slits whereby upon sliding of said blade over said lower edge of the plate said flaps register in said slits.

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