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P. H. VOGEL

FRAME FOR CARPENTERS' PLANES

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To all whom it may concern:

Be it known that I, Paul H. Vogel, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Frames for Carpenters' Planes, of which the following is a specification.

My invention relates to improvements in frames for carpenters' planes, of the form that is characterized as a metal frame, as distinguished from such as are made of wood, and which are provided usually with some form of knob at the forward end and with a grasping handle or grip at the rear end, and the object of my improvement is to produce a frame for carpenters' planes in which the metallic structure is made for the most part of aluminum and is, therefore, relatively light in weight by reason of the inherent qualities of this material, and which, however, is provided on the bottom or base, that contacts with the work and that undergoes wear under conditions of use, with a plate or facing piece of metal of superior wearing qualities, such as steel or brass, the two materials being preferably united by casting.

In the accompanying drawing:

Figure 1 is a side elevation of a frame for a carpenter's plane embodying my invention.

Figure 2 a bottom view of the same.

Figure 3 is an end elevation on an enlarged scale of the bottom or base portion of the same.

Figure 4 is a sectional view on the line 4—4 of Fig. 2.

Figure 5 is a bottom view of the bottom or base plate alone.

My improved frame for carpenters' planes corresponds in its outward contour or shape and also as to the general characteristic qualities that pertain to the conditions of use to such frames as are in common use and to this end comprises an elongated structure that is generally of channel form, comprising a bottom or base 10 that is bordered along the side edges by upwardly directed flanglike side walls 11 and which bottom or base 10 is provided with a transversely directed opening 12 for the cutting-blade.

The opening 12 divides the frame structure into a forward or front end part 13 and a rear or back end part 14. A knob 15 of wood is mounted on the front part 13 and wooden grasping handle or grip 16 is provided on the rear part 14.

The side flanges 11 are of varying depth or elevation and have the greatest elevation for the portion 17 just in the rear of the blade-opening 12, the structure of which highest portion 17 is utilized in some well known manner for cooperating with such devices as may be provided for guiding and clamping the cutting-blade. Other means for cooperating with such devices are usually provided in the form of an integral block structure 18, such metal parts as having been mentioned being all found usually in a single casting, the material being iron.

In the present structure the upper and major portion 20 of the frame structure is made of cast aluminum and to the lower part thereof there is affixed a plate 21 of some other material having better wearing qualities, preferably in some respects, of steel although brass or composition may be used, particularly in cases where non-corrosive qualities may be desired.

In casting, the plate 21 is first placed in the mold; then the mold is completed; and finally the aluminum is poured to form the major or upper portion 20.

In order to ensure a positive union of the top or cast part 20 and the bottom or sheet metal or plate part 21 I find it desirable to provide cooperating anchoring devices of some form or other.

In the structure shown such anchoring devices are provided in the form of a plurality of integral projections or holding head structures 22 that are formed by casting in suitable perforations 23 in the plate 21 and to further enhance the holding effect the side walls of said openings or perforations 23 are of countersunk form. Thus the projections 22 are actually of the form of diminutive heads.

The heads 22 and holes or openings 23 are distributed over the bottom plate 21 in any approved manner. Thus the structure shown approximates two and three-eighths inches in width and has three rows of holding devices and the length is somewhere near nine inches and there are six along each side and eight along the middle along the longitudinal axis. Particular attention is called to the details adjacent the blade opening 12, where there is some concentration of the devices, comprising two rows 24 of three heads 22 each on the two sides. Thus one
row 24 is adjacent the end of the front part 13 and the other row 24 is adjacent the end of the rear part 14. This construction serves to relieve the relatively narrow parts 25 of the plate 21 from excessive strain. Said narrow parts 25 comprise the material at the lateral ends of the transverse opening 13 and connect the front part 26 of the plate 21 with the rear part 27 thereof.

I claim as my invention:—

A frame for a carpenter's plane in the form of an all metal structure and comprising a base part in the form of a plain piece of sheet metal, provided with a transverse slot for the cutting tool, and having a plurality of perforations, and a main part of aluminum, formed by casting on one face of said base part, and with projections of the cast material extended into said perforations, and there being a concentration of said perforations and projections adjacent said transverse slot, arranged in two rows, one on each side of said slot.

PAUL HERMAN VOGEL.