J. KNOWLES.

FRAME FOR PLANES.

APPLICATION FILED DEC. 13, 1920.

1,390,565. Patented Sept. 13, 1921.

Fig. 1

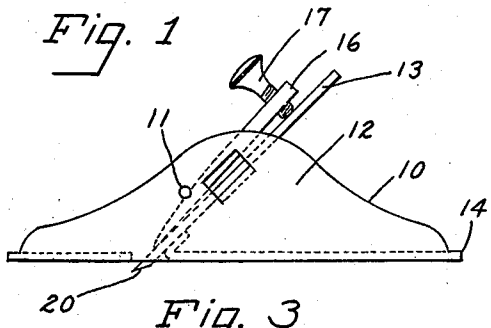


Fig. 2

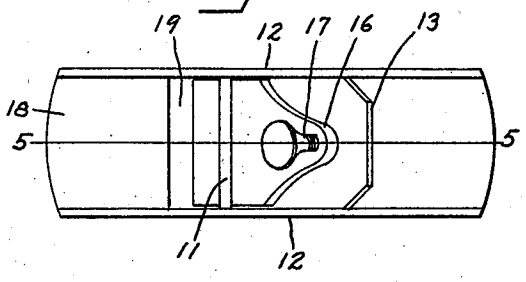


Fig. 3

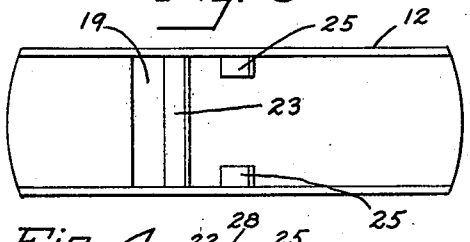


Fig. 6

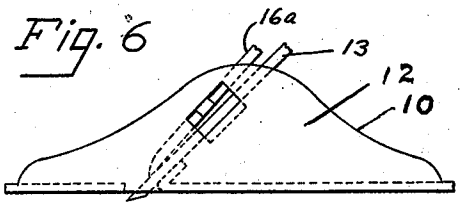


Fig. 4

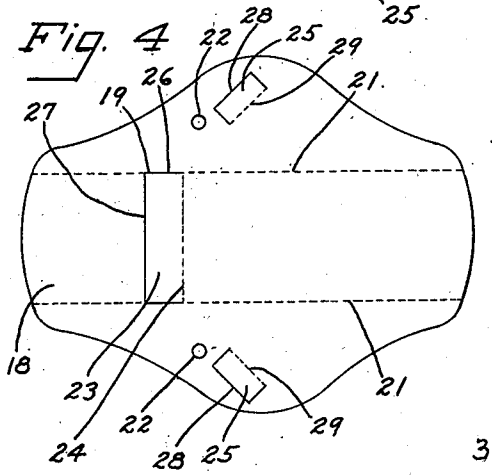


Fig. 7

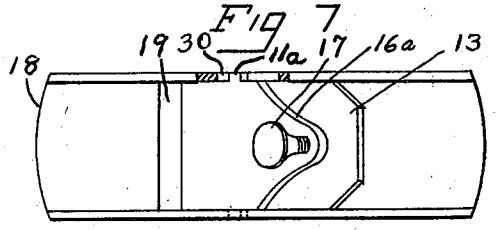


Fig. 8

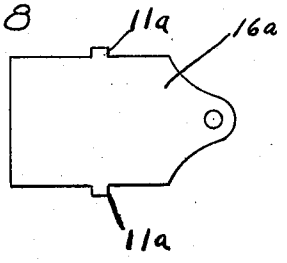
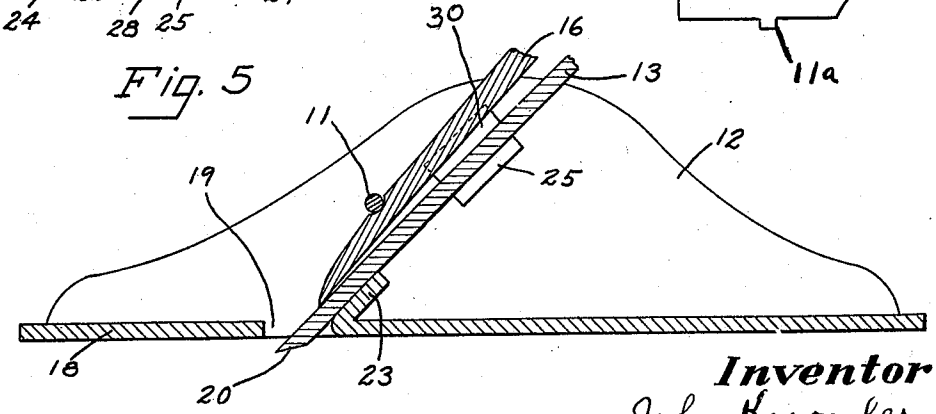


Fig. 5



Inventor

John Knowles,

By Louis M. Schmidt.

Atty.

UNITED STATES PATENT OFFICE.

JOHN KNOWLES, OF NEW BRITAIN, CONNECTICUT.

FRAME FOR PLANES.

1,390,565. Specification of Letters Patent. Patented Sept. 13, 1921.

Application filed December 13, 1920. Serial No. 430,170.

To all whom it may concern:

Be it known that I, JOHN KNOWLES, 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 Planes, of which the following is a specification.

My invention relates to improvements in frames for planes, of the form that is known as carpenters' planes, and the object of my improvement is to produce a plane in which the body or frame, except for the detail of the parts that serves as a bridge between the sides, is made of a single piece of sheet metal, and which is adapted particularly to use in planes of diminutive size, such as is adapted for use in trimming the edges of boards and other light work, for which a plane of light weight is particularly desirable.

In the accompanying drawing:—

Figure 1 is a side elevation of a plane having a frame that is made in accordance with my invention.

Fig. 2 is a plan view of the same.

Fig. 3 is a plan view of the frame only.

Fig. 4 is a plan view of the blank for the frame.

Fig. 5 is a sectional view on an enlarged scale on the line 5—5 of Fig. 2.

Fig. 6 is a side elevation of a form of structure having a modification of the blade binding plate or cap, being in part broken away.

Fig. 7 is a plan view of the same.

Fig. 8 is a plan view of the blade binding plate or cap shown in Figs. 6 and 7.

My improved frame 10 for a plane is provided with a bridging wire 11 that cross-connects the side walls 12 and serves in the usual manner for backing the locking devices for locking the blade 13 in position and the general frame structure or body 14 is made of a single piece of sheet material, which is cut and shaped suitably to provide integrally a frog structure or seat that is adapted to serve as the seat for the said blade 13.

A blade binder 16, provided with a locking screw 17, of usual form is interposed between the bridging wire or rod 11 and the blade 13.

Considering the blank for the frame body 14, this comprises the longitudinally directed bottom or base 18 of relatively elongated form, which, in the finished condition, is provided with a transversely directed opening 19 that serves as the mouth for admitting the bit end portion 20 of the blade 13 and as the outlet for the chip or shaving.

The two sides 12 are connected to the base 18 along the folding lines 21, along which the blank is bent to bring the said sides 12 into the upright position and in paralellism.

The sides 12 have each an opening 22 for the bridging wire or rod 11.

The frog or seat for the blade 13 is of peculiar construction, being of skeleton form, and composed of a plurality of lips or ledges that are formed from the sheet material, comprising a single lip 23 adjacent the bit end 20, and positioned along the rear edge 24 of the mouth 19, and a pair of side lips 25, one on each side.

Considering the front lip 23, this is formed by slitting the material by a generally U-shaped form of slit, comprising the side portions 26, one on each side, and preferably coincident with the folding line 21, and the cross slit 27 connecting the said side portions 26. Thus the front lip 23 will be connected to the base along the junction line 24, and this is positioned for use by bending backwardly along the junction line 24 to be directed at a suitable angle to the base 18 to operatively support the blade 13.

The side lips 25 are similarly formed by means of suitable generally U-shaped slits 28; are connected in each case to the side 12 along the junction line 29; and each is finally positioned by bending along the said line 29.

Thus the front lip 23 and the side lips 25 coöperate to form the seat structure for the blade 13.

A plane constructed as described is adapted to close work along the sides, because of the thinness of the material that can be used, which may be of about one-sixteenth of an inch in thickness.

The mouth 19 is in the form of a slot that is provided by turning back the front lip 23.

Similar slots 30 are formed in the sides 12 by turning back the side lips 25.

In the form shown in Figs. 6 and 7 I

utilize the side slots 30 in coöperation with the side lugs 11ª on the cap 16ª in lieu of the rod 11 for clamping the blade 13.

The cap 16ª is readily slipped into place before inserting the blade.

I claim as my invention:—

1. In a carpenter's plane, a frame having a body formed of sheet material and comprising a seat for the blade, and the said seat being of skeleton form, composed of a plurality of lips that are integral with the material of the said body and each connected by one edge with the general body structure.

2. In a carpenter's plane having a frame as described in claim 1, the side walls of the frame having slots adjacent the said seat, a cap for holding the blade in place, and the said cap having lugs at the sides for engaging with the said slots so as to limit the movement of the said cap.

JOHN KNOWLES.