

Feb. 27, 1940.

J. F. O'BYRNE

2,191,679

PLANE CONSTRUCTION

Filed March 19, 1938

2 Sheets-Sheet 1

Fig. 1.

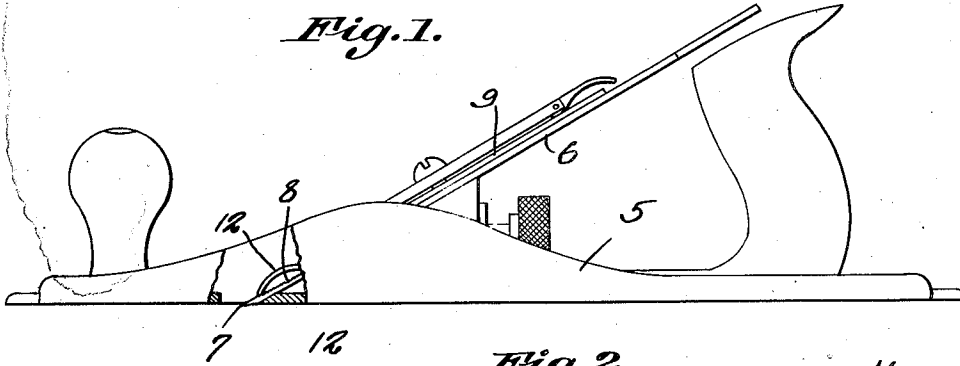


Fig. 2.

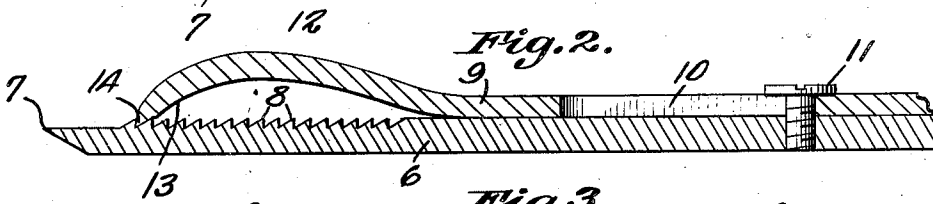


Fig. 3.

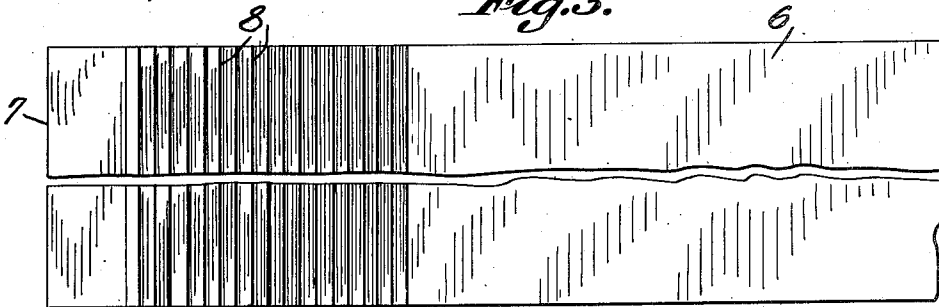


Fig. 4.

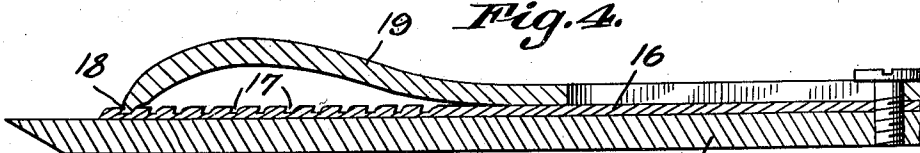
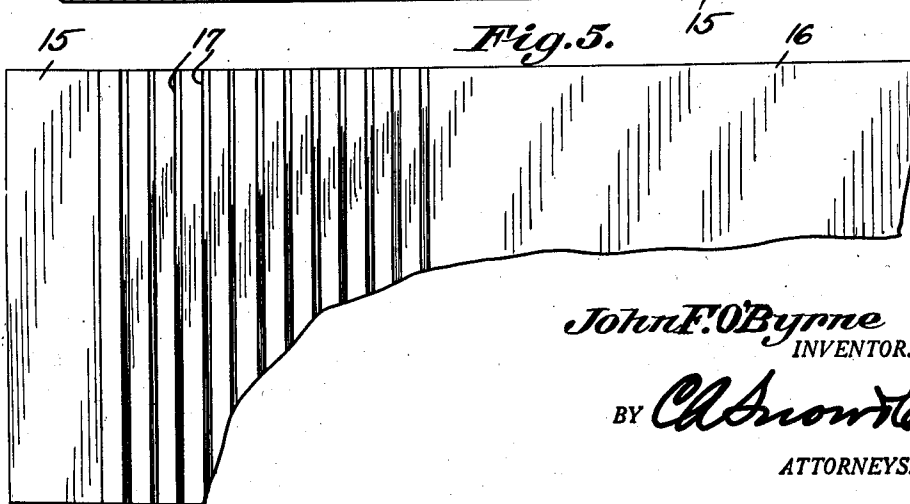


Fig. 5.



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Fig. 6.

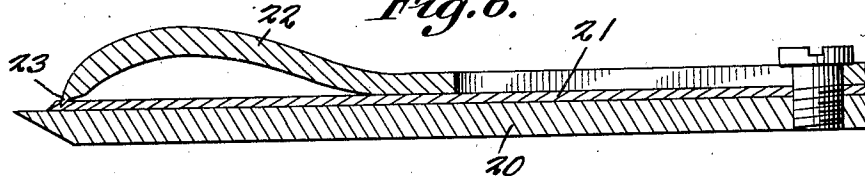


Fig. 7.

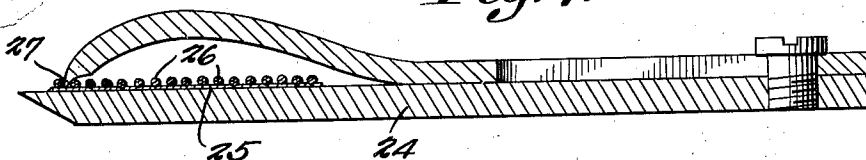


Fig. 8.

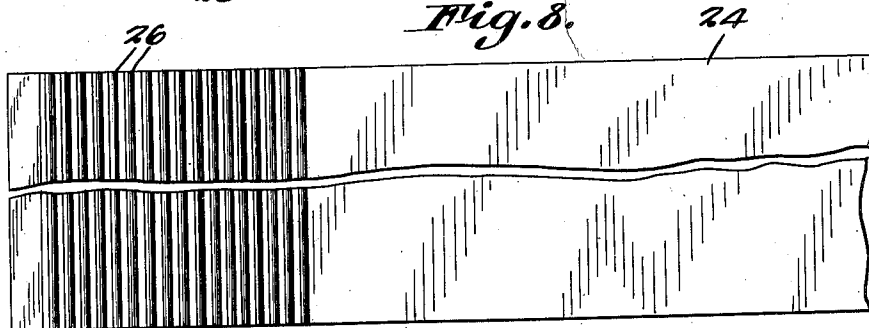


Fig. 9.

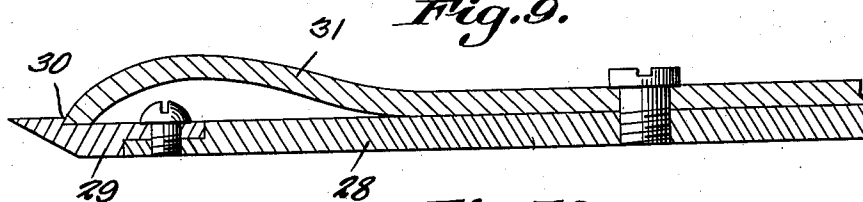
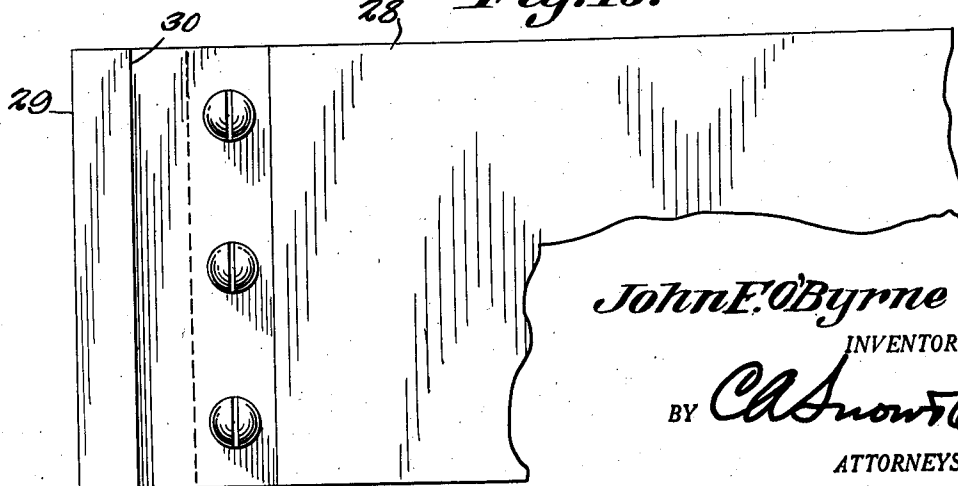


Fig. 10.



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UNITED STATES PATENT OFFICE

2,191,679

PLANE CONSTRUCTION

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Application March 19, 1938, Serial No. 196,980

1 Claim. (Cl. 145—16)

This invention relates to woodworking tools, and particularly to planes.

The primary object of the invention is to provide a plane of the construction wherein the cap-iron thereof engages the blade of the plane in such a way as to prevent shavings from driving under the plane iron cap, to choke the plane.

Another object of the invention is to provide means for securely holding the cap-iron in position against twisting with respect to the blade while in use.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein described, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a side elevational view of a plane equipped with a blade and cap-iron, constructed in accordance with the invention, one edge of the plane being broken away illustrating the blade and cap-iron.

Figure 2 is a longitudinal sectional view through the cap-iron and plane iron.

Figure 3 is a plan view of the plane iron.

Figure 4 is a longitudinal sectional view through a modified form of plane iron and cap-iron.

Figure 5 is a plan view thereof.

Figure 6 is a longitudinal sectional view through a plane iron and cap-iron, illustrating a further modified form of the invention.

Figure 7 is a longitudinal sectional view through a still further modified form of the invention.

Figure 8 is a plan view thereof.

Figure 9 is a longitudinal sectional view through a modified form of the invention, wherein the blade is detachably mounted on the plane iron.

Figure 10 is a plan view thereof.

Referring to the drawings in detail, the reference character 5 designates the usual body portion of a woodworking plane with which the plane iron and cap-iron, constituting the subject matter of the invention, are used.

The reference character 6 designates the plane iron of the plane, the forward edge 7 thereof providing the cutting blade of the plane.

The upper edge of the plane iron 6 is formed with a plurality of elongated teeth 8 extending

transversely of the plane iron, as clearly shown by Figure 3 of the drawings.

The cap-iron is indicated by the reference character 9, and as shown is formed with an elongated opening 10 to accommodate the screw 11, by means of which the cap iron and plane iron are secured together.

As shown, the cap-iron is curved upwardly as at 12 and downwardly as at 13 where it engages the plane iron. As shown, the forward edge of the cap-iron is beveled as at 14, to fit between adjacent teeth 8, whereby the cap-iron is held into close engagement with the plane iron in such a way that it will be impossible for shavings to drive into the space between the cap-iron and plane iron, to choke the plane.

In the form of the invention as shown by Figure 4 of the drawings, the plane iron which is indicated at 15, is supplied with a plate 16 of a width to extend the entire width of the plane iron 15, the plate 16 being constructed of any suitable metal such as brass, copper, steel or the like. As shown, the plate 16 is formed with a plurality of grooves 17 for the reception of the beveled end 18 of the cap-iron 19.

As shown by Figure 6 of the drawings, the plane iron indicated at 20 is supplied with a length of soft metal material indicated at 21, and the cap-iron, which is indicated at 22 is formed with a beveled end providing a knife-like edge 23 adapted to bite into the soft material 21, when the cap-iron is struck, as by means of a hammer or similar tool.

As shown by Figure 7, the upper surface of the plane iron 24 is supplied with a wide member 25 formed with spaced members 26 embodying small rods between which the knife-like edge 27 is held, in operation.

In the form of the invention as illustrated by Figure 9 of the drawings, the plane iron indicated by the reference character 28 is formed with a detachable cutting member 29. This detachable cutting member 29 is formed with a cut-away portion defining a shoulder 30 against which the forward edge of the cap-iron 31 engages.

From the foregoing it will be seen that due to the construction of the plane iron and cap-iron, it will be impossible for shavings to drive between the cap-iron and plane iron to choke the plane. The shavings formed when using the plane, will pass over the upper edge of the cutting portion of the plane iron, and be directed upwardly over the curved surface of the cap-iron, away from the point of contact between the cap iron and plane iron.

I claim:

In a plane, a body portion, a plane iron mounted within the body portion, a plurality of transversely disposed teeth arranged along the upper
5 surface of the plane iron, a cap iron adjustably mounted on the plane iron, said cap iron having a curved portion formed adjacent to one end

thereof, said curved portion terminating in a sharp beveled edge adapted to fit between adjacent teeth of the plane iron, and the teeth of the plane iron forming continuations of the cap
iron. 5

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