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J. W. KIRBY.

CARPENTER'S PLANE.

APPLICATION FILED JAN. 31, 1903.

NO MODEL.

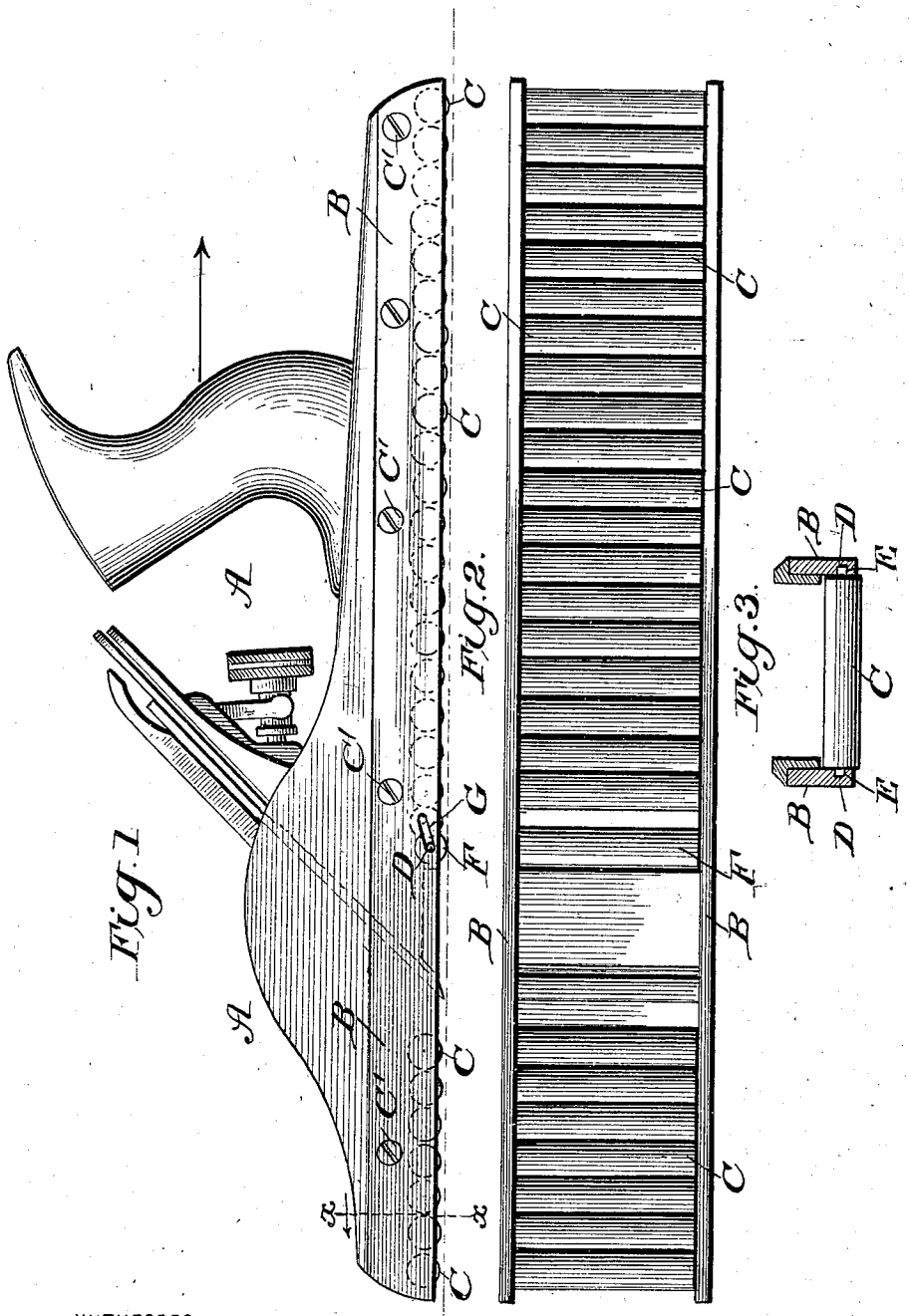


Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES:

Jos. A. Ryan

Harrison B Brown

INVENTOR

Jerry W. Kirby.

BY Munn & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JERRY WILLIAM KIRBY, OF BUTTE, MONTANA, ASSIGNOR OF ONE-FOURTH TO BENNETT PRICE, OF BUTTE, MONTANA.

CARPENTER'S PLANE.

SPECIFICATION forming part of Letters Patent No. 725,569, dated April 14, 1903.

Application filed January 31, 1903. Serial No. 141,343. (No model.)

To all whom it may concern:

Be it known that I, JERRY WILLIAM KIRBY, a citizen of the United States, and a resident of Butte, in the county of Silverbow and State of Montana, have made certain new and useful Improvements in Carpenters' Planes, of which the following is a specification.

My invention relates to carpenters' planes; and it consists, more specifically stated, of new and improved roller attachments involving novel details of construction, whereby frictional contact with the board being planed is materially reduced, all as will be hereinafter fully described and the novel features pointed out in the claims.

Reference is had to the accompanying drawings, forming a part of this specification, for a full understanding of my invention.

In the drawings, Figure 1 is a view showing a plane in side elevation with my invention applied thereto. Fig. 2 is an inverted plan view of the plane shown in Fig. 1, and Fig. 3 is a transverse sectional view on line x x of Fig. 1.

In carrying out my invention I suitably support a series of rollers on the under side of the plane. One of the rollers—the next one in rear of the throat of the plane—has an in-and-out movement, whereby upon backward movement of the plane it and its bit is lifted above the board being worked. Upon forward movement of the plane its whole bottom is returned to contact with the board and the bit to cutting position.

In the drawings, A denotes any type of plane to which my invention is adapted.

B indicates side flanges extending, preferably, the whole length of the plane. These flanges are best constructed of metal bars wide enough to project below the under side of plane, adapted to afford support for a series of rollers C, ranging substantially from end to end of the plane. The flanges or strips B should extend upwardly on the sides of the plane, as shown in Fig. 3 of my drawings, adapted to be secured in place by screws C', entered into the body of the plane through suitable perforations in the strips. It will be noticed that the bottom of the plane-body a limited distance on both sides of the bit-throat is flush with the lower edge of the side flanges or strips. Front and rear from the bit-throat the bottom of the plane-body is elevated, adapted to receive the rollers C. All the rollers have end pins D, which enter suitably-arranged recesses E on the inner side of the flanges. (See Fig. 3.) One of the rollers, F, which is located just back of the bit-throat, has its end pins D supported in downwardly-inclined slots G, whose lower end is next or toward the bit-throat.

Now it is apparent that with all the rollers supported as above described when the plane is shoved forward their rolling action on the board will materially reduce frictional contact of the plane, and thereby render less effort necessary to shove it with the bit cutting than is required where the whole under surface of the plane is in rubbing contact with the board. It is further obvious that upon drawing the plane backward the roller F will move forward until its end pins D reach the lower end of the inclined slots G and in so moving operate to lift all the other rollers and the plane-bit above the board free from contact therewith. The end pins of the roller F on backward movement of the plane remain at the lower end of the inclined slots G and turn therein during the whole backward movement. When the plane is shoved forward, the end pins of the roller F will move up the inclined slots G until this roller is flush with the other rollers. In other words, the roller F has an in-and-out movement, the former movement when the plane is drawn back and the latter movement when the plane is shoved forward. When the roller F is drawn in, all the rollers rest on the board, with the bit in cutting action; but when it projects all the other rollers from end to end of the plane and also the bit is lifted free of the board. The advantage in having the bit out of contact on backward movement of the plane will be understood and appreciated, since rubbing action thereof on the board soon dulls the bit edge.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a plane, projecting

parallel flanges secured to the side of the plane, recesses on the inner side of the said flanges, rollers having end pins adapted to enter the said recesses in the flanges, a roller next to the bit-throat having an in-and-out movement as specified, incline slots in the side flanges sloping toward the bit-throat, and adapted to receive end pins on the said roller having an in-and-out movement, substantially as described.

2. The combination with a carpenter's plane having on its under side a series of rollers ranging substantially from end to end of the plane, detachable side flanges having inner recesses adapted to support the said rollers, and a roller in rear of the bit-throat supported by end pins arranged in downwardly-inclined guide-slots in the detachable flanges, substantially as described.

3. The combination with a plane having projecting detachable side flanges and an under throat-surface flush with the lower edge of the side flanges, rollers on the under side of the plane ranging transversely thereof and substantially from end to end as specified, and a roller in rear of the bit-throat supported by end pins in side slots with the latter inclining downward toward the forward end of the plane, substantially as described.

JERRY WILLIAM KIRBY.

Witnesses:
GEORGE JACOB DAVIES,
PHILIP HENRY TREGLOWN.