July 7, 1925. 1,544,667

R. C. LOUGHNER

POWER PLANE

Filed April 30, 1924

Fig. 1.

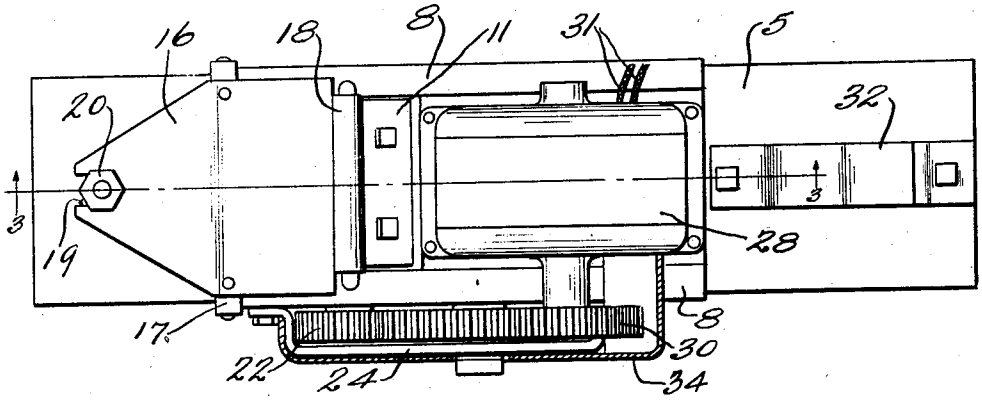


Fig. 2.

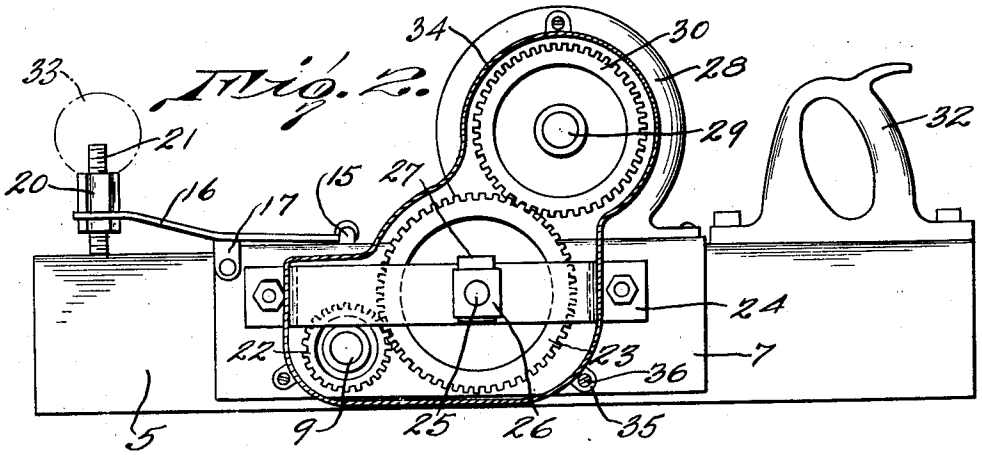
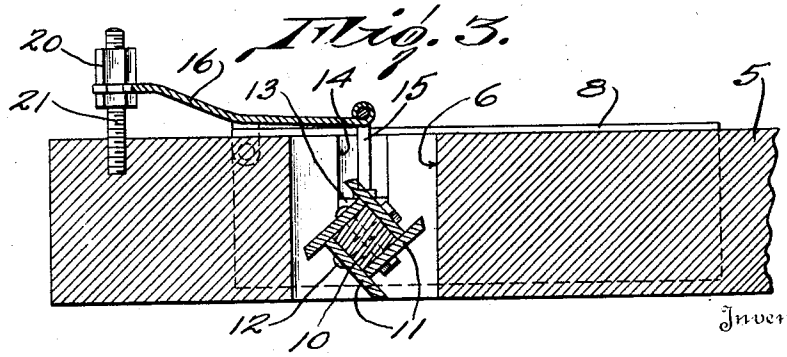


Fig. 3.



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UNITED STATES PATENT OFFICE.

REUBEN C. LOUGHNER, OF SOUTH FORK, PENNSYLVANIA.

POWER PLANE.

Application filed April 30, 1924. Serial No. 710,038.

To all whom it may concern:

Be it known that I, REUBEN C. LOUGHNER, a citizen of the United States, residing at South Fork, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in a Power Plane, of which the following is a specification.

My invention relates to improvements in power planes and more particularly to that class which are guided by hand.

An important object of the invention is to provide a plane wherein the blades are actuated by a motor.

A further object of the invention is the provision of a plane adapted for dressing wood surfaces which may be conveniently manipulated without great exertion of the operator.

A still further object of the invention is the provision of a plane capable of dressing various surfaces and having means constructed therein for raising and lowering the cutting blade.

Other objects and advantages of this invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a top plan view of the device embodying my invention,

Figure 2 is a side elevation of the same, and

Figure 3 is a vertical sectional view taken on the line 3—3 of Figure 1.

In the drawing, wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 5 generally denotes the body or bed plate having a recess 6 formed in the intermediate portion thereof. A pair of flanged plates 7 are secured to the central portion of the body 5 for the purpose of bracing same, the upper extremity of the plates being bent at right angles to form flanges 8, a transverse shaft 9 being positioned through recess 6 and is adapted to rotate therein. The extremities of the shaft 9 are circular in cross section while the central portion is square in cross section as denoted by the numeral 10.

As shown in Figure 3, four cutters or blades 11 are secured to the sides of the shaft 10 by means of bolts 12 and adapted to rotate therewith. As it is desirable to vertically adjust the position of the blades 11 the extremities of the shaft are rotatably mounted in movable bearing blocks 13 sliding in a pair of vertical grooves 14 formed in the side of the body 5. The opposed bearing blocks 13 are secured to the lower extremities of a U-shaped rod 15 the upper portion thereof extending above the body 5. An adjusting plate 16 is riveted or otherwise secured to a pair of angular clips 17 pivotally mounted upon the sides of the body to permit the adjusting plate 16 to swing thereon. A sleeve 18 is formed upon the rear edge of the adjusting plate and embraces the horizontal arm of the U-shaped rod 15 thereby causing the rod to move with the plate. The forward extremity of the plate 16 is tapered forwardly and provided with a slot 19 adapted to engage the reduced portion of an adjusting nut 20 threadedly mounted upon a bolt 21. One extremity of the shaft 10 carries a pinion gear 22 keyed or otherwise fastened upon the shaft for the purpose of rotating the same. A comparatively large idle gear 23 is mounted upon the side of the body 5 and retained in position by a bearing plate 24, the shaft 25 of the idle gear extending from the body through the plate 24 and secured by a nut 26 which is prevented from displacement by a locking strip 27.

Mounted upon the body 5 immediately in the rear of the recess 6 is an electric motor 28 having a shaft 29 extending therethrough and carrying a drive gear 30 adapted to mesh with the idle gear 23 which in turn engages the pinion gear 22, the gear train thus described driving the rotatable shaft 10. Connecting wires 31 are shown issuing from the motor 28 and are to be connected with a suitable source of current.

In order to enable the operator to readily guide the plane upon the surface to be dressed I provide a handle 32 secured to the rear portion of the body 5 and suggest the use of a knob to be inserted upon the bolt 21 as indicated by the dotted line 33 when it is found desirable to control the front portion of the plane, particularly essential in the use of large planes. While I have shown and described the body 5 constructed of wood I do not wish to restrict my device to this particular construction as it may obviously employ a metallic bed plate very commonly used in planes of this character.

Mounted upon the side of the plane and

covering the drive gears thereon is a metallic casing or guard 34 having a plurality of extension ears formed about the inner edge thereof and provided with circular openings therein to enable the application of screws 36 adapted to secure the casing to the plane body and motor. This will prevent clogging of the gears by means of shavings, dirt or the like and also permit safe operation by the user.

In using my device the operator need only guide the direction of the plane over the surface to be dressed the motor rotating the cutter carrying shaft and performing the most difficult work involved. The cutters may be raised or lowered by rotating the screw 20 causing the adjusting plate to swing about the hinge clip and moving the cutter shaft.

It is to be understood that the form of my invention herewith shown and described is to be taken as the preferred example of the same, and that various changes as to the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention, or the scope of the subjoined claim.

Having thus described my invention, I claim:

A power plane comprising a body having a recess passing therethrough and provided at the end walls of the recess with vertically disposed grooves, bearing blocks slidably mounted in the grooves a blade shaft journaled in the bearing blocks, a motor mounted upon the body, means operatively connecting the motor with the blade shaft, a plate pivotally connected at points between its front and rear edges with the body and having a rear end portion which is disposed over the recess, a rod pivotally connected with the rear portion of the plate and connected at its ends with the bearing blocks, a threaded bolt mounted upon the forward portion of the body, said plate having a recess which receives the bolt and a nut threaded upon the bolt and having a groove which enters the recess of the plate.

In testimony whereof, I have affixed my signature in the presence of two witnesses.

REUBEN C. LOUGHNER.

Witnesses:

R. C. SACKETT,

R. S. ANDERSON.