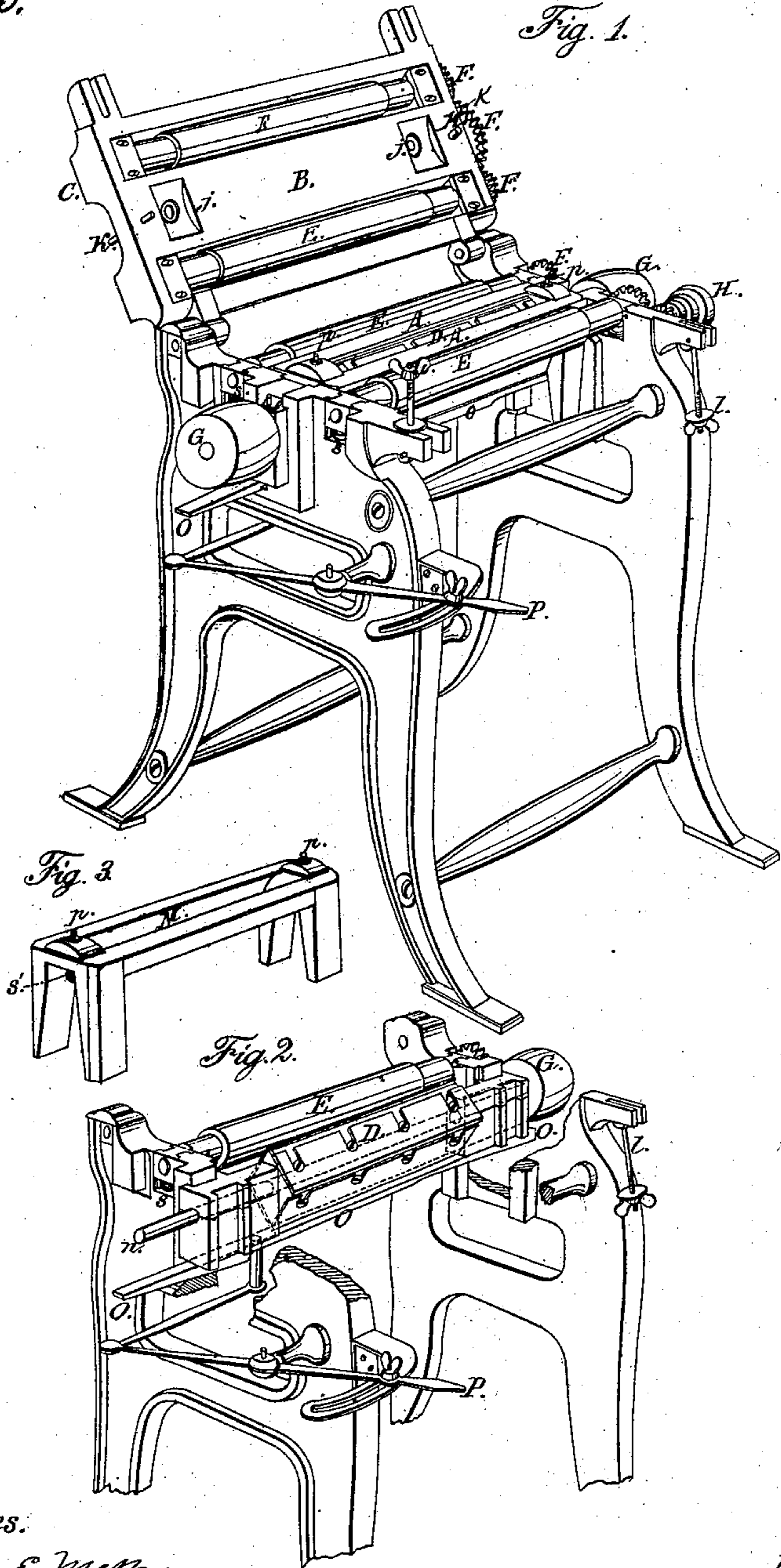


*G. Williamson,*  
*Planing Mach.*

*No.*  
*31,070.*

*Patented Jan. 1, 1861.*  
*Fig. 1.*



*Witnesses.*  
*Henry C. McPherson.*  
*Charles H. Blanch.*

*Inventor.*  
*George Williamson.*

# UNITED STATES PATENT OFFICE.

GEORGE WILLIAMSON, OF NEWARK, NEW JERSEY, ASSIGNOR TO L. S. GOBLE AND  
H. E. RICHARDS, OF SAME PLACE.

## veneer-planer.

Specification of Letters Patent No. 31,070, dated January 1, 1861.

*To all whom it may concern:*

Be it known that I, GEORGE WILLIAMSON, of the city of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Wood-Planers for Planing Veneers and other Thin Stuffs; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a perspective view of the planer with the top thrown open. Fig. 2, is a view of the planing knives, also of the wedge bar and levers by which the knives are elevated and depressed, also of one of the feed rolls and its attachments; and Fig. 3, is a perspective view of a very essential part of the planer which is in the nature of a yielding mouth piece to the stuff to be planed, but which I have denominated and in this description I call the slot table.

It is well known by intelligent machinists that very many unsuccessful attempts have been made to plane the surface of wood veneers and other thin stuffs, but that as yet nothing has been found to supersede or compete with the hand method of scarfing, filing or sandpapering. It is true that by the use of revolving spiral knives and most accurately made machinery, Spanish cedar is planed at one place in New York city, sufficiently thin for the finest grade of cigar boxes; but so far as I am aware there is no machine capable of planing and reducing to a uniform thickness wood veneer either of hard or soft wood, brash, warped and twisted as the same is apt to be.

The nature of my invention and the extent of the difficulties which I have encountered and overcome will therefore be best understood by having in view the thin, fragile and otherwise peculiar properties of the material required to be planed. Were a piece of wood, sawn thin, like common veneer, submitted to an ordinary planing machine—say that of Blanchyard's or Woodbury's, or even of the cigar stuff planer before referred to,—the result would be, the stuff would be cut into chips, owing to the fact that there is not body enough in the stuff, as those machines are constructed to resist the tendency of all revolving knives to dig into, draw the wood toward itself and

so to cut or tear it to pieces. This serious difficulty I have overcome by the application as far as possible of two distinct principles, viz.—first, the interposition of an absolutely yielding surface,—in itself considered— which I call a slot table—between the wood and the revolving knives, excepting so much space as will only permit the knives to reach through and cut the wood to the depth required; second, the use of a smooth and in itself considered an unyielding pressure bar above the wood holding it true and firm above in the narrow line of the cutting edge of the knives which revolve below, and firmly clasp it on each side of the said line of the cutting edge between itself and the slot table.

Fig. 3, shows the slot table, the upper part of which is seen in Fig. 1, at A, A, shown in working position.

B, Fig. 1, is the pressure bar forming an integral portion of the upper lid or frame C, of the planer.

The knives are shown at D, Figs. 1 and 2.

E, E, E, E, are feed rollers worked by the gearing F, F, F, F.

G, G, are driving pulleys and H, is the feed pulley. Underneath the feed rollers are the springs s, s, Figs. 1, and 2.

At each end of the slot table is a spring s', Fig. 3, and at the top of the half disk—shown at each end of the slot table—are the set screws p, p. When the upper part C of the planer is thrown forward the set screws p, p, will enter the cavities j, j, and will be firmly pressed against the same by the springs s', thus regulating and sustaining in a proper position the surfaces A, A, of the slot table.

K, K, are set screws in C, for the purpose of keeping in appropriate position the knife journals and to prevent the knives from vibrating when the machine is in operation. C, is fastened down to the main part of the machine by means of thumb screws which are hinged at one end as shown at l, l, Figs. 1 and 2.

The slot M, Fig. 3, in the slot table is formed as narrow as possible and the longitudinal edges of the slot are sharp and curved below as represented, in order to bring the cutting edge of the knives D, above the surface of the table and yet consume as little space in width of slot as possible.

The shaft n, Fig. 2, upon which are ad-

justed the knives D, is arranged in sliding journals as represented in Fig. 2, in order to permit the knives to be elevated or depressed according to the depth of cut or thickness of stuff. This is accomplished by means of the wedge bar and wedges O, O, Figs. 1, and 2, operated by means of the levers P, as plainly shown in the drawings.

The operation of my machine is as follows: The knives being properly set, and elevated or depressed to the required position by means of the wedges O, O,—the part C, Fig. 1, brought forward and fastened down by means of the set screws l, l,—the longitudinal central line of the pressure bar B, will then be directly over and in line with the highest front of the circle described by the knives D, which will be through the longitudinal center of the slot M, in the slot table. The machine being set to running, the stuff is then introduced between the front upper, and lower feed rollers E, E, and by them forced between the top A, A, of the slot table and the pressure bar B,—by means of which and the intervention of the pressure of the springs s',—under the slot table the stuff is (however sprung or warped,) brought in a true line directly over and in contact with the revolving knives by

which it is planed—the stuff at all times being firmly clasped between A, A, and B, except directly along the line of contact with the knives—thus affording no sufficient opportunity for the knives to draw the stuff in, cut through it, or tear it to pieces. The back feed rolls E, E, seize and draw the stuff on, after it has passed the knives, and thus the stuff is planed from end to end.

It is obvious that the various parts of the machine may be transposed and modified without in any wise affecting the principle.

What I claim as new and of my own invention and desire to secure by Letters Patent of the United States is—

1. The yielding mouth piece or slot table, Fig. 3, adjusted and operating substantially in the manner and for the purposes described.

2. The combination of the said yielding mouth piece or slot table, with the pressure bar B, operating together to clasp the wood, and render it firm while being planed, substantially in the manner and for the purposes described.

GEORGE WILLIAMSON.

Witnesses:

JAMES E. MCBETH,  
CHARLES H. BLANCH.