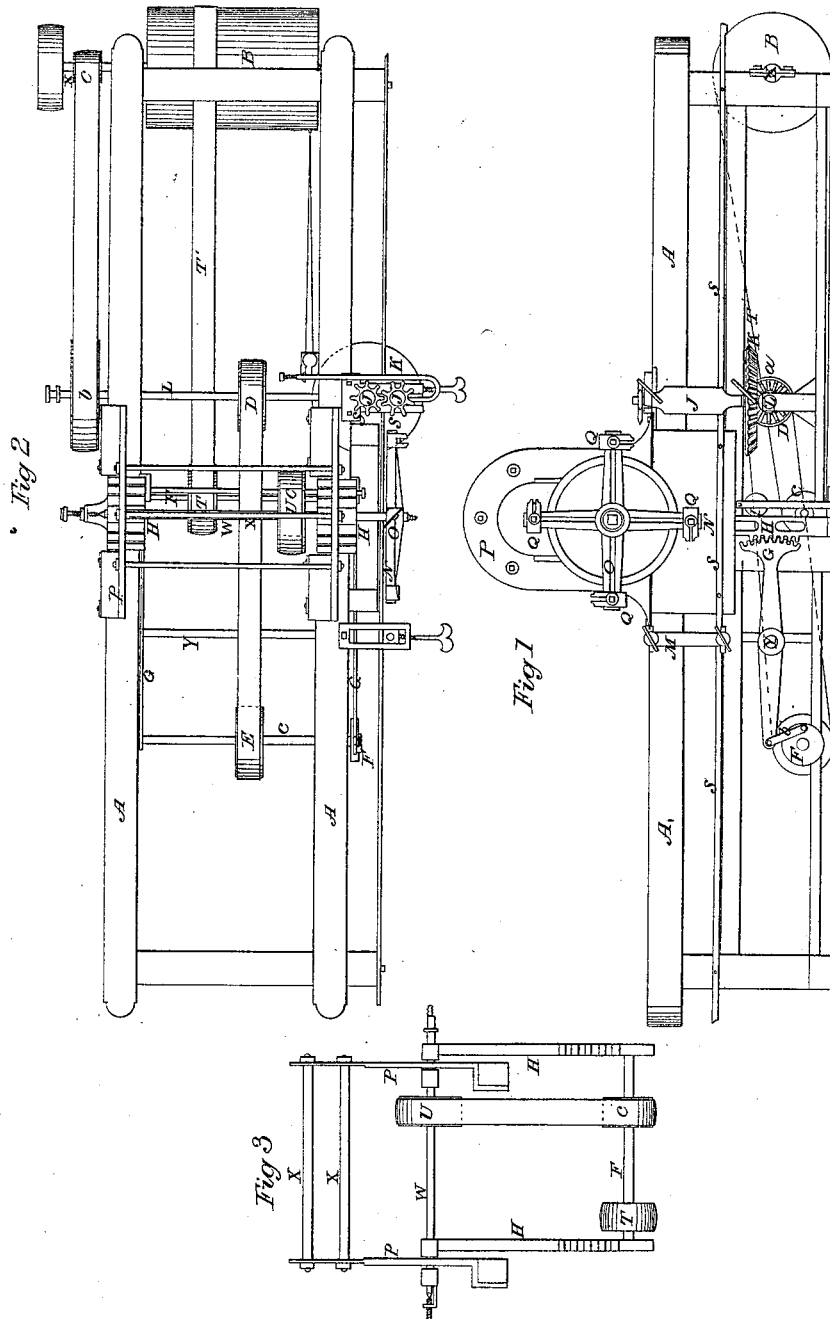


*R.R. Throckmorton,  
Wood Planing Machine.*

*N<sup>o</sup> 6,667.*

*Patented Aug. 28, 1849.*



# UNITED STATES PATENT OFFICE.

REID R. THROCKMORTON, OF BROOKLYN, NEW YORK.

## PLANING-MACHINE.

Specification of Letters Patent No. 6,667, dated August 28, 1849.

*To all whom it may concern:*

Be it known that I, REID R. THROCKMORTON, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Machines for Planing Boards, Plank, and other Material, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of the machine; Fig. 2, a plan or top view; and Fig. 3, a vertical cross section at the line (X X) of Fig. 2.

The same letters indicated like parts in all the figures.

The planing in this machine is effected by placing irons or bits on the face of a wheel. And the nature of my invention consists in giving to the planing bits two motions in the operation of planing, viz, a rotary motion about an axis and a reciprocating motion across the face of the board, that the planes while acting on the board may generate a curve due to these two motions instead of a segment of a circle, and give what is termed a "draw cut."

In the accompanying drawings (A) represents a frame properly adapted to the purpose, but which may be varied, according to the judgment of the constructor, to suit the kind of work intended; and (N) is a face plate attached to the front part of the frame, against which the board to be planed is pressed by pressure rollers (J) and (M) as in planing machines in general use. The board is fed through the machine by means of the feed rollers (J'), which lies just back of the pressure roller (J); it has a bevel wheel (K) on its shaft the cogs of which engage the cogs of a bevel pinion (a) on a horizontal shaft (L) which is driven by a belt (b) from a pulley on the main shaft (X). The feed roller (J') thus driven communicates by star cog wheels (S, S) motion to the pressure roller (J) which is pressed against the face of the board by springs or weighted levers in the usual manner practiced in the construction of planing machines. The board as it is moved forward over the face plate (N) against which it is pressed by the pressure rollers (J, M) is guided by the

straight edge guide (s), and as it passes along it is planed by plane irons or bits (Q, Q, Q, Q) on a face wheel (O) that works between the two pressure rollers. The face wheel (O) is properly secured to the end of a horizontal shaft (W) that has its bearings in the upper end of two racks (H, H) that slide at top in two guide frames (P, P) their lower ends being properly guided in the main frame. The cogs of the racks (H, H) engage with the cogs of two sectors on the end of two parallel levers (G, G) that are connected by, and have their fulcra on an arbor (Y); their rear ends being connected by joint links (b') (only one of them seen in the drawing) with cranks on a horizontal shaft (F) that receives a slow rotary motion by a belt (E) from a pulley (D) on the feed gear shaft (L) which is driven in the manner described above. As the shaft (F) is rotated its cranks communicate a vibratory motion to the parallel levers (G, G) which in turn communicate a vertical reciprocating motion by the coggled sectors to the slides (H, H) which carry the shaft of the face wheel, and therefore cause the plane irons (Q) on its face to traverse across the face of the board as the wheel is rotated by a belt (U) from a pulley (C) on a shaft (T) that in turn is rotated by a belt (T') from the main drum (B). In this way it will be perceived that the plane irons pass over the board in the act of planing by a compound motion—the one rotary about the shaft, and the other a rectilinear reciprocating motion, and that therefore the cutting edges will not only make what is called a draw cut, but by these two motions they are enabled to plane a board of much greater width than their cutting edges present. The arms of the face wheel project far enough beyond its periphery to receive the plane irons or bits (Q) which are properly secured thereto in manner well known to those skilled in the art of constructing and working planing machines.

It will be obvious from the foregoing that the shaft of the planing wheel instead of being horizontal or at right angles to the face plate may be inclined by giving the same inclination to the cutting edges of the plane irons relatively to the shaft that in their rotation they may generate a cone. When made in this way as the plane irons pass over the board, they will gradually approach it until they pass a line projected from the shaft and crossing the board at right angles,

and from this line they will gradually leave the surface of the board and relieve themselves, and give what it termed the dipping cut. The planing bits or irons instead of being attached to the arms of the wheel may be let into its face or attached to its periphery—in short any of the known modes of making the wheel and attaching the plane irons to it may be adopted at pleasure, as this makes no part of my invention.

What I claim as my invention and desire to secure by Letters Patent is—

Giving to the plane irons in passing over

the board a compound motion one around the axis of their shaft, and the other rectilinear reciprocating, substantially as described, by giving to the shaft that carries the face wheel O a rectilinear reciprocating motion in combination with a rotary motion in the operation of planing, substantially as described.

REID R. THROCKMORTON.

Witnesses:

A. P. BAOROS,

M. GRANDLING.