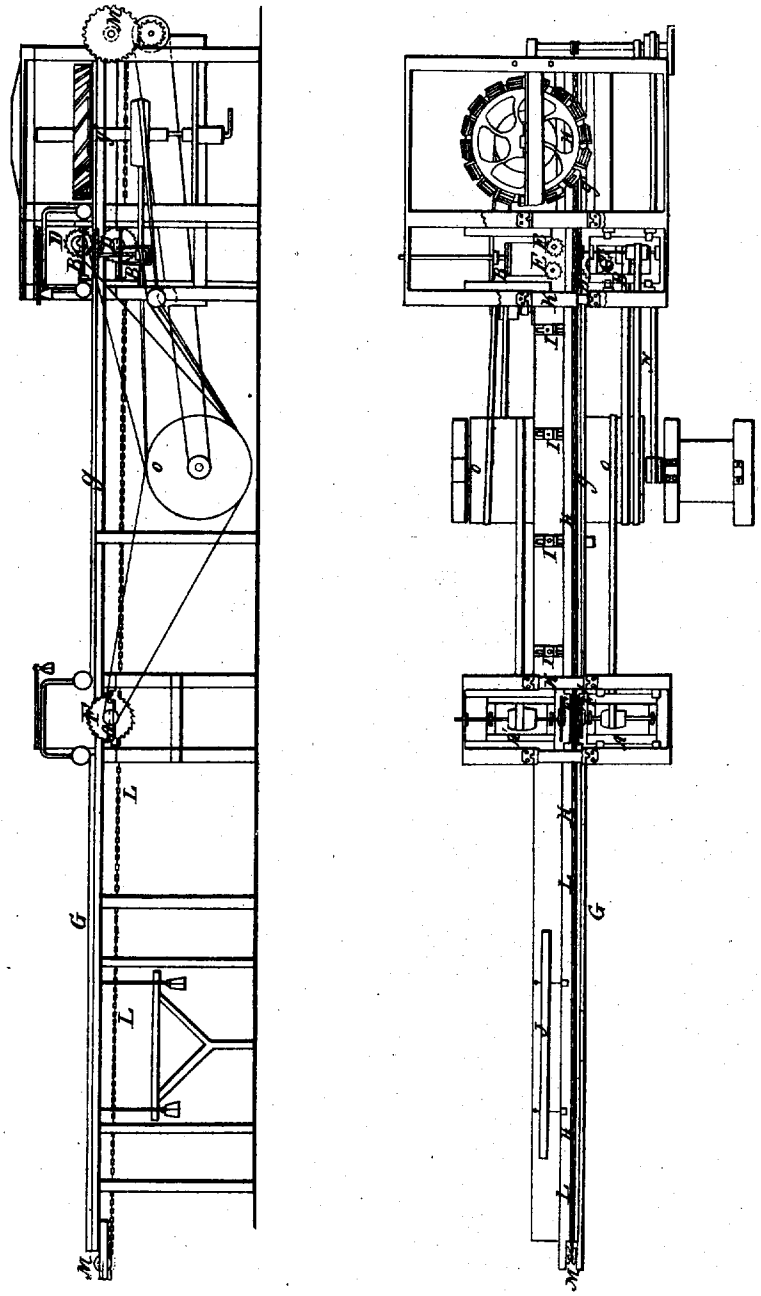
J. McGregor, Jr.,

Planing Machine,

7730X

Patented Aug. 28, 1833.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

1730 X

Aug 28 1833

Hdg for yellow boards

James MacGregor Junr of Willow Saratoga Co New York, a Citizen of the United States

Improvement being a machine for jointing, tonguing, grooving & planing planks for flooring houses & for other purposes.

Date of Patent Aug 28. 1833

Do certificate of Atty Genl Aug 28.

The Schedule referred to in the annexed Patent and making part of the same containing a Description in the words of the said James MacGregor Junr himself of his Improvement, being a Machine for jointing, tonguing, grooving & planing planks for flooring houses & for other purposes.

Be it known that I James MacGregor Junr of Willow in the county of Saratoga & State of New York have invented a new & useful improvement in the Machine for jointing, tonguing grooving & planing plank for flooring & Sidings for ceiling which is described as follows—

1. The frame containing the jointing saws consists of four girths & two cast iron end pieces, fastened together by joint bolts passing through the ends, the top of this frame, is not quite as high as the top of the way hereafter described.

2. The frame containing the grooving & tonguing saws (frame hereafter described) consists of two cast iron sides and six girths, three of these girths are above & three below the way. From the girts above to those below are fixed studs on either side of the way to which are attached cross bars fitted for the way to rest on.

3. The way on which the timber traverses is sixteen inches wide except between the jointing saws & between the saws for cutting the tongue & those that cut the groove of those

1 x Disclaimer entered, 12 Aug 1837

7730X

planes it is only four inches. In the top of this way, the whole distance a groove for the chains to turn in for carrying forward the planks between the saws. Forward of the jointing saws the way extends fifteen feet from the jointing saws to the tonguing & grooving saws, it is fifteen feet long, from this place to the wheel on which the chain goes back of the frame it is seven feet long.

The way must be narrow on rests, so that it can not be liable to get out of place. Beyond the ends of the machine the way is continued fourteen feet more.

4. The guages on the way to guide the plank, the guages on the side furthest from the plane shaft are made permanent & parallel with each other, the one forward of the jointing saw is a fourth of an inch further from the centre of the way than the one after the jointing saw, the jointing saw is set to correspond with the guage that is after it. Behind the saws that cut the tongue the guage rests on top of the tongue to keep the plank from rising between the roller before, & the one after the plane, & against the main shoulder above the tongue, to guide the plank straight, this guage is sharp at the forward end & shaves off the edging that is above the tongue.

The guages on the other side are movable so as to suit any width of plank. In front of the jointing saws is a catch to keep the plank up to the stationary guage. Behind the jointing saw the guage is as thin as possible & used in a line with the saw. From the saws that cut the groove to the back part of the frame the shoulder of the guage is as thick as the under flange that forms one side of the groove the edge of this flange presses against the shoulder to guide the plank straight through the machine. Above this shoulder on the guage is a tongue that enters the groove to keep the plank from rising between the rollers.

5. The jointing is done by two circular saws, the one on the side furthest from the plane shaft is so placed as to cut the edge off

in a line with the gauge that lies immediately after it, the one on the other side is placed in a movable carriage operated by a graduating screw so that it can be set to any width desired.

6th The tongue of the board is formed by four circular saws, the two placed on the perpendicular shaft have a chuck between them as thick as the intended tongue, this shaft is so placed that the two saws cut horizontally into the edge of the plank as far as the width of the intended tongue – Above and below the plank is a shaft placed horizontally with one saw on each, the one above cuts down to the cut made by the upper horizontal saw, the one below cuts up to the inner cut made by the lower horizontal shaft; these two last mentioned shafts are so placed that the saws cut into the face of the plank, as far from the outer edge as the tongue is designed to project.

7th The groove is formed by three circular saws placed on parallel circular shafts turning horizontally in the same carriage or frame which carriage or frame is so constructed that it may be moved back or forward by a regulating screw to suit any width of plank to be grooved. On one of these shafts are just two circular saws, having a chuck between them of such thickness that the saws from out side to outside will be as far apart as the width of the intended groove, the other shaft carries one saw much thicker than the two just mentioned & so placed that it clears out the timber between the cuts made by the before mentioned saws.

8. The revolving circular plane is made in the following manner. The shaft is of cast iron with a cast steel steb fitting in at inner end & a cast steel tenon about two inches in length fitted in at upper end to admit the shafts to rise & fall without disturbing the upper box – Eight cast iron arms project from this shaft at the extreme ends of these is a circular cast iron rim projecting three quarters an inch below the arms, even with the inner surface of which rim is a flange projecting horizontally one & a half inch; the under side of which flange & rim is turned true forming a smooth surface

to

to pass freely over the plank to be planed. In this flange are certain slots formmy channels to admit the curved edges of the plane irons, at the back part of which slots are projections extending from the back of the rim as far as the outer edge of the flange to which they are cast solid having the same inclination as the irons, these projections form the back part of the slots as well as the bearings on which the plane irons rest, & are fastened by iron bolts & nuts— each plane iron is four inches long & two inches wide, rounded on the outer corner the front edge passing through the throat being twenty degrees, this edge the outer corner & top the outer edge as far as the plank should ever extend the desired thickness is made sharp.

To support this revolving plane, a bar extends from one girt to another directly under the centre of the shaft below the way On this bar is fastened a box to receive the step placed at the lower end of the revolving plane shaft— A table forming the stationary part of this box is twelve inches long four inches wide with a rise in the centre four inches high & four inches in diameter, thro the centre of which is drilled an aperture two inches in diameter in a line with the centre of the shaft in this aperture is fitted a piece of metal having a cavity in its upper end to admit the point of the shaft & is made to rise & fall by a regulating screw to elevate the depress the plane at pleasure, the rise of the rise is tapped & a screw fitted in to press against the side of the shaft to keep it stationary when required.

4. The feeding is performed by an endless chain passing over two wheels one at the end of the frame in which the revolving plane is placed & the other at the point end of the way, the first mentioned wheel has cogs on its periphery working in the links of the chain— On this chain are fastened hooks which lay hold of the end of the plank & in the chain carrying it forward to the cross & plane 10 Rollers for holding down the plank, there are three of these

rollers, one placed in front of the jointing and tongueing saws and between these & the planes & the other behind the planes all held down upon the plank by weights & levers to confine the planks on the way.

11. The pulleys & bands on each of the shafts of the saws & on the shaft of the revolving planes is fixed a pulley.

Another pulley is put on the fore shafts lying across the frame below the ways— A pulley is fixed on a shaft at the after end of the frame on this shaft is a small cog wheel working into a large cog wheel on the shaft of the wheel carrying the endless chain— A large pulley or drum & a loose pulley are placed under the way & at right angles with it between the two frames— A band passes around each pulley & around the large drums for driving the jointing saws, tonguing & grooving saws and the revolving planes

The hand wheel turns the feeding pulley passes around a small pulley on the shaft of the main Drums— The driving pulley is also placed on the shaft—

Operation. The machine being put in motion by steam or water power, the plank to be dressed is placed on the way in front of the jointing saws & carried forward by the motion of the endless chain to these saws which joint its edges, it is then carried forward to the tonguing & grooving saws passing under the rollers between the guages where it is tongued and grooved in the manner hereinbefore described, the endless chain then carries it forward to the circular revolving planes when it is planed smooth by the operation of the planes in the manner also herein before described.

The plank is then conducted out of the machine by the continued motion of the endless chain. The jointing may be performed in a separate machine from the tonguing & grooving— And the planing & levelling may be done in a machine distinct from the others but all should be on the same principles as herein described— Rollers

may also be fixed before & aft after the jointing saws to keep the plank firmly down upon the way.

Now what I the said James Mac Gregor Junr. claim as my invention & for which I do desire Letters Patent from the Government of the United States is. 1. The planing of timber of any size or dimension by the principle of the turning tools & plane iron united as before described, or by the turning tools separate from the plane iron or so near as to retain the same principles. 2. The application of the sliding board for the cleft of the revolving plane shaft to turn in & by which the revolving plane is raised & lowered to give the desired thickness to the planks made & applied as before described.

3. The passing the shaft thro beyond the face of the revolving circular plane so as to form a step for the plane to rest on

4. The application of the guage under the plane to keep the stuff down while the plane is operating, this may be done by a roller, but I prefer the guage. 5. The application of the common circular saw saw to joint tongue & groove plank or siding in the manner before described. 6. The mode of forming a tongue on a board plank or siding by cutting in the edge of the plank longitudinally on each side of the tongue & then vertically to form the shoulders by circular saws as herein before described. 7. The mode of forming the groove by making two horizontal cuts in the edge of the plank with two circular saws as far apart & as deep as the breadth & depth of the intended groove & clearing out the timber between these cuts by a circular saw revolving horizontally in the manner herein described.

Further to illustrate my invention I refer to the model & Drawing of the same deposited in the Patent Office

In Testimony whereof I hereunto subscribe my name this 19th day of August 1839

James Mac Gregor Junr.

Witnesses

William P Elliot

P. Laughborough

(Drew portfolio)

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