

(No Model.)

4 Sheets—Sheet 1.

S. HURTEAU.
WOODWORKING MACHINE.

No. 511,618.

Patented Dec. 26, 1893.

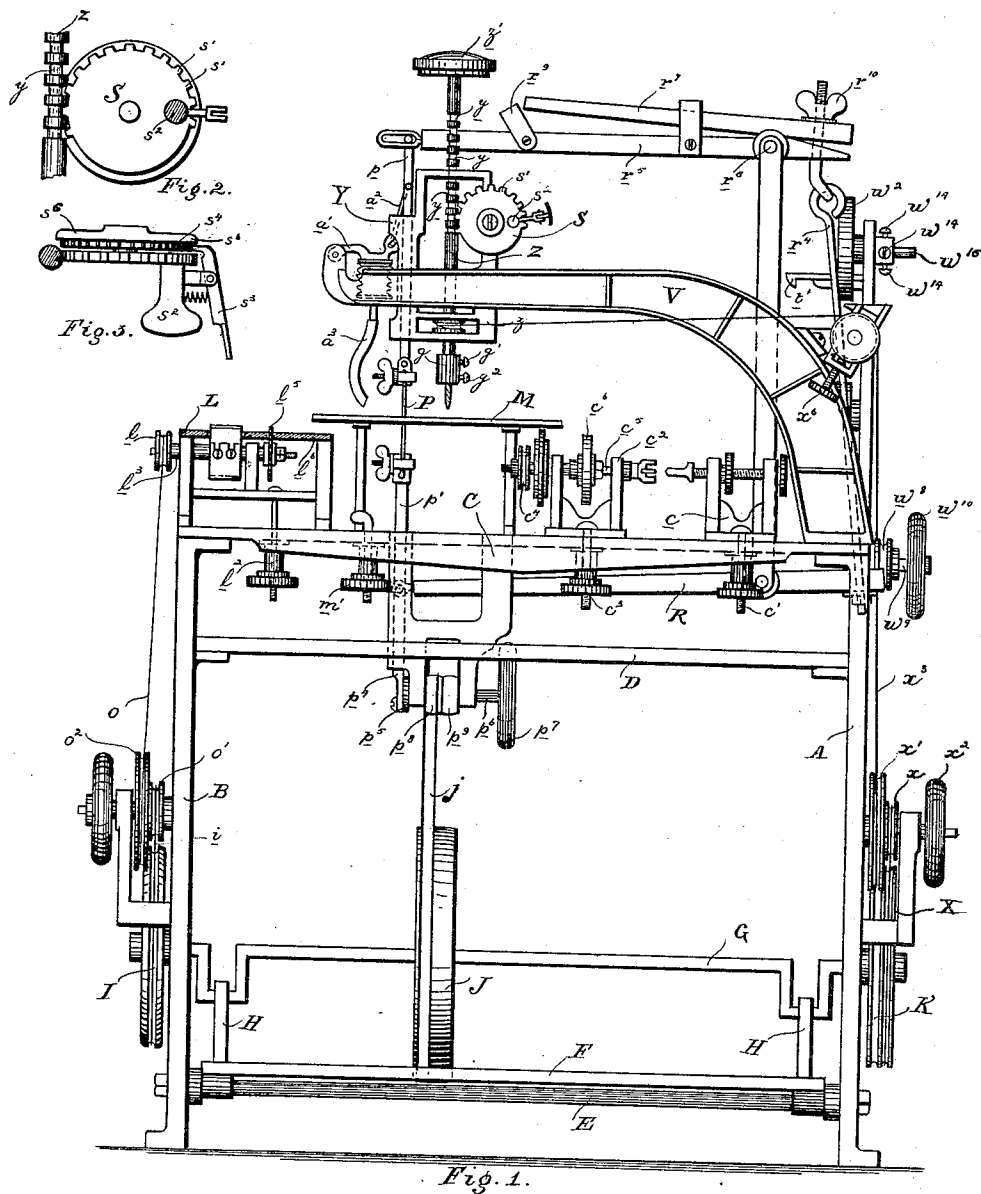


Fig. 1.

Witnesses:

Joseph Samuel.
Alfred Walker.

Inventor.

Stephen Hurteau

per: *Emile Vauier*
Attorney

(No Model.)

4 Sheets—Sheet 2.

S. HURTEAU.
WOODWORKING MACHINE.

No. 511,618.

Patented Dec. 26, 1893.

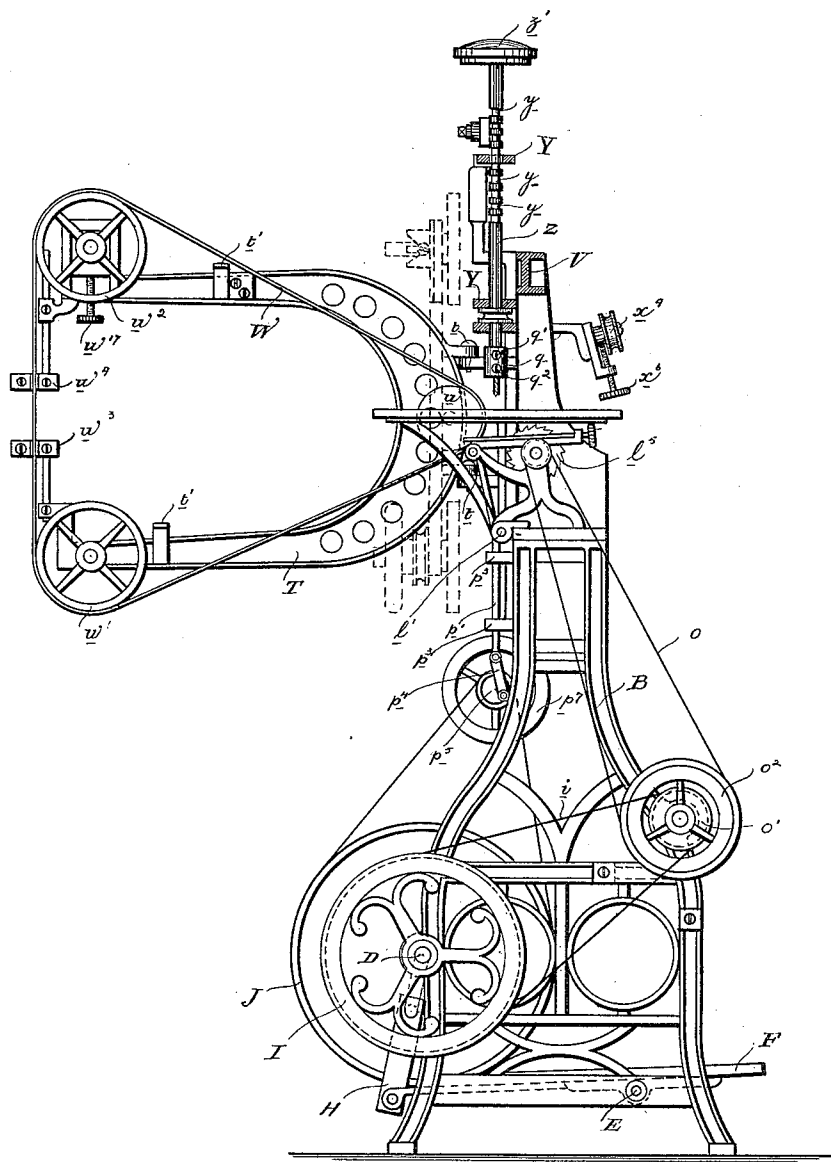


Fig. 4.

Witnesses:

Joseph L. Linnell
Alfred W. Walker

Inventor

Stephen Hurteau
per: *J. Emile Vanier*

Attorney

(No Model.)

4 Sheets—Sheet 3.

S. HURTEAU.
WOODWORKING MACHINE.

No. 511,618.

Patented Dec. 26, 1893.

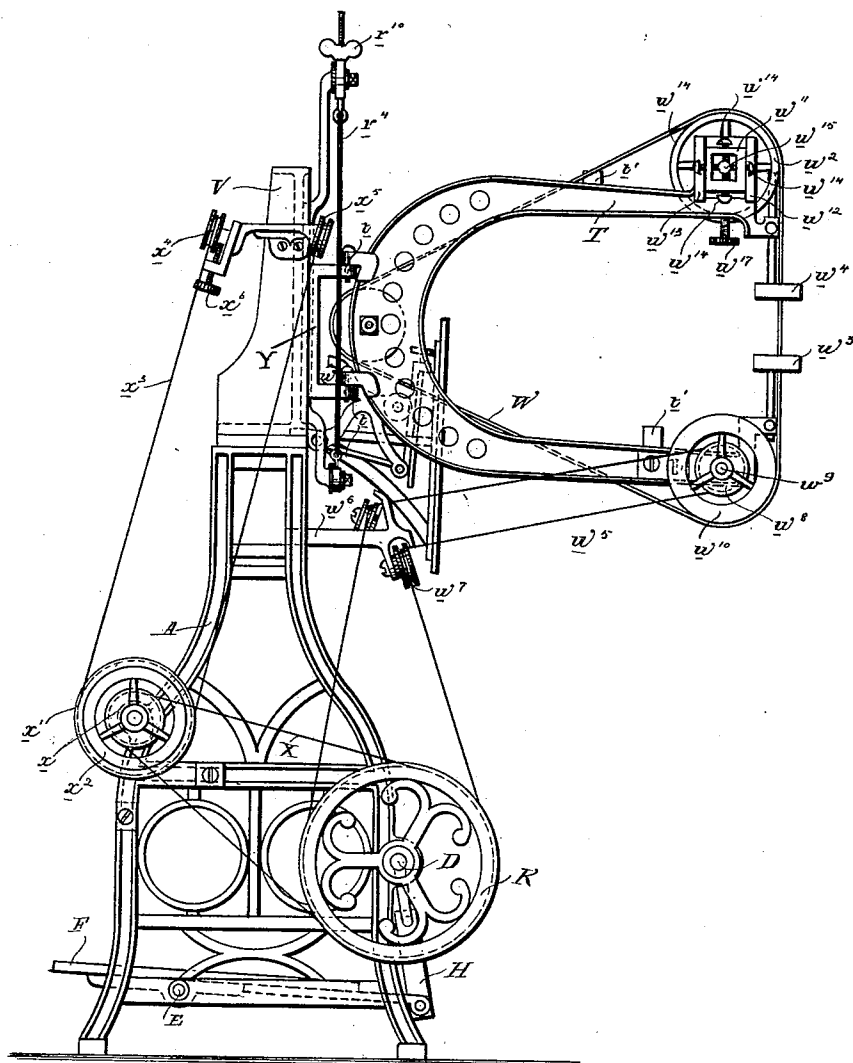


Fig. 5.

Witnesses:

Josh. Carmel.
Alp. Walther.

Inventor

Stephen Murteau

J. Emile Vanier

per:

Attorney.

(No Model.)

4 Sheets—Sheet 4.

S. HURTEAU.
WOODWORKING MACHINE.

No. 511,618.

Patented Dec. 26, 1893.

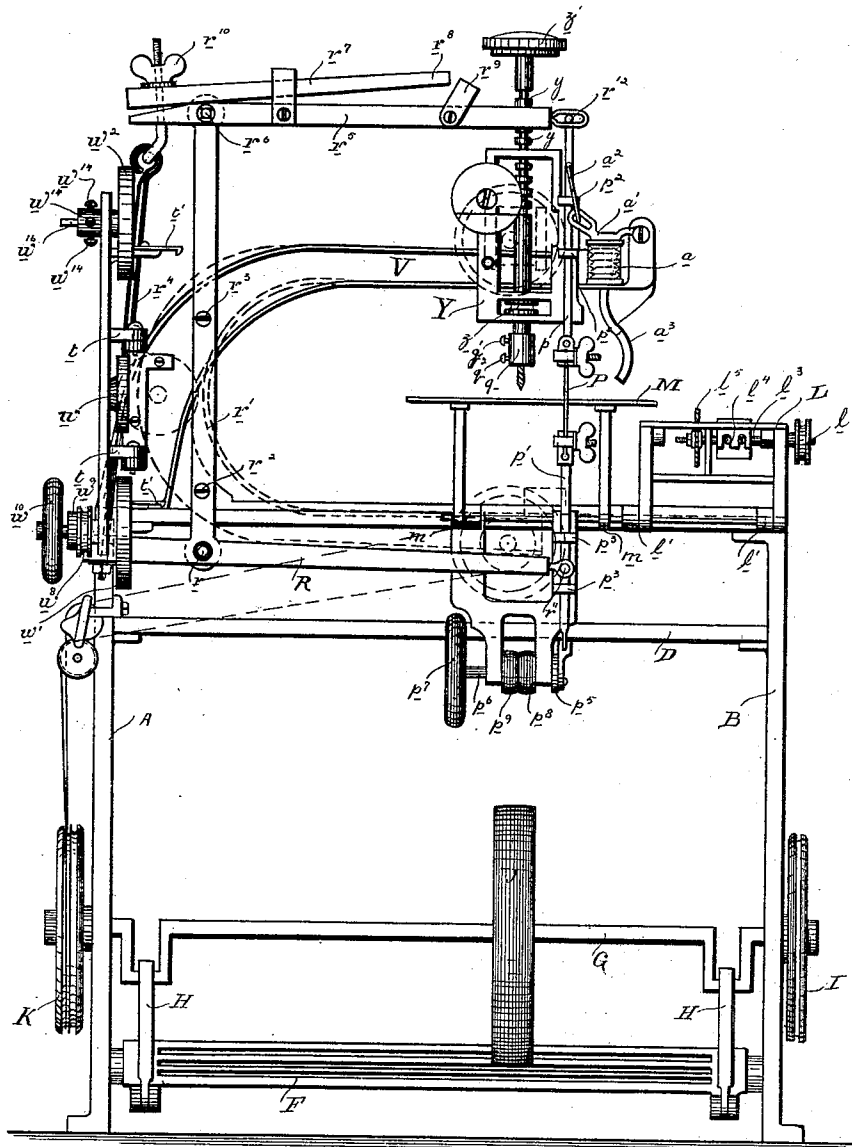


Fig. 6.

Witnesses:

Josh. Samuel.
Alp. Mathey.

Inventor

Stephen Hurteau

per. J. Emile Vanier
Attorney

UNITED STATES PATENT OFFICE.

STEPHEN HURTEAU, OF MONTREAL, CANADA.

WOODWORKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 511,618, dated December 26, 1893.

Application filed November 17, 1892. Serial No. 452,297. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN HURTEAU, a citizen of the Dominion of Canada, residing at Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Woodworking-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to a combination wood working machine and consists of a strong frame on to which is arranged a lathe, circular saw, planer, jig saw, band saw, auger, shaper, &c., and is arranged in a solid and compact form, its object being to provide a machine capable of performing the functions of several others, thereby saving expense on first cost.

Referring to the drawings similar letters refer to similar parts throughout the several views.

Figure 1 is a front elevation. Fig. 2 a detail view on a larger scale of a part of my invention. Fig. 3 a plan view of the detail shown in Fig. 2. Fig. 4 a side view of the left end of my machine. Fig. 5 a side view of the right end of my machine, and Fig. 6 a rear elevation.

On to the two legs A and B is mounted the bed C, all firmly secured one to the other. The pieces D and bolt E also serve to hold the legs A and B in position and besides the pedal F is fulcrumed on the bolt E, the former operating the shaft G through the connecting rods H H.

On to the shaft G is secured the pulleys I, J and K the latter having two grooves on its surface, as shown in Figs. 1 and 6.

By securing on to the bed plate C the center c by means of the bolt c', and movable chuck end c², by means of the bolt c³, I form a lathe simply by turning down the two tables L and M as shown in Fig. 1 and placing the chuck end c² in the place of the table L, so that the pulley c⁴, will take the position of the one l, and by passing the strap o over the former, I can put the whole in motion by simply putting on the driving strap i over the small pulley o', the latter forming one with the larger one o², on to which passes the strap o

and operating the pedal F. Moreover on to this shaft c⁵ is mounted the emery wheel c⁶, so that tools can be sharpened also. Now, by putting back the chuck end c², in the position shown in Fig. 1, and turning the table L up around the hinges l', so as to be placed on the bed plate C, as shown in Fig. 1 and 4, and then secured by means of the bolt l², and putting on the strap o over the pulley l, which is joined to the shaft l³, on to which is mounted the planer l⁴ and circular saw l⁵, I have both a planer and a circular saw on the same table L, and by putting on any cutters desired in place of the saw l⁵, I make a machine to make moldings, &c., or I can place, instead, an auger or any other similar tool in its place, only in this latter case, the combined clamp and tool holder q, described hereinafter, have to be put on first.

If desired to use my machine as a jig saw, all that would be necessary to do, would be to raise the table M up on to the bed plate C, by turning it around on the hinges m, securing it by means of the bolt m', and connecting the saw P on to the two pieces p and p', both passing in suitable guides p² and p³, the portion p' being joined by means of the connecting rod p⁴, to the wheel p⁵, mounted on to the shaft p⁶ with the fly wheel p⁷, and the two pulleys p⁸ and p⁹, the latter being loose, and as the strap j passes over the large driving pulley J, the whole is set in motion by it. Of course the piece p' is joined to the lever R at r'', the former being fulcrumed at r, on to the piece r' which is secured to the frame of the machine at r², and r³ and the lever R is joined in turn, by means of the rod r⁴, secured to its shortest arm as shown in Figs. 1 and 6 to the lever r⁵, fulcrumed at r⁶, on to which is joined the piece p at r¹², so that when the piece p' is set in motion, the one p is also made to move in the same direction, however. This arrangement is similar to that now in use on jig saws, except that I use the lever r⁷ to tighten the saw P. By bearing down on the end r⁸, and passing the U piece r⁹ over it, the thumb screw r¹⁰ being used then to regulate the tension. When the jig saw is in operation I make use of the bellows a which is put in operation by means of the lever a' joined to the piece p, through the piece a², to

throw a current of air on the table M through the rubber tube a^3 , so as to blow away the saw dust.

If the band saw is required, all there is to do is to swing in the heavy U frame T, hinged on to the arm Y at t as shown in Fig. 5 until it is parallel with the bed plate C as shown in dotted lines in Fig. 4, the spring catches t' hooking on to the piece V, and holding the frame T firmly in position, the table M being up and secured in the position shown in the Figs. 1, 4 and 6. Now, the band saw W, passes over the pulleys w w' and w^2 , and through the guides w^3 and w^4 , and is set in motion by means of the strap w^5 , which passes over the driving pulley K, two angle pulleys w^6 and w^7 , and finally over the pulley w^8 , which is mounted on to the same shaft w^9 as the wheel w' and fly wheel w^{10} , and as the strap w^5 is loose, when the U piece T occupies the position shown in the drawings, on account of it being at right angles to the angle pulleys w^6 and w^7 , it immediately gets tight when the U piece T is swung in, on account of it passing squarely over the angle pulleys w^6 and w^7 , so that the saw immediately starts moving on the U frame T being swung in without any other formalities, and it stops when swung out.

I would like to call attention to my method for tightening the band saw W, which consists in the frame w^{11} (see Fig. 5) capable of sliding up and down the guides w^{12} and w^{13} , firmly secured to the U piece T, and provided with the four set screws w^{14} , which hold the journal box w^{15} of the shaft w^{16} in position, so that by screwing and unscrewing these set screws w^{14} , it is possible to change the position of the wheel w^2 , and thus tighten the band saw W, also by screwing up the set screw w^{17} the whole arrangement can be lifted and more tension put on.

To use the machine to bore or as a shaper, the table M is left up, and the strap X (see Fig. 5) is passed over the pulleys k and x , this having for effect to put the machine in motion when the operator works the pedal F, for the pulleys x and x' are secured to the same shaft with the fly wheel x^2 , and the strap x^3 operates the spindle Z, by passing over the two angle pulleys x^4 and x^5 , and the pulley z which is secured to the spindle Z, the strap x^3 being tightened by means of the screw x^6 , as shown in Fig. 1. The spindle Z

is secured in the frame Y which is attached to the piece V and is provided with annular square grooves y into which fit the teeth s' of the wheel S, (see Figs. 2 and 3) the latter serving to raise or lower the spindle Z, while in motion, by merely taking hold of the handle s^2 , and pressing on to the stopper lever s^3 , which drops into notches s^4 , placed into the circular disk s^6 , which is secured to the frame Y so as to disengage the disk s^6 , and by turning the wheel S raise or lower the spindle Z at will and secure it where desired. On to the upper end of the spindle Z I screw the sand papering disk z' , which can also act as a fly wheel while not in use, and it can also be screwed on to the lower end when desired to sand paper a piece of wood placed on the table M.

To attach tools to the spindle Z I make use of the clamp or tool holder q , which screws on to the end of the spindle Z, and is then secured by means of the set screw q' and the tool is secured by inserting its end into the lower portion of the clamp q , and then screwing up the set screw q^2 . In this manner, bits, shapers, &c., can be attached and operated with the greatest ease by means of the toothed wheel S.

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

A universal joiner, comprising the main table C and its supporting legs, the movable tables L and M pivoted to table C, the planer and saw spindle journaled under table L, the movable lathe headstock and the tail-stock attached to table C, driving devices supported by the said legs, the piece V secured to the table C, the arm Y secured to the piece V, the saw P guided by the arm Y, the boring spindle Z journaled in the arm Y, the band saw and its frame T hinged to the said arm Y, and intermediate driving devices operatively connecting the said lathe, planer spindle, saw, boring spindle, and band saw with the aforesaid driving devices, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN HURTEAU.

Witnesses:

JAMES LAWRIN,
JOS. ED. CARMEL.