2 Sheets. Sheet 1.

R. Luscomb,

Planing and Matching Machine.

No. 779. Patented June 12, 1838.

Fig: 3.

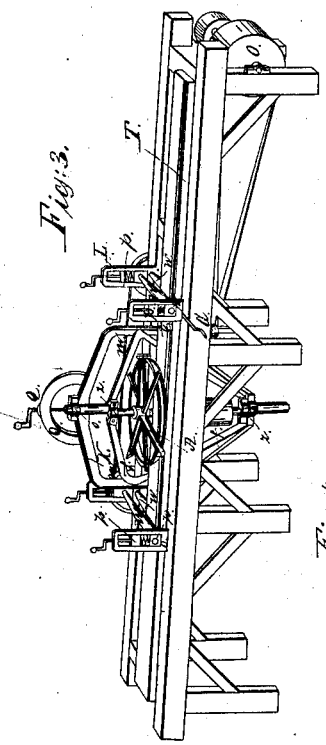


Fig: 4.

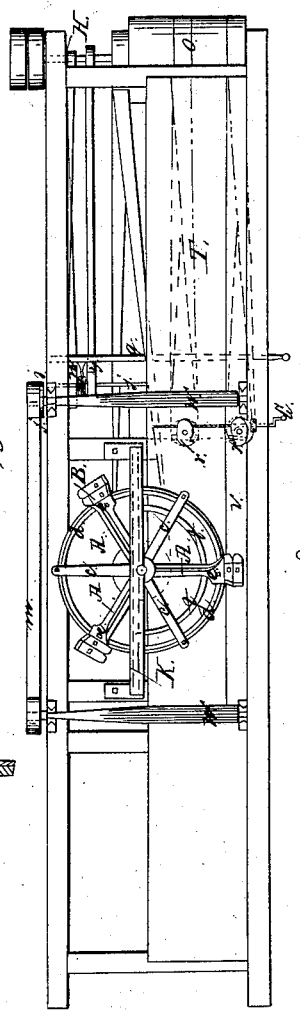


Fig: 6.

Fig: 5.

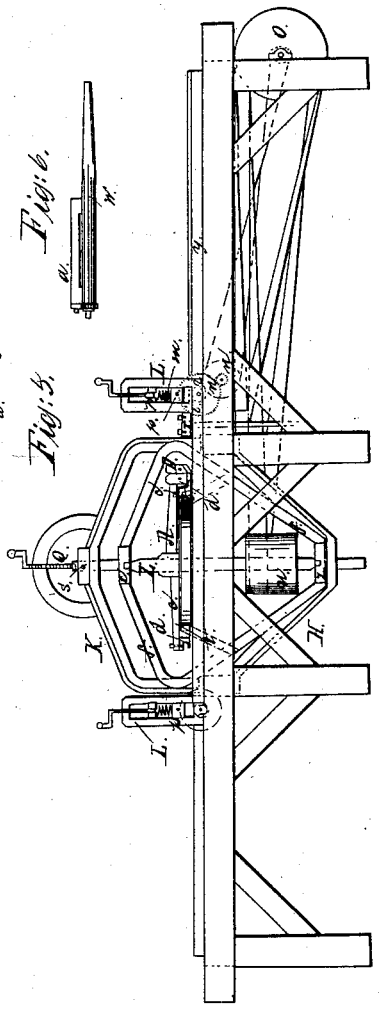
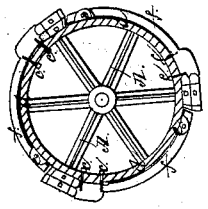


Fig: 2.

Fig: 7.



Witnesses:
W. J. Thom
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Inventor:
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2 Sheets, Sheet 2.

R. Luscomb,

Planing and Matching Machine.

No. 779. Patented June 12, 1838.

Fig: 7.

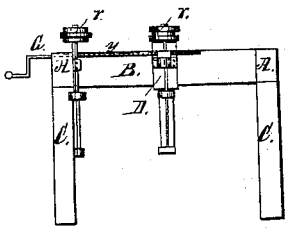
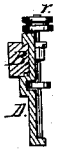


Fig: 8.



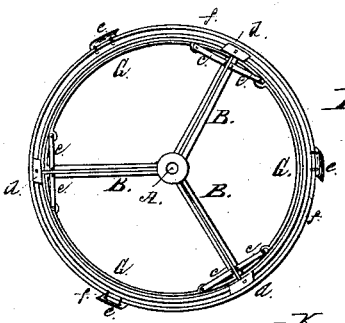
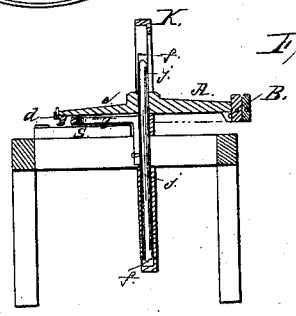


Fig: 9.

Fig: 10.



Witnesses:

W. S. Glover

F. W. Lawrence

Inventor:

Robert Luscomb

UNITED STATES PATENT OFFICE.

ROBERT LUSCOMBE, OF BENTON, NEW YORK.

MACHINE FOR PLANING BOARDS.

Specification of Letters Patent No. 779, dated June 12, 1838.

To all whom it may concern:

Be it known that I, ROBERT LUSCOMBE, of the town of Benton, county of Yates, and State of New York, have invented a new and Improved Method of Planing; and I do declare that the following is a full and exact description of my machine.

This improvement in planing consists of a frame sixteen ft. or more or less in length, three ft. eight in. wide, two ft. six in. high, supported by light legs as shown in the drawings hereto prefixed, of which—

Figure 4 is a plan, Fig. 5 a side view and longitudinal section and Fig. 3 a perspective view.

The same letters of reference refer to the same parts of the machine in each of the figures 3, 4 and 5.

Upon the center crossbeams is placed an iron frame K, Figs. 3, 4 and 5. Within this frame is placed another iron frame *f f* called the connecting frame. Within this connecting frame stands the planing wheel which consists of a perpendicular shaft L, Fig. 5, about 3 ft. long and three in. diameter. Near the top of this shaft is a hub 5 in. in diameter from which extends three arms A at equal distances around the hub and each arm of eighteen in. in length or more or less. At the extremity of each of these arms are confined by means of screws two plane irons. These irons are similar in form to the plane irons in common use. The outer irons act as a jack plane to cut away the main part of the wood while the inner plane irons act as a smoothing plane to finish the work. These plane irons are represented in drawings by letters B. The planing irons should be elevated at an angle of 45° with the stuff being planed and an angle of 20° or more or less with the arms operating upon the stuff in manner similar to a skew rabbet. The outer or jack irons may be flat or curved in the form of a gage as experience may prove best. From the above mentioned hub extend three other arms *c c*, Figs. 4 and 5, at equal distances around the hub. At the extremities of these arms is attached by means of screws an iron rim or wheel *d d*, Figs. 4 and 5—the radius of which rim is $\frac{1}{4}$ of an in. less than the distance from the center of the hub to the inner edge of the inner plane irons. On the outer circumference of this rim is a flanch $\frac{3}{4}$ of an in. in width forming a part of the under surface of the wheel which of course will pass the inner edge of the plane irons $\frac{1}{2}$ in. and must be cut away where it comes in contact with the irons. This rim is designed to lie exactly level and in the same plane with the cutting edge of the plane irons. The arms or springs to which it is attached should be constructed of such a stiffness or with sufficient spring to allow the rim to raise and keep on a level with the cutting edge of the plane irons as they wear away while cutting the stuff. This planing wheel as above described hangs in the above mentioned connecting frame *f f*, Figs. 4 and 5. At the upper and lower ends of this connecting frame are boxes *z z*, Fig. 3, which sustain the pivots and ends of the shaft L. This connecting frame is so constructed that it may be raised or lowered at pleasure by means of a screw passing through the upper part of the above mentioned frame K as shown in Figs. 3 and 5. Upon the top of the above mentioned frame K is placed a circular piece of iron Q Q, Figs. 3 and 5, through which the screw passes and into a bar of iron D which is made fast to the connecting frame *f f* and made to slide through the iron frame K.

H is an iron frame to support the lower end of the connecting frame *f f*.

S is a set screw to hold the connecting frame and wheel to any desired height as the thickness of the stuff may require.

Letters *t*, Figs. 4 and 5, represents a circular piece of iron made fast to the connecting frame of sufficient stiffness and spring to confine the stuff planed to the bed on which it rests. Letters *t*, Fig. 10, represents a transverse section of the same piece of iron showing the manner in which it is fastened to the connecting frame.

u, Fig. 5, represents a pulley made fast to the shaft L twelve inches or more or less in diameter by which said shaft is propelled.

O is the propelling drum of the machine.

Letters *r* represent the caps for jointing and matching boards. One of these caps is movable on the frame by means of a screw. Fig. 7 is an elevation of the caps showing the manner in which the cap is moved. Fig. 8 is a section of the caps showing the manner in which the frame D is fastened to the crossbeams B.

Letters T represent the bed on which the stuff lies while being planed and which is raised more or less above the last mentioned frame.

V, Fig. 4, is a strip of wood screwed to the top of the bed to prevent the stuff being thrown off while being planed.

Letters W, in Figs. 3 and 4, are the rollers, 4 in number, by which the stuff is carried through the machine. These rollers may be three in. in diameter—the lower roller may be fluted or smooth. These rollers are placed one above another and each end of each of the upper ones are placed in boxes sitting in an iron frame in such a manner that they may be raised or lowered at pleasure by means of a screw passing through the top of the iron frame L, Figs. 3 and 5, and attached to a similar box holding the rollers. Between and attached to each box is a coil spring *m*, Fig. 5, the object of which is to give the upper roller a continual bearing on stuff of various thickness. Letters *p*, Figs. 5 and 3, represent these boxes which are confined in their frames similar to the dies in a screw plate. Each pair of rollers should be placed as near the outer frame K as possible and connected with each other by a belt, letters *m*, in Figs. 3 and 4, running from pulleys attached to the end of each of the under rollers.

Letters *i i*, Fig. 4, represent a cog wheel eight in. or more or less in diameter made fast to the end of the lower roller that lies before the cap into which meshes a pinion about 2 in. in diameter placed on the end of the shaft *j*, Fig. 4, on which and just within the beam is a pulley, letter *n*, Figs. 4 and 5, of about eight in. in diameter. This pulley is propelled by a like pulley, letter N, Fig. 4, of about 3 in. in diameter placed on the shaft of the first drum O.

In planing stuff for doors, sash, &c., it will be necessary to use a carriage of such length and width as may be wanted, a section of which is shown by *a*, Fig. 6, passing over one of the rollers. On the under side or attached to the edge of the carriage is a rack moved by a pinion in the large end of one of the rollers back and forth at pleasure.

Fig. 1 represents another method of applying the spring principle to the planing wheel. This plan consists of a metallic wheel about 3 ft. in diameter, 1½ in. thick, 2 inches deep and marked *d d*, Fig. 1. This wheel is attached to the extremity of six arms extending from a hub in the center. On the outer circumference of this wheel are secured three springs marked *f f f*, Fig. 1. Screws are applied near the end of the springs as shown at *c c*. The ends of these springs which are secured to the wheel are of such form as to support the planing irons in a position similar to that described in Figs. 4 and 5. 5 or 6 inches of the large end of the spring is immovably attached to the wheel. The remainder of the spring following the course of the wheel around to the iron which follows it is left detached for the same purpose and to act in the same manner as the wheel described in Figs. 4 and 5. To govern the stiffness of the springs there are screws *e e* passing through a piece of iron projecting from the top of the aforesaid wheel and passing into the smaller end of the springs. *d d* is the wheel, *f f* the spring, and *e* one of the screws to govern the stiffness of the springs. Fig. 2 is a development of a part of Fig. 1, showing the spring *f* and the manner of attaching the plane irons B to the ends of the springs. Fig. 9 represents another method of applying the springs to the planing wheel. It consists of hub A from which extend three arms B B B. On the extremities of these arms is fastened an iron rim *b*, just within this rim and on the arms are placed the planing irons in the same manner as in Figs. 4 and 5. Just within the planing irons is another iron rim G G which is attached to the arms by springs *c c* in such a manner that the rim shall have an even and constant bearing on the stuff being planed and the under surface form a level plane with the edge of the plane irons. On the outer periphery of the wheel are secured gages E E to cut away the rough part of the stuff. By the application of this spring principle in any of the methods herein described I intend to accomplish two great objects. First, to steady the motion and prevent any vibration of the wheel while in operation, and secondly, to give the face of the springs on planing wheel a constant bearing on the stuff being planed and keep it on a level with the cutting edge of the plane irons as the irons wear away by use.

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

The application of springs to the face of the planing wheel in manner substantially as above described.

ROBERT LUSCOMBE.

Witnesses:

DE WITT C. LAURENCE,

I. CORNWALL.