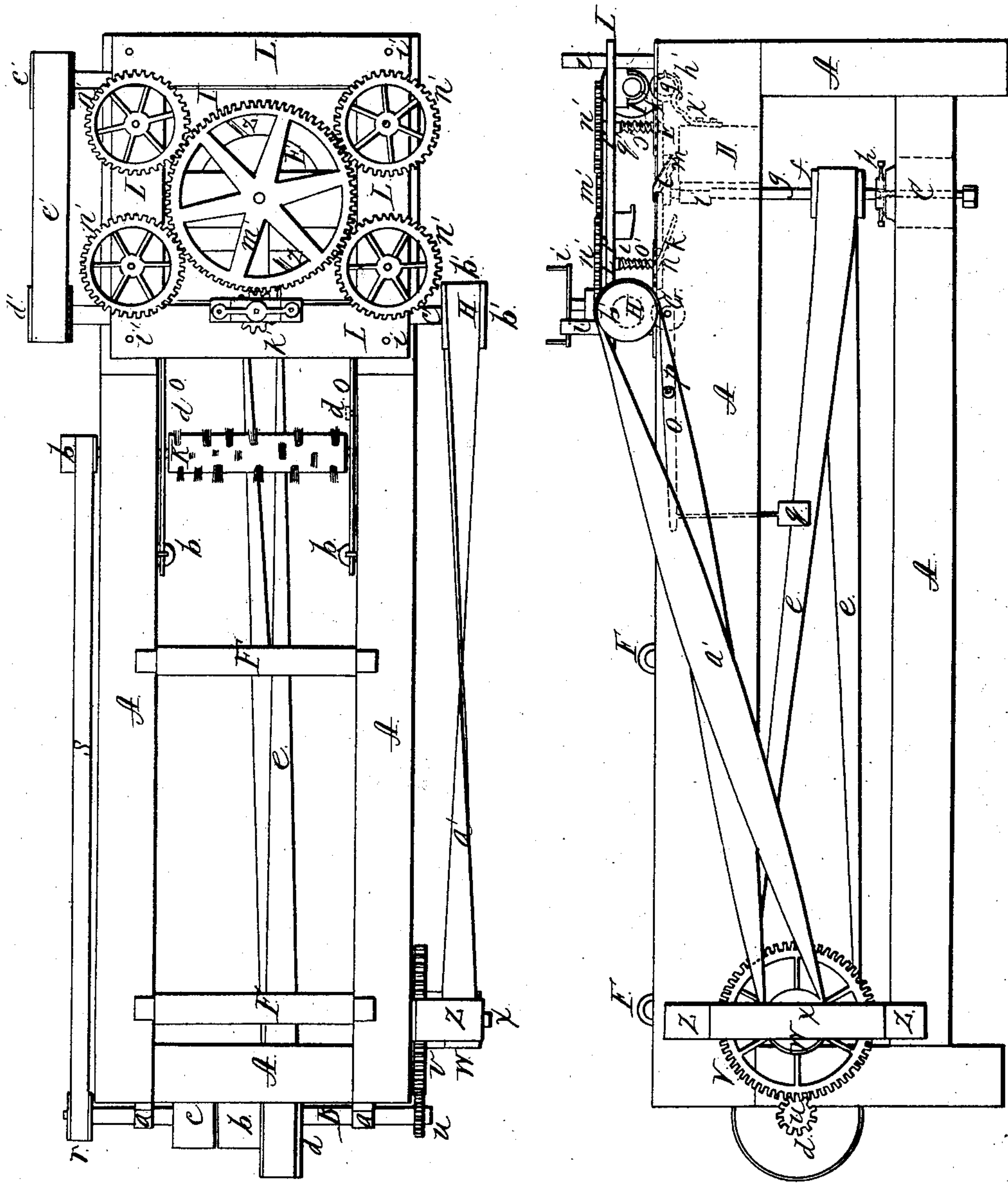


J. Lombard,
Wood Planing Machine,
No. 979,
Patented Oct. 13, 1838.



UNITED STATES PATENT OFFICE.

JOSEPH LUMBARD, OF BOSTON, MASSACHUSETTS.

MACHINE FOR PLANING BOARDS.

Specification of Letters Patent No. 979, dated October 13, 1838.

To all whom it may concern:

Be it known that I, JOSEPH LUMBARD, of Boston, county of Suffolk, and State of Massachusetts, have invented new and useful Improvements in Machinery for Planing Boards and Such other Purposes to Which the Same May be Applicable.

My improvements, the principles thereof and modes in which I have contemplated the application of the same together with such parts, combinations or characteristics by which they may be distinguished from other inventions, and which I claim I have fully set forth in the following specification and drawings referred to herein.

A A A, Plates 1, 2 is a strong frame of wood, iron or other suitable material, constructed and shaped as seen in the drawings, or otherwise properly formed to answer the purposes of supporting the other parts of the machinery.

B is a horizontal shaft, supported near its extremities in boxes or bearings *a, a*.

b is a fast, and *c* is a loose pulley on the shaft B, on which the belt which drives the machinery is applied as circumstances require. *d* is another pulley around which a belt *e* is stretched, passing from thence around a smaller pulley *f* on the perpendicular shaft *g*. The shaft *g* is supported at its foot and revolves in a step or bearing *h*, resting on the cross bar C of the frame A, A. This shaft is also supported and turns near its top in a box *i* attached to another cross bar D. To the top of the vertical shaft *g* is affixed in a proper manner a circular plate E in the edge or circumference of which the cutters, *k, l* are situated and properly attached for the purpose of planing the board during the revolutions of the circular plate. There are two kinds of cutters employed: one, that is to say, *k, k* being goge shaped is placed on the extreme edge or circumference of the plate E and is for the purpose of taking off the rough portion of the board before the operation of the smoothing irons *l, l, l* or other kind of cutters commences. The cutting edges of the former *k, k* are depressed a little below the edges of the latter, *l, l, l* or smoothing irons, equal to the proper thickness of the last shaving, in order that the former may do the office of a carpenter's fore plane, while the latter that of the smoothing plane.

The cutters *k, k* are set in inclined grooves

formed in the edge of the circular plate and confined therein by screws *n, n* as seen in the drawings. Immediately in front of the cutters *k, k*, portions of the edge of the plate are hollowed out in a slanting direction, by which the shavings are thrown out from the plate during its operation. The other cutters *l, l, l* are set in inclined position and are confined by the screws *m, m* to the face of projections from the underside of the plate.

By applying a wrench to the heads of the screws which confine the cutters to the plate, they may be taken out or set in any position as convenience may require. It is only intended to use one of each kind of cutters during the operations of planing; but two or more may be employed if desirable. When one set becomes dull, the confining screws are loosened, and they are lowered or removed from the plate. Another set is then raised to a proper height to operate in a similar manner; so that when all have been used and become dull, they are taken off to be sharpened. These modes of confining the cutters to the plate render the adjustment of them very simple and easy.

In order that the circular plate may be caused always to run in a horizontal plane or any other suitable plane, the step or bearing which supports the foot of the shaft *g* may rest in a metallic box somewhat larger on the inside than the exterior of the step. Through each of the sides of this box, a screw or screws may be inserted to press against the sides of the step. On loosening the screw or screws on one of the sides of the box, and tightening those on the opposite, the step may be set in any position; so that the circular plate may be caused to revolve in the right cutting plane. This latter arrangement may or may not be employed at the option of the person using the machine.

F, F are cylindrical guide rollers on which the board to be planed is placed. G is another roller, having journals at each end resting in suitable bearings on the extremities of two bars or levers O, O, turning on fulcræ *p, p*. *q, q* are weights hung on the other arms of the levers O, O, serving to raise and press the cylindrical roller G against the underside of the board as it passes over it; or in other words it presses the board against the underside of a feed roller H.

On the extremity of the shaft B is a small pulley *r*, having a belt *s* passing around it, and from thence around another small pulley F on the end of the shaft of a revolving brush K. As the board to be planed passes over the guide rollers, the revolutions of the brush K remove any dust or dirt adhering to its underside before the cutters operate thereon. On the other extremity of the shaft B is a pinion *u* the teeth of which play into those of a cogged wheel *v*, turning said cogged wheel *v* and a pulley *w* on its shaft *x*. The wheel *v*, pulley *w* and shaft *x* are supported in a suitable frame *z* (of metal, wood or other proper material) attached to the main frame A A A. From the pulley *w*, a belt *a'* passes to another pulley *b'* on the end of the shaft C' of the feed roller H, and serves to turn said shaft. The shaft C' is supported and turns in bearings or boxes attached to the underside of a metallic frame L L. To the other end of the shaft C' is fixed another pulley *d'* over and around which a belt *e'* passes, and from thence around another pulley *f'* on the end of the shaft of another feed roller I; which shaft is attached to the lower side of the horizontal frame L, L by similar bearings to those of the feed roller H. Immediately under the feed roller I is another roller *g'*, supported in suitable bearings *h'*, *h'* in the top of springs *x'*, *x'* attached to the main frame A A A. The board rests upon and passes over this latter roller as it leaves the machine.

L L is a square or rectangular frame of metal or other proper material. This frame is supported in place by four or more upright cylindrical stands or studs *i'*, *i'*, *i'*,

passing through circular holes in or near its corners.

k' is a pinion attached to the top of the frame L, and turned around by a handle *l'*. The pinion *k'* engages with a cogged wheel *m'* the teeth of which operate four smaller cogged wheels *n'*, *n'*, *n'*, *n'*, on the tops of vertical screws *o'*, *o'*, *o'*, *o'*. Each of these screws has a shoulder *p'* *q'* on the top and bottom of the plate L. The screws *o'*, *o'* operate in female screws connected to the top of the frame A A; so that when the handle *l'* is turned, the plate L carrying the feed rollers may be raised or depressed so as to gage the board with any degree of thickness, which may be done or altered at any moment by simply turning the handle *l'*. There may also be a small screw passing upward through the bottom of the box which contains the step of the vertical shaft *g* for the purpose of raising said box together with the shaft if necessary.

Having described the different parts and operation of my machine, I shall claim as my invention and improvements—

1. The combination of all the parts together, substantially as described, forming a machine for planing or reducing boards.

2. The revolving brush for the object and purpose heretofore set forth.

In testimony that the above is a true description of my said invention and improvement, I have hereunto set my hand this sixteenth day of November in the year eighteen hundred and thirty seven.

JOSEPH LUMBARD. [L.S.]

Witnesses:

R. H. EDDY,
EZRA FOSKETT.