J. Miley,

Boring Window Sash.

No. 6,979. Patented Dec. 25, 1849

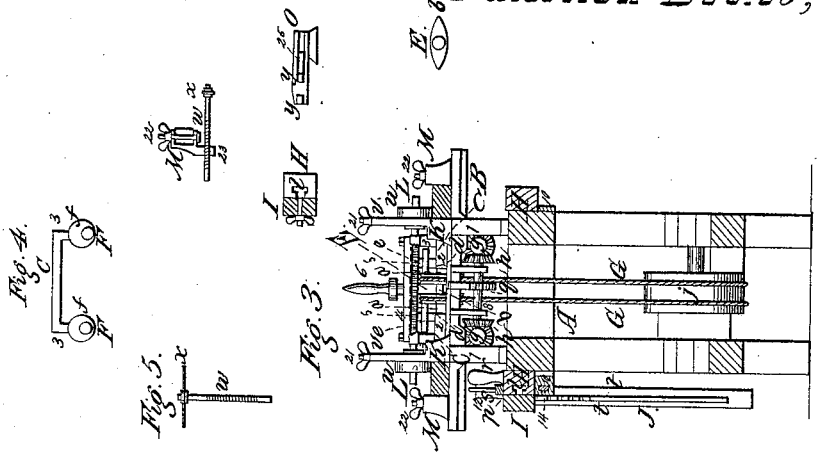

Fig. 4.

Fig. 5.

Fig. 3.

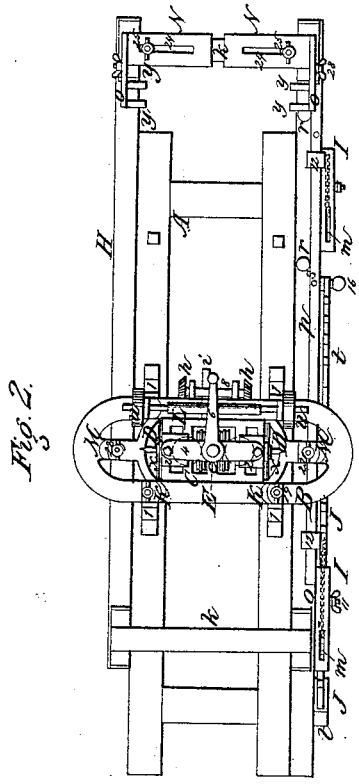

Fig. 2.

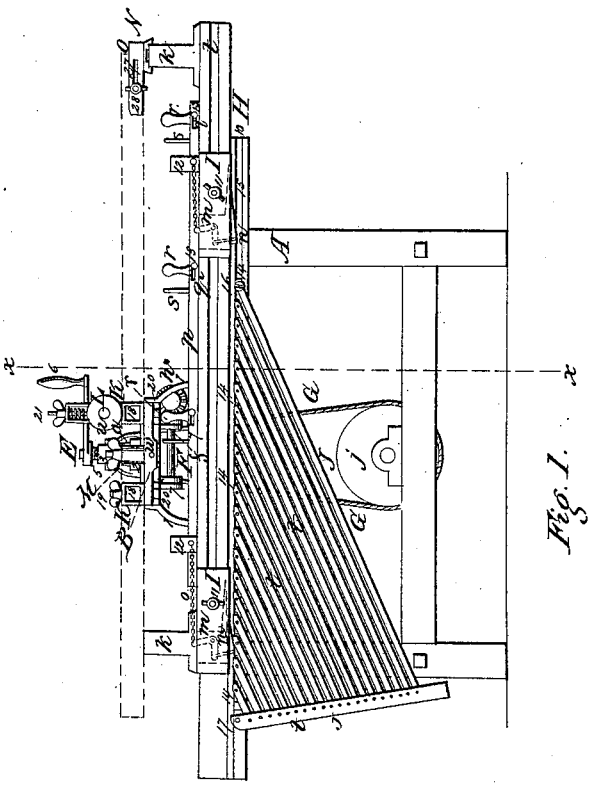

Fig. 1.

UNITED STATES PATENT OFFICE.

JOHN WILEY, OF NEW ORLEANS, LOUISIANA.

MACHINERY FOR BORING WINDOW-BLINDS.

Specification of Letters Patent No. 6,979, dated December 25, 1849.

To all whom it may concern:

Be it known that I, JOHN WILEY, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in the Machine for Mortising or Boring the Frames and Slats of Window-Blinds, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a side elevation of the machine. Fig. 2, is a top or birds eye view of ditto. Fig. 3, is a vertical transverse section of ditto at the line *x x* of Fig. 1. Fig. 4, is a section representing the eccentrics for raising and lowering the frame containing the auger bits. Fig. 5, represents one of the horizontal screw rods and spring attached.

Similar letters in the figures refer to corresponding parts.

The nature of this invention and improvement consists in arranging within a suitable frame a horizontal frame susceptible of being raised and lowered and containing a pair of revolving traversing drills in which the bits or other instruments for boring are inserted and arranging on eithe side of the same a sliding frame by which the frames and slats of the blind are moved past the bits or other implements, provided with gages capable of being altered to correspond with the required distances between the openings to be bored in such a manner as to bore said openings with accuracy without the usual measurement and with a slight expense of power.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A is the frame of the machine made of an oblong form of suitable size, strength, and material to contain and support the several parts.

B is an oblong skeleton metallic plate, supported in a horizontal position above the frame of the machine by suitable legs (1) and made curved at its ends.

C is an oblong metallic frame arranged within the plate B, consisting of a base, having perforated rectangular blocks (2) at either end, from which rise posts (3) connected together at their upper ends by a cross bar (4) and having a projection (5) at each corner of its lower surface.

D are two horizontal drills or shafts inserted in the openings of the rectangular blocks (2) in which they have a revolving and traversing movement, and having grooved pulleys (*a*) secured to their ends next each other and auger bits or other tools inserted in their opposite ends.

E is an upright shaft turning in suitable boxes in the frame C between the grooved pulleys (*a*) provided with a crank at its upper end and with a cam (*b*) of the form of an elipsis at near its lower end, and hava cog wheel (*c*) near its center immediately below the cross bar of the frame *c*, which meshes in gear with similar cog wheels (5) on either side, secured on upright shafts (*d*) likewise turning in suitable boxes in the frame C, and provided with cams (*e*) similar in form to the eliptical cam in the shaft D.

F are horizontal shafts arranged lengthwise the frame, turning in openings in ears (7) projecting from the under surface of the skeleton frame B, and having eccentrics (*f*) immediately under the projections at the corners of the frame C, and bevel cog wheels *g* at one of their ends which mesh in gear with similar bevel wheels (*h*) secured on the extremities of a horizonal transverse shaft (8) likewise turning in ears projecting from the skeleton plate, and provided with a ratchet wheel (*i*) near its center with which a spring pawl (9) secured to said plate engages.

G are endless bands passing over the grooved pulleys (*a*) and over a drum (*j*) secured on a horizontal transverse shaft at the lower part of the machine.

H is a sliding frame composed of two longitudinal timbers resting on projections (10) on the upper side timbers of the main frame, and connected together at either end by right angle transverse bars (*k*).

I are rectangular blocks, secured to one of the side timbers of the sliding frame by means of T shaped tongues, inserted in corresponding grooves in said timber, and in grooves or mortises (*l*) on the inner side of said blocks having screw shanks passing through openings in the blocks, to the outside, on which are screwed corresponding female thumb screws (11). These blocks can be moved nearer to, or farther from each other, as occasion may require, and be clasped at any point on the timber by the thumb screws, and contain slots near one end in which are arranged right angled levers (*m*) turning on a fulcrum at their

apex or bend, and connected by rods at one end, to the ends of spring bars or pawls (n) secured to the under part of the oblong blocks and at their opposite ends by means of chains (o) to upright blocks (12) secured by means of clasp screws, to a horizontal longitudinal strip on edge, or rib (p) resting on the longitudinal timbers of the sliding frame H, and provided with grooves q, through which pass horizontal bolts or screws (13) inserted in uprights (r) rising from the sliding frame, and with upright pins (s) on their upper surfaces, a short distance beyond said grooves.

J is a graduating frame, arranged on one side of the face of the machine, consisting of a series of inclined slats or bars (t) arranged parallel to each other, and attached by pins at their upper ends on which they move to horizontal tongued sliding bars (14) inserted in a corresponding groove (15) formed in one of the projections 10 on which the sliding frame H moves, the right hand one of which is clamped at pleasure by means of a clasp screw, (16) causing the whole set to likewise remain stationary, and at their lower ends by pins in like manner, to a grooved bar or timber (t') suspended to the frame by means of a pin (17).

K are hollow cast boxes containing rollers (18) turning on an upright screw shank (19) passing through said boxes and through grooves in the sides of the skeleton plate, and having heads (20) on their lower ends, and thumb screws on their upper ends, by which said boxes are moved nearer to, or farther from the center of the machine.

L is a horizontal transverse shaft having rollers (u) secured on its extremities, and turning in sliding boxes, moving in slots formed in uprights (v) rising from the two forward hollow boxes K, said sliding boxes being suspended by upright rods (21) passing through openings in the upper ends of the uprights (v) and surrounded by spiral springs, between the boxes and upper ends of the slots, and provided with thumb screws at the upper ends for raising and lowering said rollers, to conform with the thickness of the frame or slat being bored.

M are upright hollow boxes, similar to the boxes K arranged near the extremities of the skeleton plate B, through which are inserted upright screw shanks (22) also passing through slots in the plate B having thumb screws at their upper ends. These boxes have projections (23) on their lower parts through which pass horizontal screw rods (w) made plain at their outer ends, which pass through openings in projections at the ends of the plate B, having springs (x) resting against projections of the plate B at their inner ends in such a manner as to allow of said hollow boxes being drawn out or in, to conform with the width of the frame being bored, and these clamped or left unclamped, and entirely to the inward action or pressure of the springs, as described.

Y N are oblong plates arranged on the forward cross bar of the frame, containing slots (24) through which pass screws secured to said cross bar on which are placed thumb screws, 25, for clamping said plates to conform with the thickness of the frames.

O, are other plates secured on edge to the outer ends of the plates N, at right angles to the same having arms y, projecting inward at one end, one of which is secured to a bar, 26, inserted in grooves, 27, on the inner side of said plate and having screw shanks secured to the same passing through the grooves, 27, in the plate o, and provided with thumb screws 28.

Operation.—The machine being put in motion by the application of any desired power and the frame or stock placed between the hollow boxes K, M, containing the rollers 18 (which are previously graduated to the width of the same) and secured at one end of the plates o, by inserting the arms, y, into the end mortises of the frame stack and clamping them against the ends of the mortises by the thumb screws 28 the operative moves the graduating frame J, to correspond with the acquired distance of the openings to be bored which is accomplished in the following manner: The thumb screw 16, is unclamped and the lower end of the timber or bar (t') is either moved to the right or left on the pin, 17, as occasion may require until the abrupt ends of the inclined slats are situated the same distance apart as the openings to be bored are intended to be—the horizontal bars or blocks 14 to which the slats, t, are attached moving in groove 15 to allow this result. He then moves the sliding frame H, forward until the spring stop or pawl, n, of the first block I, is flush against one of the ends of the slats (t) of the graduating frame J said block I being first set at the proper point on the longitudinal timber of the sliding frame, H to bring the points of the first openings to be bored, immediately opposite the bits. The operator then turns the crank 6 until it assumes a right angle with the machine, lengthwise, which causes the center elliptical cam (b) to act upon the pulleys (a) and force the bits into the frames the proper distance to form the mortise or hole. He then brings the crank 6 to its original position, which causes the side elliptical cams (e) to act on the pulleys (a) and withdraw the bits. He then places his thumb and forefinger on the uprights (T) (S) and by their action draws the strip or rib (p) so as to raise the spring top or pawl (n) from contact with the end of the slat, against which it rested, and

forces the sliding frame H on its course until the stop or pawl is flush against the end of the next slat, when the handle 6 is moved as before, and another mortise or hole is bored, and so on, in this manner, the operation is repeated, until the frame is finished.

When it is desired to mortise or bore the slats and cross bars, to receive the upright bar which connects them together and cause them to move simultaneously in the frame, the auger bits are removed from the drills, and other tools adapted to the purpose, substituted.

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

1. The combination of the graduating frame J spring stops or pawls (*n*) bent levers (*m*) attached to the ribs *p* by chains or cords, with the sliding frame H to which the frame or slat to be bored or mortised is secured, as described.

2. I also claim the combination of the traversing arms *v* projecting from the slides moving in the plates *o* and provided with clamp screws for securing the ends of the frames, with the hollow traversing boxes K, M provided with clamp screws, and springs, and spring rollers *u*, for steadying the frame in its passage, as herein set forth.

3. I likewise claim the combination of the elliptical cams (*b*) (*e*) secured to the upright shafts E (*d*) having cog wheels on their upper ends, with the pulleys (*a*), in the manner, and for the purpose, herein set forth.

JOHN WILEY.

Witnesses:
PETER WILEY,
JAMES BAILEY.