

R. D. Hobart,
Sash & Blind Machine.
No. 106,937. Patented Aug. 30. 1870.

Fig. 1.

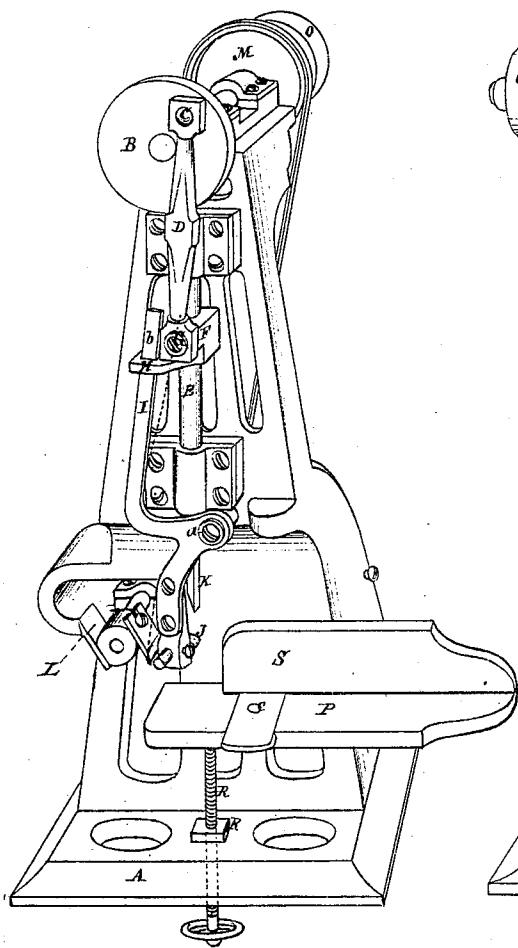


Fig. 2.

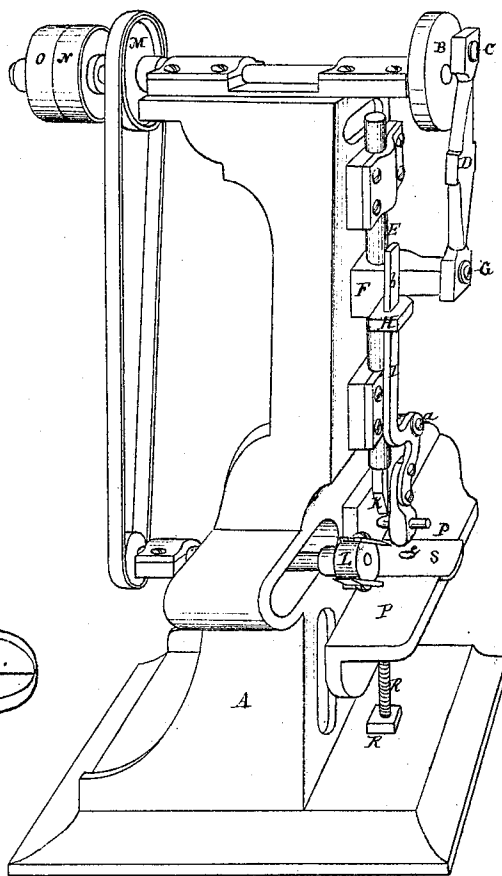
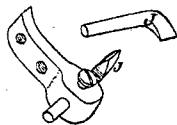


Fig. 3.



Witnesses.
Alex. Mahon
Edmund Masson.

Inventor
Randolph D. Hobart
by his attorney
N. H. Doubleday and

United States Patent Office.

RANDOLPH D. HOBART, OF BINGHAMTON, NEW YORK, ASSIGNOR TO HIMSELF AND J. V. SIMMONS, OF SAME PLACE.

Letters Patent No. 106,937, dated August 30, 1870.

IMPROVEMENT IN SASH AND BLIND-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same

I, RANDOLPH D. HOBART, of Binghamton, in the county of Broome and State of New York, have invented certain Improvements in Sash and Blind-Machines, of which the following is a specification.

My invention relates to the combination of a reciprocating chisel and a rotatory and vibratory cutter, in such a manner that they shall be capable of "relishing" and pointing window-sash and blind-rails simultaneously, and also of cutting gains in check or lip-sash; the object of the invention being to accomplish the entire operation by means of machinery, thereby obviating the routine of hand movements required by the ordinary method, and giving the work a better finish.

Figure 1 in the accompanying drawing is a perspective view of a machine embodying my invention.

Figure 2 is a side view of same.

Figure 3 is the vibratory cutter-holder detached.

A is the base of the frame.

B is the face-plate, which is attached to the main shaft on the top of the frame, and answers the purpose of the crank connection and balance-wheel.

C is the crank-pin.

D, the pitman or connecting-rod.

E is the vertical chisel-shaft, provided with a cross-head, F, which connects with the pitman by means of the pin G.

This cross-head has also a slotted arm, H, which gives motion to the vibrating lever I, to the lower end of which is attached a horizontal or vibratory cutter, J.

This vibratory lever works on a pin, *a*, secured to the frame.

The upper arm, *b*, of the lever, is fitted to work freely in the slot of the arm H, and is placed "out of line" with the chisel-shaft E, which works on a perpendicular line through the center of the frame, consequently, the lateral vibration of the lever I is in proportion to the variation of the arm *b* from the perpendicular line of the shaft E, as shown by the dotted lines in fig. 1.

The throw of the vibratory cutter J is determined by the length of the lower arm of the lever I.

This horizontal cutter is made detachable for the purpose of removing it while cutting gains, or it may be so arranged, by connecting with a hinge, that it can be turned up out of the way.

K is the vertical chisel in the lower end of the shaft E.

L is the rotatory cutter for pointing the corners of the tenons, which is also so arranged that it may be moved out of the way during the operation of cutting gains.

The cutter L is driven by a belt from the pulley M, which receives motion from the pulley N.

O is the loose pulley.

The speed of the pulley M is designed to be seven hundred revolutions per minute, and the cutter L about two thousand.

P is the table for the work to rest upon during the operation.

This table may be elevated or depressed by loosening up a clamp and screw, which works in a vertical slot in the frame, and adjusted by a vertical screw and jam-nut, R.

The guide-plate S is adjustable by a dovetailed side projection, extending across and flush with the surface of the table P, which has a slot under the projection to allow an outward and inward movement, and secured in position by a screw, *c*.

For relishing and pointing sash, the tenon having been previously cut by the ordinary process, and the machine adjusted by elevating or depressing the table and guide-plate, for the purpose of gauging the work to the required range with the cutters, the rail is placed longitudinally upon the table, with the edge of the tenon to be cut away or relished turned upward. It is then pressed lengthwise to the chisel K, which, commencing at the end of the tenon, cuts across the grain of the wood to the required depth of the relish, and, as the chisel rises, the vibrating cutter J finishes the surface to a horizontal line.

When the tenon is cut away nearly to the shoulder the operation of pointing is accomplished by the contact of the upper corner of the tenon with the rotary cutter L, the whole being done at a single operation.

For cutting gains in check and lip-sash, it will be necessary to remove the cutters J and L, as before described. The sash-rail is then placed upon its side and moved up to the chisel K, when the operation is performed.

The top check is cut with a cope, to fit the moldings on the sash, and the lower or bottom check is cut square to fit the glass-rabbit.

What I claim as my invention is—

1. The combination of the vibrating lever I, and cutter J, chisel K, and rotatory cutter L, substantially as and for the purpose herein set forth.

2. The arrangement of the vibrating lever I, and cutter J, chisel K, and rotatory cutter L, frame A, face-plate B, main shaft and pulleys M, N, and O, crank-pin C, pitman D, vertical shaft E, provided with cross-head F, connecting-pin G, table P, and guide-plate S, all being constructed substantially as herein described, for the purpose set forth.

RANDOLPH D. HOBART.

Witnesses:

S. W. HOGAN,
JOHN P. WORTHING.