M. Free,

Slivering Wood.

No. 55,415. Patented June 5, 1866.

Fig. 2.

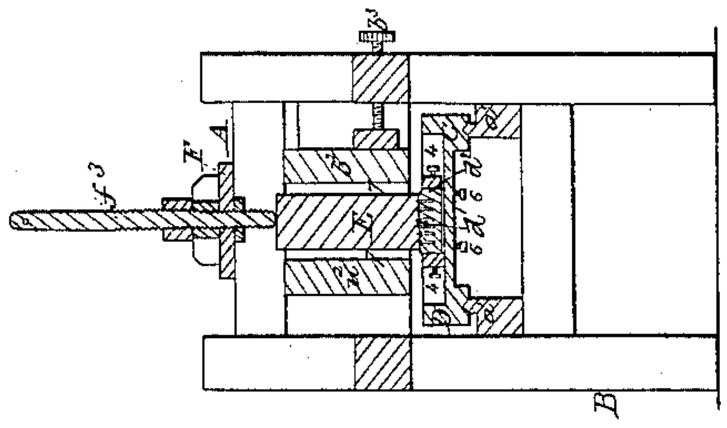


Fig. 3.

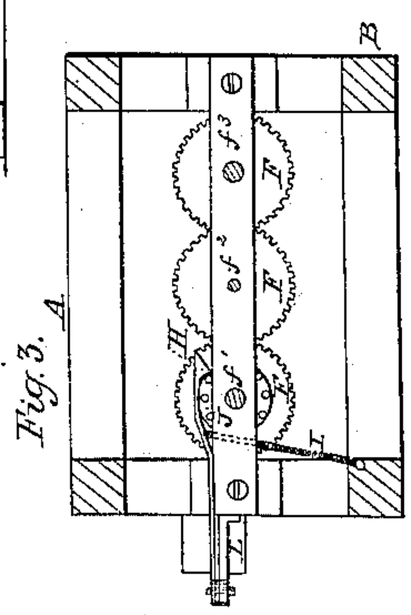


Fig. 1.

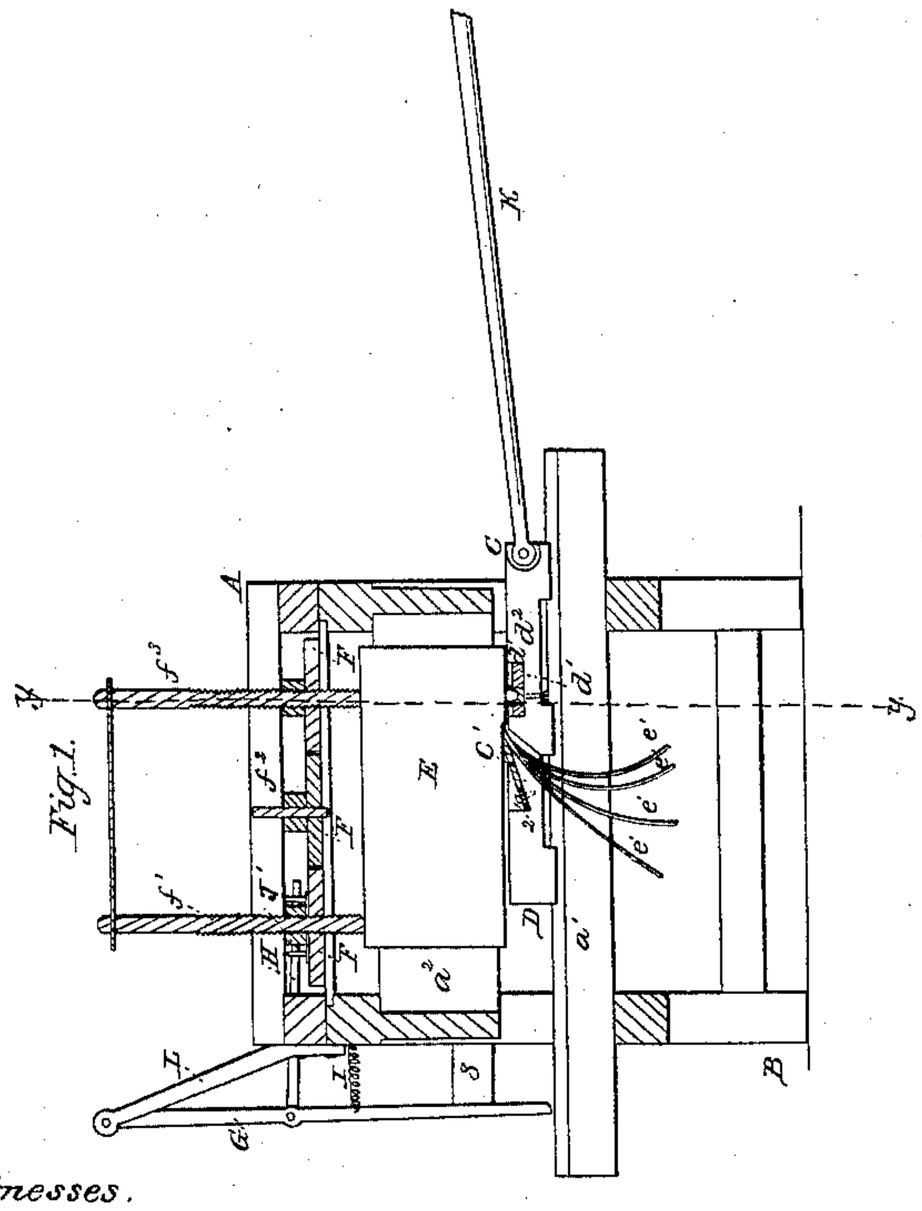
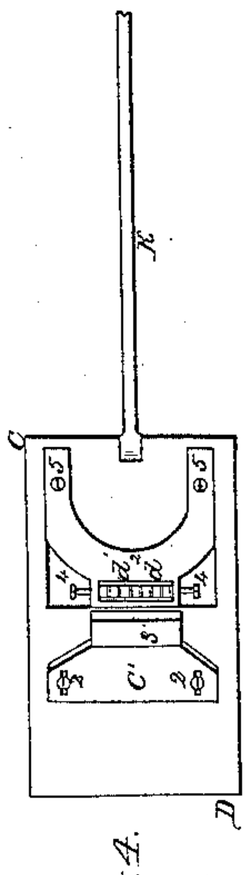


Fig. 4.



Witnesses.
Jas Kinmore Jr.

Inventor.
Martin Free

UNITED STATES PATENT OFFICE.

MARTIN FREE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ALFRED LOWDERBACK, OF SAME PLACE.

IMPROVEMENT IN PLANING-MACHINES FOR CUTTING SLATS FOR BLINDS.

Specification forming part of Letters Patent No. **55,415,** dated June 5, 1866.

To all whom it may concern:

Be it known that I, MARTIN FREE, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in the Machine for Making Window-Shade Slats; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a central longitudinal section of the said improved machine; Fig. 2, a vertical transverse section of the same on the dotted line *x y* of Fig. 1; Fig. 3, a plane view of the upper side of the same, and Fig. 4 a plane view of the upper side of the sliding-cutter-carriage detached, like letters and numbers of reference indicating the same parts when in the different figures.

The object of my improvement is to produce a machine whereby the flexible wooden slats used in the manufacture of the well-known woven wooden shades or blinds for windows can be produced with greater facility, rapidity, and economy.

My invention consists, substantially as hereinafter described, in the combined arrangement of an adjustable horizontally cutting or planing carriage provided with suitable knives, together with a lever, spring, pawl, and stud-wheel, for operating the screw-feed of the block by the returning motion of the said carriage.

In the drawings, A B is the frame of the machine; C D, the sliding carrier, containing the cutters *c' d'*; E, the block from which the slats *e' e'* are cut; F F F, the gear-wheels, and G the lever; H, the pawl; I I, the springs, and J the stud-wheel for feeding the block E to the cutters.

The frame A B has two edge-rails, *a' a'*, upon which the carriage C D slides when reciprocated forward and backward by means of any suitable motive power applied through the pitman K.

The planing-knife *c'* is adjustably secured in a recess in the carrier C D by means of the slots and screw-bolts 2 2, there being a throat, 3, beneath its cutting-edge for the slats *e' e'* to pass, as a shaving passes through a plane. (See Fig. 4.) Immediately forward of the throat 3 the series of the vertical cutters *d'* are secured together by means of two set-screws, 4 4, in a slot made in a curved plate, d^2, which is secured by the screws 5 5 in a recess in the carrier, and is adjusted by means of the set-screws 6 6. The knives *d'* each extend about an eighth of an inch above the upper surface of the carrier, and are placed about three-eighths of an inch apart from each other. (See Figs. 2 and 4.)

The block of wood E is secured between two clamping-pieces, a^2 b^2, each provided with two angular ribs, 7 7, and one of the two pieces is adjustable against the block E by means of a set-screw, b^3, near each end. (See Fig. 2.)

Two of the gear-wheels *f* are each traversed by a screw-shaft, f' f^3, the wheels being kept in place by an upper and a lower piece in the frame, so that the said wheels, on being rotated together, cause the two shafts f' f^3 to be moved up or down, as the case may be.

The requisite periodical movement of the gear-wheels is effected by means of the lever G, pawl H, springs I I, and stud-wheel J. The lever G is pivoted to a stationary arm, L, and also to the hooked pawl H, and extends down behind the back end of the carrier C D, so as to rest against a block, 8, on the frame.

The stud-wheel J serves as a rack, and is fastened rigidly to the gear-wheel F beneath it, and the hook of the pawl H catches around the studs of J in succession, and rotates the wheels so as to move the shafts f' f^3, and thus press down the block E to the knives in the carrier. (See Figs. 1 and 3.)

Operation: For the usual-sized blinds or shades each slat *e'* is required to be about three-eighths of an inch wide and about a sixteenth or less of an inch thick; and there being, as in this instance, six dividing-cutters, *d'*, the block should not be thicker than twenty-one eighths, or two and five-eighths inches, which will produce seven slats at each forward motion of the carriage, because as the latter is drawn rapidly forward the series of slitting-cutters *d* divide the lower surface of the block E into seven equal parts, and immediately afterward the planing-cutter *c'* separates the whole of them at once from the block, and each in a perfectly smooth condition and of uniform thickness and width throughout, the feeding of the block E being regulated accordingly for the purpose, and operated by the back end of the carriers striking and forcing back the lever G,

which, carrying the pawl H with it, the hook of the latter draws around the stud-wheel J, and consequently the gear-wheels, so as to rotate the shaft $f' f^3$, and thus press the block E downward the required distance for the next forward motion of the cutters.

This is a very important improvement, in view of the old machine, which latter consists simply of a board-holder and a plane arranged and operated so that only one slat e' is cut at each stroke of the plane, while one of my improved machines will be amply sufficient to keep eight or ten looms constantly supplied and employed in weaving the slats into blinds or shades.

Having thus fully described my improved machine, what I claim as new therein, of my invention, and desire to secure by Letters Patent, is confined to the following, viz:

The reciprocating carriage C D, carrying the cutters c' d', and operating automatically the devices which feed the block E to the same, as described, the said feeding devices consisting of the lever G, pawl H, springs I I, stud-wheel J, screw-shafts $f' f^2$ f^3, and gear-wheels F F F, constructed and arranged substantially as described.

MARTIN FREE.

Witnesses:
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JAS. HINSMORE, Jr.