(No Model.)

F. MYERS.

MACHINE FOR TRIMMING BOX MATERIAL.

No. 280,219. Patented June 26, 1883.

Fig. 1.

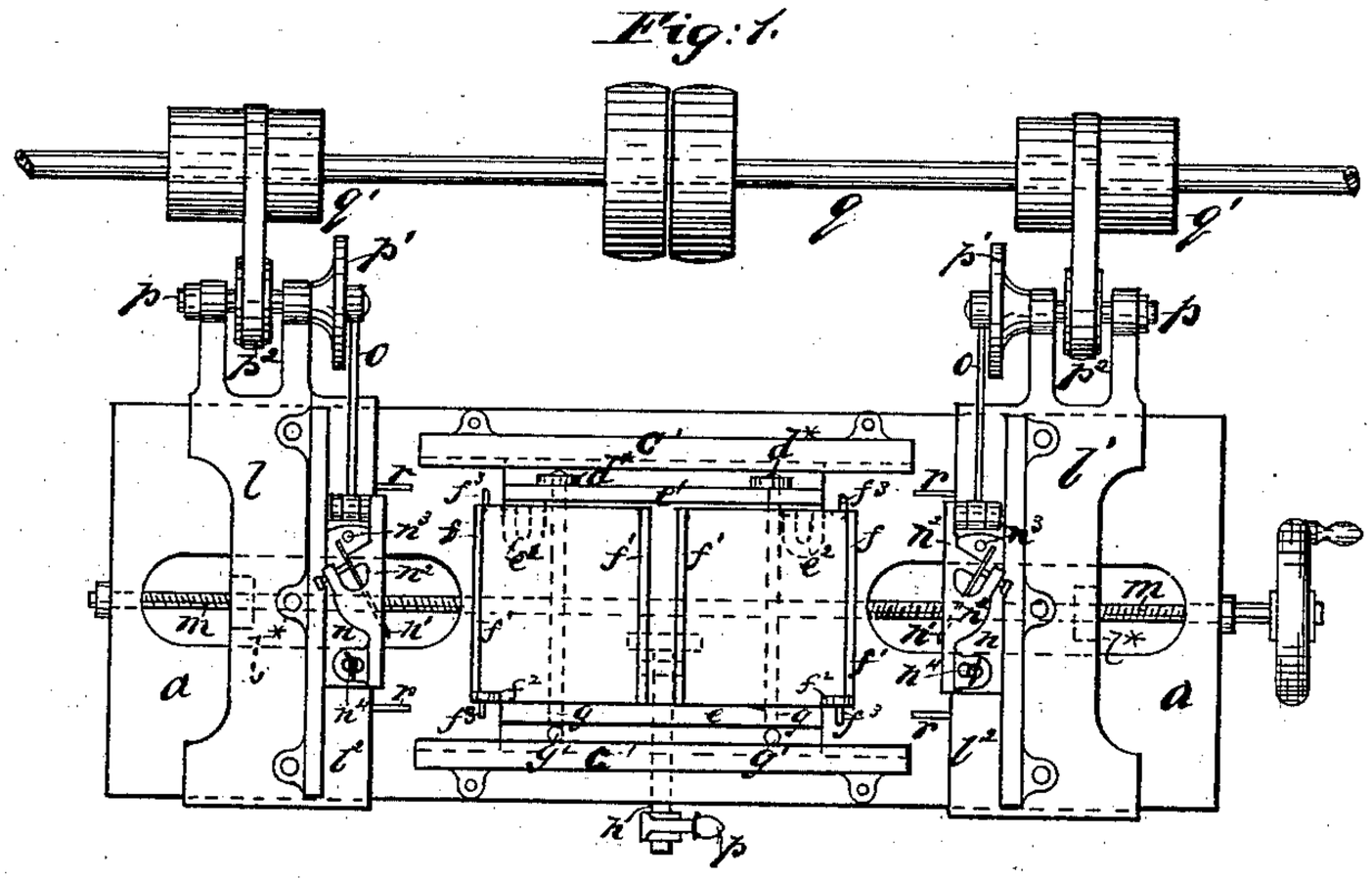
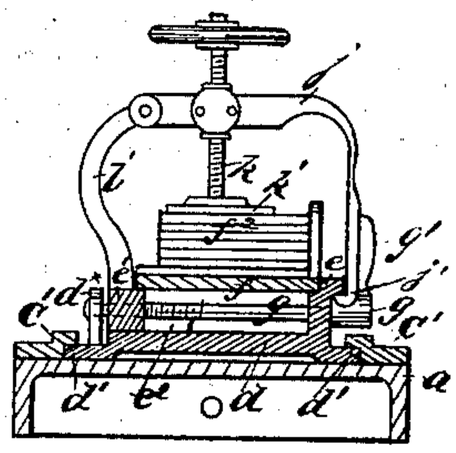


Fig. 2.

Fig. 3.



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MACHINE FOR TRIMMING BOX MATERIAL.

SPECIFICATION forming part of Letters Patent No. 280,219, dated June 26, 1883.

Application filed June 26, 1882. (No model.) Patented in England January 28, 1882, No. 432, and in France April 24, 1882.

To all whom it may concern:

Be it known that I, FREDERICK MYERS, of the city, county, and State of New York, have invented new and useful Improvements in Machinery for Trimming Box Material, of which the following is a specification.

This invention relates to improvements in machinery for trimming or dressing the edges of pieces of wood prior to their being nailed together in the manufacture of packing cases or boxes.

The said invention is illustrated in the accompanying drawings, in which Figure 1 is a plan of my improved machine for trimming or dressing the edges of pieces of wood prior to their being nailed together in the formation of boxes or cases, the wood-clamping devices hereinafter described being removed. Fig. 2 is a front elevation of the same. Fig. 3 is a transverse section of the upper part of the said machine with the said clamping devices in position.

Like letters indicate the same parts throughout the drawings.

In these figures, *a* represents the table of the machine, supported upon suitable legs or standards, portions of which are shown in Fig. 2 at *b*. To this table I secure two guide-pieces, *c'*, that fit over extensions or lugs *d'* upon a base or bed plate, *d*, which supports, by means of two bars or guideways, *e e'*, plates *f f*, whereon the pieces of wood f^2 to be trimmed are placed, as shown in Figs. 2 and 3. The bar *e* is formed in one piece with the said bed-plate *d*, and the other bar, *e'*, is adjustable thereon, so that the plates *f f* for carrying the wood may be clamped firmly in position between the said bars, or be left free to be moved longitudinally between the same, as hereinafter described.

In order to adjust the movable bar *e'* upon the bed-plate *d*, I prefer to employ screw-rods *g*, which extend through the bar *e*, through screw-threaded or tapped holes in the adjustable bar *e'*, and into lugs *d** on the bed-plate *d*, the said screw-rods being prevented from endwise movement in the bar *e* and in the lugs *d** in any suitable manner. It follows, therefore, that by turning the said screw-rods or screws *g*, by means of a handle or lever, *g'*, or in any other suitable manner, the adjustable bar *e'* may be drawn toward the wood-supporting plates *f*, so as to clamp them between the two bars, as shown in Fig. 3; or the said bar *e'* may be adjusted away from the said plates, so that they may be freely moved between the said bars longitudinally. To prevent the displacement of the movable bar during its adjustment, I prefer to provide the same with lugs or ears e^2, having slots into which pins on the bed-plate project, as dotted in Fig. 1. The plates *f f* are preferably provided with ribs *f' f'*, whereon the pieces of wood rest, and with vertical projections or stops f^2 on one side, against which stops the side edges of the pieces of wood are placed, as shown in Fig. 1. The plates *f* and the bed-plate *d*, carrying the same, are adapted to be moved longitudinally by means of a crank handle or lever, *h'*, preferably arranged at one side of the machine, and attached to a transverse shaft, *h*, which is supported in suitable bearings below the table *a*, and is connected by a lever or crank arm, h^2, to a projection or bracket, d^2, on the under side of the bed-plate *d*, dotted, Fig. 2.

To provide for holding the series of pieces of wood to be trimmed firmly upon their supporting-plates, I attach preferably to the bar *e'* an arm or bracket, *i*, to which is hinged or pivoted an arm or bridge-piece, *j*, which extends over the wood-supporting plates *f*, and is preferably connected to the bar *e* by a hook, hasp, or other suitable fastening at *j'*. In this arm or bridge-piece I provide a screw, *k*, connected with a platen or follower, *k'*, preferably of wood, which, by turning the said screw, may be brought firmly into contact with the wood, as shown in Fig. 3, so as to clamp and prevent the displacement of the same while being trimmed.

Upon the table *a*, and adjacent to the two ends of the wood-carrying plates *f*, I arrange two carriages, *l l'*, which may be adjusted longitudinally upon the said table by means of a screw, *m*, supported in suitable bearings attached to the latter, or to the main frame of the machine, and passing through lugs at *l** upon the under side of the said carriages, dotted, Figs. 1 and 2. One end of the said screw is provided with a right-handed screw-thread and the other with a left-handed screw-thread, as shown, so that by turning the said screw the two carriages *l l'* may be caused to simul-

taneously approach or recede from each other. Upon each of these carriages I provide ways l^2, whereon a slide, n, carrying the planing or cutting tool n', is free to travel transversely. This slide is attached to one end of a connecting-rod, o, whose other end is secured in a radial slot in a crank-disk, p', fixed upon a shaft, p, supported in bearings upon the carriage. This shaft carries a pulley, p^2, which is driven by a belt passing over a pulley, q', on the main driving-shaft q, the said pulley q' being of such a length as to permit the longitudinal adjustment of the carriage without causing the disconnection of the belt from the said pulley.

The tool n' is mounted on a carrier, n^2, hinged or pivoted to the transversely-reciprocating slide n at n^3, so that the said tool may be properly adjusted with regard to the work to be trimmed. The said carrier is held in the desired position, when the tool is properly set or adjusted, by means of a screw, n^4, passing through a slotted ear or lug on the said carrier into a tapped hole in the slide.

To vary the throw or reciprocating movement of the slide and tool, the aforesaid radial slot is formed in the crank-disk p', so that by moving the bolt which secures the connecting-rod to the latter to or from the center of the said disk the throw of the tool will be decreased or increased.

In practice the boards or pieces of wood to be trimmed are placed upon the supporting-plates $f\,f$, which are separated from each other to such a distance that the portion to be cut off from the ends of the same project beyond the ends of the said plates, as shown in Figs. 1 and 2. These plates are then clamped between the bars $e\ e'$, and the screw platen or follower k' is caused to clamp the pieces of wood firmly in position. The handle or lever h' on the end of the transverse shaft h is then turned in one direction, so as to move the bed-plate d and the wood carried by the plates thereon toward one of the reciprocating cutters n', and such wood is pressed by the said handle into contact with the said cutter until the edge of the piece of wood is properly trimmed. The handle or lever h' is then moved in the opposite direction and the other edge of the wood is brought into contact with the other reciprocating cutter n', so that the edge is trimmed. The wood is then removed and is ready to be made up into boxes.

To regulate the amount of wood cut off from the ends of the pieces supported upon the plates $f\,f$, I prefer to provide the same with studs or projections f^3, which, when the requisite amount of wood is removed, come in contact with stops r, and thus prevent any further movement of the wood toward the said cutter by the exertion of pressure upon the handle.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, in a machine for dressing box-boards to size preparatory to nailing them together, of a pair of reciprocating planers, and a bed-plate or carriage and mechanism to hold the boards thereon, located between the planers and movable from one toward the other for presenting the respective ends of the boards to them to be dressed.

2. The combination, with the table a and the guide-pieces c', of the bed-plate d, the bar or guideway e, formed thereon, the adjustable bar e', the screws or screw-rods g, and the plates f, substantially as above set forth, and for the purposes specified.

3. The combination, with the movable work-holding bed d, adjustable carriages $l\ l'$, and the reciprocating tools, of the platen k', and its adjusting-screw mounted on the arm j, hinged to stationary arm i, and provided with a detachable hasp-fastening, j', substantially as described.

4. The combination, in a machine for trimming box material, of the adjustable carriages $l\ l'$, reciprocating planing-tools mounted thereon, work-holding bed-plate d, bars $e\ e'$, plates $f\,f$, lever or handle h', and shaft h, said shaft being connected with the bed-plate by a crank or arm, h^2, substantially as described.

5. The combination, with the bed-plate d, supporting the wood-carrying plates, of the longitudinally-movable carriages $l\ l'$, each having a reciprocating planing-tool, the said bed-plate being movable to and from the planes, substantially as above set forth, and for the purposes specified.

6. The combination, with the longitudinally-adjustable carriages $l\ l'$ and the movable work-holding bed-plate d, of the reciprocating slides n^3, and the planer-tool carrier n^2, pivoted on said slides, substantially as described.

7. The combination of the plate d, adapted to be moved longitudinally by means of the lever h', and the wood-supporting plates thereon, with the transversely-reciprocating cutters mounted upon pivoted carriers, which are reciprocated transversely upon longitudinally-adjustable carriages, all substantially as above set forth, and for the purposes specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FREDERICK MYERS.

Witnesses:
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