

J. HANDELE.
BOX BLOCKING MACHINE.

No. 521,025.

Patented June 5, 1894.

Fig. 1.

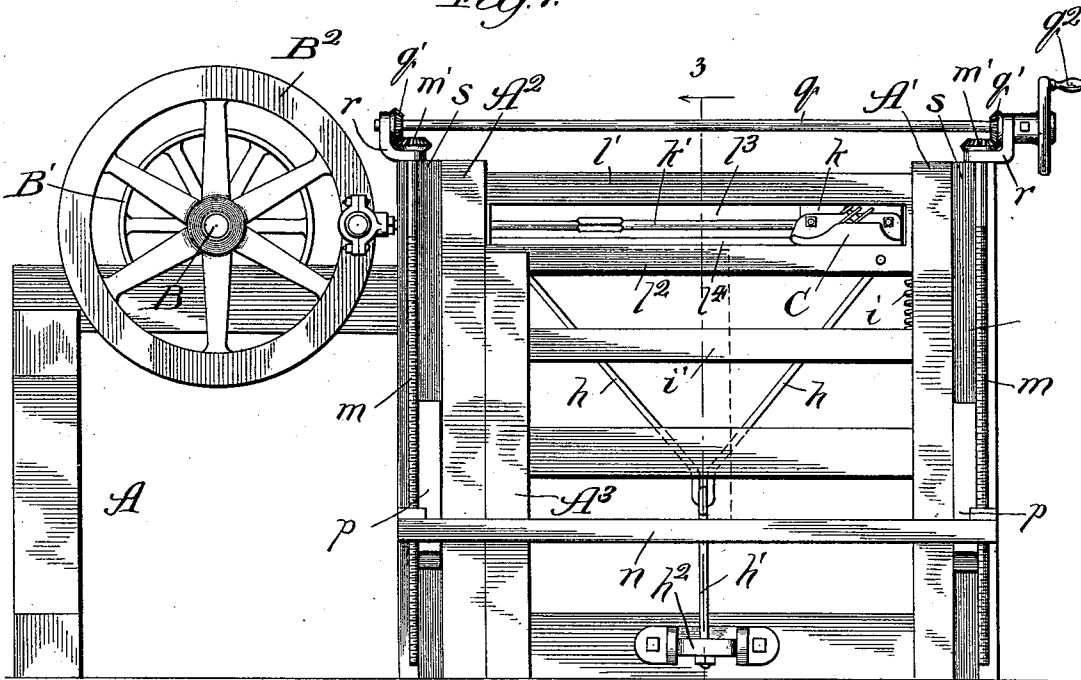
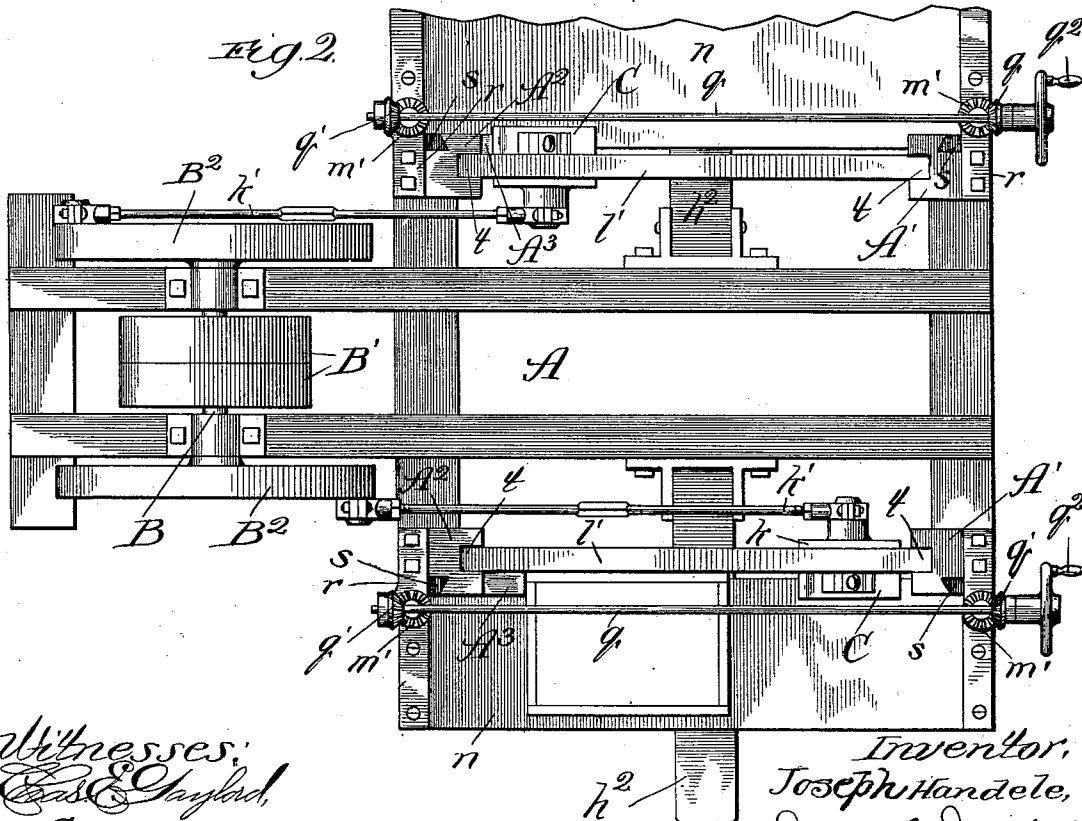


Fig. 2.



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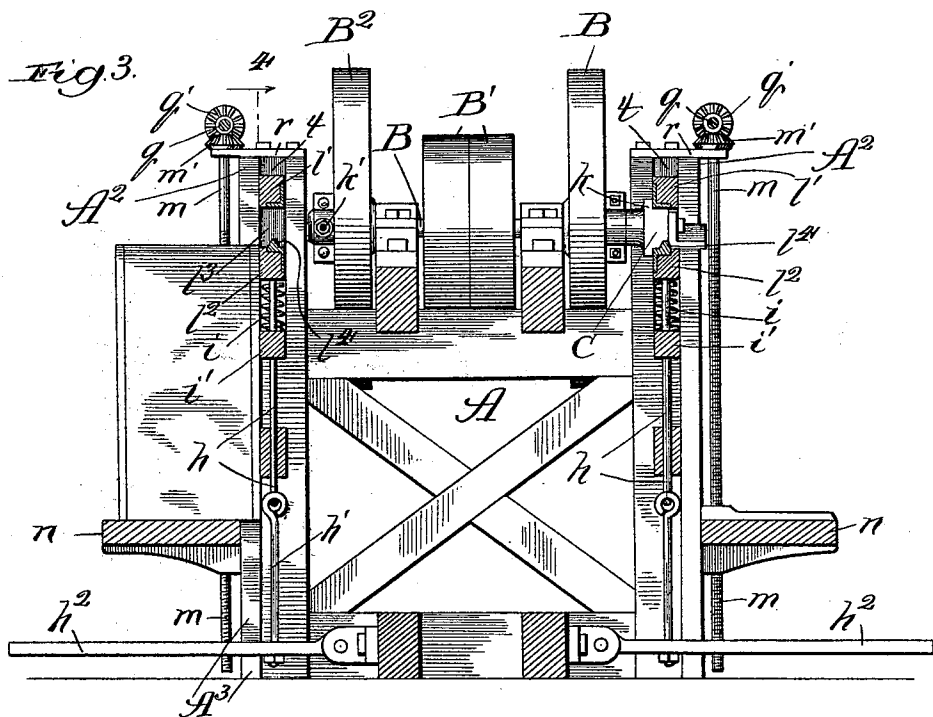


Fig. 4.

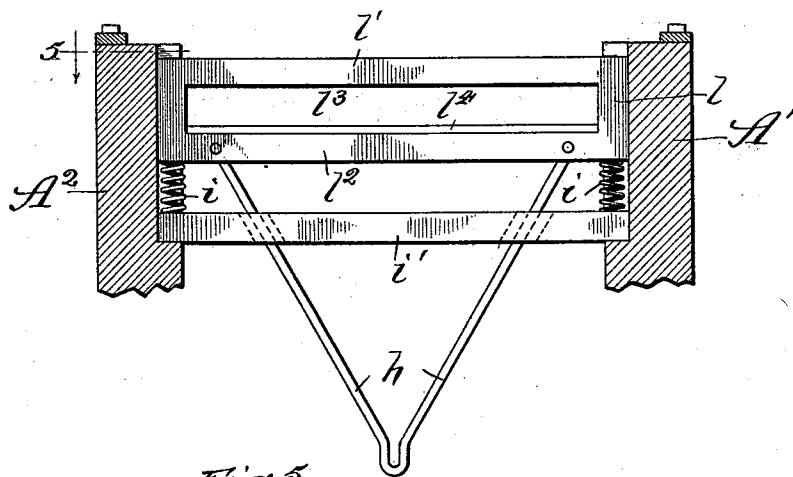
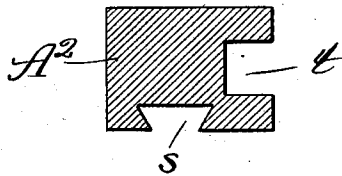


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH HANDELE, OF CHICAGO, ILLINOIS.

BOX-BLOCKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 521,025, dated June 5, 1894.

Application filed November 24, 1893. Serial No. 491,817. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HANDELE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Box-Blocking Machines, of which the following is a specification.

My invention relates to an improved machine for use in the manufacture of packing boxes, to block off or smooth the sawed edges thereof.

In the manufacture of wooden packing boxes, especially where they are made in large numbers, the pieces which afford the sides, bottom and cover of a box are cut with saws usually by nailing them, around the edges of the pieces which afford the box ends. To finish the box it is usual to smooth or block off the sawed edges which appear at the sides and ends of the box, and hitherto this has been done with a suitable carpenter's plane in the hands of an operator. When done by hand the operation is necessarily slow and laborious; and, it is my object to provide a machine for the purpose of comparatively simple and durable construction, which shall render the operations of blocking off boxes quick and easy to accomplish.

In the drawings—Figure 1 is a side elevation and Fig. 2, a broken top-plan view of my improved machine; Fig. 3, a section taken on line 3 of Fig. 1 and viewed in the direction of the arrow; Fig. 4, an enlarged broken section taken on line 4 of Fig. 3 in the direction of the arrow; and Fig. 5, a detail plan-section on line 5 of Fig. 4.

The drawings illustrate, what I term a "double" machine, in which two boxes may be operated upon at once.

A is the frame of the machine which may be constructed of timbers as represented, or it may be of metal which would give to it a lighter and more graceful appearance. Journaled in one end portion of the frame is a shaft B, provided between its bearings with fast and loose pulleys B', and beyond its bearings, at opposite ends, with drive wheels B².

As the mechanism on one side is a substantial duplication of that on the other side of the machine, it will be sufficient to describe

one mechanism and to designate corresponding parts of the other mechanism by the same reference letters and numerals.

A' and A² are, respectively, the forward and rear standards forming part of the frame-work A. The standards are preferably grooved on their inner sides to afford vertical guides *t t*, and rabbeted on their outer sides to afford vertical dove-tail guides *s s*. Secured upon the upper ends of the standards are brackets *r r*, provided with horizontal and vertical bearing openings. Journaled at its opposite end-positions in the horizontal bearings in the brackets, is a rotary horizontal shaft *q*, carrying beveled pinions *q'* adjacent to the inner sides of the brackets, and an operating crank or hand-wheel *q²* at its forward end. Fitting and sliding in the guides *s*, are dovetailed guide-blocks or brackets *p*, to which a platform *n* is fastened at its opposite ends. Vertical threaded-rods or screws *m* extend through the vertical bearings in the brackets *r*, and are provided at their upper ends with beveled pinions *m'* which mesh with the pinions *q'*. The screws *m* extend through and engage threaded openings in the brackets *p*. Turning the hand-wheel *q²*, rotates the shaft *q* and screws *m*, causing them to slide the brackets *p* in the guides *s* and raise and lower the platform equally at opposite ends. Fitting and moving at opposite ends in the guides *t* is a vertically sliding guide-frame *l*, formed with an upper bar *l'* and lower bar *l²* having an opening *l³* between them. On the bar *l²* in the opening *l³* is a beveled projection or rail *l⁴*. Fitting over and sliding upon the rail *l⁴* is a carrier-block *k*. A pitman *k'* is pivotally connected at one end to the block *k* and at its opposite end to the drive-wheel B² on the adjacent side of the machine. Turning of the wheel B² causes the pitman to move the carrier-block back and forth in the guide-frame *l*. The frame *l* rests at opposite ends upon springs *i* confined between the said frame and a cross bar *i* of the main frame. Fastened at opposite ends to the frame *l* near opposite ends of the latter is a V-shaped rod or bale *h*, which at its center is connected pivotally, to the upper end of a rod *h'*. At its lower end the rod *h'* is secured to a foot lever *h²*. Pressure upon the lever *h²* forces

the latter and the frame *l*, in its guides *t*, downward against the resistance of the springs *i*; and, when the pressure on the lever is relaxed, the lever and frame are raised to normal position by the action of the springs.

C is a plane of any suitable pattern secured at one side of its stock to the outer side of the carrier block *k*. The sole of the stock extends in the horizontal plane, and the cutting edge of the iron or bit extends in the direction of the back of the machine, whereby it cuts in the backward stroke. At the standard *A*² is a stop *A*³, which at its forward side presents a vertical straight edge, and extends at its upper end in a plane a little below the normal plane of the guide rail *l*¹.

The machine may be belted at the drive pulley to a suitable drive shaft, and the plane *C* reciprocated continuously in the guide frame *l*. The box to be operated upon is placed upon the platform *n* against the stop *A*³ and the platform is adjusted, by turning the hand-wheel *q*², to cause the upper edge of the box to extend in practice about one-eighth of an inch above the plane of the upper end of the stop *A*³. In the backward movement of the plane the operator presses his foot upon the lever to lower the plane and cause its bit to engage and shave off the upper edge of the box. The operator then relaxes the pressure upon the lever, whereby the frame *l* and plane are raised, so that the box may be turned to present another edge to the action of the plane without interference from the latter in its forward movement. In practice the box may be turned during each forward movement of the plane to present a new edge at each backward movement thereof. After the ends of the boxes have been blocked off, the platform may be adjusted to the proper elevation for blocking off the side edges. Usually a large number of boxes of the same dimensions are finished, at once, and it is only necessary to change the adjustment of the platform when boxes of other dimensions are brought to the machine.

If desired the guides *s* may be dispensed with, and the screws caused to serve as guides for the platform; and while I prefer to construct my improved machine as shown and described, it may be modified in the matter of details without departing from the spirit of my invention as defined by the claims.

When desired a single machine may be provided, containing only the mechanism shown at one side of the double machine illus-

trated, and which will operate upon one box only at a time.

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

1. In a box-blocking machine a plane support, in which a plane is mounted to reciprocate, and a box-support, the said supports being adjustable and resiliently yielding one with relation to the other, and lever mechanism connected with one of the supports and operative to move the same against its resilience, whereby the path of the plane with relation to the box-support may be varied, substantially as and for the purpose set forth.

2. A box blocking machine, having in combination a resiliently yielding guide, a reciprocating plane in the guide, a platform to support the box, and lever mechanism connected with the guide for moving it against its resilience to vary the path of the plane, substantially as and for the purpose set forth.

3. A box-blocking machine having, in combination, a movable spring sustained guide frame, a reciprocating plane mounted in the guide frame, a platform to support the box, and lever-mechanism connected with the guide-frame for moving it against the resistance of the springs to vary the path of the plane, substantially as and for the purpose set forth.

4. A box-blocking machine having, in combination with the main frame, a drive shaft, a resiliently yielding guide frame, a plane mounted in the guide-frame and geared to the drive shaft to reciprocate in the guide frame, a platform, to support the box, raising and lowering mechanism for the platform, and lever mechanism connected with the guide-frame for moving it against its resilience to vary the path of the plane, substantially as and for the purpose set forth.

5. A box-blocking machine, comprising, in combination, a frame *A*, a drive-shaft mounted in the frame, a spring supported guide-frame movable in guides in the frame, plane *C* geared to the drive-shaft and mounted to reciprocate in the frame *l*, a platform *n*, raising and lowering mechanism for the platform, and a foot-lever connected with the frame *l* and operative to lower the said frame in its guides against the resistance of its springs, substantially as and for the purpose set forth.

JOSEPH HANDELE.

In presence of:

J. W. DYRENFORTH,
WM. N. WILLIAMS.