

(No Model.)

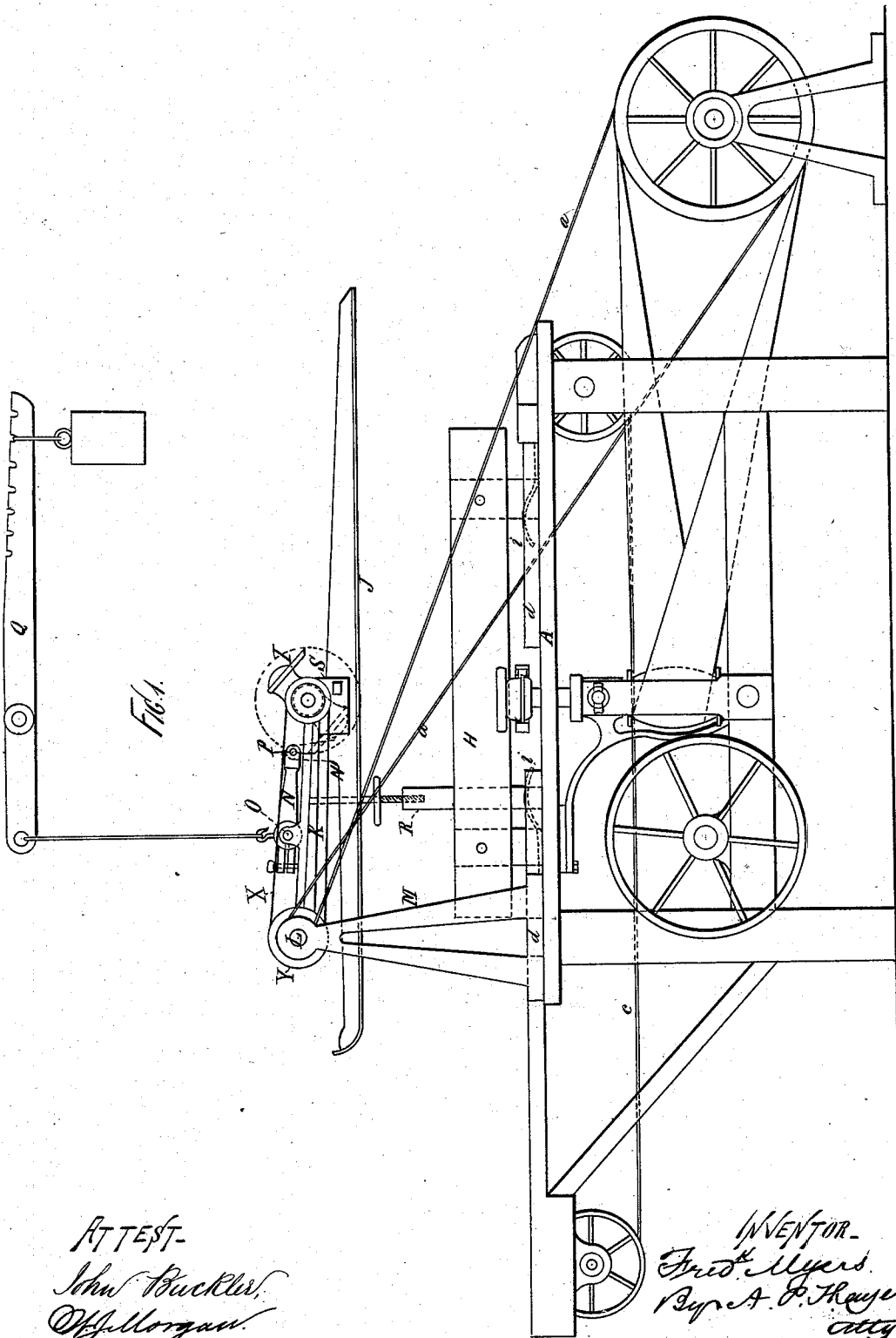
3 Sheets—Sheet 1.

F. MYERS.

PACKING BOX TRIMMING MACHINE.

No. 295,933.

Patented Apr. 1, 1884.



ATTEST-
John Buckler
W. J. Morgan

INVENTOR-
F. Myers
By A. P. Hayer
att'y

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3 Sheets—Sheet 2.

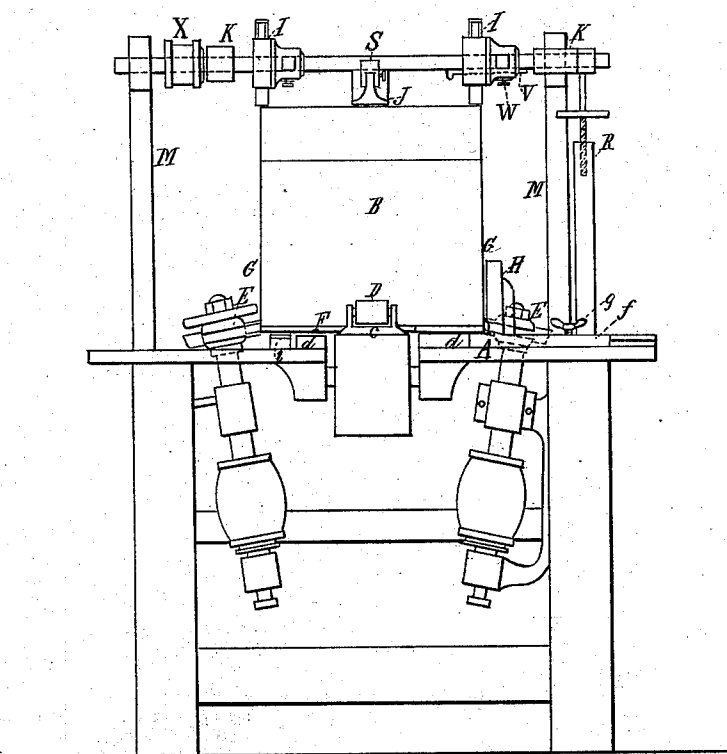
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Fig. 2.



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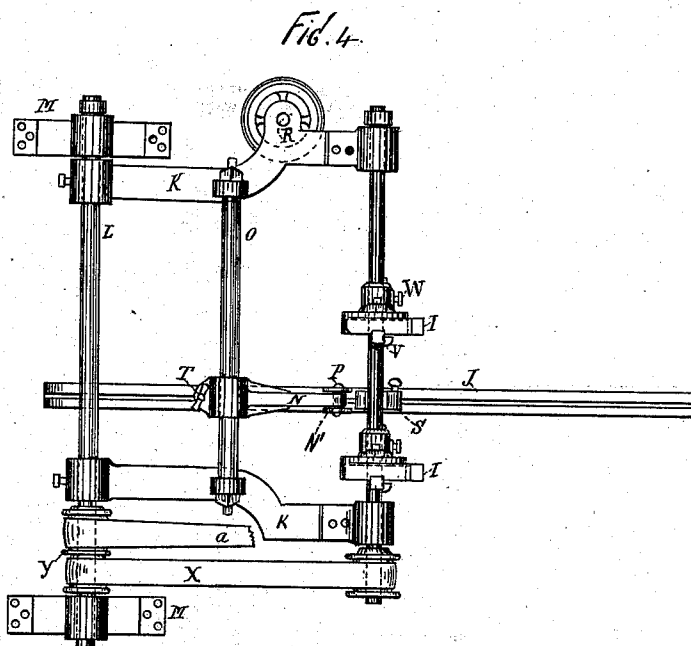
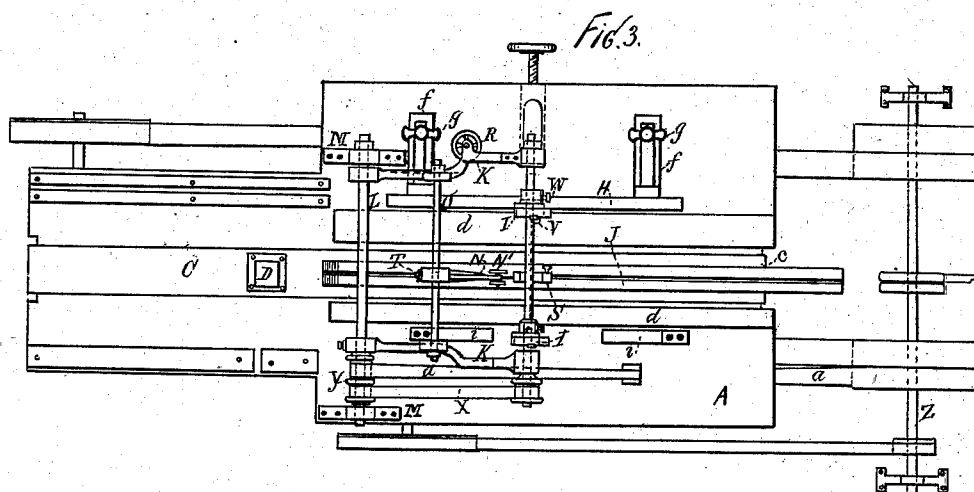
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UNITED STATES PATENT OFFICE.

FREDERICK MYERS, OF NEW YORK, N. Y.

PACKING-BOX-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 295,933, dated April 1, 1884.

Application filed December 9, 1881. Renewed July 18, 1883. (No model.) Patented in England January 23, 1882, No. 432.

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 Packing-Box-Trimming Machines, (patented in England January 28, 1882, No. 432,) of which the following is a specification.

This invention, which is herein represented as an attachment to machines now in use for trimming the edges of the bottoms of packing-boxes after they are nailed onto the sides and ends, is a device to trim the top edges of the sides of the boxes even with the top edges of the ends, so that the cover will fit on the edges of the ends and sides alike, and is combined with the aforesaid bottom-edge trimmer for economizing the work by trimming the said top edges simultaneously with the trimming of the bottom edges.

Figure 1 in the accompanying drawings is a side elevation of a machine such as now used for trimming the edges of the bottom flush with the sides when nailed thereto, with the attachment which I now propose to make to it for trimming the top edges of the sides. Fig. 2 is an end elevation of the same. Fig. 3 is a top or plan view, and Fig. 4 is a plan of the top-edge-dressing apparatus independently of the table, carrier, and bottom-edge-trimming devices.

In the making of packing-boxes of boards not very accurately dressed to size, the top edges of the sides are generally a little higher than the ends, and have to be dressed off level or flush therewith preparatory to the application of the cover, which must of course bear alike on the edges and ends.

It is the object of this invention to economize in the cost of this part of the work by contriving a simple and efficient machine by which to accomplish the work more cheaply than it can be done by hand, and, furthermore, to combine the same with the machine now in use for trimming the bottom edges, so as to trim both bottom and top edges at the same time.

In the accompanying drawings, A represents a table or bench, along or over which the boxes B are made to pass on suitable ways by an endless belt or chain carrier, C, with pushers D between rotary planers E, to have the

edges of the bottom F dressed off even with the sides G of the box, said box passing along a guide or guides, H, by which the planers are gaged with relation to the sides of the box, so as to cut flush therewith, said guides and one of the planers being adjustable laterally suitably for boxes of different widths.

The machine, as above described, is that now in use, as aforesaid, for dressing the bottom edges of the box, and with which I propose to combine my improved apparatus for dressing the top edges, the said apparatus consisting, essentially, of the horizontal rotary planers I, together with a guiding-shoe, J, mounted over the table A and carrier C, so as to be vertically adjustable, and with provision for dressing the planers, the latter being supported, say, by arms K, pivoted on a fixed rod or shaft, L, in standards M, or other suitable support, so as to turn on said shaft, and the shoe being supported by the arm N, to which it is pivoted by arms N' at P, and which has pivotal support on rod or shaft O, carried upon said arms K, on which it can rise and fall with the planers, and also be adjusted vertically independently of them by shifting on said rod O with clamp T. The said planers and shoe thus mounted are, by preference, nearly counterbalanced in the horizontal position, or thereabout, by a weight on bar Q, and below one of the arms K is an adjustable standard or support, R, of any kind, on which they are to come to rest when not lifted therefrom in operation by the boxes to be trimmed. The said counterpoise and rest are not indispensable, as, with the assistance of an attendant, the machine will perform the required service without them; but with them it works automatically, after being adjusted for boxes of any given size.

Besides the arms N' for connecting to arm N by the pivot P, the shoe J has a rest, S, under the arbor of the planers I, whereon said arbor comes to a bearing, and the planers are thereby gaged so as to dress the edges of the box-sides even with the under side of the shoe, and said rest is adjustable along the shoe, to be readily shifted to accommodate the slight variations of the planer-arbor along the shoe, caused by the shifting of the shoe up and down on the radius of arm N, which is shorter than

arms K. Said arm N, being fixed on pivot O, so as to turn on it, has a clamp, T, to fasten it; but other contrivances may be employed instead. One of the planers I is fitted on the arbor with a gib, V, and set-screw W, Figs. 2 and 4, so as to shift along it to suit boxes of greater or less breadth, and the guide H of the same side is also adjustable for the same purpose by brackets *f* and clamp bolts and nuts *g*.

10 The planers are driven by the short belt *x* from a loose double pulley, *y*, on the pivotal shaft L of the supporting-arms of said planers, and the pulley is driven from the counter-shaft *z* by the cross-belt *a*. The shoe is located about

15 midway between the two planers, so as to bear upon the ends of the box, and thus gage the planers, under which the sides of the box pass, so as to dress the edges of them to the line of the shoe, and consequently to the level of the

20 box ends, to which, it will be seen, the shoe gages them by resting on said ends while the box passes under it.

Before setting the machine to work the adjusting-support R is set so that the shoe will

25 drop slightly lower than the top of the ends of the box to be dressed before the box passes under it, and the arm N is so set that when the shoe comes to its level the bearing S will touch the arbor, so that, in effect, the arbor is supported through the shoe on the box ends while

30 the boxes pass under the planers and the edges are being dressed, the shoe being lifted slightly by the box as soon as the forward end passes under the arbor.

35 The machines for dressing the bottom edges of the box have had a way, *d*, upon the table, each side of the endless belt, for the boxes to slide on a little above the belt, which arrangement is very satisfactory so long as only the

40 bottom edges are to be dressed; but when the top edges are also to be dressed it is not entirely so, because in the making of the kind of boxes in question it often happens that the bottom will be made up of two or more narrow

45 pieces, one of which is not as thick as the other, as seen in Fig. 2. Consequently one side of the box will not be quite as high as the other, which makes no material difference with the dressing of the bottom edges, but would cause

50 one of the top edges to be dressed too low and the other too high. I therefore propose to employ a way on one side, over which the boxes pass, made of a spring or springs—say a couple

of springs, as represented at *i*—to lift the slack side of such boxes and bear up the top, so as to present both edges to the planers alike, or be depressed if the thick side passes over them.

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

1. The combination, in a box-trimming machine, of the table, endless carrier, guideways, and a guide-shoe and top-edge planers, said guide-shoe and top-edge planers overhanging said table, carrier, and guideways for the box to pass under them, the shoe being located between the planers to ride on the ends of the box, and the planers being suitably located to dress the edges of the sides of the box even with the ends of the box, substantially as described.

2. The combination, with the suspended and partially-balanced overhanging top-edge cutters and guide-shoe, of the adjustable rest R, the arrangement being such that the cutters and guide-shoe drop and rest thereon when not resting on the boxes, substantially as described.

3. The combination, with the guideways and carrier, of the gaging-shoe, top-edge planers, counter-balance, and the supporting-standard R, substantially as described.

4. The combination, in a box-trimming machine, of the vertically-adjustable gaging-shoe and the vertically-adjustable top-edge planers with the guideways and carrier, the said shoe being located between the planers to ride on the ends of the box, and the cutters arranged to dress the side edges of the box even with the box ends, said planers and shoe being adjustable together on pivot L relatively to the boxes, and the said shoe being adjustable on pivot O relatively to the planers, substantially as described.

5. The rest S, in combination with the gaging-shoe J and the top-edge planers I, said shoe being adjustable upon the planer-supports and relatively to said planers by arm N and pivot O, substantially as described.

6. The combination, in a machine for dressing the top edges of boxes, and with the planers, guide, and carrier therefor, of a spring-way, *i*, along one side of the carrier, substantially as described.

FREDERICK MYERS.

Witnesses:

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S. H. MORGAN.