

(No Model.)

2 Sheets—Sheet 1.

M. GARLAND.
BOX BOARD MACHINE.

No. 462,545.

Patented Nov. 3, 1891.

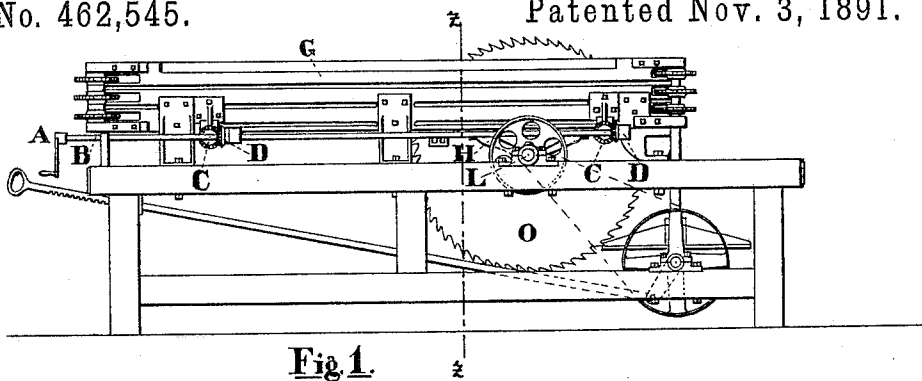


Fig. 1.

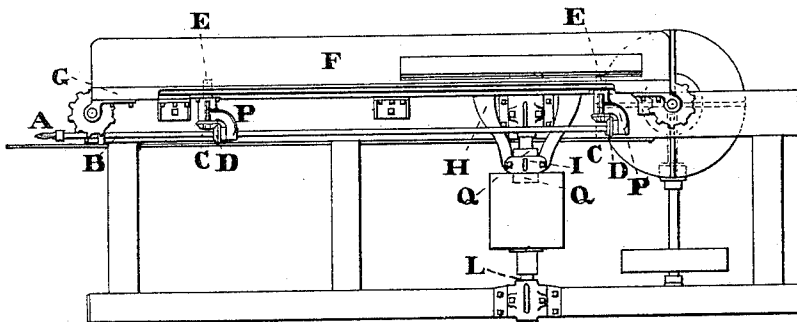


Fig. 2.

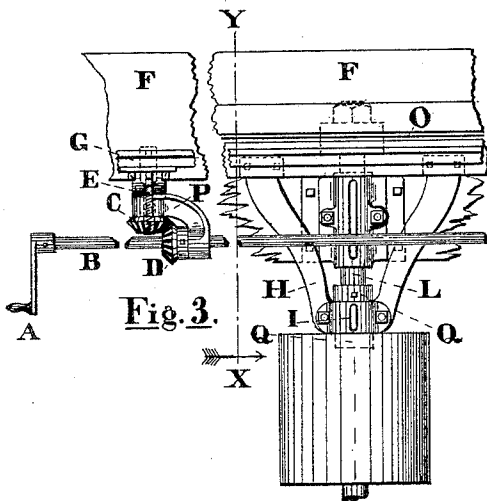


Fig. 3.

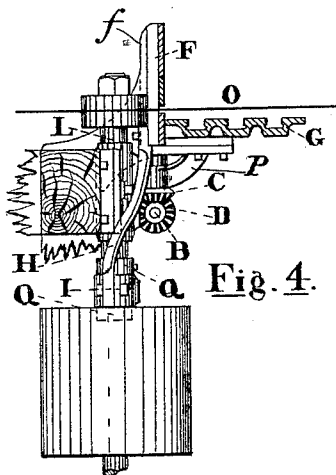


Fig. 4.

WITNESSES

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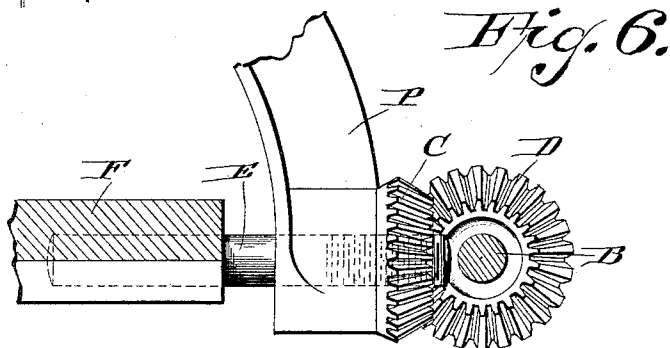
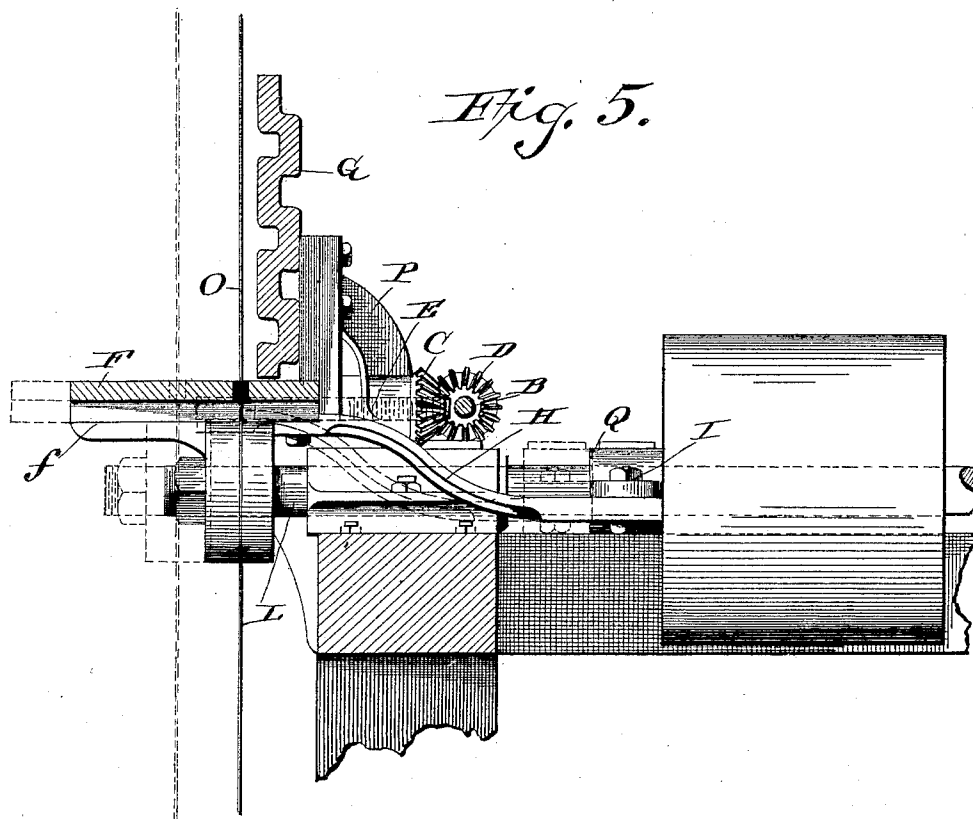
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2 Sheets—Sheet 2.

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Witnesses

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UNITED STATES PATENT OFFICE.

MICHAEL GARLAND, OF BAY CITY, MICHIGAN.

BOX-BOARD MACHINE.

SPECIFICATION forming part of Letters Patent No. 462,545, dated November 3, 1891.

Application filed January 20, 1891. Serial No. 378,466. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL GARLAND, of Bay City, in the county of Bay and State of Michigan, have invented a certain new and useful Improvement in Box-Board Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to that type or class of machines known as "box-board machines," and has for its object to provide for use a machine of this type which shall be capable of certain adjustments by means of which the stock or boards cut from the slabs or other lumber may be made of any desired thickness within a certain range of adjustment of the saw-spindle, together with its saw and the table through which the saw protrudes and on which the slab or other timber travels during the sawing operation.

To this main end and object my invention may be said to consist, essentially, in the combination, with the rigid guide in which travels the carrier-chains for feeding the lumber along, of suitable means through the medium of which and at the pleasure of the operator of the machine the horizontal table or lumber-rest may be moved laterally to any desired extent within a given range of movement, the said movement of the table effectuating through suitable means an endwise movement of the saw-spindle and saw, so as to vary or regulate the cutting of the boards to any desired thickness, all as will be hereinafter more fully explained, and as will be more specifically pointed out in the claim of this specification.

To enable those skilled in the art to which my improvement relates to understand and practice my invention, I will now proceed to more fully describe the latter, referring by letters to the accompanying drawings, which form a part of this specification, and in which I have shown the machine embracing my improvement carried into effect in that particular form in which I have so far practically and successfully practiced it.

In the drawings, Figure 1 is a back view or elevation of the box-board machine embracing my improvement. Fig. 2 is a top view of

the same. Fig. 3 is a partial or broken top view or plan, drawn on an enlarged scale for the purpose of better showing the combination of devices for effecting the adjustment at will of the table, together with the saw-spindle and its saw, relatively to the rigid guide in which travel the carrier-chains or lumber-feeding devices of the machine. Fig. 4 is a vertical section projected from Fig. 3 and taken at about the line xy of the last-named figure, looking in the direction indicated by the arrow. Fig. 5 is a vertical cross-section on an enlarged scale, taken at the line zz of Fig. 1. Fig. 6 is a detail skeleton view, on a still larger scale, showing the bevel-pinions seen at Fig. 5, together with portions of some of the other parts shown in said figure.

In the several figures the same part will be found designated always by the same letter of reference.

As the main frame of the machine, together with the driving mechanism for running the saw and driving the carrier-chains, together with the rigid guide and lumber-feeding devices, are all of the usual approved construction, I need not here specifically point out or describe these several parts and their operations.

In lieu of the table F and the saw O being arranged immovably with reference to the rigid guide G and the other parts of the machine, as usual, I make the table adjustable or capable of lateral movement on its supporting-brackets f , and I effectuate the adjustment of this table, and also a corresponding movement of the saw and saw-spindle, by the following combination of devices, arranged and operating together as will now be explained.

Securely fastened to the rigid guide G of the machine and projecting rearwardly therefrom are two bracket angle boxes P P, in which are mounted the spindles or shafts of two sets of bevel-gears C C and D D, the shafts of the last-mentioned two running lengthwise of the machine, as clearly shown at B, and being provided at that end which projects outwardly from one end of the machine with a crank-handle A, adapted to be manipulated by the operator of the machine. Each of the other bevel gears or pinions C C has its spin-

dle made in the form of a screw-stud or short threaded shaft, which works in a nut or female thread formed in the hub of one of the gears C C, and one end of each of said screw-shafts E is securely fastened to the rear edge or portion of the laterally-sliding table F of the machine. By this combination of devices any rotatory movement of the shaft B, effectuated at the will of the operator by turning the crank-handle A, will of course operate to cause the screw-shafts E of the bevel-gears C to travel in one or the other direction endwise within the nuts in which they are accommodated, and this movement of said screw-spindles will cause a corresponding lateral movement or adjustment of the table F. Now securely fastened to the innermost portion or rear edge of the said table F and projecting inwardly therefrom is a metallic bracket or yoke-like stand H, which at its innermost end or portion is securely fastened to the thrust-box I, within which box rotates the saw-mandrel L, which is provided with two fast collars Q, one immediately in rear of and the other immediately in front of the said thrust-box I, all in such manner as plainly shown in the drawings, as that any movement of the table F in the manner and by the means just above explained will cause the saw-mandrel L, and of course the saw O, which is fastened to the front end of said mandrel, to move endwise and in exact accordance with or to the same extent as the said table F.

By the means just above referred to operating in the manner above explained and as clearly shown in the drawings the operator, it will be seen, can at pleasure by simply turning the crank-handle A in one direction or the other vary the position of the saw O and the table F relatively to the rigid guide

or chain-carrying device G, so as to make the saw cut boards from the slab or other lumber fed by the carrier-chains of any desired thickness.

In practice I have constructed and operated box-board machines embracing my improvement as above described with an extent of adjustment to the movable parts such as to render it possible to vary the thickness of the boards cut from one-half inch to an inch and a half; but of course the extent of adjustment may be more or less, as practice and the commercial requirements of such machines may render advisable.

While in practice I have carried out my invention in the precise form herein shown and described, I wish it to be understood, of course, that various modifications and changes might be devised in the devices and in the manner of combining the same to effectuate precisely the result accomplished by my improvement.

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

In a box-board or analogous machine, the combination, with the stationary guide or chain-carrying device G of the machine, of the movable table F, the movable saw O and its spindle, and suitable means by which at the pleasure of the operator of the machine the said table, together with the saw and its spindle, may be adjusted toward and from the said stationary guide, all in substantially the manner and for the purposes hereinbefore set forth.

In witness whereof I have hereunto set my hand this 25th day of October, 1890.

MICHAEL GARLAND.

In presence of—

JOSEPH W. MCGRAW,
HEZEKIAH M. GILLET.