No. 869,646. PATENTED OCT. 29, 1907.

J. PETERS & E. H. N. CLARKSON.

MACHINE FOR FRAMING TIMBERS.

APPLICATION FILED JULY 11, 1906. RENEWED JULY 17, 1907.

2 SHEETS—SHEET 1.

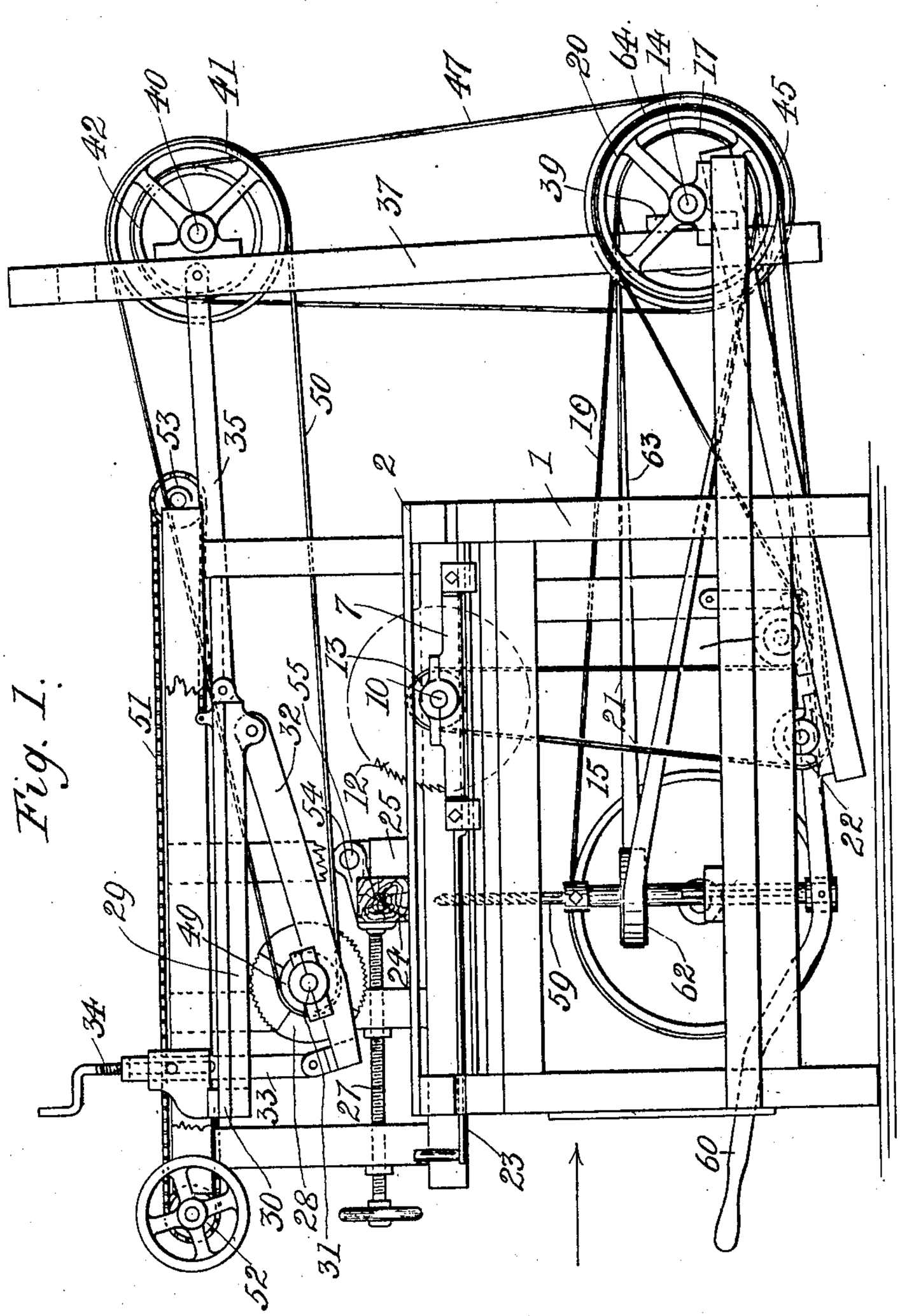

Fig. 1.

Witnesses:
Thos. Mackenzie
Elwood Bozman.

Inventors:
Jacob Peters.
Edward H. N. Clarkson
by Chas. W. T. Howard.
Atty.

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2 SHEETS—SHEET 2.

Fig. 2.

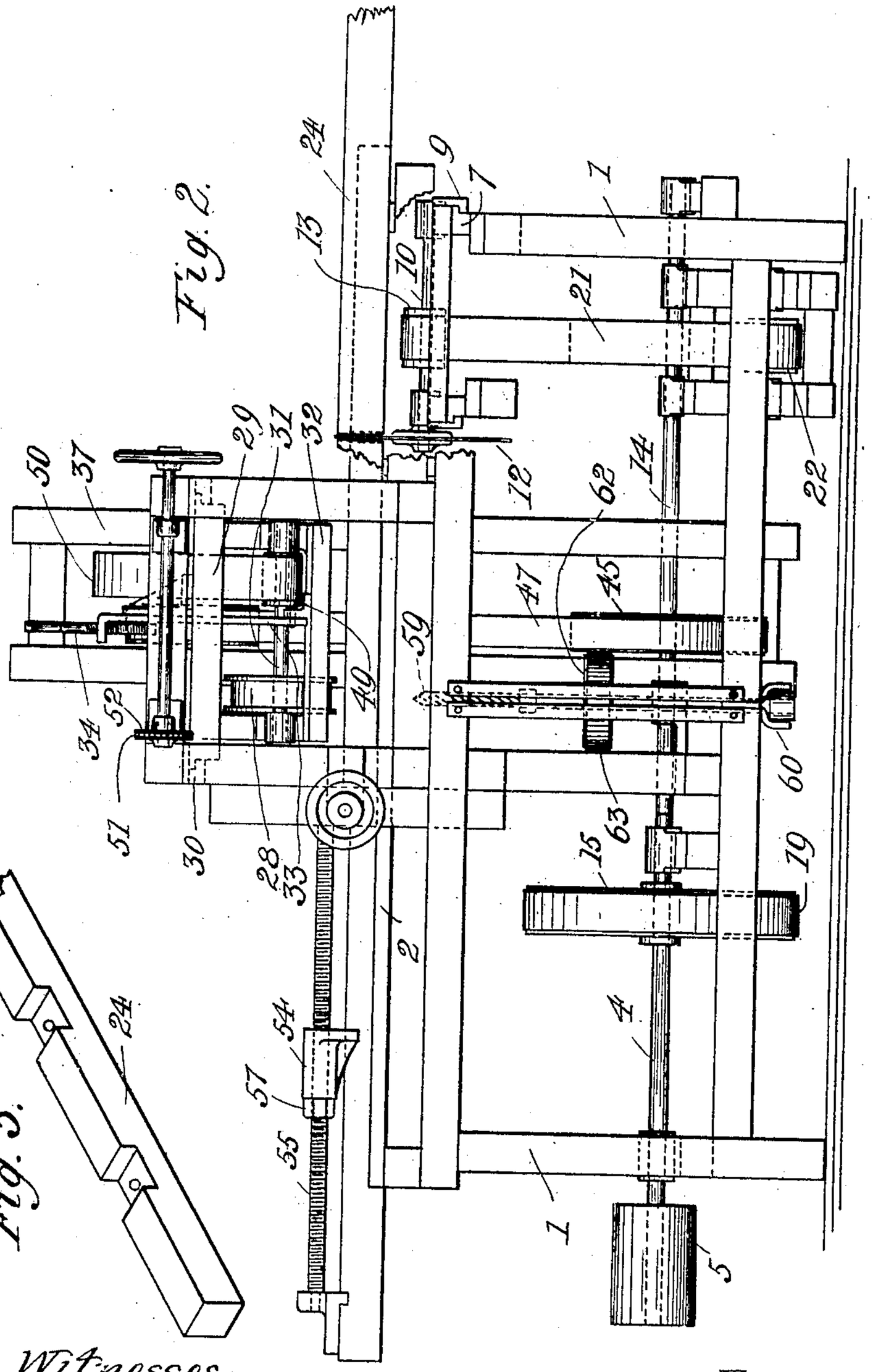

Fig. 3.

Witnesses:
Thos. Mackenzie
Elwood Bozman

Inventors:
Jacob Peters,
Edward H. N. Clarkson,
by Geo. N. T. Howard, atty.

UNITED STATES PATENT OFFICE.

JACOB PETERS AND EDWARD H. N. CLARKSON, OF BALTIMORE, MARYLAND.

MACHINE FOR FRAMING TIMBERS.

No. 869,646. Specification of Letters Patent. Patented Oct. 29, 1907.

Application filed July 11, 1906. Serial No. 325,604. Renewed July 17, 1907. Serial No. 384,274.

To all whom it may concern:

Be it known that we, JACOB PETERS and EDWARD H. N. CLARKSON, both of the city of Baltimore and State of Maryland, have invented certain Improvements in Machines to be Used in the Framing of Timbers, of which the following is a specification.

This invention relates to an improved machine for cutting transversely extending rectangular notches in a scantling, whereby the same may be united to another scantling at an angle therewith, as commonly used in the construction of the frame-work of buildings.

The machine also comprises means for boring the scantlings where notched, for the holding bolts, and devices for cutting the scantlings into proper and uniform lengths, as will hereinafter fully appear.

In the further description of the said invention which follows, reference is made to the accompanying drawings forming a part hereof, and in which,—

Figure 1 is an exterior side view of the improved machine, and Fig. 2 a view of Fig. 1 looking in the direction indicated by the arrow. Fig. 3 is a perspective view of a portion of a scantling as it appears after it is taken from the machine.

Referring now to the drawing, 1 is the frame of the machine and 2 the table supported by the frame 1, upon which the scantlings are worked.

4 is the driving shaft and 5 the driving pulley.

7 is a saw carriage arranged to slide on suitable guides 9, in a direction crosswise of the table 2.

The saw arbor which rotates in a bearing box on the carriage 7, is designated by 10, the circular saw by 12, and the saw pulley by 13.

14 is a counter-shaft which receives its movement from the driving shaft 4 by means of the pulleys 15 and 17, and the belt 19; and the saw pulley 13 is driven from the counter-shaft by the pulley 20, and the belt 21 which passes under the guiding pulleys 22.

With the arrangement described, the saw carriage may be driven back and forth a limited distance by means of the rod 23 without materially altering the length of the belt 21. In Fig. 2 the saw is shown as occupying its normal or farthest backward position.

24 represents a scantling which is shown in Figs. 1 and 2 as resting on the table 2, and in the latter figure, as clamped against an abutment 25 by means of clamping screw 27. Fig. 3 shows a part of a completed scantling on an enlarged scale and is drawn in perspective.

29 is a cutter-head carriage, adapted to slide in guides 30 forming in part an elevated portion of the frame 1; and the cutter head 28, which has a width of face equal to the width of the rectangular notch to be cut, is fastened to a shaft 31 the bearings for which are secured to an arm 32 hinged to the carriage 29, and supported adjustably in height by a link 33 and a screw 34. By means of the screw 34 the depth of cut of the cutters of the head is easily regulated.

The cutter-head carriage is connected by links 35 to a vibratory upright 37 the lower end of which has a bearing box 39 which fits loosely on the counter-shaft 14 and serves as a pivot for the upright.

The upright 37 carries a shaft 40 on which are secured the pulleys 41 and 42, the latter being driven from the counter-shaft 14 by the pulley 45 thereon, and the belt 47, and the former communicating motion to the cutter-head shaft 31 through the medium of the pulley 49 and the belt 50.

It will be understood that with this construction the cutter head carriage may be moved forward and backward without changing the length of the belts 47 and 50.

The movement of the cutter-head carriage transversely of the machine is effected by means of a sprocket chain 51 which is extended over sprocket wheels 52 and 53 which have a fixed position, and the sprocket chain is attached to the carriage at some point. The shaft of the sprocket wheel is provided with a hand wheel whereby it is turned to effect the transverse motion of the carriage just referred to.

54 is a stop-arm against which the scantling is held endwise during each operation of the machine. It is placed loosely on a threaded bar 55 and backed by a nut 57 which is set by a wrench so as to retain the stop-arm in its proper position with respect to the circular saw and the cutter-head. The stop-arm being loose on the threaded bar, may be easily raised to admit of the scantling being pushed past it in the operation of the machine hereinafter described.

59 is a boring bit placed in a vertical position in the path of the cutter-head as it is moved crosswise of the machine. The boring bit which is suitably guided, is raised and lowered through the medium of the hand lever 60.

62 is the pulley whereby the boring bit is rotated, and to admit of its giving a rotary motion to the bit, the bit spindle is provided with a feather which slides with the bit in the pulley.

63 is the belt whereby the pulley 62 is driven from the pulley 64 on the counter-shaft 14.

Supposing the various parts of the machine to be constructed and so arranged as to cut rectangular notches of the desired width, depth and distance apart as described, and the machine to be in operation, and that a rough end of a scantling has been sawed off by drawing back the circular saw 12, the scantling is pushed forward until its smooth end comes in contact with the stop arm 54. The cutter-head 28 is then moved forward which produces a rectangular notch in the upper side of the scantling, and then brought back to its original position.

The boring bit 59 is then raised by means of the hand lever 60 and a bolt hole thereby bored through the scantling immediately below the notch, after which the bit is lowered.

The stop-arm 54 is then lifted to admit of the scantling passing beneath it, when it is allowed to fall to and rest on the scantling. The scantling is then again pushed forward until it is stopped by the stop-arm falling into the notch just made. The notching operation is then repeated, and should it be required to provide the scantling with two notches only, and the scantling has a second time been stopped by the stop-arm as stated, the circular saw is again brought forward and the end of the scantling cut off.

We claim as our invention:—

In a machine for cutting rectangular notches in a scantling at prescribed distances apart, and one of the notches at a predetermined distance from one end of the scantling, a rotary notching cutter-head with means to move it transversely of the scantling, a circular saw and appliances independent of those whereby the notching cutter head is actuated, to move the said saw across the path of the scantling, combined with a threaded bar placed in a position parallel with the direction of movement of the scantling, a stop arm which is loose on the threaded bar so that it may be thrown across or away from the path of the scantling, and a nut on the threaded bar whereby the position of the stop arm when adjusted with respect to the notching cutter head and the saw, is maintained, and a vertical boring bit situated below the table with mechanism whereby the bit may be elevated to bore a hole in the notched portion of the scantling while the scantling is held by the stop, substantially as, and for the purpose specified.

JACOB PETERS.
EDWARD H. N. CLARKSON.

Witnesses:
WM. T. HOWARD,
GEO. B. GAMMIE.