

No. 693,809.

Patented Feb. 18, 1902.

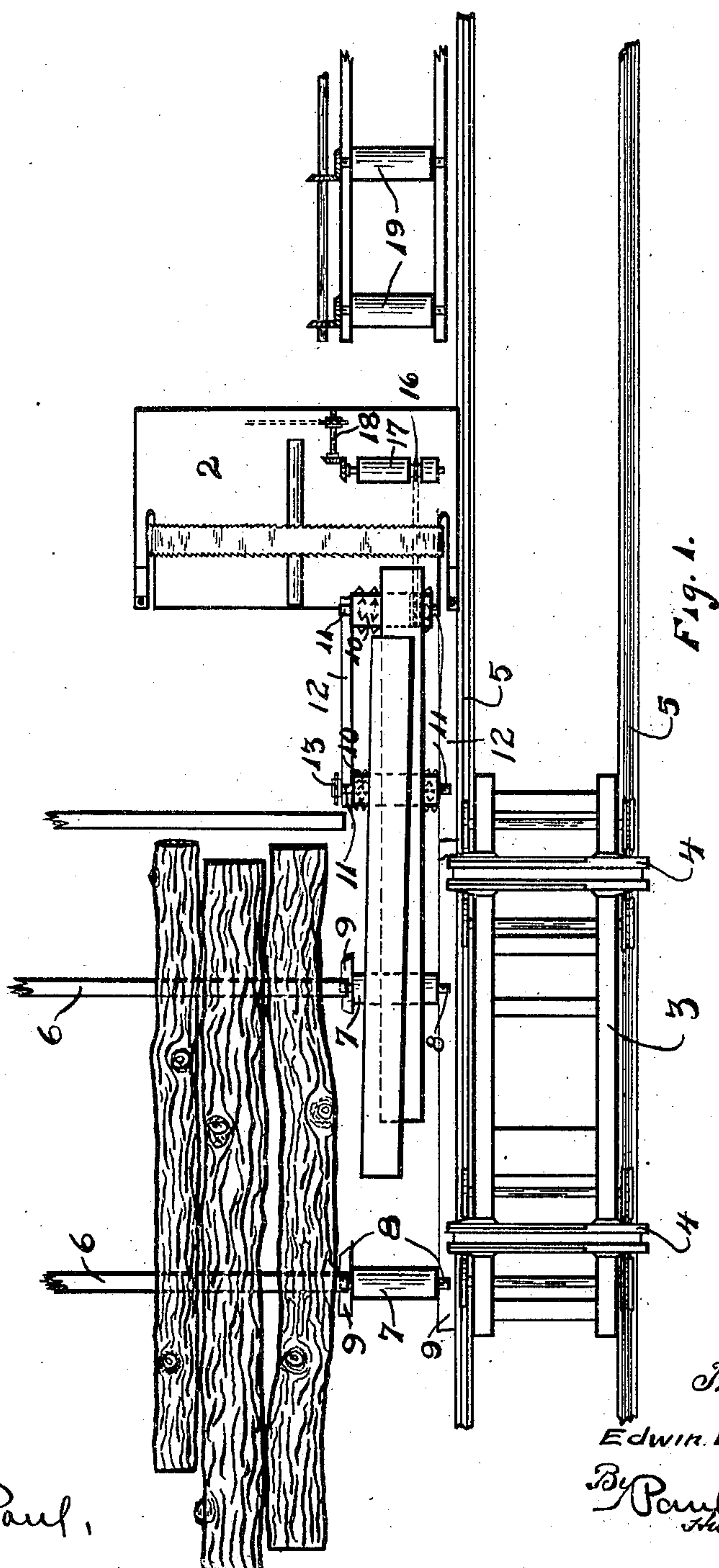
E. E. THOMAS.

LUMBER CONVEYER FOR DOUBLE CUTTING BAND MILLS.

(Application filed Aug. 20, 1901.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:
E. Stange
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By *Paul & Hawley*
His Attorneys

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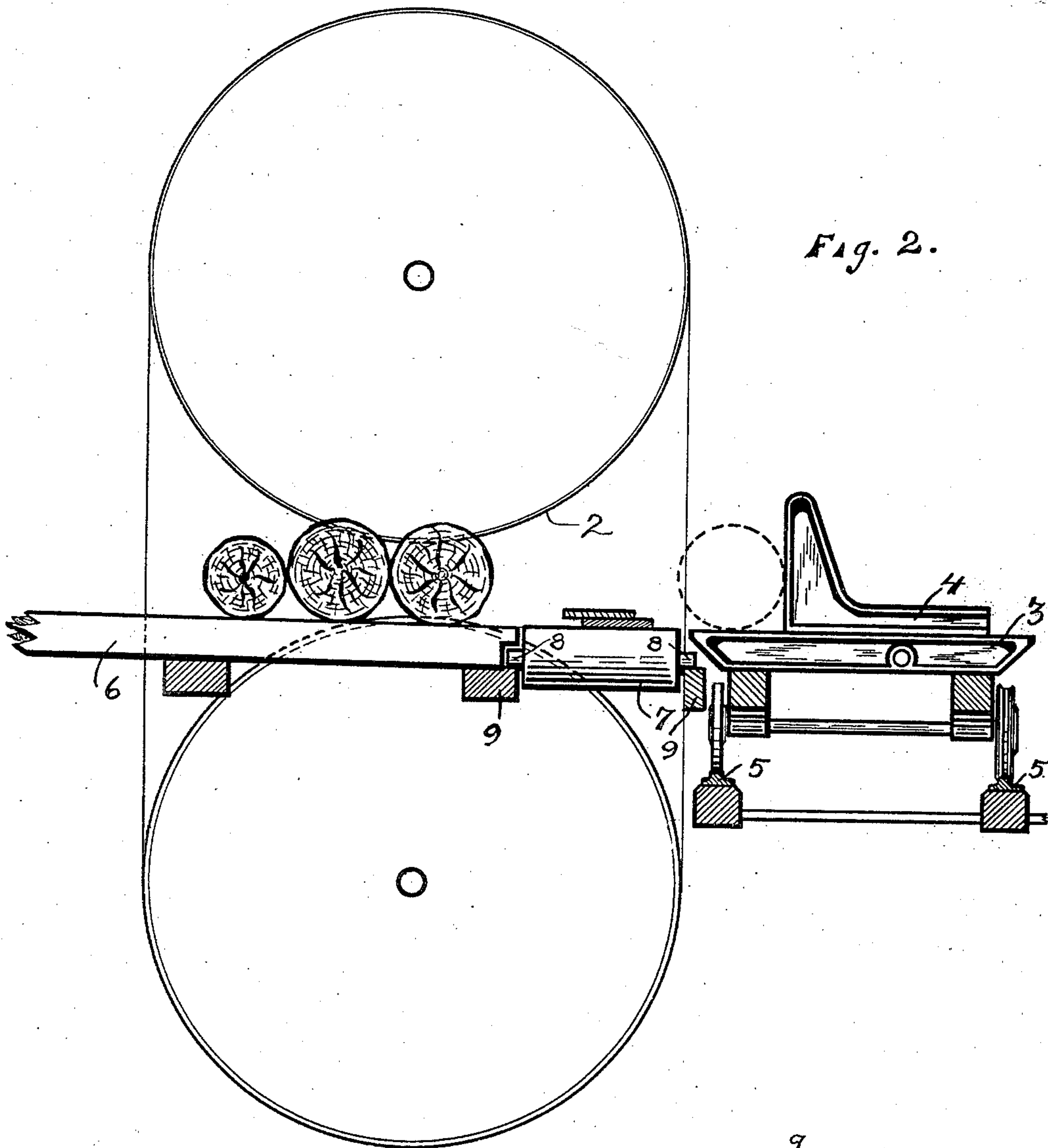
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3 Sheets—Sheet 2.



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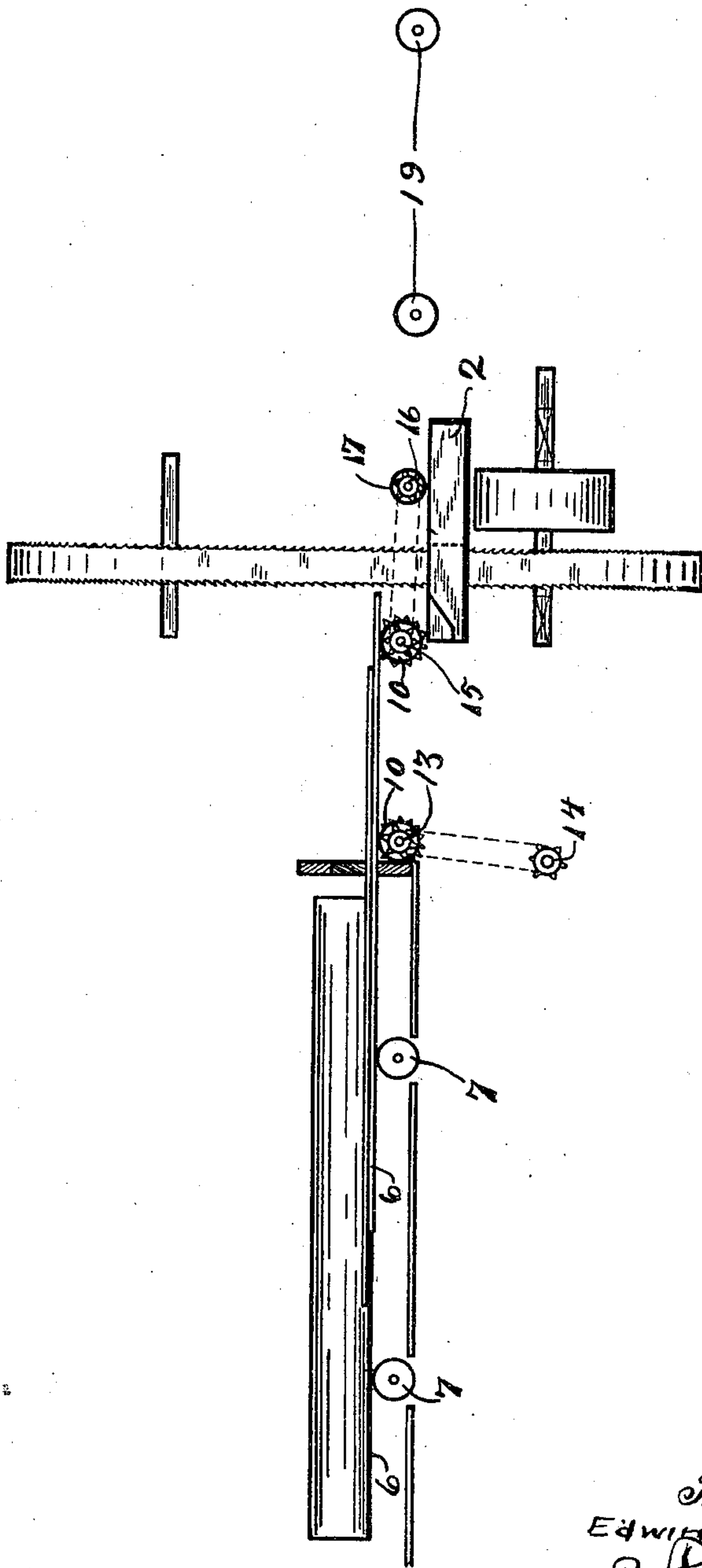


Fig. 3.

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UNITED STATES PATENT OFFICE.

EDWIN E. THOMAS, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO
UNION IRON WORKS, OF MINNEAPOLIS, MINNESOTA.

LUMBER-CONVEYER FOR DOUBLE-CUTTING BAND-MILLS.

SPECIFICATION forming part of Letters Patent No. 693,809, dated February 18, 1902.

Application filed August 20, 1901. Serial No. 72,649. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. THOMAS, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Lumber-Conveyers for Double-Cutting Band-Mills, of which the following is a specification.

The invention relates to band-mills, particularly of the double-cutting type.

10 The lumber cut on the backward or return movement of a double-cutting band-mill carriage falls upon a conveyer located between the saw and the log-deck. This conveyer has in mills as now made a very slow speed compared with that of the carriage, and hence the
15 carriage arrives at the point opposite the deck where the logs are delivered and is ready to receive another log before the last cut of the preceding log has been taken away. As the
20 slowly-moving lumber extends along between the deck and carriage it has been necessary or desirable in mills as heretofore constructed to drop the conveyer below the level of the deck and head-blocks and provide bridg-
25 ing means for the same, in order that the logs could be rolled from the deck to the carriage without waiting for the lumber to pass out from between them. This means has added considerably to the cost of operation of a mill; and the primary object of my invention is to
30 dispense entirely with all bridging devices and provide means on which the lumber falls and upon which the logs may be rolled from the deck to the carriage as fast as they can
35 be sawed.

The invention consists generally in providing one or more spiked live rolls between the band-saw and the log-deck.

40 Further, the invention consists in providing one or more idle skid-rolls between the deck and carriage and in line or running parallel with the log-skids.

45 Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a double-cutting mill embodying my
50 invention. Fig. 2 is an end view. Fig. 3 is a side elevation, the carriage, the track, and

supporting-timbers being, for the sake of clearness, omitted.

In the drawings, 2 represents a double-cutting band-mill; 3, the log-carriage; 4, the
55 head-blocks; 5, the track, and 6 the log-skid, forming the upper portion of the log-deck. The deck and carriage are spaced from each other, as is customary in mills of this class. In the space between the deck and the ends
60 of the log-skids and the carriage I provide one or more skid-rolls 7, that are "dead" or idle and free to revolve either forward or backward in suitable bearings 8 in the log-deck and in a timber or timbers 9. These
65 rolls I have shown substantially in line with the log-skids; but they may be parallel therewith, if preferred, and their upper surfaces are substantially on a level with the tops of the log-skids and a little below the head-
70 blocks. These rolls being on substantially the same level as the deck and head-blocks have all the functions of the bridges in general use, in that they permit the logs to be
75 rolled by hand or other power directly from the deck to the carriage, and they possess, in addition, an advantage over the bridges, for they permit a log to be moved easily length-
80 wise to change its position with respect to the carriage and are thus adapted for use with single as well as double cutting mills. Between the saw and the log-deck, parallel with the idle rolls 7 and substantially on the same level, I provide one or more spiked "live" rolls 10, mounted in bearings 11, supported
85 on the timber 12, and preferably on the saw-mill frame. The roll near the deck is provided with a sprocket 13, connected to a driven sprocket 14 by a suitable belt. (Indicated by dotted lines in Fig. 3.) The roll near
90 the saw is also provided with a sprocket 15, that has a belt connection with a similar sprocket 16 on the live roll 17. (See dotted lines, Fig. 1.) This live roll is common to mills of this class and is driven, as usual,
95 by the shaft-and-pinion mechanism 18. I prefer to drive the spiked rolls separately, so that there will be no intervening mechanism to interfere with the placing of the saw on the wheels or removing it therefrom.

100 19 represents live rolls of the usual construction located on the opposite side of the

saw from the log and whereon the lumber falls that is cut on the forward movement of the carriage. The lumber as it is cut on the backward movement of the carriage falls upon the spiked and the idle rolls, and the spikes or spines of the former, digging into the lumber, will move it rapidly away, and said spiked rolls are driven at a sufficiently high speed to take away the two pieces made by the last cut by the time the carriage reaches its loading position in front of the log-deck and before the log is started. I am thus able to keep the space in front of the deck clear of lumber and roll the logs off the deck upon the carriage by hand or other power as fast as one log is sawed and the carriage set to receive another without the use of bridge devices of any kind.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a band-mill, the combination, with the saw, log-deck and carriage, of one or more idle rolls interposed upon stationary supports between the deck and carriage and on a level substantially with the top of the log-skids and the carriage head-blocks, and upon which the logs are rolled from the deck to the carriage, substantially as described.

2. In a double-cutting band-mill, the combination, with the saw, log-deck and carriage, of lumber-conveying means provided between said saw and deck, and whereon the lumber falls that is cut on the backward or return movement of the carriage, and idle rolls provided upon stationary supports between said deck and carriage and on substantially the same level with said lumber-conveying means and the carriage head-block, substantially as described and for the purpose specified.

3. In a double-cutting band-mill, the combination, with the saw, log-deck and carriage, of one or more revolving spiked rolls provided between said saw and deck, idle rolls pro-

vided upon stationary supports between said deck and carriage, parallel with said spiked rolls, and said spiked and idle rolls being on a level substantially with the top of the head-blocks and the log-skids, as described, and whereon the lumber falls that is cut on the return movement of the carriage, substantially as described.

4. In a double-cutting band-mill, the combination, with a saw, the log-deck and carriage, of a revolving spiked roll provided near said saw, a similar revolving roll provided near the log-deck parallel with said first-named roll, said rolls being on a level substantially with the log-deck and the carriage head-blocks, idle rolls provided upon stationary supports between said log-deck and carriage and forming a continuation of the log-skids and on substantially the same level therewith, and the carriage head blocks and on which idle rolls the logs are rolled from the deck to the carriage, substantially as described.

5. In a double-cutting band-mill, the combination, with the saw, log-deck and carriage, of lumber-conveying means provided between said saw and deck and whereon the lumber falls that is cut on the backward or return movement of the carriage, and idle rolls provided between said deck and carriage and on substantially the same level with said lumber-conveying means and the carriage head-blocks, said rolls serving as skids over which the logs are rolled from the deck to the carriage and as supports for the ends of the lumber that fall upon said lumber-conveying means, substantially as described.

In testimony whereof I have hereunto set my hand, this 16th day of August, 1901, at Minneapolis, Minnesota.

EDWIN E. THOMAS.

In presence of—

RICHARD PAUL,
M. E. GOOLEY.