

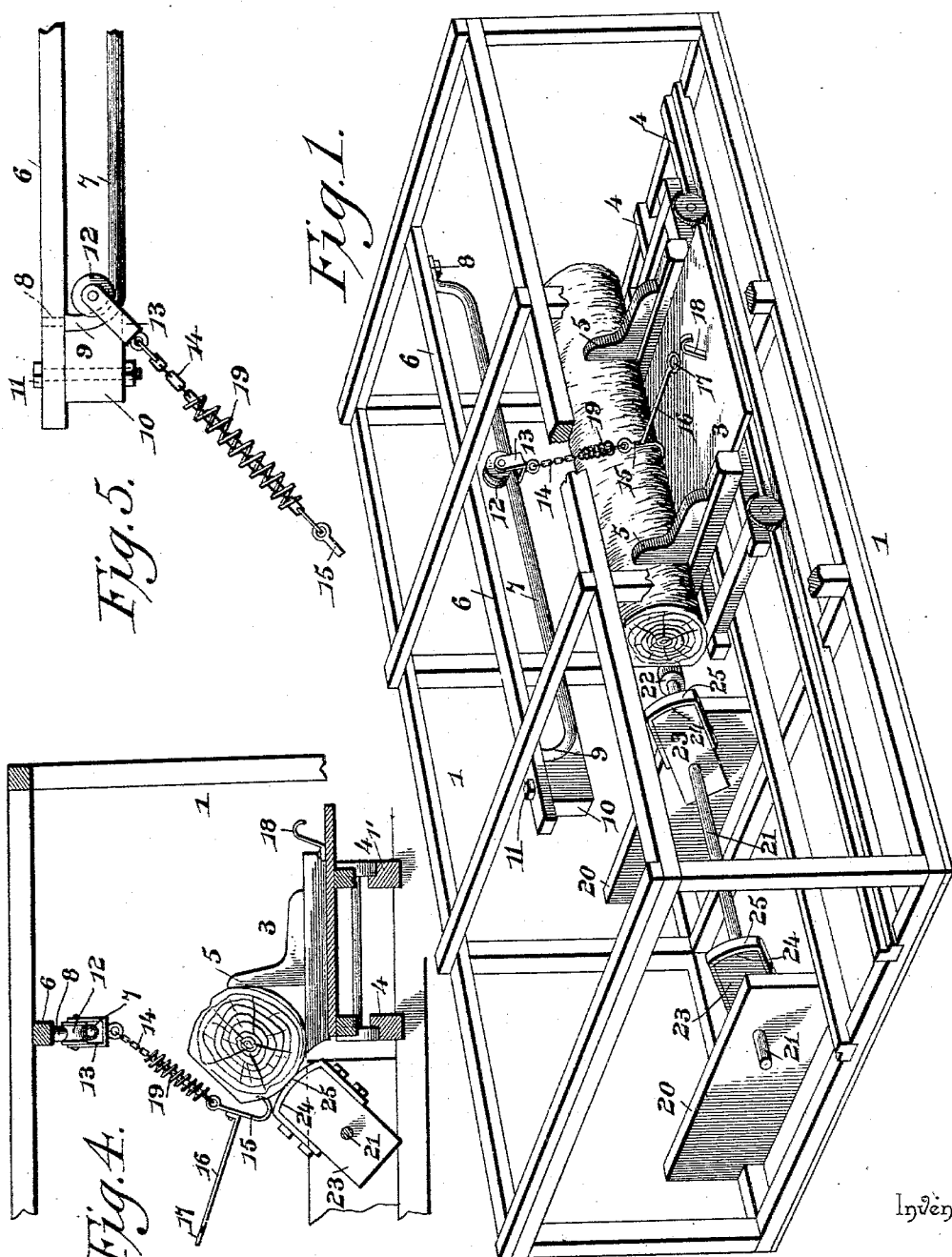
(No Model.)

2 Sheets—Sheet 1.

D. J. SALTSMAN.
LOG TURNER.

No. 571,801.

Patented Nov. 24, 1896.



Inventor

Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

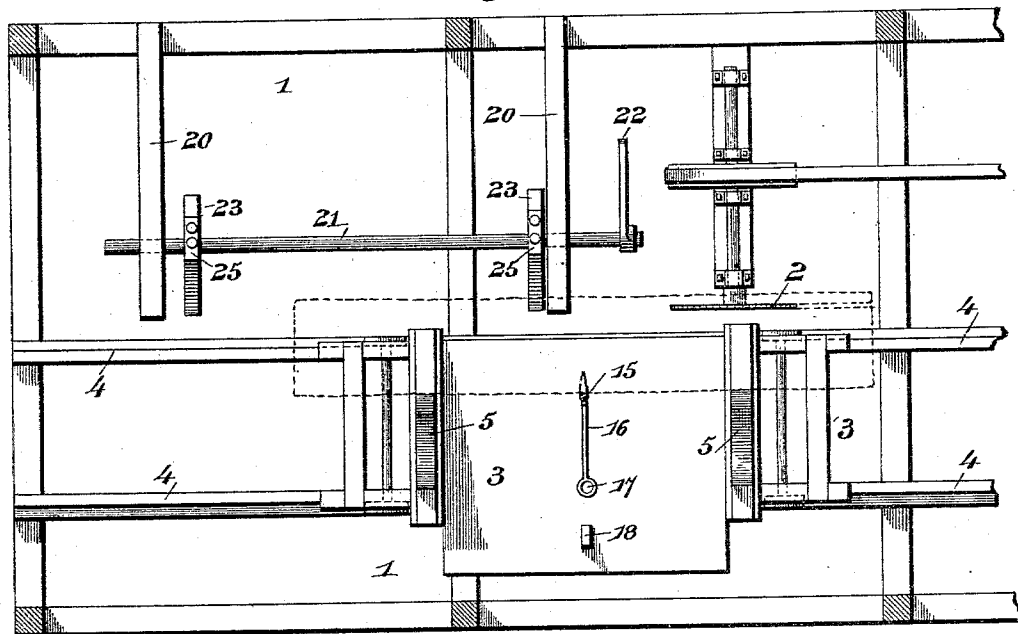


Fig. 6.

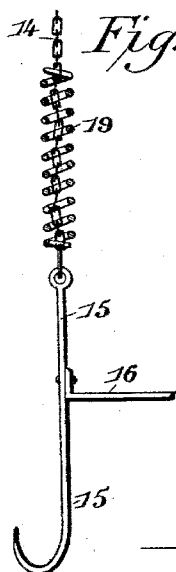
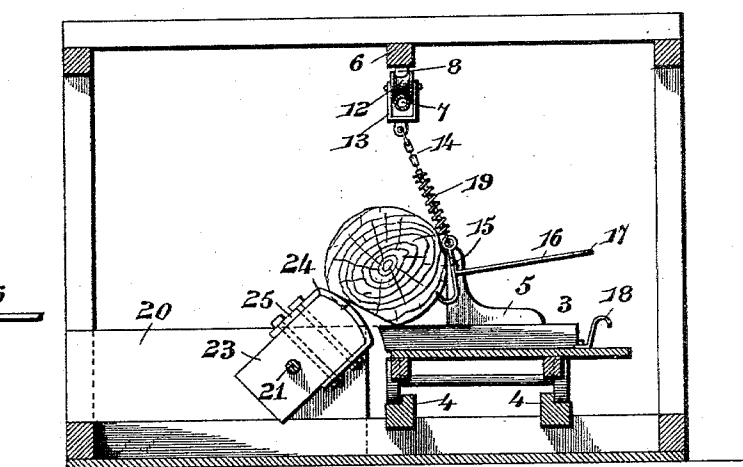


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL J. SALTSMAN, OF MEMPHIS, TENNESSEE.

LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 571,801, dated November 24, 1896.

Application filed August 19, 1896. Serial No. 603,251. (No model.)

To all whom it may concern:

Be it known that I, DANIEL J. SALTSMAN, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Log-Turner, of which the following is a specification.

This invention relates to log-turners; and it has for its object to provide a new and useful log-turning device for use in sawmills in connection with the log-carriage, whereby heavy logs on the log-carriage can be easily and accurately turned automatically by the movement of the log-carriage itself.

To this end the invention primarily contemplates an improvement upon the construction disclosed in my former patent, No. 320,591, whereby log-turners of this character shall be made more efficient and positive in operation, so as to save both time and labor, and at the same time to provide a construction that can be readily adapted for use in connection with any ordinary circular-saw mill.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of a sawmill equipped with the log-turning apparatus contemplated by this invention. Fig. 2 is a horizontal sectional view of the construction shown in Fig. 1 above the plane of the log-carriage. Fig. 3 is a vertical transverse sectional view showing the proper relation of parts when the log is being turned in a direction away from the head-blocks of the log-carriage. Fig. 4 is a similar view showing the parts in the position which they occupy when the log is being turned toward and against the head-blocks of the log-carriage. Fig. 5 is a detail elevation showing the position assumed by the log-turning chain when the trolley reaches the circle or curved stop at one end of the track. Fig. 6 is a detail view of the cant-hook and the portion of the log-turning chain connected therewith.

Referring to the accompanying drawings, the numeral 1 designates the skeleton framework of an ordinary sawmill, within which,

in its usual position, is arranged the upright circular saw 2 for cutting logs in the usual manner as the same are advanced thereto on the log-carriage 3, arranged to travel in the mill on the carriage-ways 4. The carriage-ways 4 are arranged longitudinally of the sawmill at one side of the circular saw 2, so that as the log-carriage is fed back and forth by the usual feeding mechanism the log will be sawed, and, after a cut, will be given an opportunity to be turned a proper distance for another cut, all of which is the usual method of sawing in a circular-saw mill.

The reciprocating log-carriage 3, traveling on the carriage-ways 4, is provided with the ordinary head-blocks 5, against which the saw-log rests, and which blocks 5 are set or adjusted transversely of the carriage to adjust the log up to the saw when necessary, as is well understood by those skilled in the art; but the present invention relates exclusively to means for turning the log on the carriage after a cut has been made, and in connection with the parts described the framework 1 of the sawmill has fitted therein, longitudinally above the carriage-ways, a longitudinal track-supporting beam 6, to the under side of which supporting-beam 6 is suitably secured a track-rail 7. The track-rail 7 is preferably made of piping and is provided at its opposite ends with the upturned attaching-feet 8, secured to the beam 6 and disposing the horizontal portion of the track-rail below and parallel with the beam.

The longitudinally-arranged single track-rail 7 is provided at one of its upturned ends with a curved or circle stop portion 9, which is braced by a brace-block 10, arranged directly thereagainst and secured to the track-supporting beam 6 by a bolt 11 or other suitable means, said brace-block 10 acting in the capacity of a brace or reinforce for that end of the rail 7 forming a stop for the trolley-wheel 12, traveling on the rail. The trolley-wheel 12 is annularly grooved to ride on the upper side of the track-rail and is journaled in the U-shaped bearing-yoke 13, embracing the track-rail and depending below the same. The bearing-yoke 13, carrying the trolley-wheel 12, has loosely connected thereto the upper end of the log-turning chain 14, the lower end of which chain has connected

loosely thereto one end of the cant-hook 15, the point of which hook is adapted to be engaged at one lower side of the log while it rests on the reciprocating log-carriage 3.

5 The cant-hook 15 is provided intermediate of its ends with an offstanding handle-arm 16, which enables the hook to be easily engaged with the log, and is provided at its outer end with an eye 17, adapted to be detachably engaged with a securing pin or hook 18, fitted

10 on the body of the log-carriage to provide means for temporarily fastening the log-turning chain and its cant-hook to the log-carriage, so as to travel with the carriage

15 when no turning of the log is needed, while at the same time holding the said chain and cant-hook in a proper position for use when it is desired to engage the cant-hook with the log on the carriage, as will be readily understood.

20 The log-turning chain 18 is provided with a spring-section 19, consisting of a coiled spring encircling a portion of the chain and connected at its extremities with separate

25 links of the chain at a distance apart from each other to provide means for normally drawing the cant-hook 15 in an upward direction. The portion of the chain 14 between the terminals of the spring 19 is sufficiently slack, normally, to allow the cant-hook 15 to be drawn downward and engaged

30 with one lower side of the log, and when thus engaged with the log the hook is held firmly in position by the tension of the said spring or spring-section 19, so that the cant-hook

35 will be held in proper engagement with the log while the log-carriage is traveling backward and until the trolley at the upper end of the log-turning chain is brought to a stop

40 by the curved stop end 9 of the track-rail.

At a suitable distance from the saw 2 of the sawmill and at one side of the carriage-ways 4 are arranged logways 20, from which the logs are usually rolled onto the log-carriage and against the head-blocks 5 thereof;

45 but in the present invention the logways 20 have journaled therein a horizontal adjusting-shaft 21, provided at one end with an adjusting lever or crank 22, preferably within

50 convenient reach of the sawyer, so that the shaft 21 may be turned to adjust or set to a proper position the oscillatory skid-knees 23.

A pair of skid-knees 23 are preferably employed and are located, respectively, at one

55 side of the opposite logways 20. The said skid-knees 23 are mounted fast on the shaft 21, so as to turn therewith, and are provided with rounded contact ends 24, which rounded contact ends 24 are fitted with the metallic facing straps or bands 25, which protect the working ends of the knees from undue wear and at the same time afford smooth surfaces, against

60 which the log can slide during the operation of turning. The adjusting-shaft 21 for the knees 23 is arranged parallel with the carriage-ways 4, so as to dispose the oscillatory

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skid-knees 23 at right angles to the movement of the log-carriage, whereby the log will be thrown or turned directly against the rounded contact ends of the knees as the log-carriage

70 travels past the knees on its return movement.

In operating the log-turning apparatus the adjusting-shaft 21 is turned so as to dispose the skid-knees 23 obliquely or at an angle,

75 with their rounded contact ends 24 arranged directly at one side of and facing the ways on which the log-carriage travels. On its forward movement the log-carriage carries the log onto the saw and a cut is made, and when

80 the carriage begins its backward movement the cant-hook 15 is engaged with one lower side of the log, as clearly illustrated in Fig. 1 of the drawings. As the log-carriage continues its backward movement the log-turning chain and its cant-hook 15 necessarily

85 travel with the carriage by reason of the trolley traveling on the single track-rail 7. When the carriage reaches a position at one side of the logways 20 and skid-knees 23, the trolley

90 12 will have reached the curved stop end 9 of the track-rail and prevents further travel of the log-carrying chain 14, but when the trolley 12 is brought against the curved stop end 9 of the track-rail the continued backward

95 movement of the log-carriage draws the chain 14 very taut and causes the lower end thereof to swing in the arc of a circle as the cant-hook 15 tends to disengage itself from the log. This movement lifts and turns the log onto

100 the adjacent rounded contact ends 24 of the skid-knees, and the weight of the log on these knees causes the same to oscillate or drop downward, thereby allowing the log at the

105 same time to drop or slip back onto the carriage against the head-blocks 5 ready for another cut.

While it is preferred to operate the log-turner in a manner to turn the log away from the head-blocks of the carriage and onto the rounded contact ends of the skid-knees, it will

110 be obvious that the cant-hook 15 of the log-turning chain can be engaged with the side of the log opposite the head-blocks 5, so as to turn the log in a direction toward and against said head-block, as illustrated in Fig. 4 of the drawings. In this operation of the turner the cant-hook 15 is not engaged with the log until

115 after the central portion of the log passes the saw on the return movement of the carriage, in order that the saw will not interfere with the turning of the log. When the log is turned toward and against the head-block of the carriage, the skid-knees 23 prevent the

120 log from slipping off the carriage away from the head-blocks while being turned, as clearly shown in Fig. 4.

It will be observed that the brace-block 10 takes the strain of the weight of the log as the trolley strikes the curved stop end 9 of

130 the track-rail, and it will be noted at this point that in the usual operation of the turner

the knees 23 take all the strain and weight off of the carriage-blocks and track while the log is being turned.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a log-turner for sawmills, the combination with the sawmill log-carriage; of a log-turning chain carrying a hook at its lower end for engagement with the log on the carriage and having a traveling support at its upper end, and a suitably-arranged stop to check the movement of the traveling support of the chain, substantially as set forth.

2. In a log-turner for sawmills, the combination with the sawmill log-carriage; of a track-rail arranged longitudinally above the carriage and provided with a stop at one end, and a log-turning chain carrying a hook at its lower end for engagement with the log on the carriage, and having a traveling support at its upper end working on said track-rail, substantially as set forth.

3. In a log-turner for sawmills, the combination with the sawmill log-carriage, of a log-turning chain carrying a hook at its lower end for engagement with the log on the carriage and having a traveling support at its upper end, said log-turning chain being provided intermediate of its ends with a spring-section, and a suitably-arranged stop for the traveling support of the chain, substantially as set forth.

4. In a log-turner for sawmills, the combination with the sawmill log-carriage; of a track-supporting beam arranged longitudinally above the log-carriage, a longitudinal

track-rail arranged below the beam and fastened thereto, said track-rail being provided at one end with a curved stop portion, a rigid brace-block secured against the curved stop portion of the track-rail, a log-turning chain carrying at its upper end a trolley-wheel traveling on said track and provided intermediate of its ends with a spring-section, and a cant-hook attached to the lower end of the chain and provided with an offstanding handle-arm adapted to be temporarily fastened to the log-carriage when not in use, substantially as set forth.

5. In a log-turner for sawmills, the combination with the sawmill-carriage; of a log-turning chain having a traveling support for its upper end and carrying at its lower end a cant-hook, a suitably-arranged stop to check the movement of the traveling support of the chain, and oscillatory skid-knees movably supported at one side of the ways for the log-carriage beyond said stop, substantially as set forth.

6. In a log-turner for sawmills, the combination with the sawmill log-carriage; of a log-turning chain having a traveling support for its upper end and carrying at its lower end a cant-hook, a suitably-arranged stop to check the movement of the traveling support of the chain, a horizontal adjusting-shaft arranged parallel with the movement of the log-carriage beyond said stop, and oscillatory or dropping skid-knees mounted on said shaft and provided with metal-faced rounded contact ends, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DANIEL J. SALTSMAN.

Witnesses:

THOS. P. COLE,
GEO. T. PARKISON.