

No. 886,918.

PATENTED MAY 5, 1908.

S. D. ARTHUR.

LOG TURNER.

APPLICATION FILED JAN. 25, 1907.

2 SHEETS—SHEET 1.

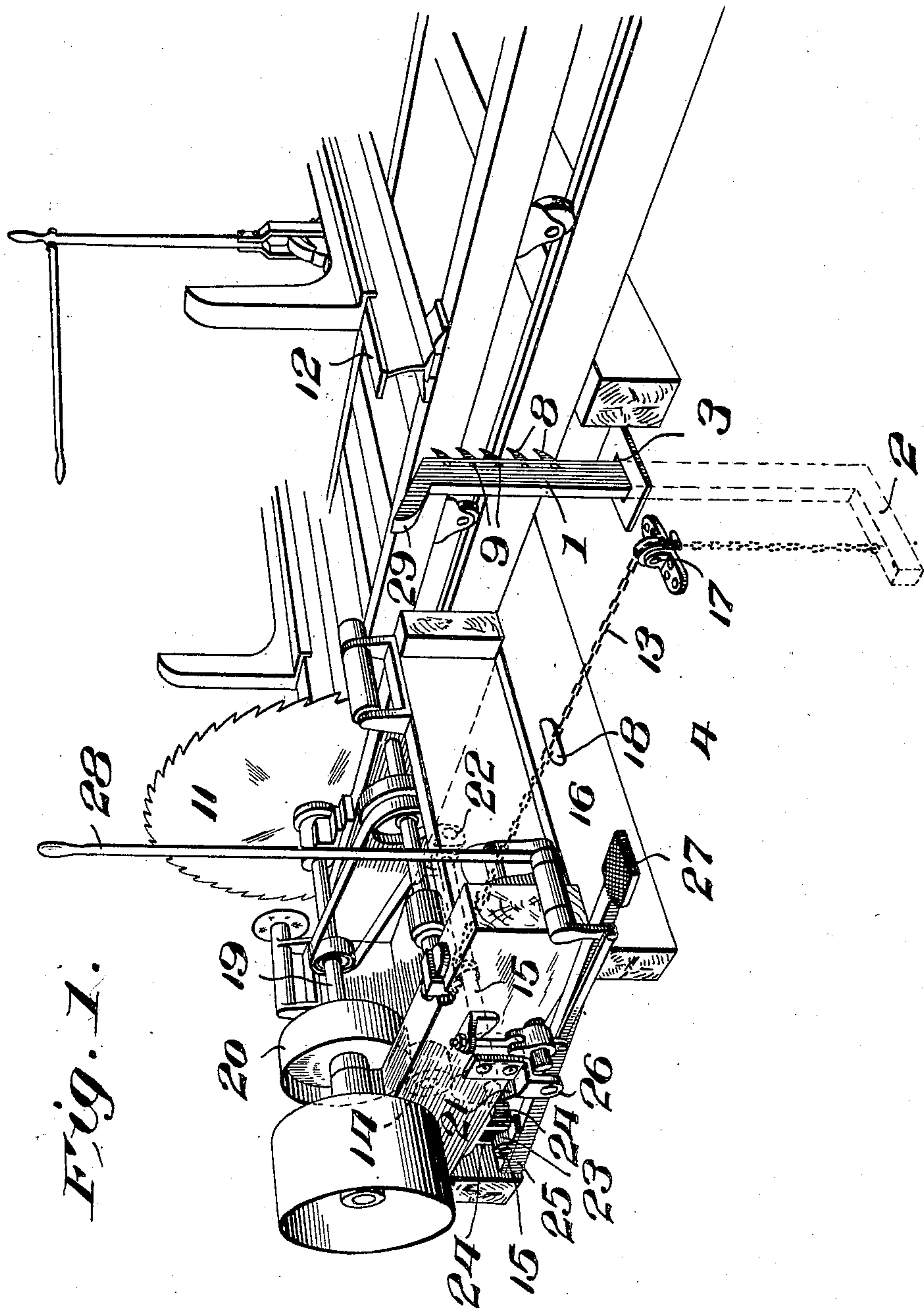


Fig. 1.

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Witnesses

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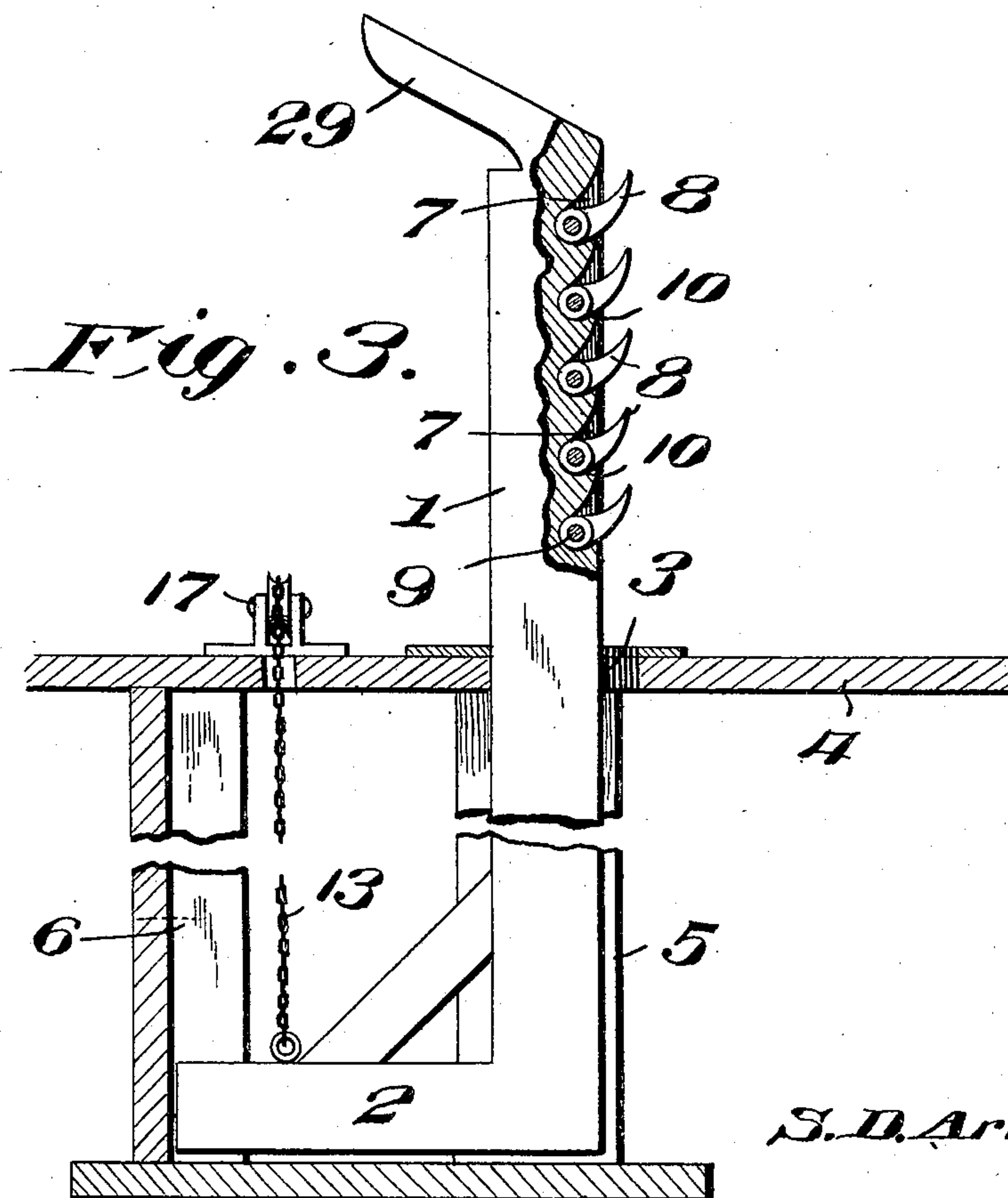
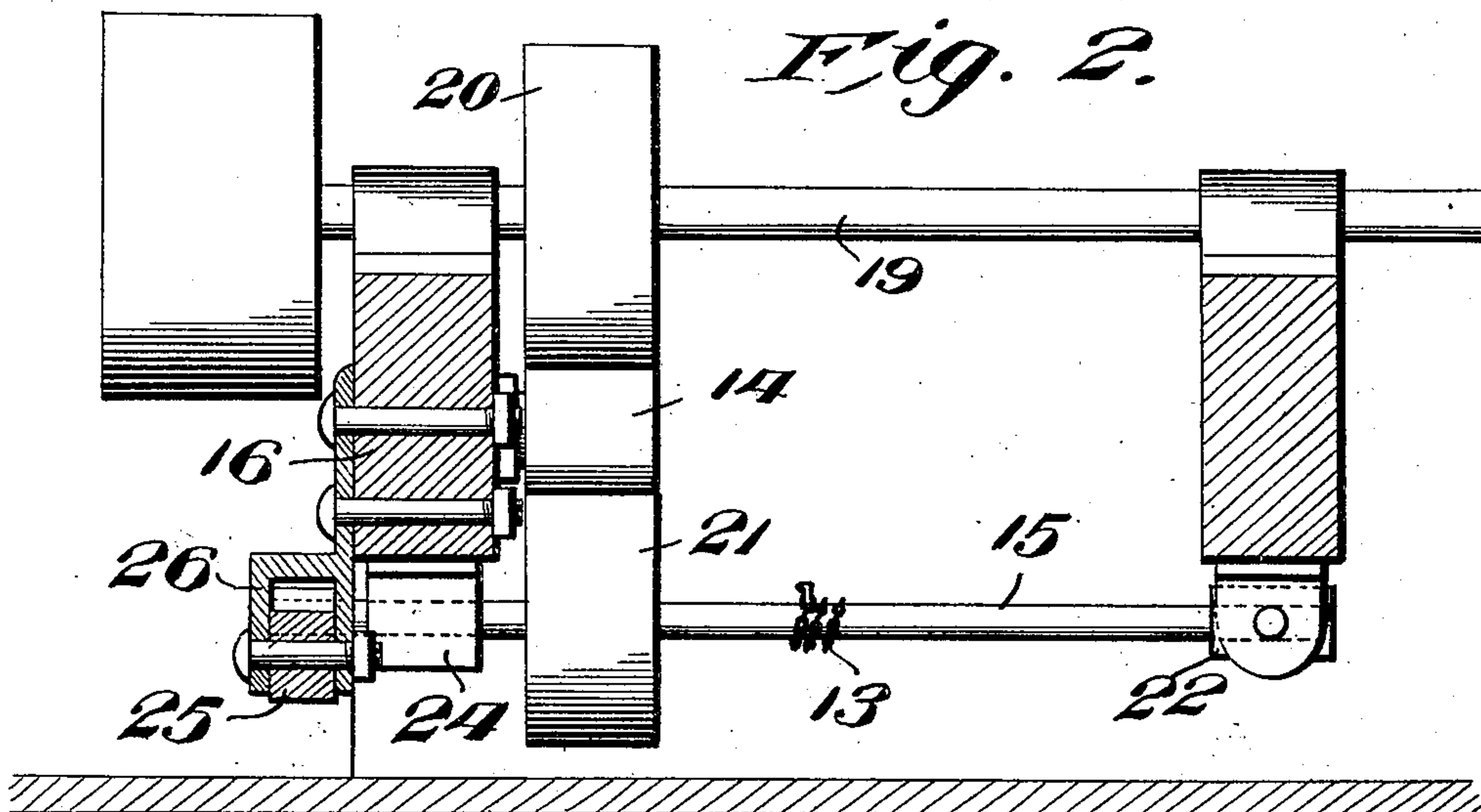
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Witnesses

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UNITED STATES PATENT OFFICE.

STEPHEN DOUGLAS ARTHUR, OF ETHELSVILLE, ALABAMA.

LOG-TURNER.

No. 886,918.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed January 25, 1907. Serial No. 354,164.

To all whom it may concern:

Be it known that I, STEPHEN D. ARTHUR, a citizen of the United States, residing at Ethelsville, in the county of Pickens and State of Alabama, have invented certain new and useful Improvements in Log-Turners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to attachments for saw mills and my object is to provide means for automatically turning the log upon the mill carriage.

A further object is to provide means for operating the turning mechanism by disposing certain parts of the operating mechanism into engagement with the source of power employed in driving the saw.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a perspective view of a saw mill and showing my improved form of log turner disposed in coöperative relation therewith. Fig. 2 is a sectional view through a portion of the mill and showing my improved operating mechanism, secured thereto, and, Fig. 3 is a sectional view through the guiding mechanism for my improved turner and showing a portion of the turner broken away.

In preparing logs for sawing planks or the like therefrom, it is necessary to remove portions of the outer surface of the log to form the same into a square and after a slab has been removed from one side of the log, the carriage is run back and the log given a quarter turn which heretofore has been accomplished by employing a manually operated cant hook which requires a great deal of time and labor to operate the same and in order to more expeditiously turn the log, I have provided an automatically operated log turner comprising a vertically disposed bar 1, which is provided at its lower end with a lateral extension 2, thereby making the log turner substantially L-shaped.

The bar 1 is disposed through a suitable opening 3 in the floor 4 of the mill and said bar is held in a vertical position by disposing the lower end thereof and the lateral extension 2 between suitable guide posts 5 and 6, respectively, the bar and extension being

vertically movable between the guide posts. That portion of the bar 1 above the floor 4 is provided at its inner face with a plurality of sockets 7 in each of which is seated a curved finger 8, said fingers being held within the sockets by means of pivot pins 9.

The downward movement of the fingers 8 is limited by means of shoulders 10 formed at the lower edge of the sockets 7 while the upper edge of each socket is cut away so that the fingers may be freely moved upwardly when desired. The inner edge of the bar 1 is disposed at a suitable distance from the line of the saw 11 and carriage 12 so that when the bar 1 is elevated, the fingers 8 will engage the log upon the carriage 12 and rotate the same and it will be seen that by providing the shoulders 10 the fingers will be held into firm engagement with the log as the bar is raised. As soon, however, as the log has been turned a proper distance the bar 1, when released, will immediately descend and the fingers will be elevated into engagement with the curved wall of the sockets thereby permitting the bar to freely descend.

In order to conveniently elevate the bar 1, I have provided a cable 13, one end of which is secured to the lateral extension 2 while the opposite end thereof is disposed around a shaft 15 which is operatively mounted upon the saw frame 16, the cable in its passage from the extension 2 to the shaft 15 passing over a sheave 17 secured to the floor 4 at a point above the extension 2 and through an opening 18 in the frame 16.

A driving shaft 19 is disposed above the shaft 15 upon which is mounted a pulley 20 while the shaft 15 is provided with a friction pulley 21 which is driven from the pulley 20 through the medium of an idler 14 disposed between the pulleys 20 and 21. When the log turner is not in operation the friction pulley 21 is out of engagement with the idler 14, but when it is desired to turn the log, one end of the shaft 15 is elevated until the friction pulley is disposed into engagement with the idler 14 thereby rotating the shaft and winding the cable thereon and to accomplish this result one end of the shaft is mounted in a pivoted bearing 22 while the opposite end of the shaft is mounted in a movable bearing 23. The movable end of the shaft 15 extends between ears 24 secured to a portion of the frame 16 said ears serving as a guide for the shaft and holding the same against lateral movement.

The movable bearing 23 is mounted upon the inner end of a lever 25 said lever being in turn pivotally mounted in a bracket 26 carried by the end section of the frame 16 the
 5 outer end of said lever being provided with a tread 27 so that when it is desired to rotate the shaft 15 to wind the chain 13 thereon the operator depresses the end of the lever containing the tread thereby elevating the friction pulley 21 into engagement with the idler 14 which is in turn constantly in engagement with the pulley 20 and the shaft 19 and by holding the tread end of the lever 25 downwardly the cable 13 will be properly
 10 wound upon the shaft 15. That end of the lever 25 containing the tread 27 is directed to a point adjacent to the operating lever 28 so that the operator can readily manipulate both levers without moving away from his
 20 station.

The opening 3 in the floor is elongated so that when the cable is being wound upon the drum the bar 1 may tilt towards the log and the fingers be directed into engagement therewith and it will be seen that by attaching the cable to the lateral extension 2, this result will be readily accomplished as the elevating movement of the cable upon the extension will tend to tilt the bar laterally.

30 As soon as the log begins to turn upon the carriage the bar 1 is gradually directed to a vertical position and the bar is spaced a sufficient distance from the edge of the carriage to compensate for the projecting portion of the log before the same is sawed and
 35 even if the log is not of sufficient diameter to direct the bar to a vertical position, the tension of the cable upon the lateral extension will hold the fingers into engagement with the log at all times.

In mills of this class it is the usual practice to convey the logs from the mill yard upon a specially prepared car or truck and said truck is moved to a position adjacent the carriage
 45 12 after which the log is deposited upon the carriage and to readily accomplish this result without employing the usual form of cant hook or other laborious means I provide the extreme upper end of the bar 1 with an
 50 upwardly and laterally extending arm 29 so that when the log is deposited in front of the carriage a portion thereof extends over the bar 1 and by elevating the bar the arm 29 is directed into engagement with the lower portion of the log and as said arm is tapered towards the carriage 12 the upward movement of the bar will roll the log upon the carriage.

In operation after the first slab has been removed from the log and it is desired to rotate the same, the operator depresses the tread 27, thereby elevating the movable end of the shaft 15 and directing the friction pulley 21 into engagement with the idler 14 whereupon motion will be imparted to the shaft 15 and the cable wound thereon. As soon as the cable has been drawn taut the bar 1 will be moved laterally towards the log until the fingers 8 at the upper end of the bar are directed into engagement with the log and by a continuous winding of the cable upon the shaft the bar 1 will be elevated until the log has been turned a proper distance, the fingers upon the bar successively engaging the log as the bar is elevated. As soon as the log has been turned a proper distance, the operator removes pressure from the tread 27 whereupon the shaft 15 will descend and remove the friction pulley from the idler 14, thereby releasing the upward pull upon the bar and allowing the same to descend.

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It will now be seen that I have provided a cheap and economical means for automatically turning the log upon the carriage and it will further be seen that the log may be turned as rapidly or as slowly as desired so that the log can be adjusted to an exact nicety on the carriage. The rapidity of the operation of the device depends upon the amount of pressure placed upon the tread lever as when the friction pulley is directed firmly against the idler 14, the bar 1 will be rapidly elevated, on the other hand when the friction pulley is disposed with less pressure against the idler 14, the bar 1 will be elevated more slowly.

What I claim is:

As an improved article of manufacture, a log turner comprising a vertically disposed bar having at its lower end an integral lateral extension and at its upper end an upwardly and laterally extending arm of less length than the lower extension and in the same vertical plane, the vertical portion of said log turner being provided with a plurality of sockets, and a plurality of independently movable curved fingers independently pivoted in said sockets, said sockets being provided at their lower ends with shoulders to limit the downward movement of said fingers.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STEPHEN DOUGLAS ARTHUR.

Witnesses:

T. V. SHELTON,
 W. G. BEARD.

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