

No. 721,409.

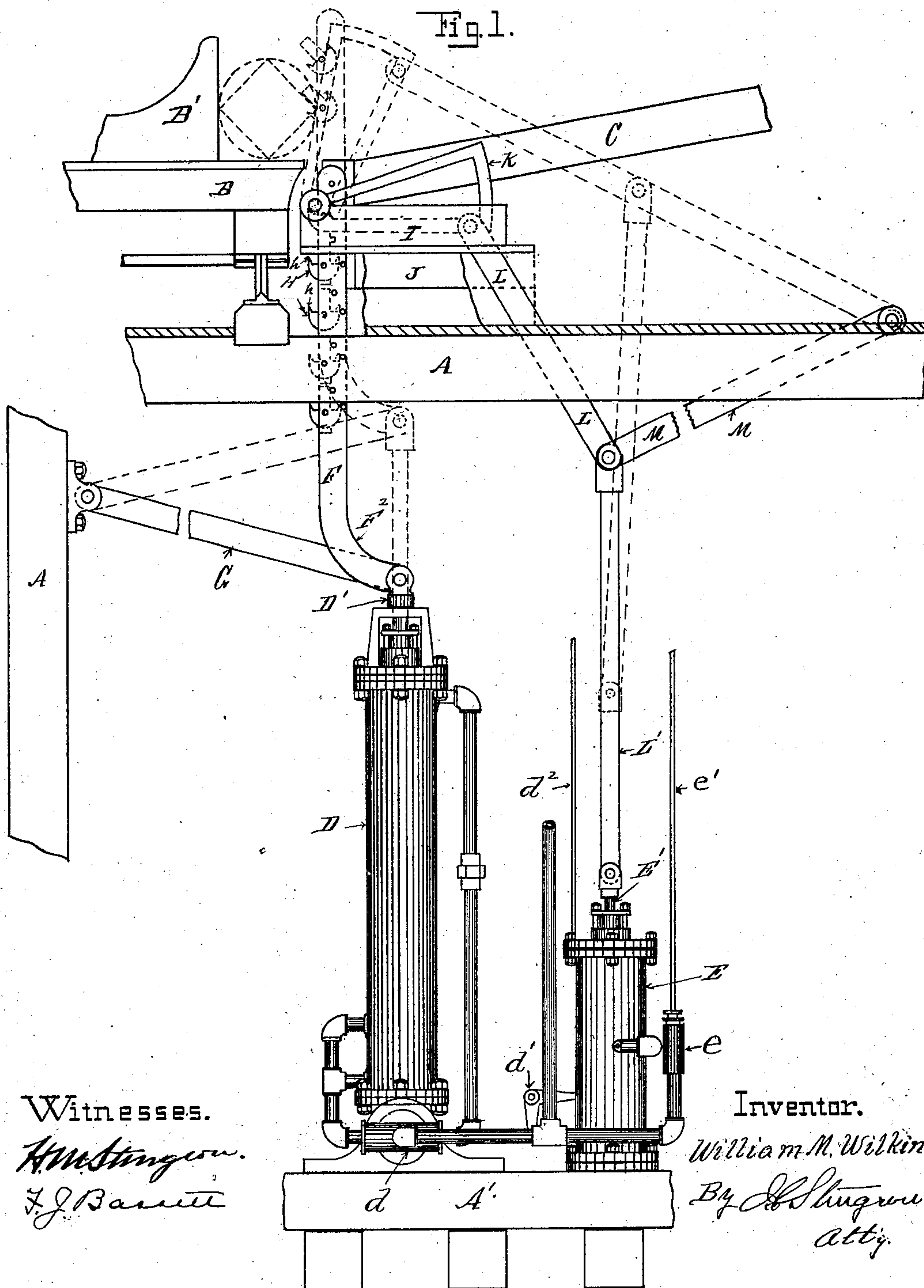
PATENTED FEB. 24, 1903.

W. M. WILKIN.
LOG TURNING MECHANISM.

APPLICATION FILED MAY 6, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.
H. M. Stinson.
F. J. Bassett

Inventor.
William M. Wilkin
By H. M. Stinson
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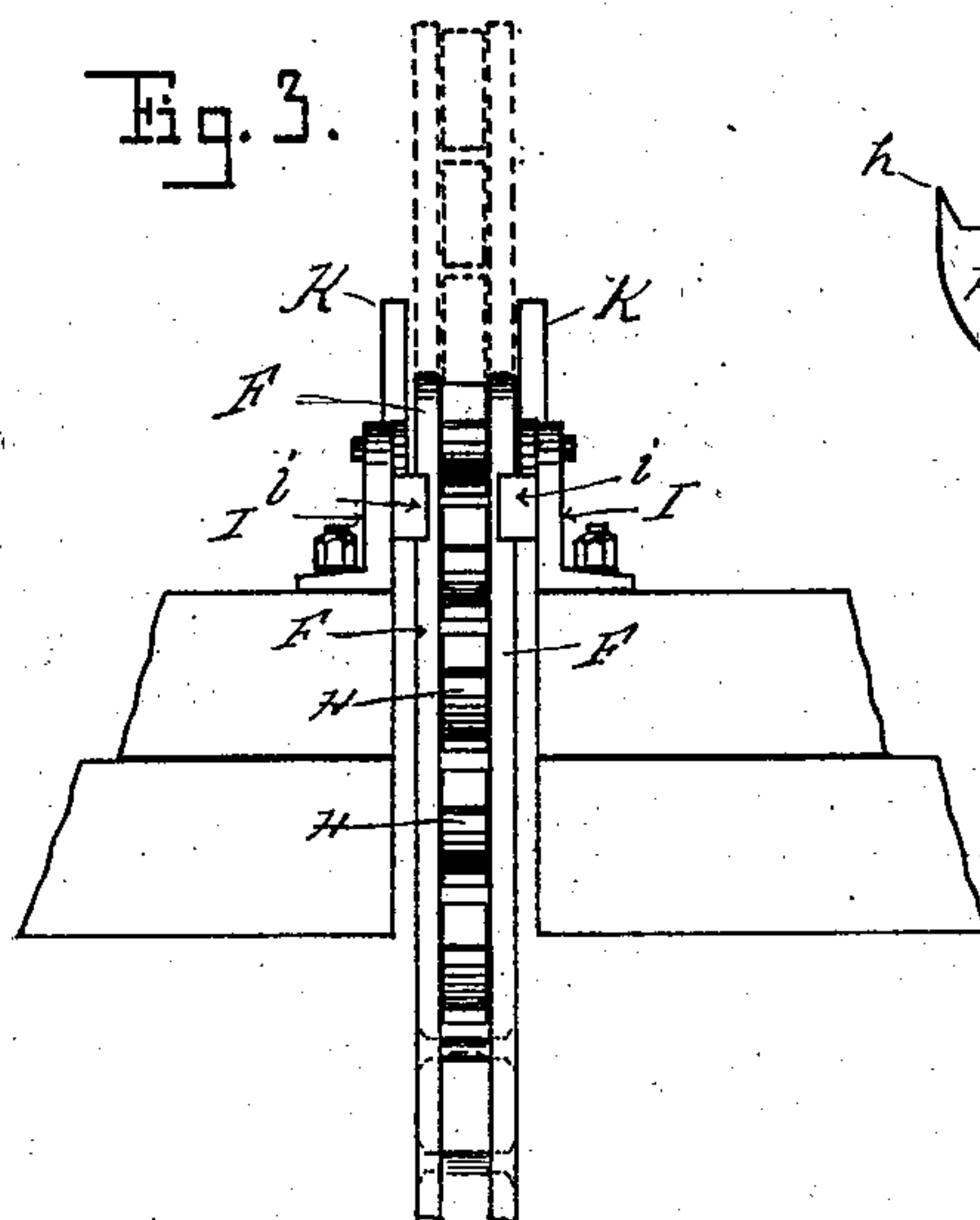
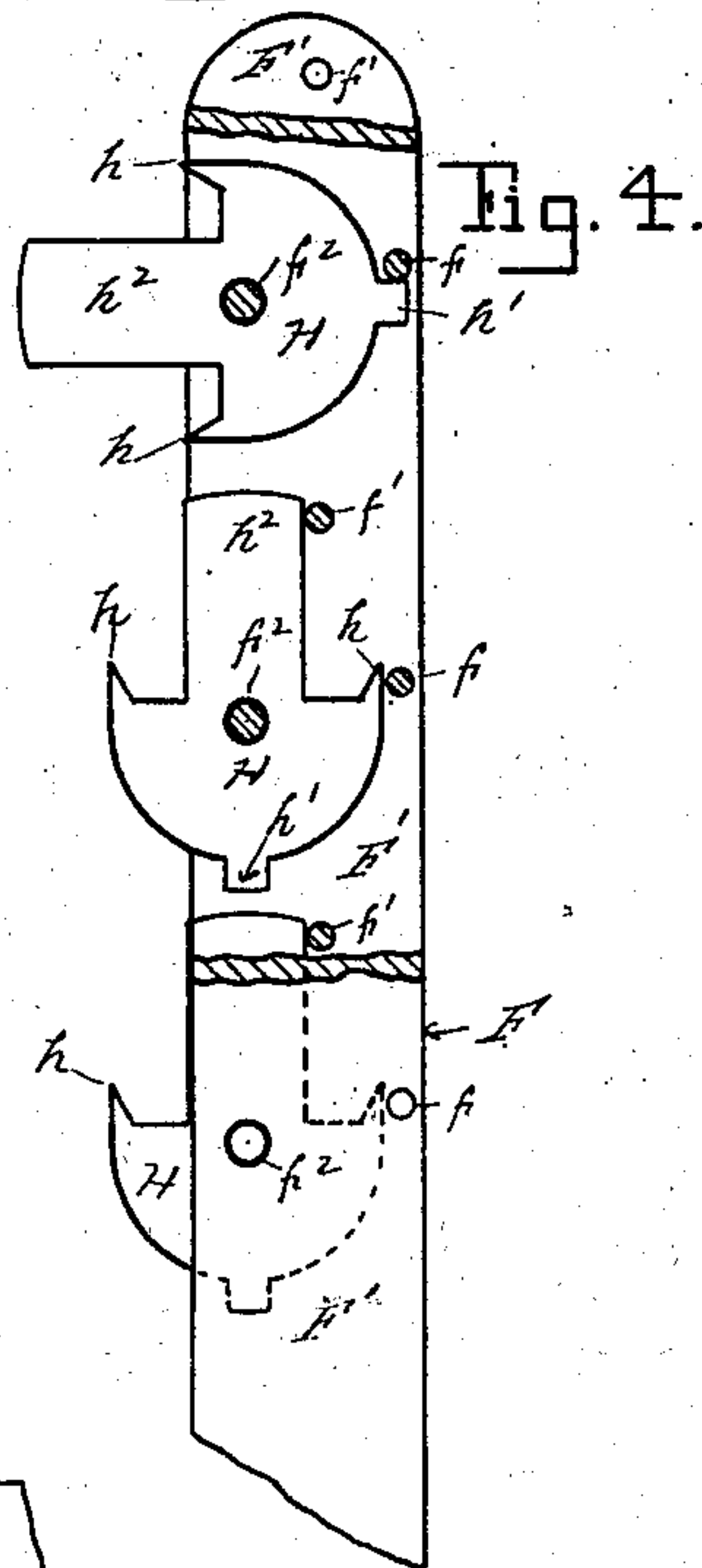
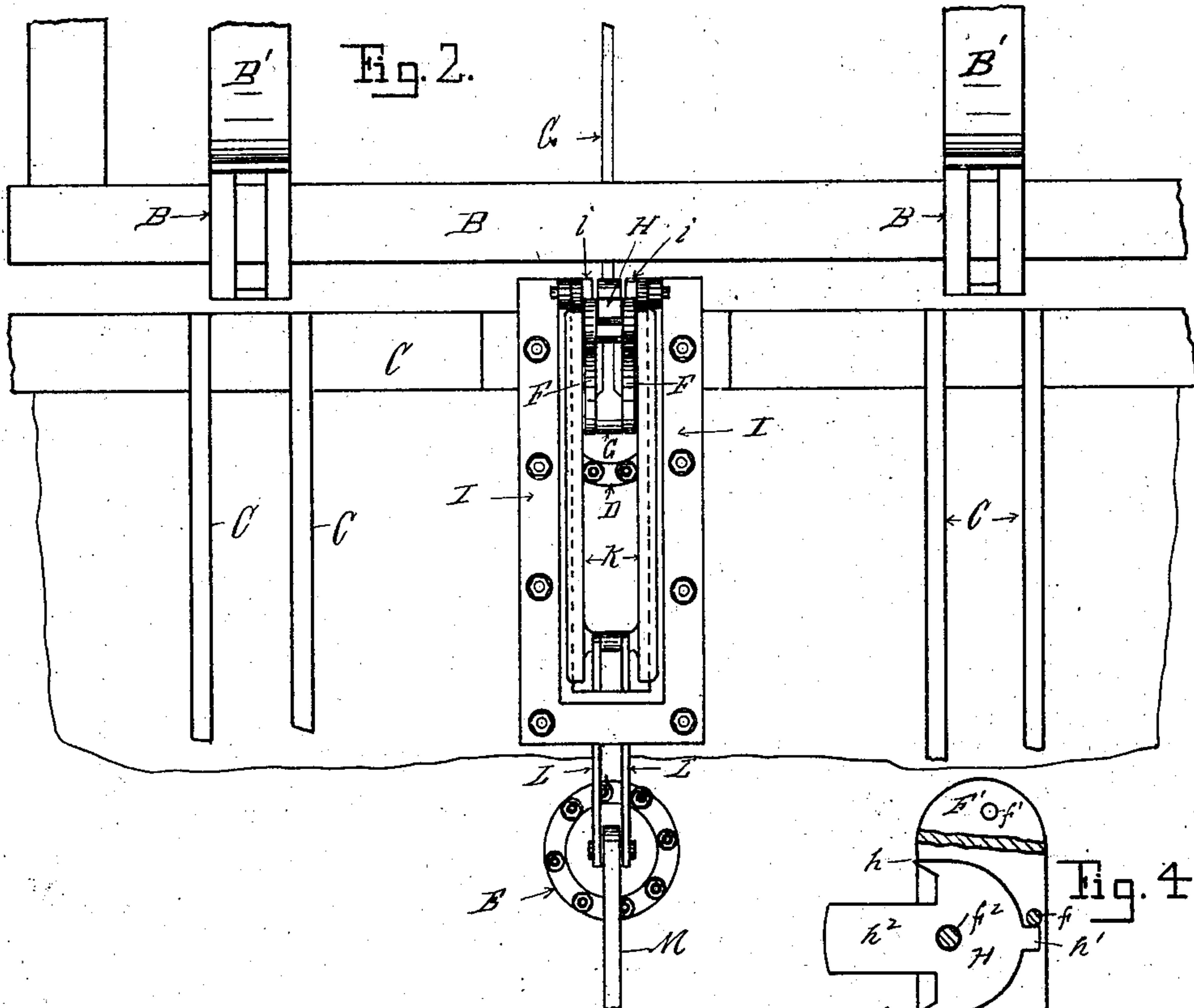
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2 SHEETS—SHEET 2.



Witnesses.
H. M. Sturgeon.
L. J. Bassett

Inventor
William M. Wilkin
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UNITED STATES PATENT OFFICE.

WILLIAM M. WILKIN, OF MOBILE, ALABAMA.

LOG-TURNING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 721,409, dated February 24, 1903.

Application filed May 6, 1902. Serial No. 106,151. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. WILKIN, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Log-Turning Mechanism; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to improvements in log-turning mechanism for sawmills of the type shown and described in Letters Patent No. 559,426, granted to me May 5, 1896; and it consists, *inter alia*, in providing the mechanism with an auxiliary mechanism which performs the functions of rolling a log from the lower end of the logway upon the saw-carriage and also of forcing the log up against the saw-carriage knees and of holding a partially-turned log while the toothed turning-bar is being moved downward to take another hold, so as to complete the turning of the log.

Another feature of my invention consists in pivoting the cylinder operating the turning-bar at its base and making the turning-bar with an offset therein, pivoting it to the piston-rod of the actuating-cylinder and to a swinging link, so that as the toothed turning-bar moves upward it will automatically move toward the log and press against it with sufficient force to engage its teeth therewith without shoving the log upward against the carriage-knees, and as it moves downward it will tend to move back from the log.

Another feature of my invention is the construction of the toothed bar with reversible teeth removably pivoted therein, so that in case of breakage they can be reversed.

These and other features of my invention are hereinafter set forth and described, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view in elevation of a log-turning mechanism embodying my invention with sections of a saw-carriage and logway. Fig. 2 is a top or plan view of the same. Fig. 3 is a view of a section of the same looking to-

ward the logway. Fig. 4 is a view, partly in elevation and partly in section, of the upper part of the turning-bar.

In the construction of the invention illustrated in the drawings the framework A and A', the saw-carriage B, the carriage-knees B', and the logway C are of the usual construction, and the main cylinder D, pivoted to the base-frame A', its valve mechanism *d*, the auxiliary cylinder E, mounted on said base, and its valve mechanism *e*, with the valve connections *d'* and *d''*, connecting the valve *d* with an operating-lever, (not shown,) and the connecting-rod *e'*, connecting the valve *e* with an operating-lever, (not shown,) are all substantially the same in construction and operation as are fully shown and described in Letters Patent No. 559,426, granted to me on May 5, 1896, and therefore further description thereof herein is deemed unnecessary.

In the main cylinder D there is the usual piston, (not shown,) with which the piston-rod D' connects, and to the upper end of the piston-rod D', I pivot a toothed bar F and also the end of a link G, the other end of which is pivoted to the framework, so that as the piston-rod D' moves up and down the end thereof moves in the arc of a circle, the radius of which is the link G. The toothed bar F, I make of two flat bars F' F', so that the teeth H, hereinafter described, can be pivoted between them, and the lower end of the toothed bar is provided with a curve or offset F² toward the front of the carriage B, which brings the vertical portion thereof considerably out of line with the side of the piston D and operates to swing the upper end of the toothed bar F toward the carriage B as it is moved upward. The two bars F' F', forming the bar F, are secured together by means of rivets *f f'* *f''* at such distance apart as will admit of the insertion of the teeth H between them, mounted and swinging upon the rivets or studs *f''*, which are removable. These teeth H, I preferably make semicircular on their lower ends with *h h* thereon, and with a central projection *h'* thereon, adapted to engage the rivet *f*, and with an upward projection *h''*, adapted to engage the rivet *f'*, which rivets *f* and *f'* limit the swing of the teeth H in the tooth-bar F. In this construction the weight of the lower part of the tooth is sufficient to

always return it to its normal position, and in case one of the teeth is broken off the tooth can be reversed in the bar. The operation of the tooth-bar and the teeth therein upon a log
5 or square cant as the bar moves upward is clearly illustrated by dotted lines in Fig. 1.

As an auxiliary to and coöperating with the mechanism hereinbefore described I secure a frame I to a support J upon the framework
10 A directly under the logway C, which frame I embraces the tooth-bar F and is provided at the front end thereof next the carriage B with stops *i i*, against which the front edges of the bars *F' F'* of the tooth-bar F operate to pre-
15 vent the tooth-bar striking the log-carriage B, and on this frame I at each side of the opening for the tooth-bar F therein I pivot the front end of a swinging arm or lever K, and to the rear end of said lever or arm K, I pivot
20 a link L, the opposite end of which is pivoted to the upper end of a link L', pivoted to the upper end of the piston-rod E' of the auxiliary cylinder E, and to the lower end of the link L and the upper end of the link L', I pivot
25 one end of another link M, the opposite end of which is pivoted to the framework A, so that when the piston-rod E' moves upward the links L, L', and M operate upon the lever or arm K to raise it against a log or squared
30 cant on the ways C and move it against the knees B' of the saw-carriage B, as illustrated by dotted lines in Fig. 1, and hold the log firmly against the knees B' of the carriage B while the tooth-bar is operating thereon to
35 turn it.

From the foregoing description the operation of my invention is so obvious that further description thereof is deemed unnecessary.

40 Therefore, having described my invention so as to enable others to construct and utilize the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

45 1. The combination in a log-turning mechanism of a vertical main cylinder mounted upon a supporting-base pivoted to the lower head thereof, a vertical auxiliary cylinder mounted upon a supporting-base, a piston and

piston-rod in said main cylinder, a tooth-bar 50 pivoted to and offset vertically from the piston-rod, a link pivoted thereto at one end and to the mill-frame at the other, a frame under the logway, through front end of which the tooth-bar operates, an arm or lever pivoted 55 thereto at its front end at the sides of the tooth-bar passage therein, a link pivoted at one end to the rear end of said arm or lever, and at the other end to a link extending to the piston-rod of the auxiliary cylinder, and 60 also to a link pivoted at one end to the mill-frame, substantially as set forth.

2. In a log-turning mechanism, the combination with a vertically-moving tooth-bar, of a fixed frame, through the front end of which 65 the tooth-bar operates, an arm or lever pivoted to the front end of said frame, a link pivoted at one end to the rear portion of said arm or lever, and at the other to a link extending to the piston-rod of an auxiliary cylinder and 70 also to a link pivoted at one end to the mill-frame, substantially as set forth.

3. In a log-turning mechanism, the combination of a vertically-moving tooth-bar, and a vertical cylinder and piston operating the 75 same, a fixed frame the front end of which operates as a guide for the tooth-bar, an arm or lever pivoted to the front end of said frame, an auxiliary piston and piston-rod, an extension pivoted to the upper end of said piston-rod, and two links pivoted to the upper end 80 thereof, one of which extends to and is pivoted to said lever, and the other to and is pivoted to the mill-frame, substantially as set forth. 85

4. The combination in a tooth-bar for log-turners, of a bifurcated frame, reversible teeth H pivoted on removable pivots *f*² therein, stops *f* and *f'* in said bar, a projection *h*² on said tooth adapted to engage the stop *f'*, 90 and a projection *h'* on said tooth adapted to engage the stop *f*, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM M. WILKIN.

Witnesses:

H. M. STURGEON,
F. J. BASSETT.