

LOG TURNER.

904,652.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

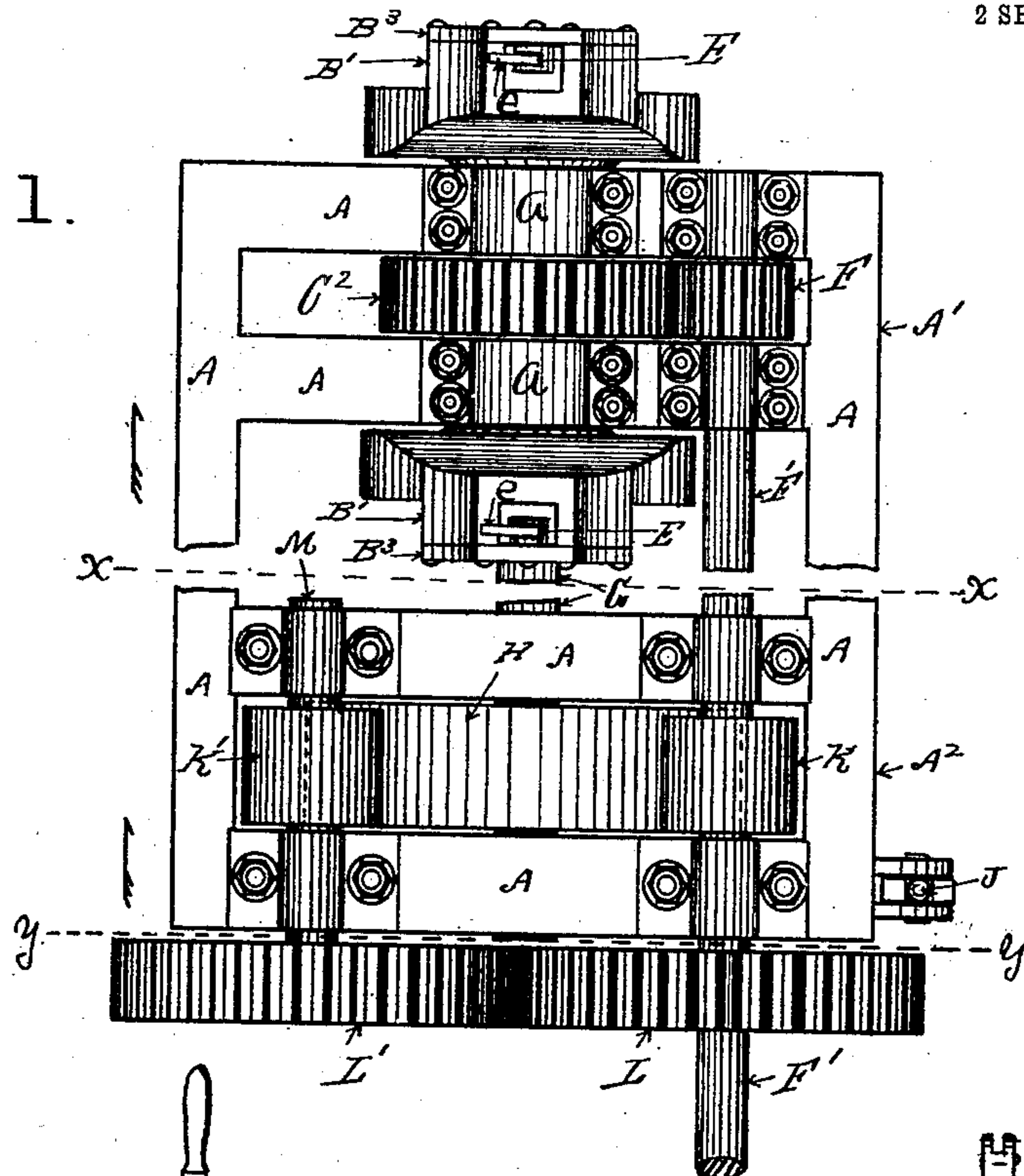
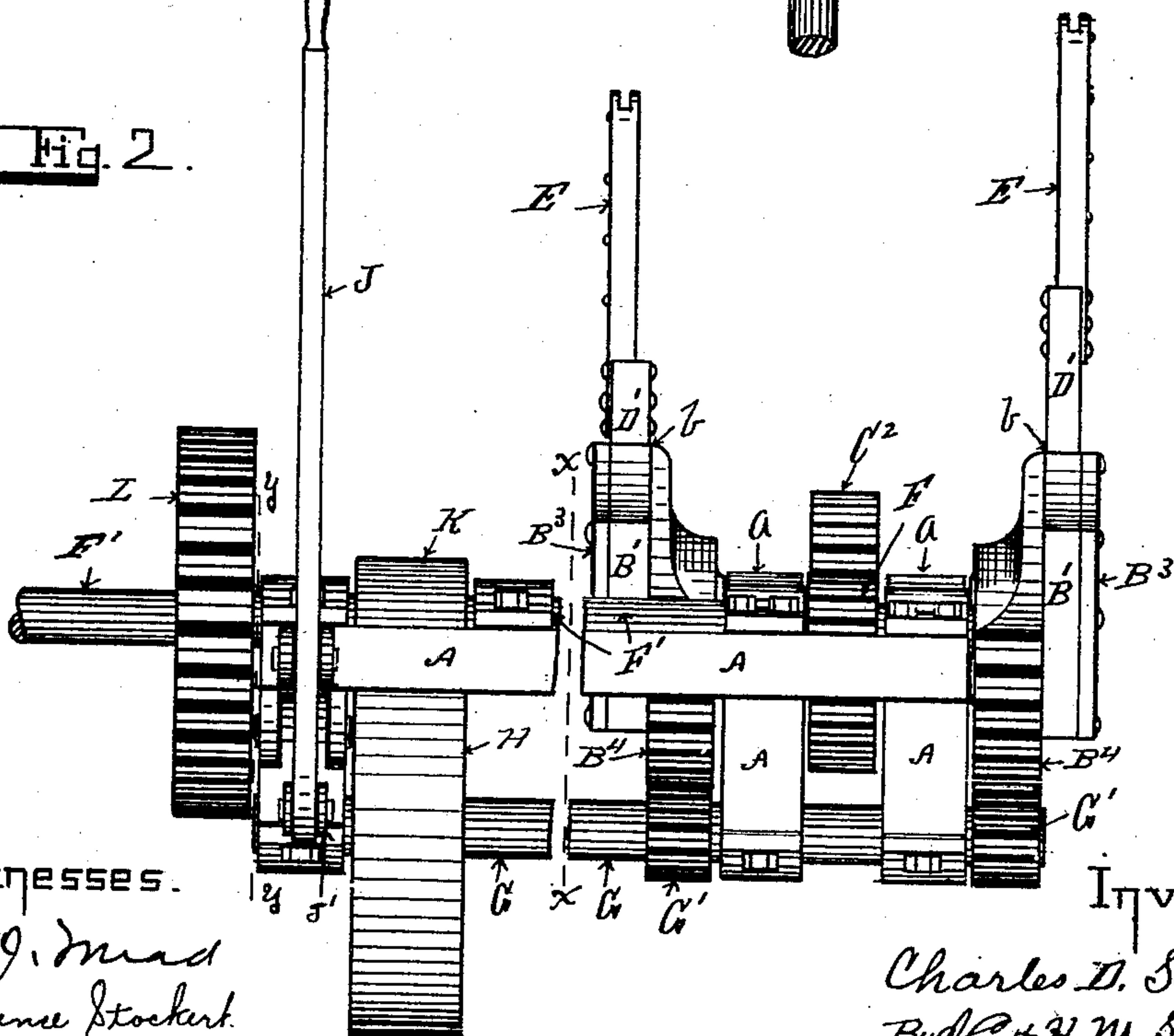


Fig. 2.



Witnesses.

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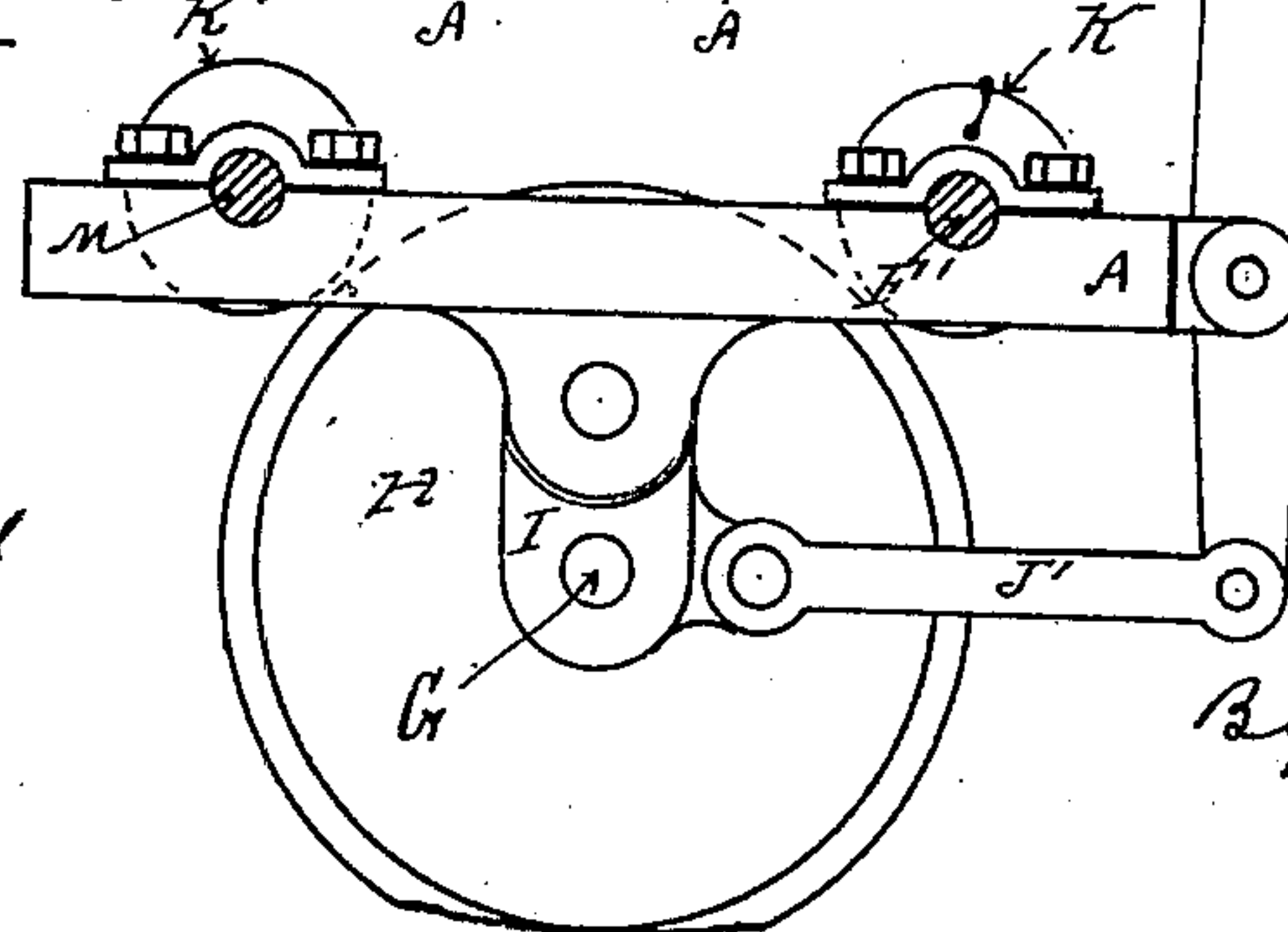
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APPLICATION FILED NOV. 13, 1907.

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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## LOG-TURNER.

No. 904,652.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed November 13, 1907. Serial No. 401,986.

*To all whom it may concern:*

Be it known that I, CHARLES D. SCOTT, a citizen of the United States, residing at Grand Valley, in the county of Warren and State of Pennsylvania, 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to log-turners, and has for its object the production of a log-turning mechanism adapted to be secured to a mill floor under the log-way and adjacent to the front of the saw-carriage, and operated by a shaft suitably driven, whereby logs may be rolled from the log-way to and upon the saw-carriage and turned thereon as desired.

The features of my invention consist substantially of two reciprocating tooth-bars and mechanism for alternately raising and lowering said tooth-bars with relation to each other, together with means coöperating with said mechanism whereby the tooth-bars can be moved to and operated at any angle from a vertical line desired. These and other features of my invention are hereinafter fully set forth and explained, and illustrated in the accompanying drawings in which:

Figure 1 is a top or plan view of a log-turner embodying my invention. Fig. 2 is a side view in elevation of the same. Fig. 3 is a vertical section of the same on the line  $x-x$  in Figs. 1 and 2, showing a portion of my device in connection with a log-way and saw-carriage. Fig. 4 is a view partially in vertical section and partially in elevation, of the portion of the mechanism shown in Fig. 3. Fig. 5 is a transverse section of my device on the line  $y-y$  in Figs. 1 and 2. Fig. 6 is a detail view of one of the tooth-bars of my device.

In these drawings illustrating my invention A is the frame of the machine. In one end A' of this frame in suitable bearings  $a$   $a$ , I mount by means of hollow trunnions B thereon, two tooth-bar carriers B' B', and through the axes of said tooth-bar carriers B', and the trunnions B thereon, I place a shaft C provided at each end with a crank-disk C' having mounted upon its wrist-pin

$c$ , a rectangular block  $c'$ , as clearly shown in Figs. 3 and 4. In each of the tooth-bar carriers B' there is a rectangular recess B<sup>2</sup> provided with a cover B<sup>3</sup>, and in each of the rectangular recesses B<sup>2</sup>, I mount a sliding block D provided with an upwardly projecting arm D', extending through an opening  $b$  in the upper end of the tooth-bar carrier D'. To each of the arms D' a tooth-bar E is secured. These tooth-bars E are provided with pivoted teeth  $e$  with springs  $e'$  secured to the heels of the teeth  $e$ , so that as the tooth-bars E move downward the teeth  $e$  contacting with a log will be moved inward thereby, and will move outward so as to engage the log as the tooth-bar is moved upward.

In the inside face of each of the blocks D, I provide a transverse slot  $d$  to receive the block  $c'$  so that when the shaft C is rotated the block  $c'$  operating in the slot  $d$  operates to reciprocate the sliding-block D and the tooth-bar E secured to the arm D' thereof, these parts being clearly shown in their relations to each other in full and dotted lines in Figs. 3 and 4. It will be observed that the crank-pins  $c$  in the crank-disks C' are set in opposition, so that the rotation of the shaft C operates to raise and lower the tooth-bars E E alternately to each other, so that they will operate alternately upon the log to be turned. To operate the shaft C I provide a spur-gear wheel C<sup>2</sup> which intermeshes with a gear-pinion F on the driving shaft F', which shaft may be driven continuously or intermittently, by any suitable power, (not shown).

To control the angle at which the tooth-bars E E operate, I provide a segment of gear B<sup>4</sup> on each of the tooth-bar carriers B', and in the base of the frame A, I mount a shaft G carrying pinions G' which intermesh with the segment of gear B<sup>4</sup> so that the rotation of the shaft G operates to turn the tooth-bar carriers B', so that the tooth-bars E E will operate at any desired angle, as illustrated by dotted lines in Fig. 3.

One end of the shaft G extends under the end A<sup>2</sup> of the frame A where it is provided with a friction-wheel H. The shaft G' is here provided with a swinging bearing I capable of being moved slightly back and forth laterally by means of a hand lever J on the frame A and connected to said bearing by a link J'. On the main driving shaft F' there is a small friction pulley K adapted



to be engaged by the friction wheel H when it is moved in one direction; and mounted on a short shaft M in the frame A on the opposite side of the friction wheel H there is another small friction pulley K' adapted to be engaged by the friction wheel H when it is moved toward the pulley K', and on the main driving shaft F' and on the shaft M, I mount gear wheels L and L' which intermesh with each other, so that as the friction wheel H is brought into contact with one or the other of the friction pulleys K or K' the shaft G is rotated in one case in one direction and in the other case in the other direction, and thus through the pinions G' thereon and the segmental gears B' on the tooth-bar carriers B', the mechanism is turned so that the tooth-bar carriers and tooth-bars secured thereto operate at any angle desired.

In Fig. 3, I show a log-way N, a saw-carriage O and its head-block P with my improved log-turning mechanism in place in proper relation therewith, so that my invention can be readily understood. I also show in Figs. 1 and 2 the frame and shaft mechanism of mechanism broken, to indicate that while the mechanism on the part A' of the frame is necessarily located under the log-way, the mechanism on the part A<sup>2</sup> of the frame can be located at any desired distance from the side of the log-way that may be desired.

From the foregoing description it is believed that the operation of my improved log-turner is so obvious that further description thereof is unnecessary.

Therefore having described my invention so as to enable others to construct and operate the same, what I claim as new and desire to secure by Letters Patent is:

1. The combination in a log-turner of a frame, a tooth-bar carrier pivotally mounted thereon, a crank-shaft mounted on the axis of the tooth-bar carrier, a tooth-bar suitably mounted in said carrier, mechanism connecting said crank-shaft with the tooth-bar so as to reciprocate it, a power shaft geared to the crank shaft for rotating it, and independent means on said power shaft for turning the tooth-bar carriers so that the tooth-bar will operate at any desired angle, substantially as set forth.

2. The combination in a log-turner, of a frame, two tooth-bar carriers pivotally mounted therein, a shaft mounted in the

axes of said tooth-bar carriers, tooth-bars slidably mounted in each of said tooth-bar carriers, cranks on said shaft in opposition to each other connecting with said tooth-bars so as to move them in opposite directions, a power shaft for rotating said shaft, independent means on said power shaft for turning the tooth-bar carriers so that the tooth-bars will operate at any angle, and means for reversing the rotation of the tooth-bar carriers, substantially as set forth.

3. The combination in a log-turner, of a frame, a tooth-bar carrier having a rectangular recess therein, pivotally mounted in said frame, a shaft mounted in the axis of the tooth-bar carrier, a crank disk on said shaft in one side of the recess in the tooth-bar carrier, a block mounted on a crank-pin in said disk, a block having a transverse slot therein to receive the block on the crank-pin, mounted and reciprocating in the rectangular recess in the tooth-bar carrier, a tooth-bar thereon, a power shaft for rotating the shaft and crank thereon, and independent means on the power shaft for rotating the tooth-bar carrier in either direction, substantially as set forth.

4. The combination in a log-turner, of a frame, two tooth-bar carriers having rectangular recesses therein pivotally mounted in said frame, a shaft mounted in the axes of said tooth-bar carriers, crank disks on said shaft within the recesses in said tooth-bar carriers, tooth-bar carrying blocks having transverse slots therein, to engage blocks carried on the crank-pins on said disks mounted and reciprocating in said rectangular recesses in the tooth-bar carriers, tooth-bars secured to the tooth-bar carrying blocks, a gear wheel on said shaft, a main driving shaft mounted on said frame, a gear pinion thereon intermeshing with the gear-wheel on the crank-shaft, a segment of gear on each of said tooth-bar carriers, a shaft mounted in the frame, gear pinions thereon intermeshing with said segmental gears, and friction mechanism mounted on said shaft and on the frame, whereby said shaft can be operated in either direction, substantially as set forth.

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

CHARLES D. SCOTT.

Witnesses:

C. A. GATES,  
BLAINE KINCAID.