(No Model.) 2 Sheets—Sheet 1.

H. M. FERRIS & W. GALLON.

LOG TURNER.

No. 362,826. Patented May 10, 1887.

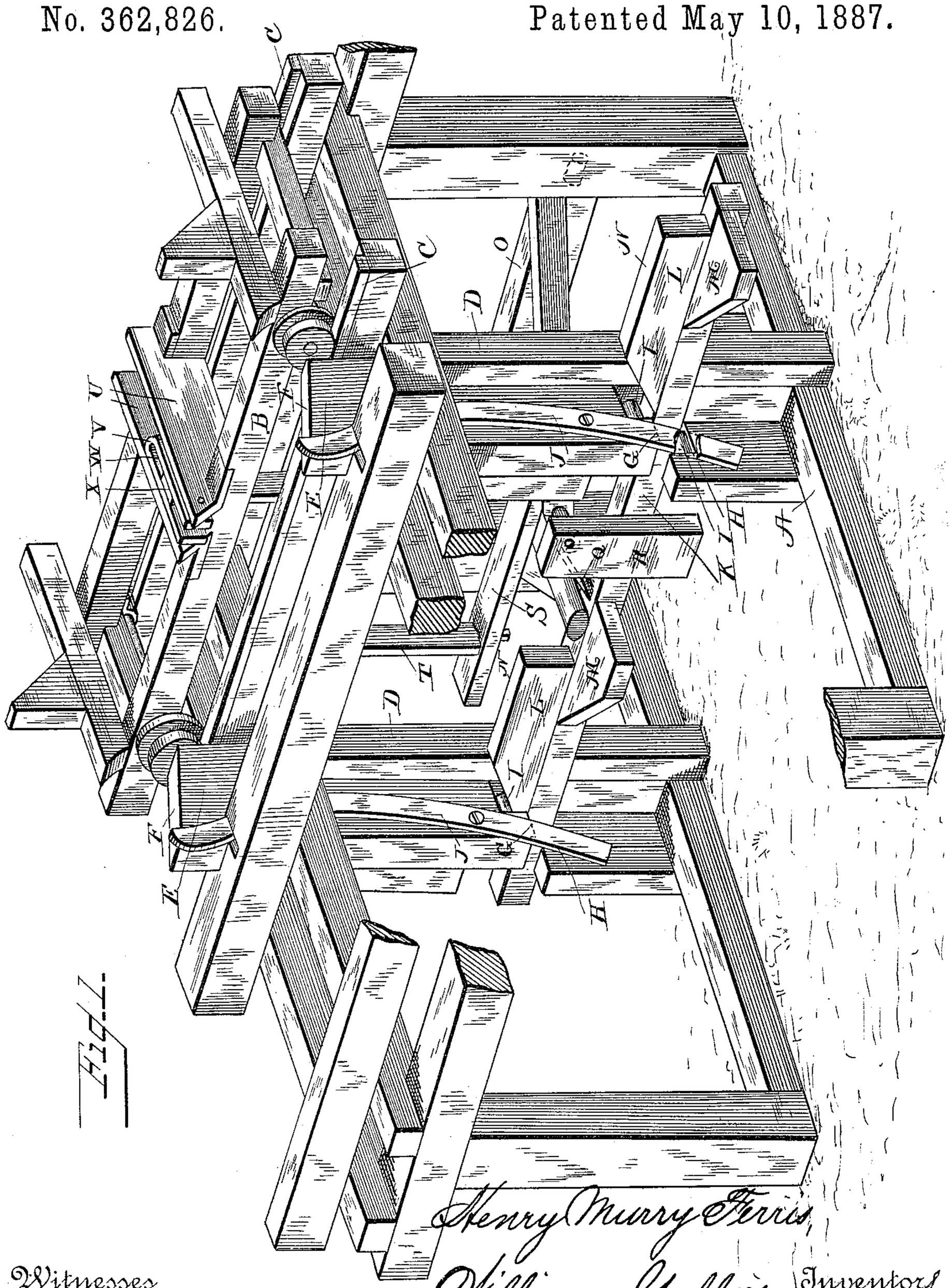

Fig. 1.

Witnesses
F. L. Durand.
B. L. Cowl.

Henry Murry Ferris,
William Gallon. Inventors

By their Attorneys
Louis Bagger & Co.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

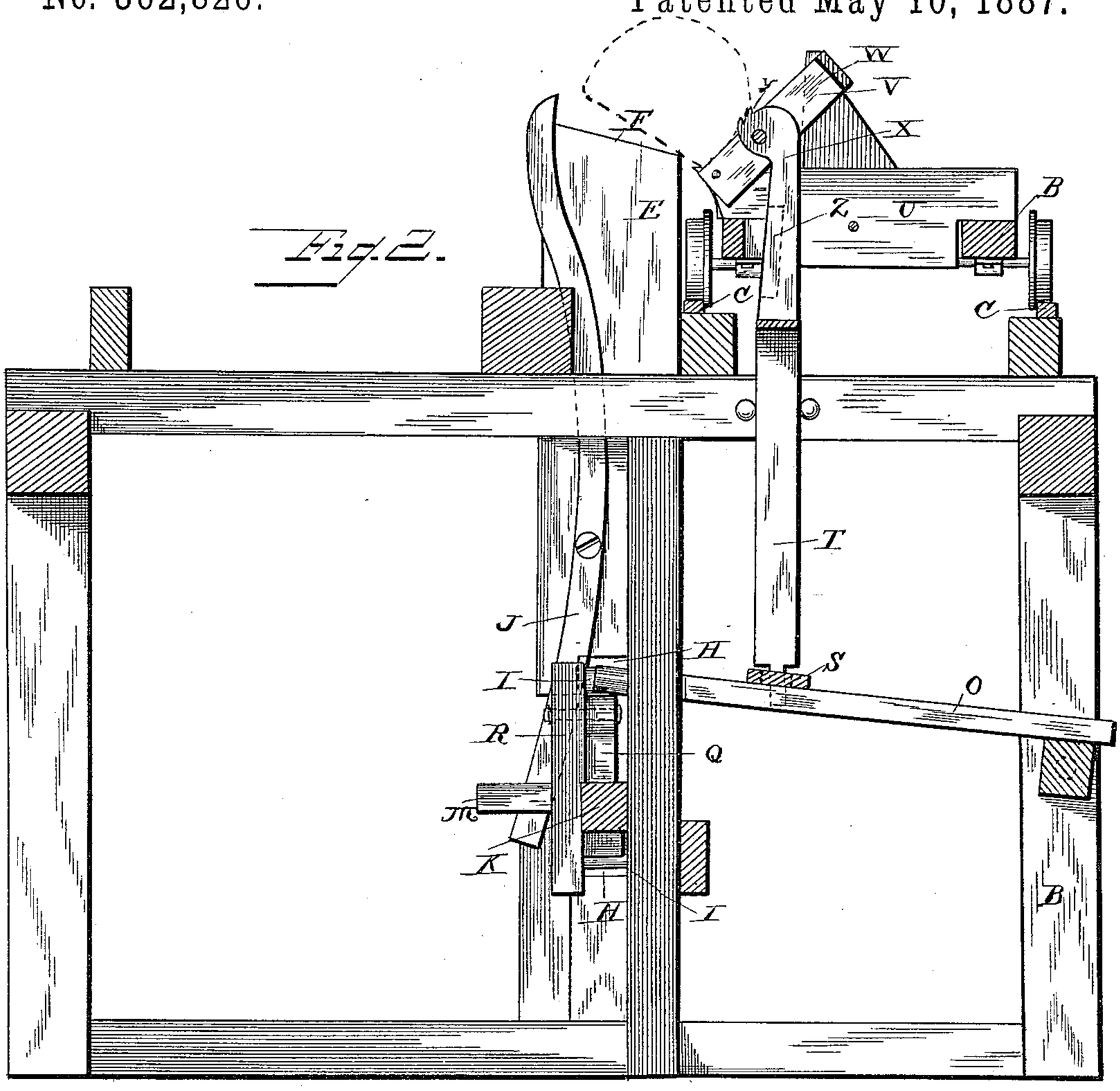

Fig. 3.

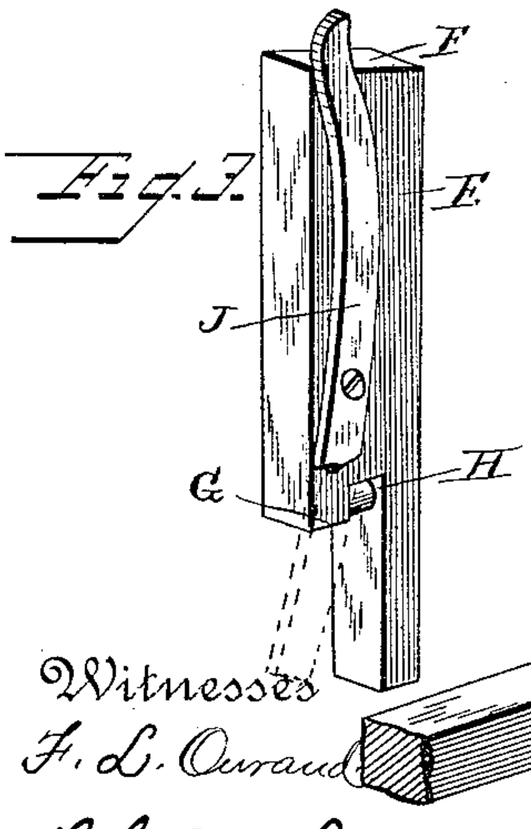

Fig. 4.

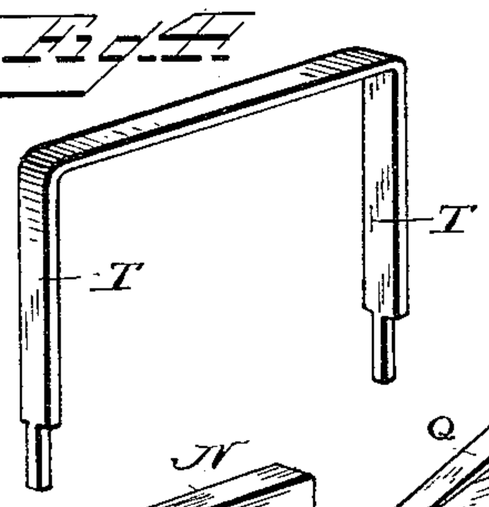

Fig. 5.

Witnesses
F. L. Ourand
B. L. Lowl.

Henry Murry Ferris,
William Gallon,
Inventors

By their Attorneys
Louis Bagger & Co.

UNITED STATES PATENT OFFICE.

HENRY MURRY FERRIS AND WILLIAM GALLON, OF VILLAGE MILLS, TEXAS;
SAID FERRIS ASSIGNOR TO MARY E. FERRIS, OF SAME PLACE.

LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 362,826, dated May 10, 1887.

Application filed January 24, 1887. Serial No. 225,411. (No model.)

To all whom it may concern:

Be it known that we, HENRY MURRY FERRIS, a citizen of the United States, and WILLIAM GALLON, a subject of the Queen of Great Britain, both residents of Village Mills, in the county of Hardin and State of Texas, have invented certain new and useful Improvements in Log-Turners; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of our improved log-turner, having a portion of the frame broken away. Fig. 2 is a central vertical sectional view showing the log being turned; and Figs. 3, 4, and 5 are detail views of the wedge-beam, log-catcher, and throwing-bar.

In sawing logs into lumber the log is first squared, which is done by sawing one or more slabs from its opposite sides. To do this requires that the log be turned so as to present these sides or faces consecutively to the saw, which is a very laborious work unless it be done by power; but in the use of power devices the face of the timber is often cut or torn by the teeth of the device, which of course damages the lumber to that extent, and if the log be turned so as to fall upon the carriage the jar or pounding from such a heavy weight is apt to damage or break the carriage, and where the log is turned against the knees—that is, by being turned so as to roll toward them—the loose bark and trash are ground up on the head-block instead of being thrown off out of the way.

This invention relates to that class of log-turners which is operated by power, and has for its object to provide a device that will be quick and positive in its operation, and which will avoid the above objections; and it consists in the improved construction and combination of parts, as will be hereinafter more fully set forth.

Referring to the accompanying drawings, in which the same letters of reference indicate corresponding parts in all the figures, A represents a portion of the mill-frame, the saw and driving mechanism not being shown, as they are of the ordinary construction and form no part of the invention. An ordinary carriage, B, is moved back and forth in front of this frame upon an ordinary track, C. Sliding vertically upon the front posts, D D, of the frame A are two upright log-catchers, E E, the upper end of each of which is beveled or inclined toward the carriage, as shown at F, and the lower portion is provided with the shoulder G, formed by cutting away the rear portion of the lower end of the uprights. Each of the posts D D is provided upon its rear side, near the bottom, with a notch, H, of the same depth as the cut-away portion of the log-catcher E. The shoulders of the log-catchers, and also the lower shoulder of each of the notches H, can be provided with friction-rollers I I, if desired. Pivotally secured to one side of each of these log-catchers is a loading-lever, J, the upper end of which projects slightly above the upper end of the log-catcher and the lower end extends below the shoulders G. By bending these levers, as shown, the middle portion can be secured to the body of the catchers and the upper end be back even with the rear side of the catchers at the top and nearly back even with them at the bottom. Secured within the notches H is a wedge-beam, K, which slides back and forth upon the friction-rollers I. The inner portion of the shoulders at the bottom of each of these notches can be cut deep enough to permit this wedge-beam to be kept in place by the outer or higher portion; or the beam can be kept in place by means of a turn-button or keeper secured upon the side of the posts. At each end of this beam are two wedge-shaped projections, the ones on the top L L engaging with the friction-rollers in the shoulders of the log-catchers, and the ones upon the side M M engaging with the lower ends of the loading-levers J. The top portions of the wedges L L are flat, as shown at N N, and their points are forward of the points of the side wedges, so that the catchers E E are raised to their full height before the lower ends of the loading-levers J are moved by the side wedges, the flat portion of the top wedges keeping them raised while the loading-levers

are operating. This beam can be operated by means of a friction-pulley and chain, or steam-power, or other convenient mechanism, and is kept from moving too far in either direction by means of suitable stops, which engage with the posts D D.

Directly beneath the carriage B is a frame, O, one end of which is pivotally secured in posts B B, which support the outer rail of the track, and the other end rests upon the intermediate portion of the wedge-beam K. The free end of this frame is operated or lifted by means of an inclined pawl, Q, the upper end of which is pivoted to a support, R, upon the beam K, and its lower end rests upon the top of the beam. Upon the top of this frame O is secured a cross-beam, S, having holes near its ends. Within these holes loosely fit the reduced ends of the arms of a throwing-bar, T, the upper portions of which arms slide in guides upon the sides of the ties of the track, and the upper portion of the bar is parallel with the track and can be made long enough to extend any distance in front of the frame.

If desired, the lower ends of these arms can be secured to the ends of the cross-beam S by means of pivot-pins upon the ends of the beam passing through holes in the lower ends of the arms; or the frame can be made of such a shape as rectangular, for instance, and the lower ends of the arms be secured directly to the frame without the cross-beam, the object being to cause the top of the bar to be raised whenever the pawl Q is forced under the free end of the frame.

Secured to the carriage, at about midway between the head-blocks, are two parallel vertical plates or bars, U U, between which, at one end, is pivotally secured a trip, V, consisting of a piece of metal bent or folded at its middle, and forming a slot or recess, W; or it can be formed of a solid piece of metal and be provided with such a slot or recess. Near the middle of this trip, within the slot W, is pivoted the upper end of a tripping-bar, X, the lower end of which moves just above and is operated by the throwing-bar T. The upper end of this tripping-bar may be inclined and provided with teeth, as shown at Y, if desired, which engage with the lower side of the log and prevent it from slipping while being turned. The lower portion of this tripping-bar can be cut away, as shown in dotted lines at Z; or the carriage-frame can be cut away to permit of the motion of the tripping-bar toward the side of the frame, caused by its upper end moving in the arc of a circle with the trip V.

When it is desired to turn a log, it is released from the head-blocks and motion is imparted to the wedge-beam K. This raises the log-catchers E E and the trip V simultaneously, so that by the time the tops of the log-catchers are even with the head-blocks, where they are held by means of the flat portions of the wedges L L, the trip V has moved up sufficiently to roll the log from off the carriage onto the inclined ends of the catchers. The free end of the frame then drops over the top of the pawl Q, which permits the throwing-bar T and the trip V to drop back out of the way. By this time the wedges M M upon the side of the beam engage with the lower ends of the loading-levers J J, which causes their upper ends to bear against the log and force it back upon the head-blocks against the knees, the inclined ends of the catchers greatly facilitating this work. The beam K is now drawn back to its former position, the free end of the frame O passing under the pawl Q to its original position in front of the pawl, and the catchers E E, with the loading-levers, also drop back into their original position, where they remain until it is desired to turn the log again, when the same operation is again repeated.

By having the top of the throwing-bar T made long enough to extend in front of the frame A, the device will operate with the carriage at any point in which the bottom of the tripping-bar X is above any portion of it, thus avoiding the necessity of having to stop the carriage at any particular place.

Instead of placing the wedge-beam parallel with the track, as shown, two beams can be used by placing them at right angles to it, having one under each of the log-catchers, and the loading-levers can be operated by pawls or latches the same as above described for operating the tripping-bar, and for longer logs additional log-catchers and tripping-bars may be provided by extending the frame and wedge-beams.

Having thus described our invention, we claim—

1. In a log-turner, the combination of two upright log-catchers adapted to move vertically at the sides of the front posts of the mill-frame, a loading-lever pivotally secured upon one side of each of said catchers, a trip upon the carriage, and a wedge-beam for operating said catchers, levers, and trip, substantially as described, and for the purpose set forth.

2. In a log-turner, the combination of two upright log-catchers adapted to move vertically at the sides of the mill-frame, the upper end of each of which is inclined or beveled toward the carriage, a loading-lever pivotally secured near its middle to the side of each of said catchers and having its upper end projecting slightly above the upper end of said catchers, a trip upon the carriage, and a wedge-beam for operating said catchers, levers, and trip, substantially as described, and for the purpose set forth.

3. In a log-turner, the combination of two upright log-catchers at the sides of the front posts of the mill-frame, the lower portion of each of said catchers being cut away, forming shoulders upon their rear sides, a notch in the rear side of each of said posts, a wedge-beam adapted to be moved in said notches and having two wedges at each end, one upon the top of the beam and the other upon the side, a loading-lever pivotally secured to the side of

each of said catchers, and a trip upon the carriage, substantially as described, and for the purpose set forth.

4. In a log-turner, the combination of two log-catchers adapted to move vertically at the sides of the front posts of the mill-frame, the lower portion of each of which is cut away to form a shoulder upon its rear side, a notch in the rear sides of said posts, a friction-roller in the shoulders of said catchers and in the lower shoulders of said notches, a wedge-beam adapted to be moved in said notches, having two wedges at each end, the rear portion of the ones upon the top being flat and having their points forward of the points of the wedges upon the side of the beam, a loading-lever pivotally secured upon the side of each of said catchers, and a trip upon the carriage, substantially as described, and for the purpose set forth.

5. In a log-turner, the combination of two log-catchers adapted to move vertically at the sides of the front posts of the mill-frame, a loading-lever pivotally secured upon the side of each of said catchers, a wedge-beam, a pawl pivoted at its upper end to a support on the top of said beam, a frame pivoted at one end in suitable supports beneath the track and having its free end resting upon said wedge-beam, a throwing-bar pivotally secured at the lower ends of its arms to said frame, a trip upon the carriage, and a tripping-bar pivotally secured at its upper end to said trip, substantially as described, and for the purpose set forth.

6. In a log-turner, the combination of suitable log-catchers and loading-levers secured to the front portion of the mill-frame, a wedge-beam having an inclined pawl near its intermediate portion, a frame pivotally secured at one end upon supports beneath the track and having its free end resting upon said beam and adapted to be raised by said pawl, a cross-beam upon said frame having holes near its ends, a throwing-bar having the ends of its arms reduced and loosely secured in said holes, a trip upon the carriage, and a tripping-bar secured to said trip, having its lower end above said throwing-bar, substantially as described, and for the purpose set forth.

7. In a log-turner, the combination of suitable log-catchers and loading-levers secured to the front portion of the mill-frame, a beam having wedges at each end and an inclined pawl at its intermediate portion, a frame pivotally secured at one end to supports beneath the track and having its free end upon the wedge-beam and adapted to be operated by said pawl, a throwing-bar secured to said frame, two plates secured to the carriage, a trip pivotally secured at one end between said plates and having a slot or recess, and a tripping-bar secured in said slot and having its upper end inclined and provided with teeth, substantially as described, and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

HENRY MURRY FERRIS.
WILLIAM GALLON.

Witnesses:
FRANK W. TIBBS,
W. W. LYON.