

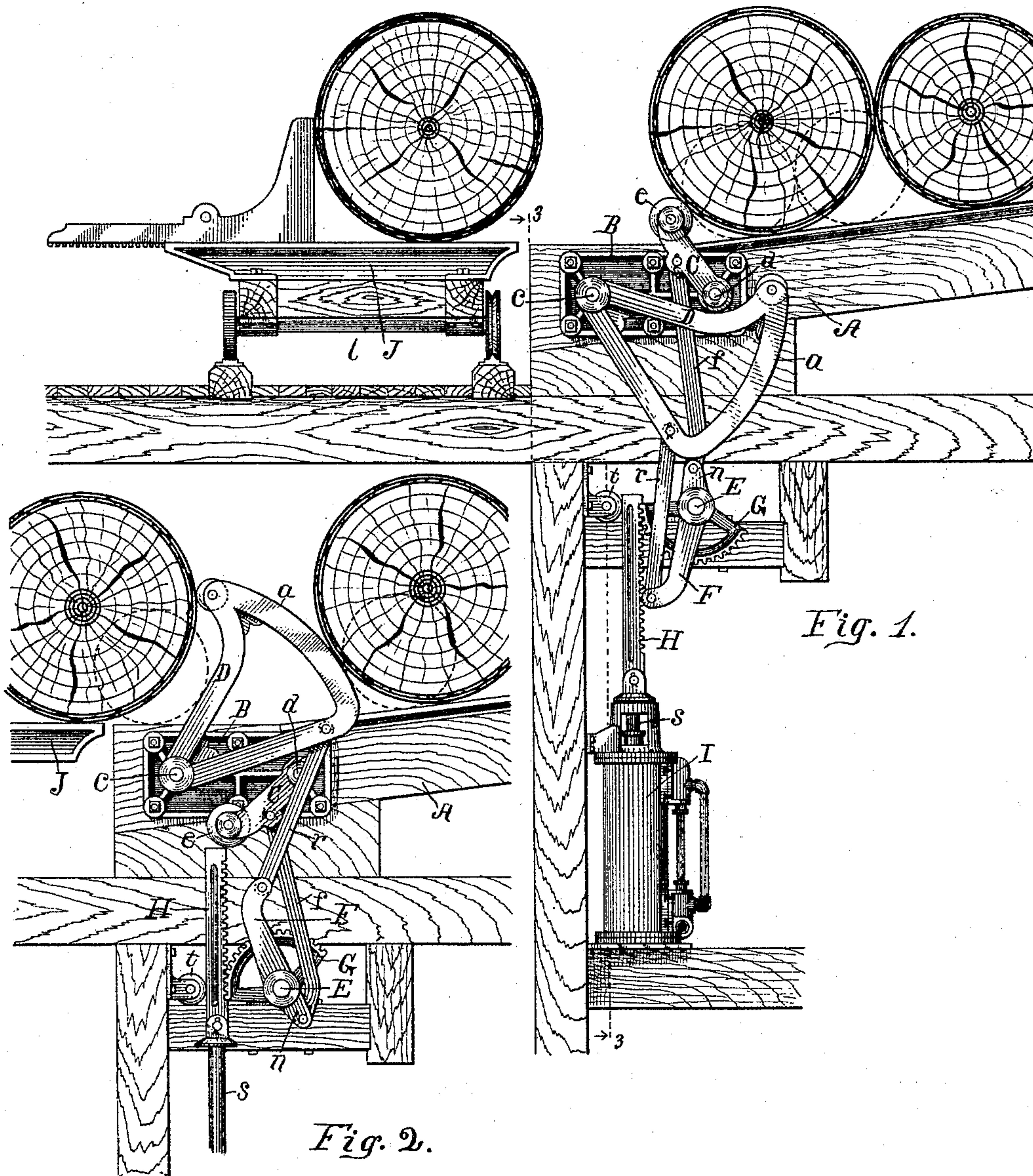
(No Model.)

2 Sheets—Sheet 1.

W. E. HILL.  
LOG STOP AND LOADER.

No. 496,938.

Patented May 9, 1893.



Witnesses:

Walter S. Wood  
Newton C. Leslie.

Inventor.

William E. Hill  
By Lucius C. West  
Att'y.

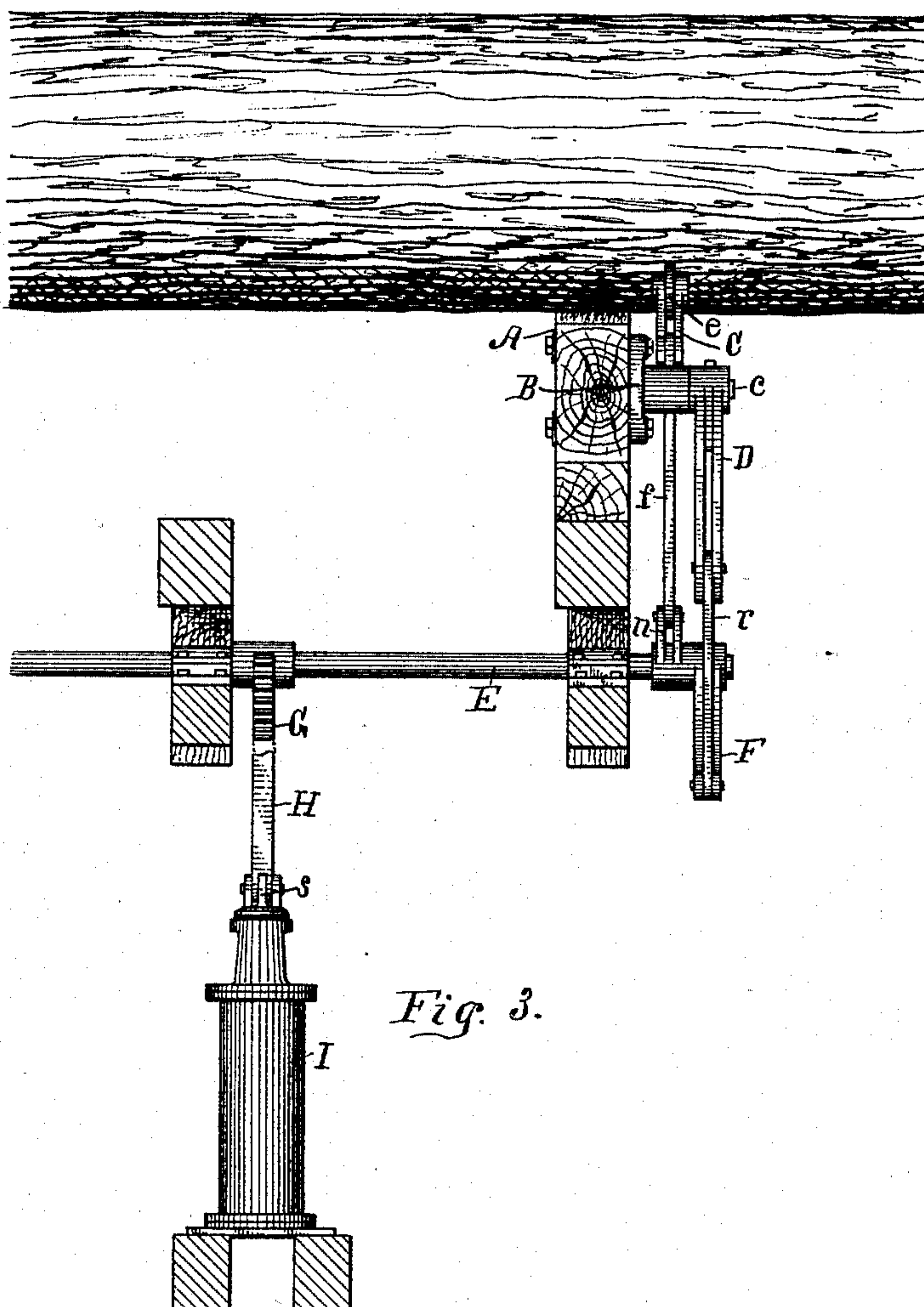
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*Fig. 3.*

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 BY Lucius C West  
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# UNITED STATES PATENT OFFICE.

WILLIAM E. HILL, OF KALAMAZOO, MICHIGAN.

## LOG STOP AND LOADER.

SPECIFICATION forming part of Letters Patent No. 496,938, dated May 9, 1893.

Application filed November 26, 1892. Serial No. 453,266. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. HILL, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Log Stop and Loader, of which the following is a specification.

This invention relates to that class of log stops and loaders which are operated by the reciprocating movement of the piston of a steam cylinder, the end of said piston rod terminating in a rack which meshes with a segmental gear attached to the mechanism which performs the two offices of stopping and loading.

The invention consists in the below described and claimed improvements in construction and novel combination of parts, designed to simplify the machine and facilitate the operation.

In the drawings forming a part of this specification, Figure 1 is an elevation; Fig. 2 an elevation of details from Fig. 1, illustrating the operation; and Fig. 3 is a section on line 3—3, in Fig. 1, looking from a point at the left.

Referring to the lettered parts of the drawings, A represents a log skidway, down which the logs roll on their way to the log carriage, J, which carriage of course conveys the logs to the saw, as in ordinary mills.

Mounted upon a suitable frame-work is an upright steam cylinder, I, provided with a reciprocating piston rod, s, to the upper free end of which is attached a rack, H.

Mounted in suitable bearings in the frame-work below the skidway, is a shaft, E, which shaft is provided with a segmental gear, G, in position to mesh with the rack H, as shown in Figs. 1, 2 and 3, the latter of which figures gives a clear idea of the relative arrangement of the different parts, when looking against the side of the shaft E. Attached to the shaft E is an arm, F. Above the shaft E is a short axis, c, projecting outward from the plate, B, which plate is attached to the side of the skidway, A.

At D is a log-loading lever, in a general way something in the form of a triangle, but formed so as to have a rounding side, a, Figs.

1 and 2, and a projecting nose for coming in contact with the log, said nose being provided with a friction pulley. This lever is pivotally mounted upon the axis, c, and is connected with the arm, F, by the bar, r, pivotally attached to said parts at each end.

Pivotally attached to the plate B, at d, is a stop-lever, C, having a friction roller, e, in its free end. Pivotally attached to this stop lever between its two ends is a bar, f, the other end of said bar being pivotally attached at n to the collar of the arm F, which collar, of course, is rigidly attached to the shaft E. By means of this peculiar association of simple parts, the results set forth in the following description of the operation are attained.

Referring to Fig. 1, steam is supposed to have been admitted into the upper end of the steam cylinder, I, and the piston rod, s, is at its lowest point, during which condition the log-loading lever D is thrown back, or downward, and the stop-lever, C, is thrown upward, so as to come in contact with the lowest log on the skidway, holding said log and those back of it from rolling farther down until it is desired to load another log on the log carriage, J. Now by admitting steam into the lower end of the steam cylinder, I, the piston rod, s, with its rack, H, will rise, revolving the segmental gear, G, and shaft, E, and through the medium of the bar f, disengaging the stop-lever, C, by throwing it downward to the position shown in Fig. 2, at which time the log previously held by said stop-lever will roll downward toward the log carriage, just at which time the log-loading lever D, by means of the arm F and the bar r, will be raised so as to bring its nose against the back peripheral portion of the log and thus roll the log on to the log carriage, as illustrated in Fig. 2; the rounded portion, a, of said log-loading lever D, serving at this time as a stop for the next on-coming log, until the stop-lever, C, is again brought into use, which is done by reversing the movement of the piston rod, which action throws up said stop-lever and throws down the log-loading lever D, as before explained. A frictional guide-roller, t, is shown in Figs. 1 and 2, contacting with



the back side of the rack, H, to hold the same in proper engagement with the segment, G.

While only one log-loading lever and one stop-lever are here shown, the design is of course to employ as many of these parts throughout the length of the log as desired, preferably one near each end of a log, but perhaps one near the center of the log might serve in some instances, the shaft E of course being common to all the log-loading levers.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of a steam cylinder and piston rod, a rack attached to the free end of said piston rod, a pivoted log-loading lever adapted to swing against the back of a log, a pivoted stop-lever adapted to swing against the front of the next log, a shaft provided with a segment in position to mesh with the rack of the piston rod, an arm rigidly attached to said shaft, a connecting bar pivotally attached to said arm and to the log-loading lever, and a bar pivotally connected with said

shaft and with the stop-lever; substantially as set forth.

2. The combination of a steam cylinder and piston rod, a rack attached to the free end of said piston rod, a pivoted log-loading lever adapted to swing against the back of a log, a pivoted stop-lever adapted to swing against the front of the next log, a shaft provided with a segment in position to mesh with the rack of the piston rod, an arm rigidly attached to said shaft, a connecting bar pivotally attached to said arm and to the log-loading lever, a bar pivotally connected with said shaft and with the stop-lever, and a frictional roller in position to contact with the segment of said piston rod to guide the same; substantially as set forth.

In testimony to the foregoing I have hereunto subscribed my name in the presence of two witnesses.

WM. E. HILL.

Witnesses:

FRED A. FULLER,  
HULBURT BROOKS.