

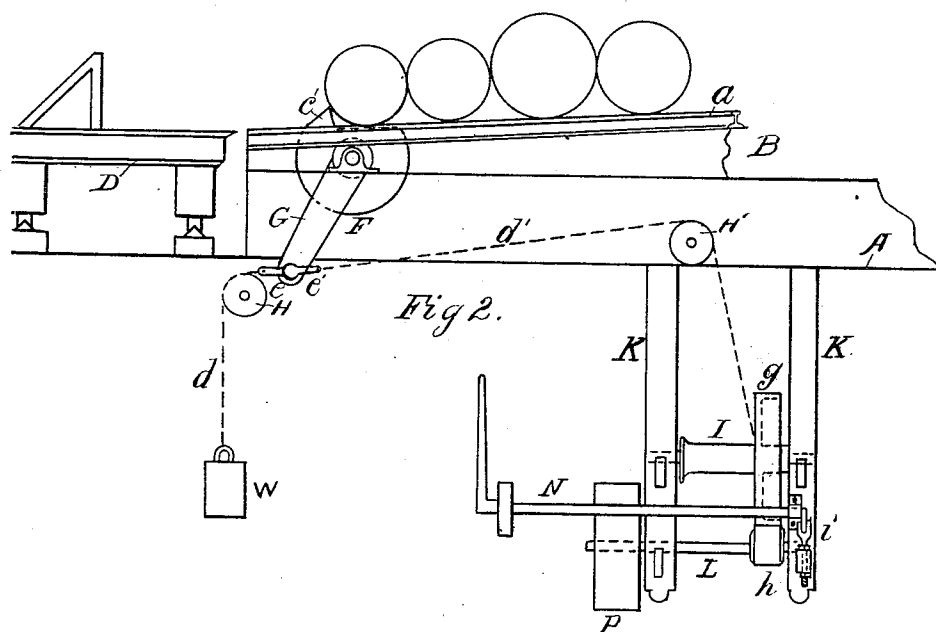
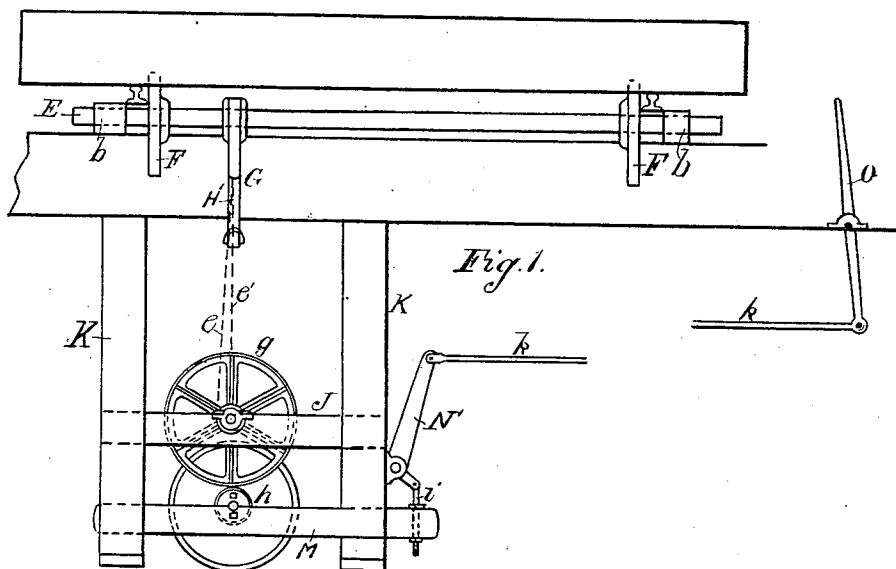
(No Model.)

2 Sheets—Sheet 1.

J. CAMPBELL
LOG LOADER.

No. 320,217.

Patented June 16, 1885.



WITNESSES

W. Burroughs.
A. Willenbacher.

INVENTOR

John Campbell,
By
E. T. Chandler,
Attorney

(No Model.)

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Fig 3.

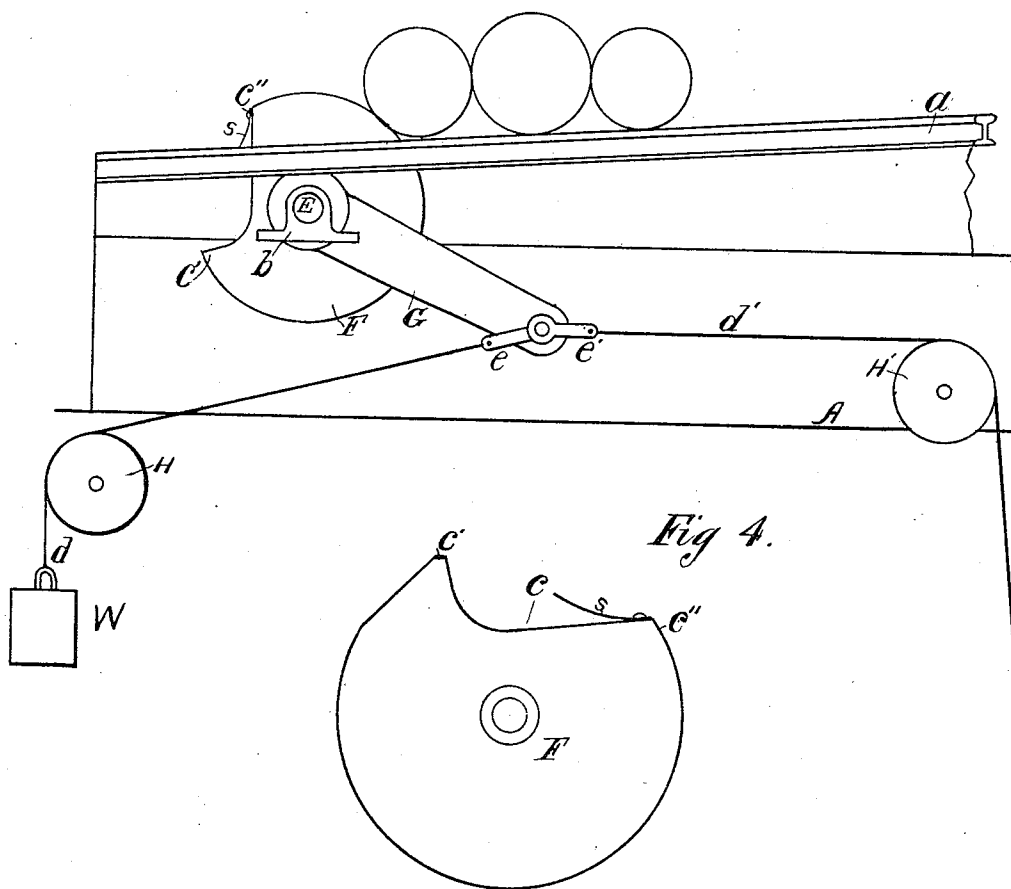
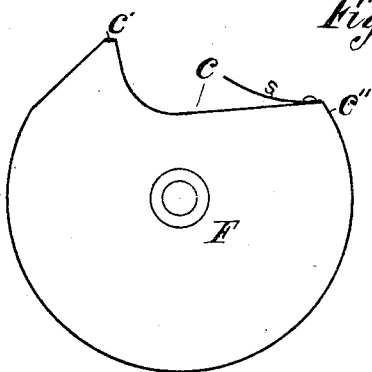


Fig 4.



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UNITED STATES PATENT OFFICE.

JOHN CAMPBELL, OF MUSKEGON, MICHIGAN, ASSIGNOR TO ALEXANDER RODGERS, OF SAME PLACE.

LOG-LOADER.

SPECIFICATION forming part of Letters Patent No. 320,217, dated June 16, 1885.

Application filed March 23, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN CAMPBELL, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Log-Rolling Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improvement in mechanism employed in saw-mills for the purpose of retaining logs upon the inclined deck or logway of a saw-mill until it is desired to place them in position upon the log-carriage, when said mechanism is caused to release the log nearest the carriage (should there be more than one on the logway) and roll the same thereon, and at the same time prevent any other logs which may be upon the logway from following so closely as to interfere with the one rolled upon the carriage. The mechanism employed to accomplish this object consists, essentially, of a shaft placed beneath the rails of a logway and carrying two notches or sector-wheels placed at such a distance from each other as to bear against the log near its ends, said shaft being also provided with a rack-arm depending therefrom and connected at its lower end with a chain, one end of which passes over a sheave and has attached to it a weight by means of which the rack-arm is drawn in one direction and gives a corresponding movement in the opposite direction to the periphery of the wheels upon the shaft. In order to move the rack-arm in the opposite direction and throw a log lying in the notches of the sector-wheels upon the log-carriage, the end of the chain opposite to that to which the weight is attached is carried to a spool rotated by a system of frictional gearing which is under the control of the sawyer, so that when it is desired to place a log upon the carriage it is only necessary for him to start the gearing, which rotates the chain-spool, causing one end of the chain to be wound thereon. This acts upon the rack-lever, which rotates the shaft and wheels, causing the latter to throw the log lying in the notches or recesses of the sector-wheels upon the log-carriage, when the disconnection of the friction-gear allows the weight to draw the rack-lever in the opposite direction, so as to return the notches of the

wheels into the proper position to receive the next log, the remaining log or logs upon the logway having in the meantime been prevented from rolling toward the carriage by the unbroken portion of the periphery of the wheels which is projected above the platform of the logway when said wheels are turned to throw or roll the log lying in the notches.

In the accompanying drawings, which form a part of this specification, Figure 1 is a front view of the mechanism and logway with a log in the notches or recesses of the sector-wheels ready to be placed upon the log-carriage. Fig. 2 is an end view of the logway, rolling mechanism, and log-carriage with a log in the recesses of the sector-wheels and other logs upon the logway retained in position thereon by said wheels. Fig. 3 is also an end view showing the manner in which the sector-wheels prevent the remaining logs upon the logway from rolling forward during the operation of placing a log upon the log-carriage. Fig. 4 is an enlarged side view of one of the sector-wheels.

In order to a full understanding of the construction and arrangement of this mechanism, its several parts and their operation will now be specifically described. A represents the mill-floor, and B the inclined log-deck, provided with rails *a*, preferably of ordinary railroad-iron. Upon these rails the logs are placed as they are hauled into the mill from the log-basin or other place of storage.

D represents an ordinary log-carriage, upon which the logs are placed to be cut up into lumber by the saw.

In suitable journal-boxes, *b b*, beneath the log-deck is carried the shaft E, extending nearly or quite the whole length of the same. Secured upon this shaft are two sector-wheels, FF, each having a segment, *c*, cut from its periphery, forming a recess within which is secured the springs, as shown in Fig. 4 of the drawings. The rack arm or lever G is secured upon the shaft E at any desired point in its length, and depends from the shaft so far as to bring its lower end beneath the mill-floor. To this lower end of the lever G is attached the clevises *e e'*, to one of which, the clevis *e*, is attached the chain *d*, extending horizontally beneath the floor to the sheave H, over which it passes, and has attached to its depending

end the weight E. To the other clevis, *e'*, is secured the chain *d'*, which passes over the sheave H' and thence down to the spool I. This spool is mounted upon journals which revolve in boxes secured upon the bridge-trees J of the frame K beneath the mill-floor. The spool I is provided with a friction-pulley, *g*, to which motion is communicated by a friction-pinion, *h*, carried upon the shaft L. This shaft L revolves in bearings upon the bridge-trees M, one of which is movable, being pivoted at one end, and provided at the other with an adjustable eye-bolt, *i'*, by means of which it is connected to rack-shaft N and lever N'. To the upper end of this lever N' is attached a rack, *k*, which connects with a lever, O, the upper end of said lever O passing through and above the mill-floor into a position where it may be readily operated by the sawyer. Motion is imparted to the shaft L, carrying the friction-pinions, by a belt from any continuously-revolving pulley upon the mill-shafting to the pulley P, secured upon the shaft.

25 The operating mechanism is as follows, the several parts being in the position shown in Fig. 2: When the sawyer desires to place a log upon the carriage, he pulls the lever O, which brings the friction-pinion into contact with the periphery of the friction-wheel *g*, which rotates the spool and winds up the chain *d'*, which acts upon the lever G, and partially revolves the shaft E. The revolution of this shaft gives motion to the sector-wheels, by which the projecting point *c* of said wheels is carried down below the line of the rails *a*, allowing the log which occupies the notches or recesses *c* to roll forward upon the log-carriage. This movement of the log is assisted and made positive by the opposite side of the recess *c''*, which rises and forces the log forward, and at the same time projects upward between it and the log in its rear, preventing the latter from coming too far down the inclined upper surface of the rails. When the log is properly placed upon the carriage, the sawyer releases the lever O, which allows the friction-pinion to drop out of contact with the friction-wheel *g*. Then the weight W, which has been raised by the winding of the chain

upon the spool, begins to act, returning the parts to their normal position, as shown in Fig. 2, the part *c''* of the recesses *c* dropping below the top of the rails *a*, and the projection *c'* rising to form a stop against which the logs remaining on the rails rest and are prevented from rolling onto the log-carriage. The spring *s* within the recess of the sector-wheels is used to stop small logs, so that two of them may not get into the recess at the same time; but a log large enough to prevent another from entering depresses the spring and rolls over it.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. The log-rolling machine consisting of sector-wheels provided with recesses *c*, and springs *s*, located in said recesses, said sector-wheels being mounted upon a suitable shaft, in combination with the lever G, chain and friction mechanism for operating said parts, and the weights W, arranged to return the sector-wheels to their normal position after they have been partially rotated by the friction-gear.

2. In a log-rolling mechanism, the combination of the shaft E, upon which are the sector-wheels F F, said sector-wheels being provided with recesses *c*, in which are located the springs *s*, the lever or rock-arm G, attached to the shaft E, and the friction-gearing and chain for operating the same, as specified.

3. In a log-rolling mechanism, the sector-wheels mounted upon shaft E, lever G, clevises *e e'* thereon, chains connecting said lever to the weight W, and friction devices for rotating said shaft in opposite directions, in combination with adjustable eyebolt *i'*, rock-shaft N, lever N', connecting-rod *k*, and hand-lever O, connected to each other and to the friction-gearing, and arranged to operate the friction mechanism in the manner shown and described.

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

JOHN CAMPBELL.

Witnesses:

J. C. McLAUGHLIN,
ROBT. E. BUNKER.