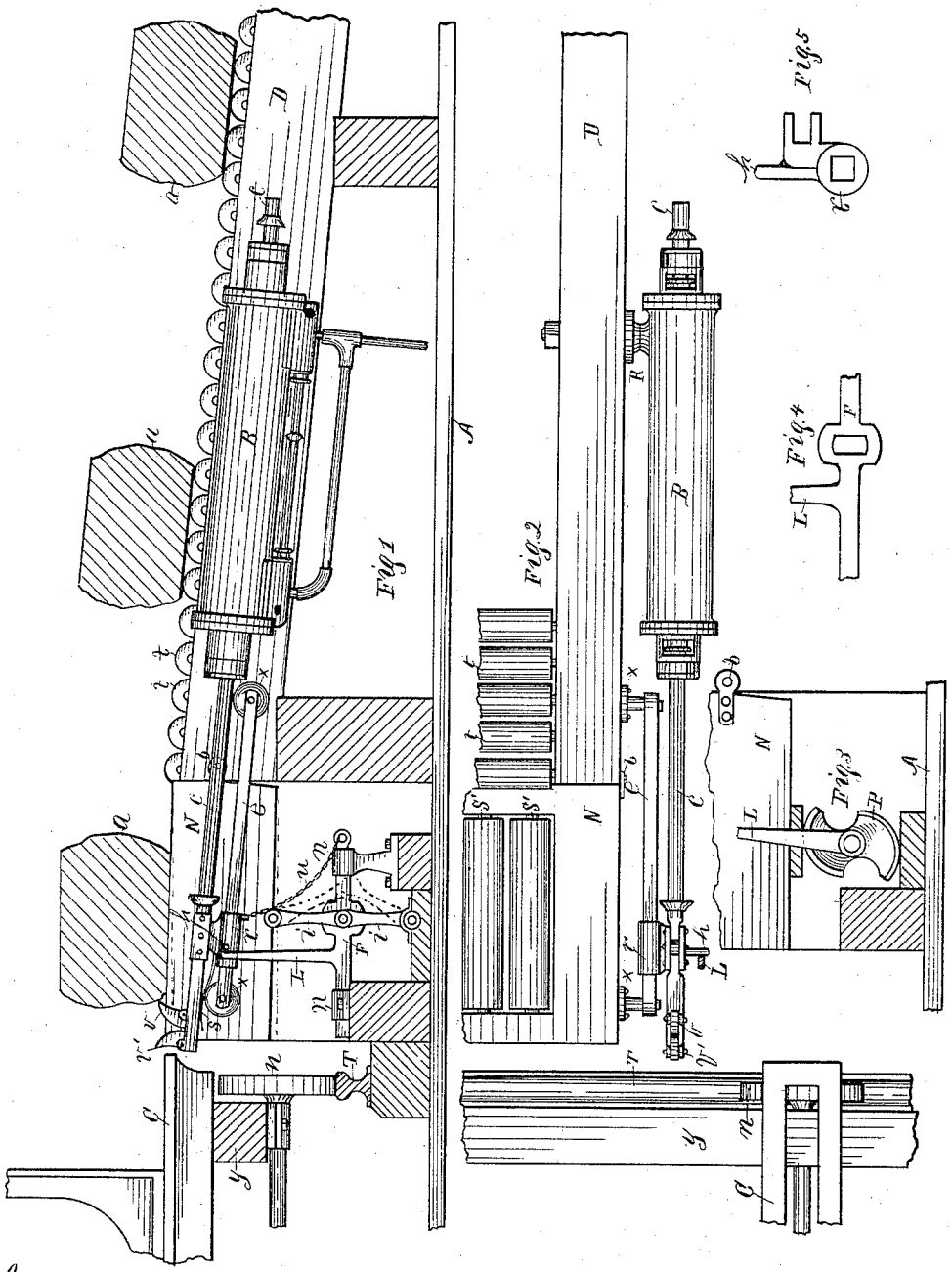
(No Model.)

W. E. HILL & M. J. LYONS.

LOG LOADER.

No. 306,399. Patented Oct. 14, 1884.



Witnesses.
Jno C Perkins
Dumont A Shepardson

Inventor
William E. Hill Michael J Lyons
By Lucius C West
Atty

UNITED STATES PATENT OFFICE.

WILLIAM E. HILL, OF KALAMAZOO, AND MICHAEL J. LYONS, OF SAGINAW, MICHIGAN.

LOG-LOADER.

SPECIFICATION forming part of Letters Patent No. 306,399, dated October 14, 1884.

Application filed February 28, 1884. (No model.)

To all whom it may concern:

Be it known that we, WM. E. HILL and MICHAEL J. LYONS, citizens of the United States, residing at Kalamazoo and Saginaw, respectively, counties of Kalamazoo and Saginaw, State of Michigan, have invented a new and useful Cant-Machine, of which the following is a specification.

The object of our invention is to devise a suitable machine for moving logs or timbers by hauling or pushing the same.

The essential features of our invention consist in a steam-engine having a piston with a free end, said end provided with a hook or prong adapted for engagement with the log or timber in a manner to haul or push the same, as occasion requires, when the piston moves in and out of the cylinder. These features may be adapted by slight changes to operate in connection with different saw-mill appointments.

In this application we have described a peculiar adaptation of our invention, fitting it for service with saw-mill machinery and appliances already in use.

In the drawings forming a part of this specification, Figure 1 is a side elevation of the machine as in operation; Fig. 2, a top view of the same; Fig. 3, a change in a part of the construction, and Figs. 4 and 5 plan views of detached parts.

In the saw-mill arrangements here shown, D is a skidway provided with rollers *t t* which is used to run the logs down to the saws, which convert the logs into lumber after they have been bolted.

C shows a log-carriage for conveying the logs during the operation of removing the slab by the bolting-saw. Between the carriage and skidway is a series of revolving rollers, *s' s'*, which convey the log after having been bolted to the proper position to be moved onto the skidway D.

N is a platform surrounding the rollers *s' s'*, hinged at the rear side to the skidway D at *b*. Beneath this platform is a raising device, consisting of a shaft, F, loosely located in bearings *n n* in a manner to slide back and forth therein. A toggle, *i i*, connects with shaft F, and is pivotally connected with the under side of platform N and with a support below.

L is an arm for operating the toggle.

P in Fig. 3 shows a cam device, which may be used as an equivalent to the toggle.

In connection with this construction our invention is here shown adapted to operate. An engine, B, is secured in proper position, either rigidly or movably, to a support. In the arrangement shown it is pivotally connected with skidway D at R. Any suitable engine may be used. The one here shown has been secured by former Patent No. 277,084, May 8, 1883. It has a steam-chest at each end of the cylinder, with which the steam-pipes connect. The piston *c*, located in the cylinder, has a hook, *v*, at its free end adapted to catch against the log and haul it off of the platform or carriage, as the case may be, when the piston moves back into the cylinder.

In the drawings the piston *c* is divided, and the divided ends hinged to collar *h*.

S is a spring located beneath the hinged end of the piston, which bears the hook *v*, which raises the hook and keeps it up at proper height when the distance changes between the log and the inclined piston *c* during the operation.

It will be observed that the engine, piston, and spring, as thus far described, would be operative, and that a pivotally-connected engine, a rigid piston, and an elevating-spring, or equivalent, connecting with the engine or piston, would be as well.

In a construction as shown a bar, *e*, is pivoted at one end to the skidway D, and at the other end to the vertically-swinging platform N. This bar supports the collar *r*, which plays back and forth thereon.

h is a stud connecting with the collar *r*, to engage the end of lever L.

U is a chain to unlock the toggle *i i*.

In the operation, as the piston *c* is moved outward, the stud *h* intercepts the lever L, which throws the toggle *i i* into position, as in Fig. 1, which movement raises the platform N, as indicated by dotted lines, and also the parts connecting with it. As the piston *c* moves in the other direction, the hook hauls the log *a* onto the skidway. During this movement the chain U, secured to the collar *r* and shaft F, tightens and unlocks the toggle, as shown by dotted position in Fig. 1.

One or more machines may be employed to

handle a log, according to size and weight. *v'* shows a hook which may be employed when pushing the log instead of hauling it.

What we claim is—

1. The combination, with a skidway and a log-platform hinged thereto, and toggle or equivalent means for raising said platform, of an engine provided with a piston adapted to coact with said means, and provided at the free end with a hook or hooks, substantially as set forth.

2. The combination, with an engine and piston provided with a hinged extension bearing a hook or hooks, and means for elevating said end, of a hinged log-platform and means for raising the same, substantially as set forth.

3. The combination of a skidway, a hinged platform, an engine having a jointed piston provided with a hook at the end, a spring-support to said end, and toggle or equivalent means for raising said platform, substantially as described.

In testimony of the foregoing we have hereunto subscribed our names in the presence of two witnesses.

WILLIAM E. HILL.
MICHAEL J. LYONS.

Witnesses as to first name:
GEO. R. SHEPARDSON,
DUMONT A. SHEPARDSON.
Witnesses as to second name:
EUGENE H. PEARSON,
J. H. BENNETT.