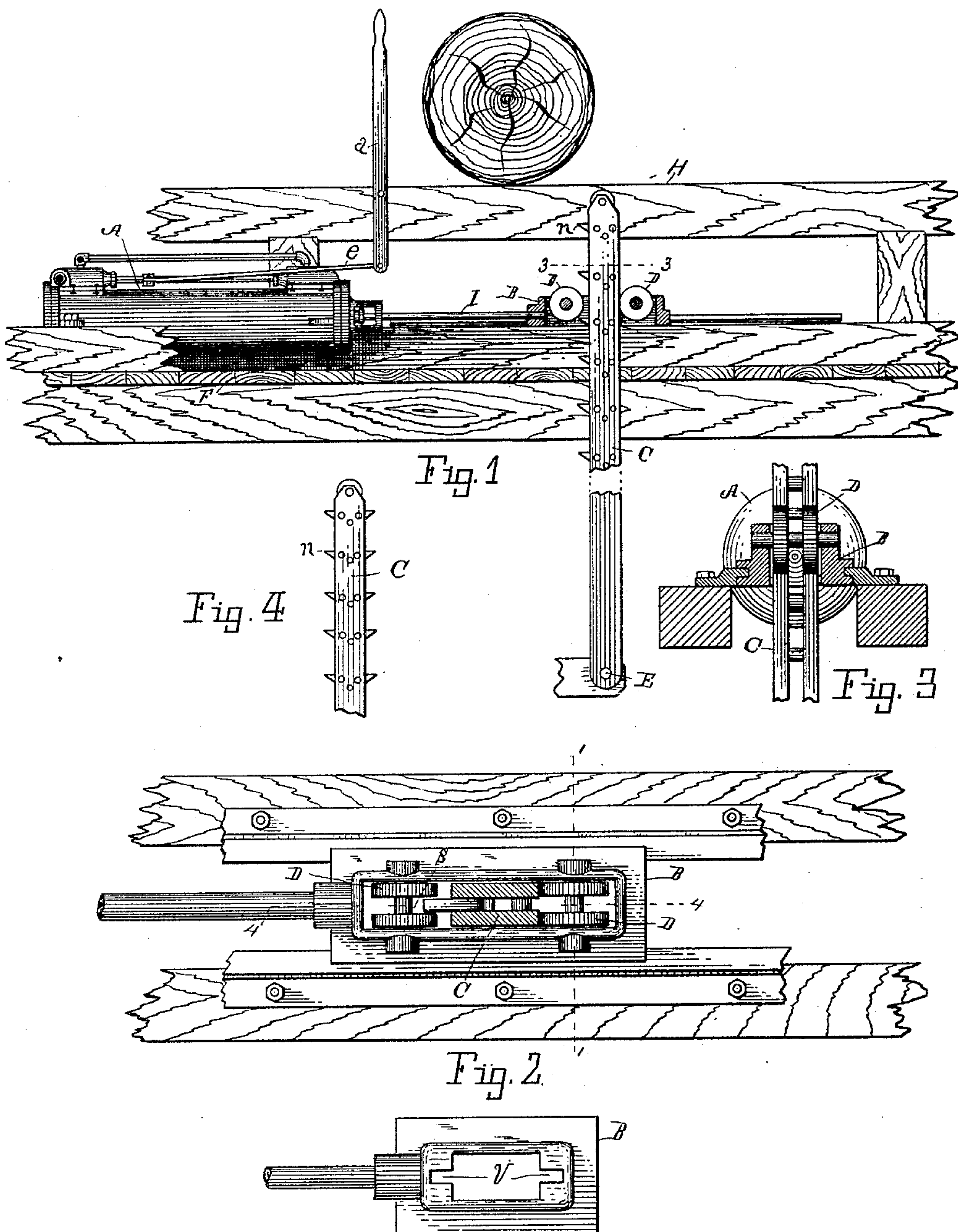


(No Model.)

W. E. HILL.
LOG LOADER.

No. 453,864.

Patented June 9, 1891.



Witnesses:
Walter S. Wood
S. K. Brasse

Fig. 5

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

UNITED STATES PATENT OFFICE.

WILLIAM E. HILL, OF KALAMAZOO, MICHIGAN.

LOG-LOADER.

SPECIFICATION forming part of Letters Patent No. 453,864, dated June 9, 1891.

Application filed March 5, 1890. Serial No. 342,719. (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-Loader, of which the following is a specification.

This invention has for its object to construct a log-loading machine employing a horizontal steam-cylinder and piston-rod to vibrate the vertically-playing log-loading bar.

Figure 1 is a side elevation, parts being in section on line 4 4 in Fig. 2 and parts being broken away. Fig. 2 is an enlarged plan view with part in section on line 3 3 in Fig. 1. Fig. 3 is a section on line 1 1 in Fig. 2, looking from a point at the right. Fig. 4 is a lettered detail from Fig. 1, showing changes; and Fig. 5 is a plan of a lettered part in Fig. 1, enlarged, showing changes.

Referring to the lettered parts of the drawings, F illustrates the floor of a saw-mill, and H a broken portion of the log-skidway which leads to the ordinary log-carriage, said carriage not being here shown. The log-loading bar C in ordinary constructions has a vertical and lateral movement, the former movement being produced by any suitable mechanism, none being here shown. Such tooth-bars C, in order to oscillate, have a fulcrum attachment at the lower end, and for purposes of this invention the pivot E, Fig. 1, will serve to illustrate said fulcrum.

At A is shown a steam-cylinder having the pivoted lever *a* and rod *e* connecting with the lower end of said lever, which rod connects with the throttle in the ordinary manner.

To the end of the piston-rod I of the cylinder A is attached a cross-head B, said cross-head having a central opening, through which is vertically passed the log-loading bar C, Fig. 2. This cross-head reciprocates upon a suitable guide-bearing when the piston-rod I plays in and out of the cylinder, as in Figs. 1 and 2, and during said movement oscillates the bar C. The degree of the movement of the bar C and the frequency thereof are controlled by the operator at will by letting on as little or much steam by means of the lever *a* as desired. By this means the bar C is adjusted from one position to another to operate upon the particular log desired, and

is brought and kept in contact with said log with the desired force and degree of movement to load it onto the log-carriage.

At D D are shown friction-rollers mounted in the cross-head B, which rollers may be employed, if desired, to prevent undue friction against said bar. In a case where a tooth-bar is employed these rollers may be in sets separated from each other, as in Figs. 2 and 3, so as to allow the teeth of the bar to pass between said rollers, no teeth being here shown. These rollers D are shown in said other application; but they are not claimed therein in connection with a bar C bearing teeth. In Figs. 1 and 2 the bar C has teeth *n* on one side, said teeth of course being employed to engage the periphery of the log, and the space S between the rollers D allows the teeth to pass during the vertical play of the bar C. Fig. 4 shows that the teeth *n* may be on both sides of the bar C, so that the bar may be employed to roll a log in either direction, back or forward.

In lieu of the rollers D, the ends of the cross-head B may be provided with the open slots or recesses *v* to accommodate the teeth of the bar C.

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

1. In a log-loader, the combination of an engine, the toothed log-loading bar, and a reciprocating cross-head attached to the piston-rod of said engine and adapted to oscillate the log-loading bar, said cross-head being provided with the central opening and the end extensions or open slots leading from said opening for the passage of the teeth of the bar, substantially as set forth.

2. The combination of the engine, the cross-head attached to the piston-rod thereof and having the central opening, the separated friction-rollers in the ends of said opening, and the log-loading tooth-bar, substantially as set forth.

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

WILLIAM E. HILL.

Witnesses:

G. N. BURKE,
B. W. SHEPARDSON.