(No Model.)

C. S. DEAN.

Drag Saw.

No. 229,975. **Patented July 13, 1880.**

Fig. 1.

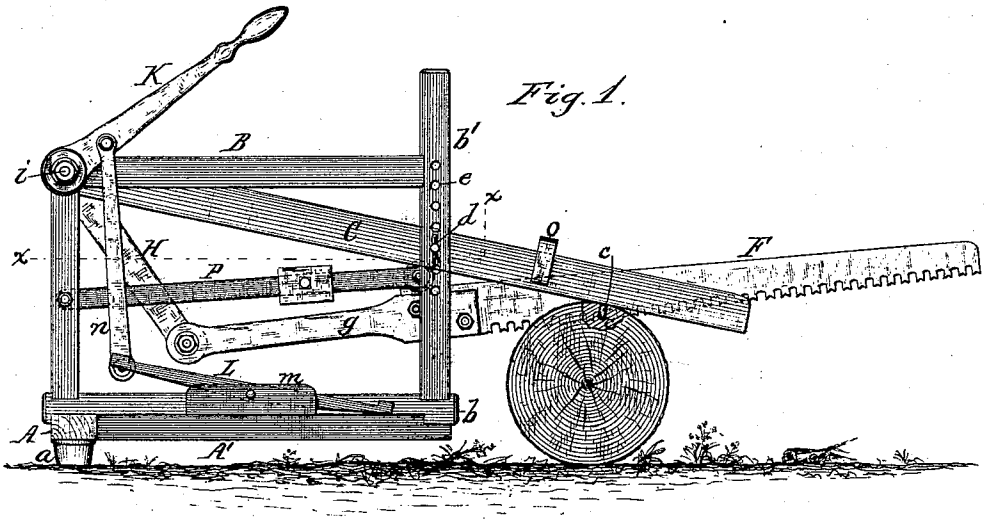


Fig. 2.

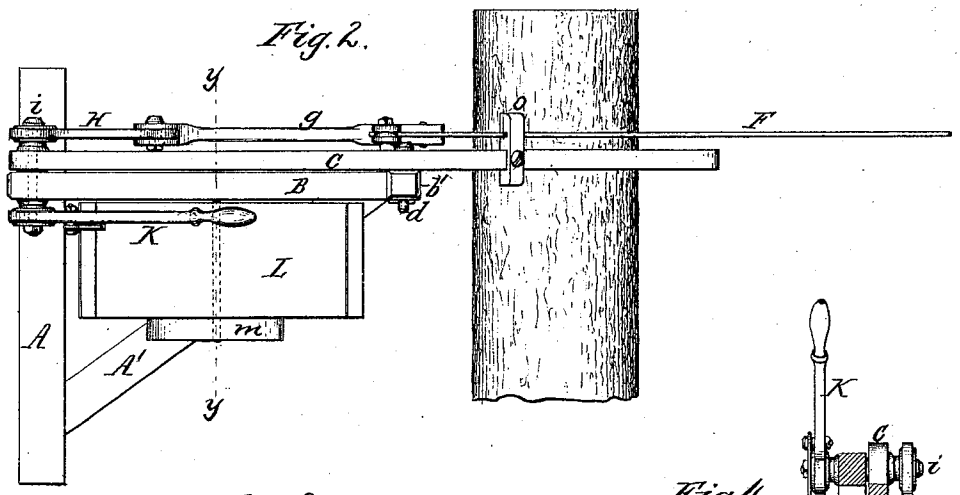


Fig. 3.

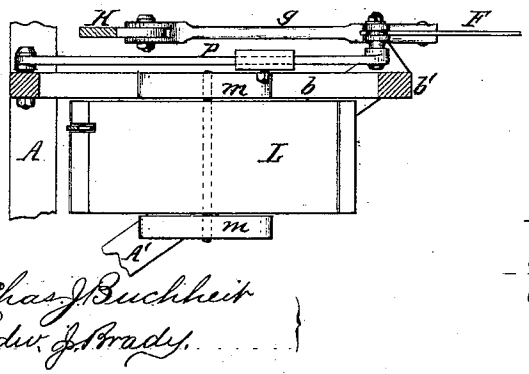
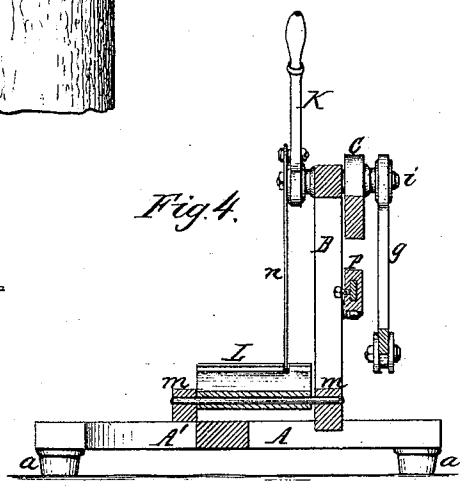


Fig. 4.



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UNITED STATES PATENT OFFICE.

CYRUS S. DEAN, OF CROWLAND, ONTARIO, CANADA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JOHN D. SMITH, OF BUFFALO, NEW YORK.

DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 229,975, dated July 13, 1880.

Application filed March 16, 1880. (No model.)

To all whom it may concern:

Be it known that I, CYRUS S. DEAN, of Crowland, in the county of Welland, in the Province of Ontario, Canada, have invented new and useful Improvements in Drag-Saws, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates more particularly to that class of drag-saws which are operated by means of a system of levers and rods connected with a stationary frame.

The object of my invention is the construction of a simple and convenient means for operating the saw; and it consists of the particular construction and arrangement of the mechanism whereby the saw is actuated, and also of the peculiar construction and arrangement of the stationary frame and its supporting-bar with reference to the mechanism whereby the saw is actuated.

In the accompanying drawings, Figure 1 is a side elevation of a drag-saw provided with my improvements. Fig. 2 is a top-plan view thereof. Fig. 3 is a horizontal section in line *x x* of Fig. 1. Fig. 4 is a cross-section in line *y y*, Fig. 2.

A A′ represent the horizontal bed-pieces of the stationary frame of the machine, the rear piece, A, of which is provided with legs or feet *a*, which rest upon the ground.

B represents the vertical portion of the stationary frame, which consists of an open rectangular frame having its bottom piece, *b*, secured with its front end to the diagonally-arranged bed-piece A′, and with its rear end to the rear bed-piece, A, thereby tying the diverging ends of the bed-pieces A A′ together.

C is a supporting bar or leg pivoted to the vertical frame B at its upper rear corner, and extending beyond the front bar, *b′*, of the frame B, so as to rest upon the log to be sawed, to which it is secured by a downwardly-projecting spur, *c*, which enters the log. The supporting-bar C is secured to the front upright bar, *b′*, of the frame B by a removable pin or bolt, *d*, passing through an elongated opening in the bar C and through one of a series of holes, *e*, arranged vertically in the bar *b′* of the frame B; or, if preferred, the hole in the bar C may be made round and the holes *e* in the bar *b′* may be arranged in the arc of a circle concentric with the fulcrum of the bar C. The bar C is by this means adjustably connected with the front bar, *b′*, of the frame B, and its front end can be raised or lowered, according to the size of the log to be sawed. The bar C is so adjusted on the bar *b′* that when its front end rests upon the log the front end of the stationary frame will be supported above the ground and the entire machine will rest upon three points of support—the two legs *a a* at the rear end of the machine and the front end of the bar C, which rests upon the log.

F represents the saw, arranged upon that side of the vertical frame B which is not obstructed by the diagonal bed-piece A′.

g is a rod connecting the rear end of the saw F with a rock-lever, H, which is secured with its upper end to a horizontal rock-shaft, *i*. The latter is supported in a suitable bearing arranged in the upper rear corner of the vertical frame B.

K represents a hand-lever secured to the opposite end of the rock-shaft *i*, its central position being about in a horizontal line.

L is a treadle or rocking foot-board, pivoted at its middle to two bearing-blocks, *m m*, secured, respectively, to the diagonal bed-piece A′ and the lower horizontal piece, *b*, of the vertical frame B.

n is a rod connecting the rear end of the treadle L with the hand-lever K near the shaft *i*.

o is a slotted guide secured to the front end of the supporting-bar C, for guiding the saw until it has fairly entered the log; and P is a weighted lever pivoted to the rear upright bar of the frame B, and resting freely with its front end, by means of a grooved roller attached thereto, upon the back of the saw F, so as to exert a downward pressure upon the same.

The bar C is pivoted with its rear end upon the shaft *i*, whereby the thrust of the saw is directly applied to the bar C, and the framework of the machine is to a large extent relieved from injurious strains.

The treadle L is pivoted vertically, or thereabout, below the arc through which the han-

dle of the lever K moves, whereby the operator, when standing on the treadle, is enabled to seize the handle of the lever K with both hands in front of his body and exert a direct downward pressure or upward pull upon the lever K in the most favorable position. By alternately depressing the opposite ends of the treadle and following the motion imparted to the hand-lever K with his hands the operator is enabled to work the saw back and forth in an obvious manner and with a small expenditure of muscular force, thereby enabling the operator to continue the movement for a considerable length of time without becoming fatigued.

I claim as my invention—

1. The combination, with a drag-saw, F, and a stationary frame, A A′ B, of the rod *g*, connecting the saw with a rock-lever, H, mounted on a rock-shaft, *i*, the hand-lever K, secured to the rock-shaft *i*, the treadle L, pivoted to the stationary frame vertically, or thereabout, below the arc through which the handle of the lever K moves, and a rod, *n*, connecting one end of the treadle with the hand-lever K, substantially as shown and described.

2. The combination, with the drag-saw F, actuated by a rock-lever, H, mounted on a rock-shaft, *i*, of the stationary frame A A′ B, supporting the rock-shaft *i*, and the supporting-bar C, pivoted with its rear end to the rock-shaft *i*, and made vertically adjustable on the front bar, *b′*, of the stationary frame, substantially as set forth.

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