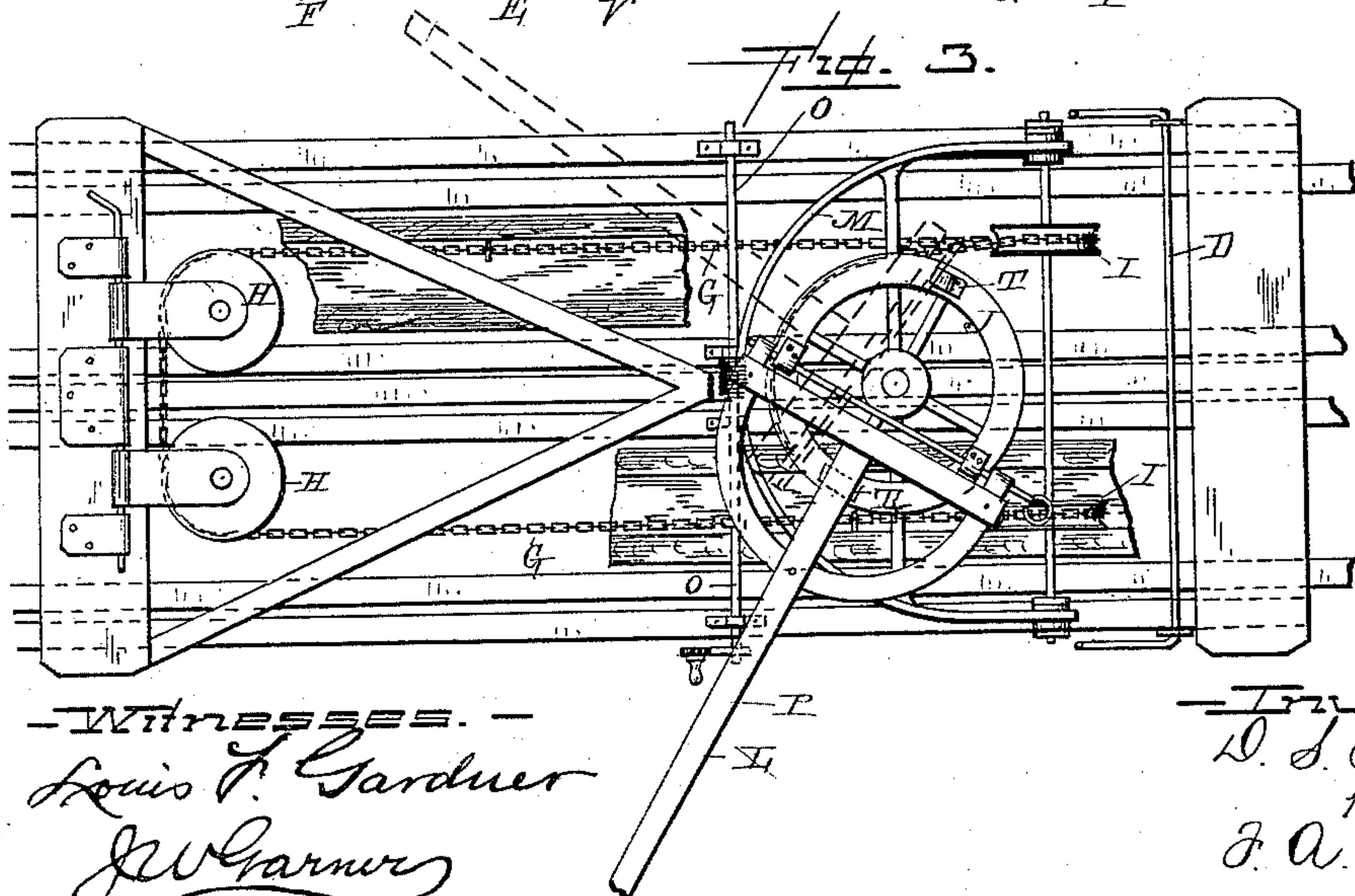
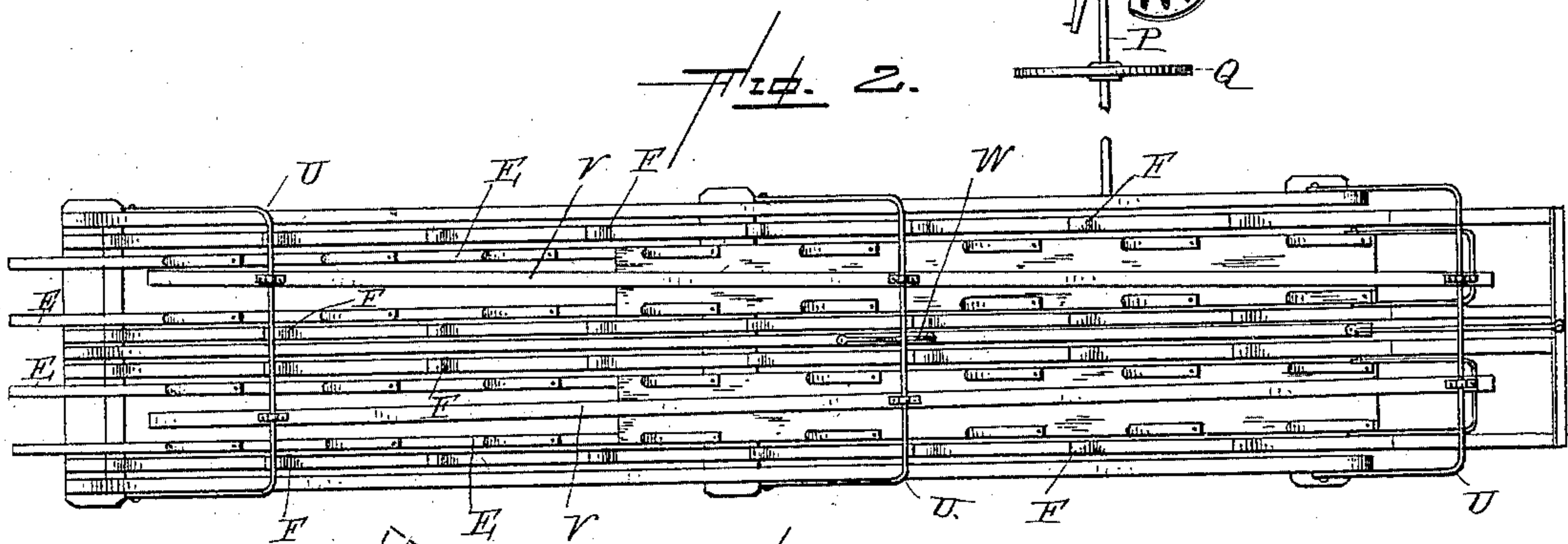
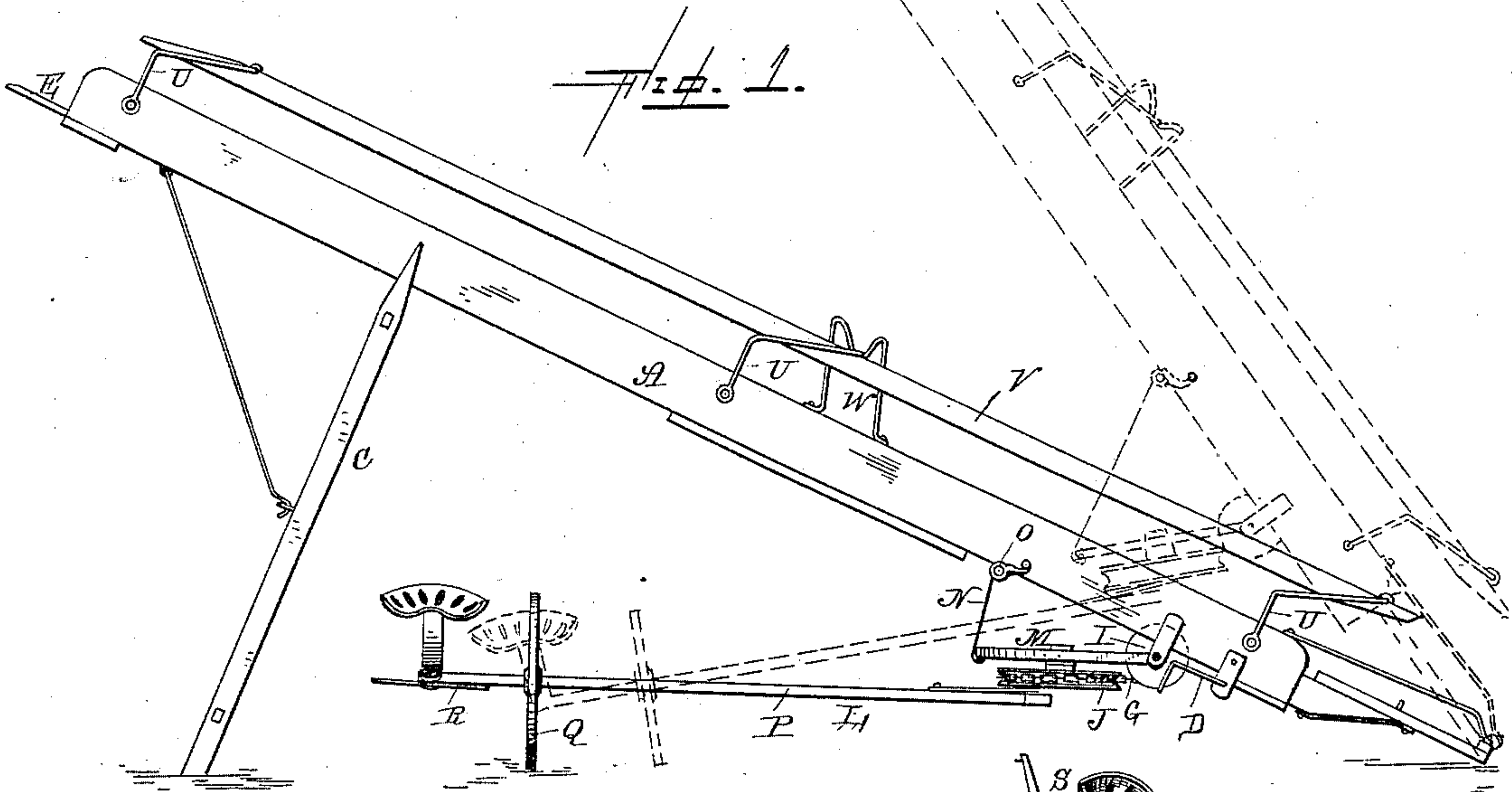


(No Model.)

D. S. THOMAS.  
ICE ELEVATOR.

No. 302,173.

Patented July 15, 1884.



—WITNESSES.—  
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J. A. Lehmann, atty.



# UNITED STATES PATENT OFFICE.

DAVID SHELDON THOMAS, OF NORTH PLATTE, NEBRASKA.

## ICE-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 302,173, dated July 15, 1884.

Application filed January 21, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID S. THOMAS, of North Platte, in the county of Lincoln and State of Nebraska, have invented certain new and useful Improvements in Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in elevators for ice, cotton, hay, and other baled articles; and it consists, first, in the combination of a wheel having a tongue secured thereto, to which the horse is fastened, an endless chain which is secured to the wheel, suitable guiding-pulleys, and suitable elevating devices which are made to move in opposite directions; second, in the combination of the elevator-frame with the hinged frame, which is pivoted to its under side, and upon which hinged frame the operating-wheel is journaled, the wheel-frame being made adjustable, so as to suit the inclination of the elevator-frame; third, the combination of the elevator-frame with pivoted rods or holding devices which are attached to the frame, for the purpose of holding the blocks of ice in position while being elevated in a perpendicular or nearly perpendicular position, as will be more fully described hereinafter.

The object of my invention is to provide an ice-elevator by means of which blocks of ice can be elevated to any desired height by means of the tongue or lever, which is worked either by a horse or man power, the lever or tongue being made to work back and forth through a portion of a circle, and thus cause the elevators to move in opposite directions, one being made to force a block of ice upward at each movement of the tongue or lever.

Figure 1 is a side elevation of an ice-elevator embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is an inverted view.

A represents the elevator-frame, which is of the ordinary construction, and provided with two channels or passage-ways, in which two separate blocks or rows of blocks are elevated alternately. This frame will be supported at its upper end either by means of

trestles C, or by any suitable devices by which the angle of the frame can be changed from time to time, according to the elevation to which it is necessary to raise the ice. Pivoted to the under side of the frame near its lower end is the rod D, which has suitable points which can be driven into the ice, or any suitable frame-work, and thus hold the lower end of the frame in position. The lower end of this frame is made to project out into the water sufficiently far to have the blocks of ice floated up into position, where they can be pushed by means of any suitable tool upon the lower ends of the elevating devices.

In each one of the passage-ways in the elevating-frame is placed an elevator, E, which is provided either with springs or dogs for catching behind the blocks of ice and forcing them upward. Springs are here shown; but movable dogs or any other suitable devices may be used in their stead. These springs or dogs catch behind the blocks of ice at each upward movement of the elevator and force the blocks upward far enough to have them catch behind the shoulders F upon the elevating-frame, and these shoulders prevent any backward movement of the blocks of ice, while the elevating device is moved backward for another block. Each one of these elevating devices is fastened to a chain, G, which pass over the two guiding-pulleys H near the center of the frame, and placed in a line therewith, and then down over the two pulleys I, which are placed at right angles to the frame near its lower end. After passing through these two pulleys I the ends of the chain are fastened to the operating-wheel J. This operating-wheel J, to which the tongue or lever B is pivoted, is journaled upon the metallic frame M, which is pivoted to the under side of the elevating-frame upon the shaft or rod upon which the pulleys I are journaled. Connected to the upper end of this pivoted frame is a wire, rope, or chain, N, which is fastened at its upper end to the windlass O. By turning this windlass the rope or chain N is made to raise or lower the metallic frame so as to correspond to the angle at which the elevator-frame is raised upward. When the upper end of the elevator is raised up at a considerable angle, it is necessary to lower this



wheel-frame downward so as to have it in nearly a horizontal position. Pivoted to the under side of this operating-wheel is a tongue or lever, P, by means of which the operating-wheel is worked back and forth upon its journal or pivot. Where a number of blocks of ice are being elevated at once, a tongue instead of a lever will be used; but where only one block is being elevated at a time an ordinary lever may be attached to the wheel, and then the wheel operated by man-power. When a tongue is used, it projects outward to any suitable distance, and is supported near its outer end by the wheel Q. Pivoted upon the outer end of the tongue is a whiffletree, R, which is secured to the seat-frame S in such a manner that the whiffletree and seat-frame will always turn together. The horse, having been hitched to the whiffletree, is driven from one side of the frame to the other, where the elevation of the elevator-frame is sufficient to allow the horse to pass back and forth under it, and when the horse reaches the end of his travel he turns around at the outer end of the tongue, so as to travel in the opposite direction, and in turning reverses the seat for the driver at the same time. By means of this construction the driver always faces in the same direction as the horse. Where the elevator-frame is not raised upward at such an angle as to allow the horse to freely pass back and forth under it, the tongue is removed and attached to the two bearings T, at right angles to the bearings to which it is to be attached, when the horse can travel back and forth through half the circle, and then the horse can only move from a position at about right angles to the frame, around as near to the frame as it can get. The only difference in the operation will be that the elevating devices will give much shorter strokes where the horse can only travel as far as the frame than they will where the horse can travel through half of a circle. If so desired, the size of the wheel and the guiding-pulleys can be so proportioned that the necessary amount of stroke or travel will be given to the elevators to raise the blocks of ice by having the horse travel through only a portion of a circle, instead of half of one, as here shown. Where bales of hay, cotton, and other baled articles are being elevated, a much longer stroke is required than for elevating ice, and in that case the horse must travel farther.

Pivoted above the top of the elevator-frame by means of the bent rods U are the rods or holding devices V, which extend along midway over the tops of the channels in the elevator-frame, and these holding devices serve to hold the blocks of ice in position upon the

elevating devices when the elevator-frame is raised upward into almost a perpendicular position. Where the ice is being raised at a great angle, the blocks are liable to buckle and drop back to the ground, and it is to prevent this that the holding devices are used. These holding devices, bearing against the outer sides of the blocks of ice, retain them securely in position. Upon the center of the frame is a suitable supporting device, W, for the purpose of preventing the rods from sinking down beyond a certain point where they will be liable to interfere with the movement of the blocks.

Having thus described my invention, I claim—

1. In an elevator, the combination of two elevating devices which move in opposite directions in the elevator-frame, a wire, rope, or chain connected thereto, the wheel to which the ends of the rope, wire, or chain are permanently fastened, and a tongue or lever which is made to sweep back and forth through a portion of a circle, substantially as shown.

2. The combination of the elevator-frame, the two elevating devices which move in opposite directions, the cord, chain, or wire, the operating-wheel, a tongue or lever secured to the wheel, and a pivoted frame upon which the wheel is journaled, substantially as described.

3. The combination of the elevator-frame, the elevating devices placed therein and which move in opposite directions, the cord, wire, or chain which is fastened to the elevators, the guiding-pulleys, the operating-wheel having a tongue or lever secured thereto, the pivoted frame upon which the wheel is journaled, and a windlass or other device for raising and lowering the frame, substantially as set forth.

4. The combination of the elevator-frame, the elevating devices placed therein, and a suitable mechanism for operating them with the holding device, by means of which the blocks of ice are prevented from becoming displaced while being elevated, substantially as specified.

5. The combination of the operating-wheel, the tongue attached thereto, the supporting-wheel for the outer end of the tongue, and a seat-frame having a single-tree secured thereto, so that the single-tree and seat will always move together, substantially as shown and described.

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

DAVID SHIELDON THOMAS.

Witnesses:

J. W. GARNER,  
M. P. CALLAN.