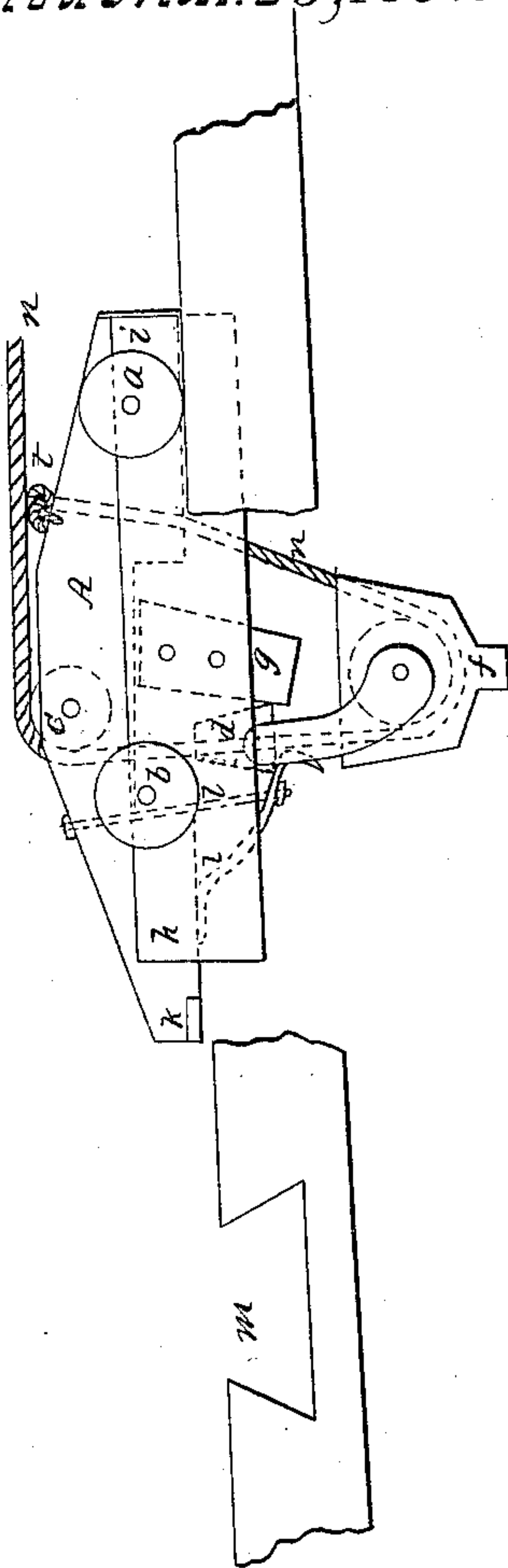
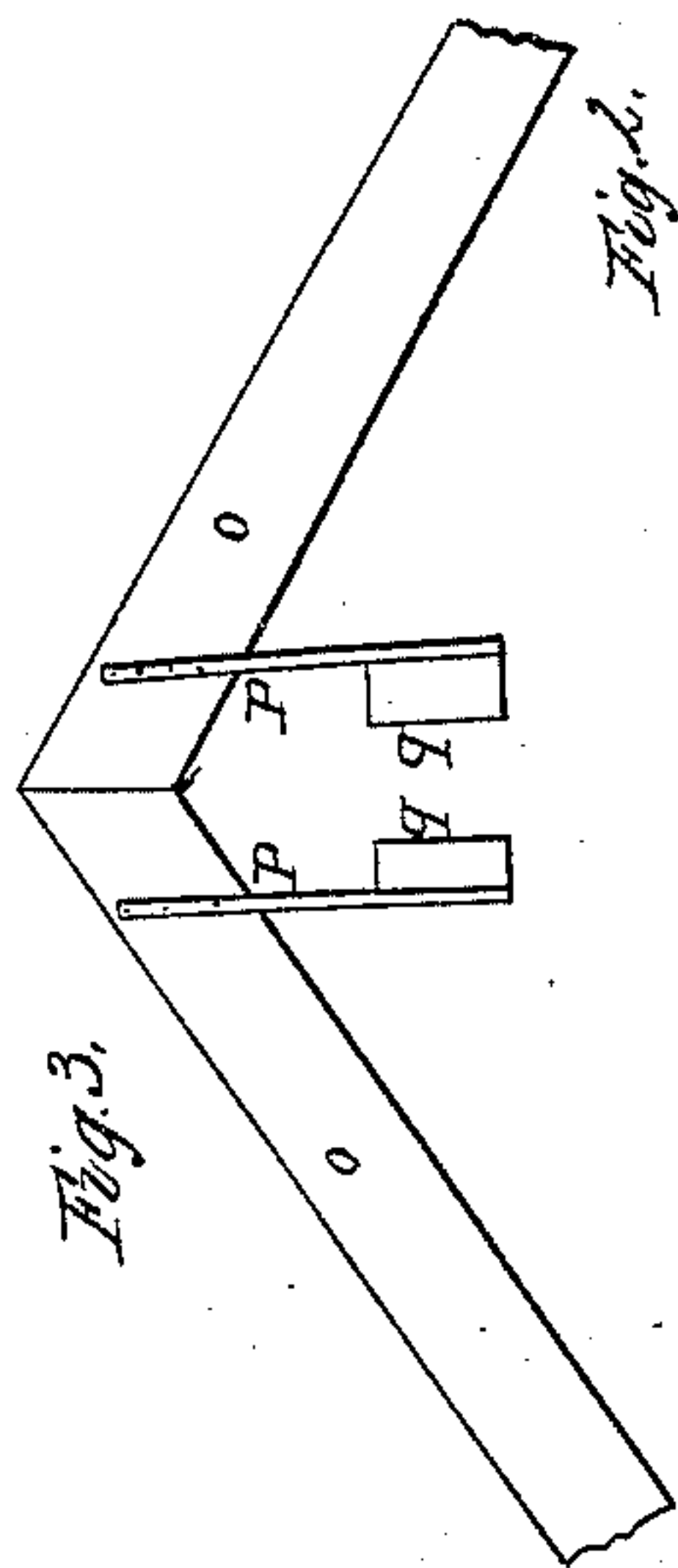
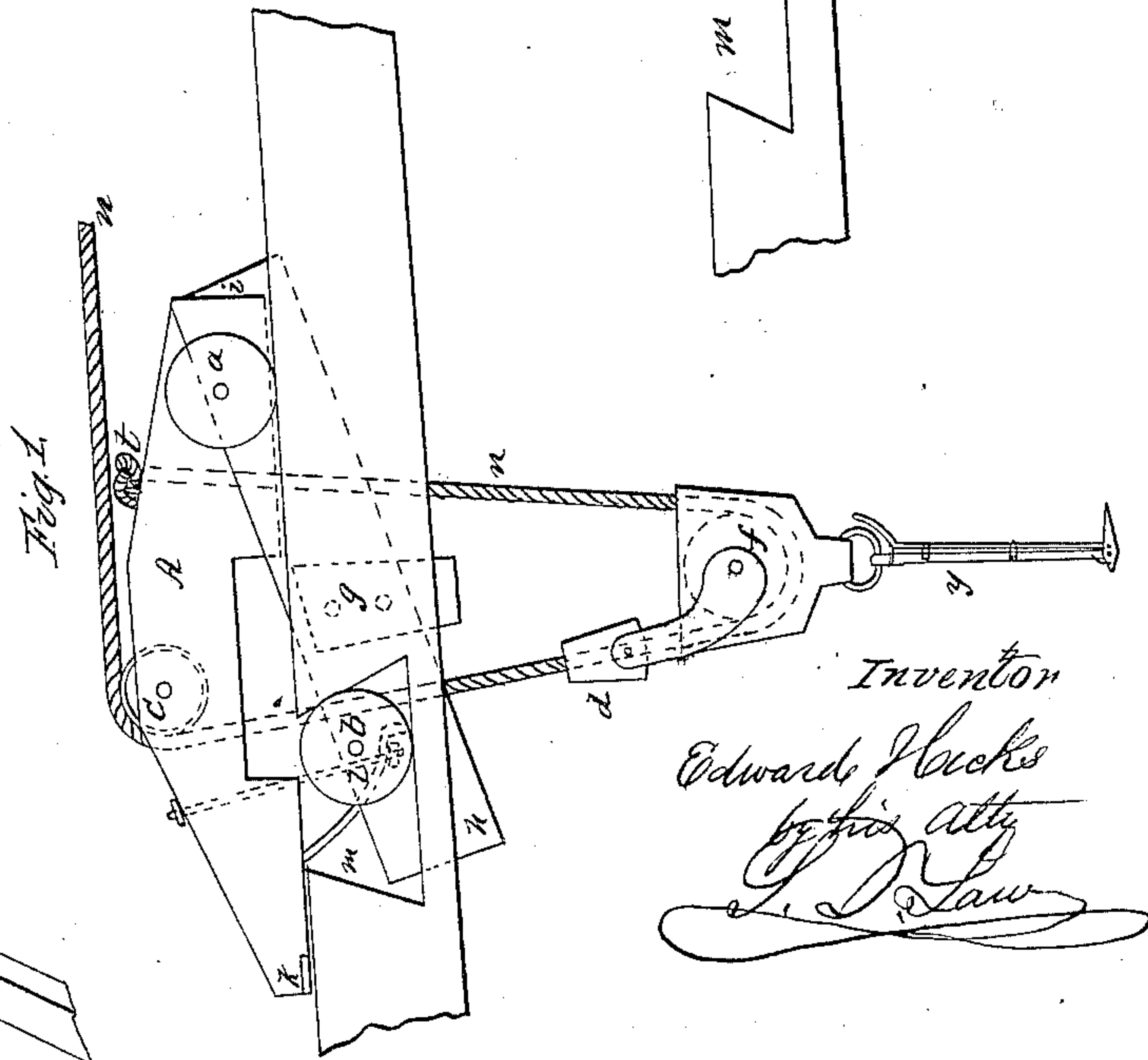
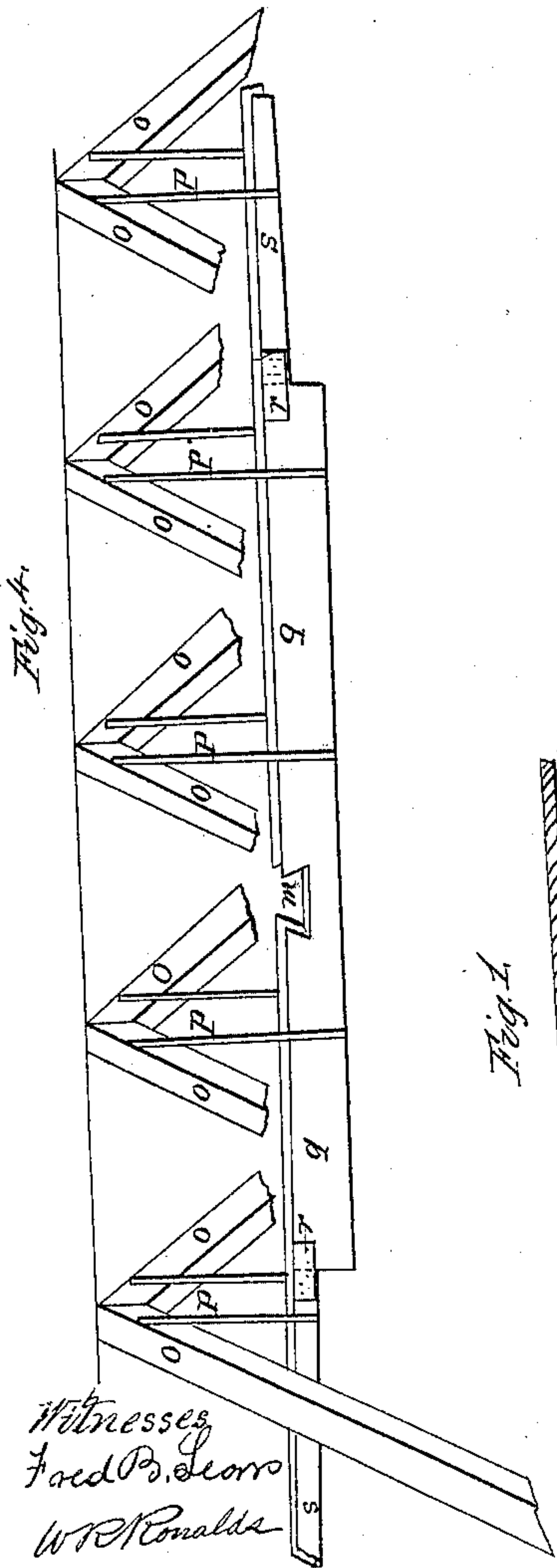


*E. Hicks,*

*Elevator.*

*N<sup>o</sup> 63,248.*

*Patented Mar. 26, 1867.*



*Inventor*  
*Edward Hicks*  
*by his atty*  
*L. D. Law*

# United States Patent Office.

EDWARD HICKS, OF NORTH HEMPSTEAD, NEW YORK.

*Letters Patent No. 63,248, dated March 26, 1867.*

## IMPROVEMENT IN ELEVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDWARD HICKS, of North Hempstead, in the county of Queens, and State of New York, have invented certain new and useful improvements in Hay and Grain Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, and of their mode or manner of operation, reference being had to the accompanying drawings; and to the letters of reference marked thereon, and making a part of this specification.

The nature of my invention or improvement consists in a new construction and arrangement of machines for elevating hay and grain, whereby their construction is simplified, and their action and operation rendered more easy and certain.

Figure 1 is a side view of the car when in position to take its load.

Figure 2 shows the car as it is when the load has been raised and fixed to it, and it has begun to move on the ways.

Figure 3 is a cross-section of the ways, and showing how they are fastened to any building.

Figure 4 is a view of the ways as fixed in the upper part of any building.

The elevator or entire mechanism consists of a movable car with proper apparatus to raise and support the load, and ways on which the car and its load can be moved to different parts of the building. The car A is arranged to run upon a track or ways supported usually a little below the ridge of the barn or building in which the elevator or apparatus is placed. The ways may be made of strips of plank *s s*, fig. 4, two inches wide by about six inches deep, except that the planks *q q* upon which the car rests when receiving its load are of greater depth, usually about ten inches. These ways are placed five inches apart, and are supported from the ridge of the building by pieces of wood *p p*, figs. 3 and 4, one and a quarter inch square; and one end of such ways is placed eight inches below the ridge, and the other end somewhat lower, so as to give an inclination of about one foot in twelve or fifteen feet, so as to assist in bringing back the car to the place of loading. The planks of which the ways are made may be fastened together by pieces of boards *r r* nailed on the outside of the planks where their ends abut against each other. The car is a block or frame of wood about twenty inches long by four and a half wide, and five inches high, and runs upon two pairs of truck-wheels about four inches in diameter. One pair, *a a*, of such wheels have their axle through and supported from one end of the car A, and the other pair, *b b*, have their axle supported in two broad strips or plates, *h i*, of iron, one on either side of the car, the ends of which plates supporting such wheels have motion up and down on the axle of the wheels *a a*. Such strips or pieces of iron are broad enough and are so arranged as to extend down between the ways a couple of inches so as to keep the car upon the track. In the broader planks *q q*, over the place where the hay or grain is to be elevated, which may be over the barn floor or outside of the building, the ways projecting beyond the building for such purpose, are cut or sawed notches or recesses *m*, into which the wheels *b b* drop, as shown in fig. 1, when the car is moved in position to be loaded. Such recesses thus hold fast the car while being loaded. A rope, *n*, to one end of which a horse may be attached to raise the hay or grain, is brought by means of a pulley-wheel to the farther end of the barn, and then passes back between the ways to the pulley-wheel *c* fixed on the car, and then down through the car and the spool *d*, and around the pulley-wheel *f*, and fastens to the car at *t*. The load to be elevated is connected with the pulley-wheel *f* by a horse hay-fork *y* or other arrangement. Fig. 1 shows the car ready to be loaded, and held in such position by the wheels *b b* having dropped into the recesses *m*. These recesses are cut at such an angle as to allow the wheels *b b* to easily roll out of such recesses when the side pieces *h i* and the wheels *b b* are raised. The lower end of the car is prevented from dropping wholly upon the ways when the wheels *b b* pass down into the recesses *m*, by means of a small cross-bar, *k*, of wood or metal fastened under the end of the car, and projecting sufficiently far on each side of the car to rest upon the ways; and as the wheels *b b* roll out of the recesses referred to, they raise such cross-bar above the ways, so that there shall be no sliding friction as the car is moved on the ways. As the load is drawn up to the car by the rope *n*, the pulley-wheel *f* strikes against the block *g* which is fastened to the iron pieces *h i*, and raises such block and along with it the plates *h i*, and also the wheels *b b*, until they are elevated out of the notches or recesses *m*, and on a level with the top of the ways, so that the car can move thereon. This same operation also carries the spool *d* up between the block *g* and the brace *l* supported by the bolt *l*, and thereby fastens the load to the car, the



block *g* being moved by the elevation of the plates *h i* into the position shown in fig. 2, and the under side of the spool *d* being carried over the projecting end of the brace *l'*, such spool being held in such position until the wheels again drop into the recesses *m*. The wheels *b b* being raised out of the recesses *m*, the car is free to move upon the ways; and as the rope no longer passes through the pulley *f*, the car will move twice as fast upon the ways as it was drawn up. When the car has been drawn on the ways to the desired spot for depositing the hay or grain, the operator by a small cord trips the fork and the car rolls back on the inclined ways of its own gravity, or is easily drawn back by the operator; the horse turning round and walking or trotting back for another load. When the car comes to the other end of the ways the wheels *b b* drop into the recesses *m*, the block *g* descends and takes the position shown in fig. 1, the spool *d* is liberated, and the fork descends by its own weight to take another load. One horse can elevate and carry a forkful of hay of two hundred pounds one hundred feet in less than one minute of time.

What I claim as my invention, and desire to secure by Letters patent, is—

1. The application and use of the movable side plates *h i*, arranged and operating substantially as and for the purposes set forth.
2. Supporting one truck of the car so that it can rise and fall in respect to the car, substantially as and for the purposes set forth.
3. The arrangement of the cross-bar *k* or its equivalent, for supporting the end of the car, substantially as and for the purposes set forth.
4. The combination and arrangement of the pulley *f* and block *g* or their equivalent, for elevating the bearing-wheels *b b* and releasing the car, operating substantially as set forth.
5. The combination and arrangement of the block *g*, spool *d*, and supporting brace *l'*, or their equivalents, for holding and releasing the fork and load, and operating substantially as set forth.

EDWARD HICKS.

Witnesses:

ISAAC HICKS,  
GILBERT HICKS.