

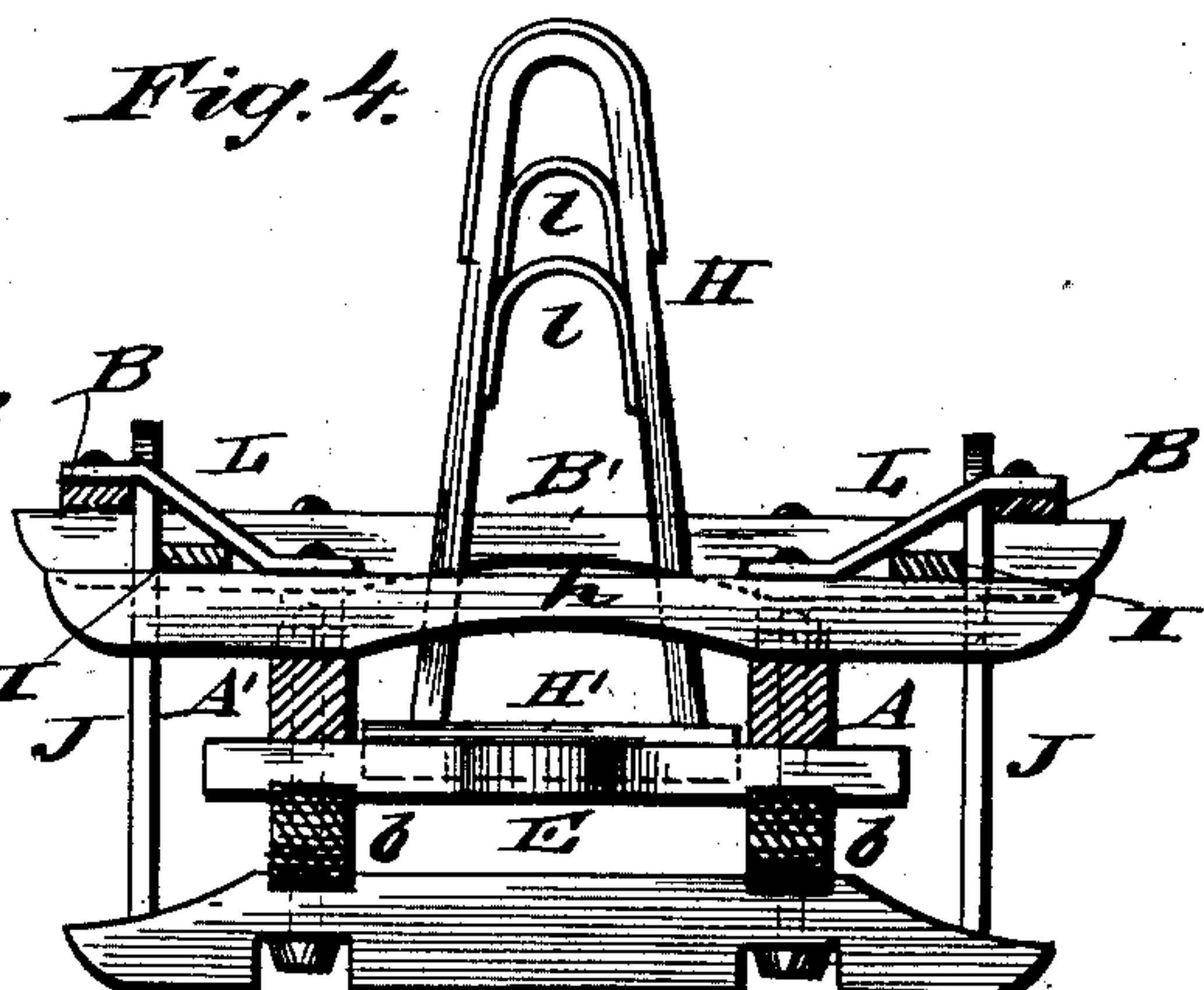
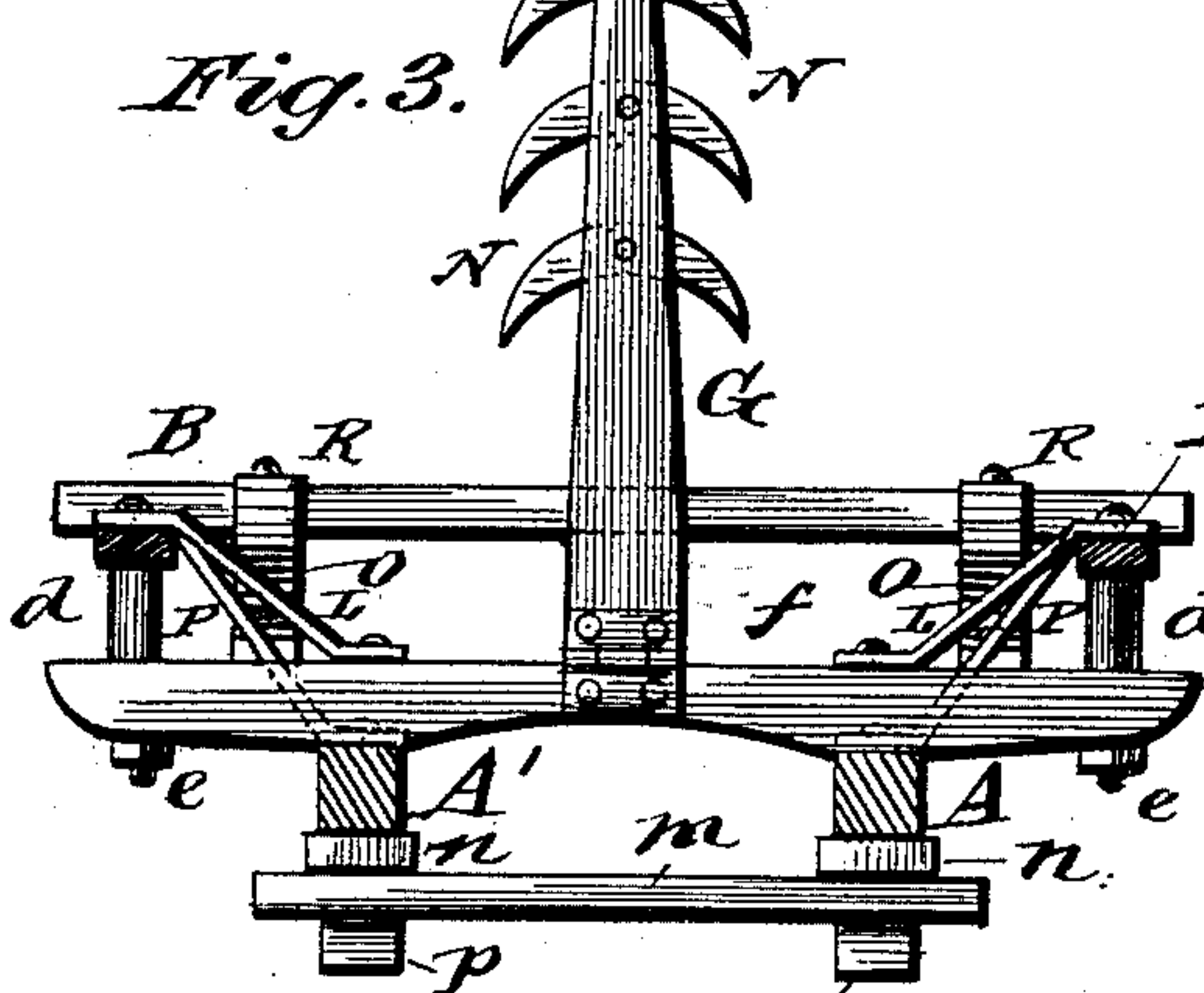
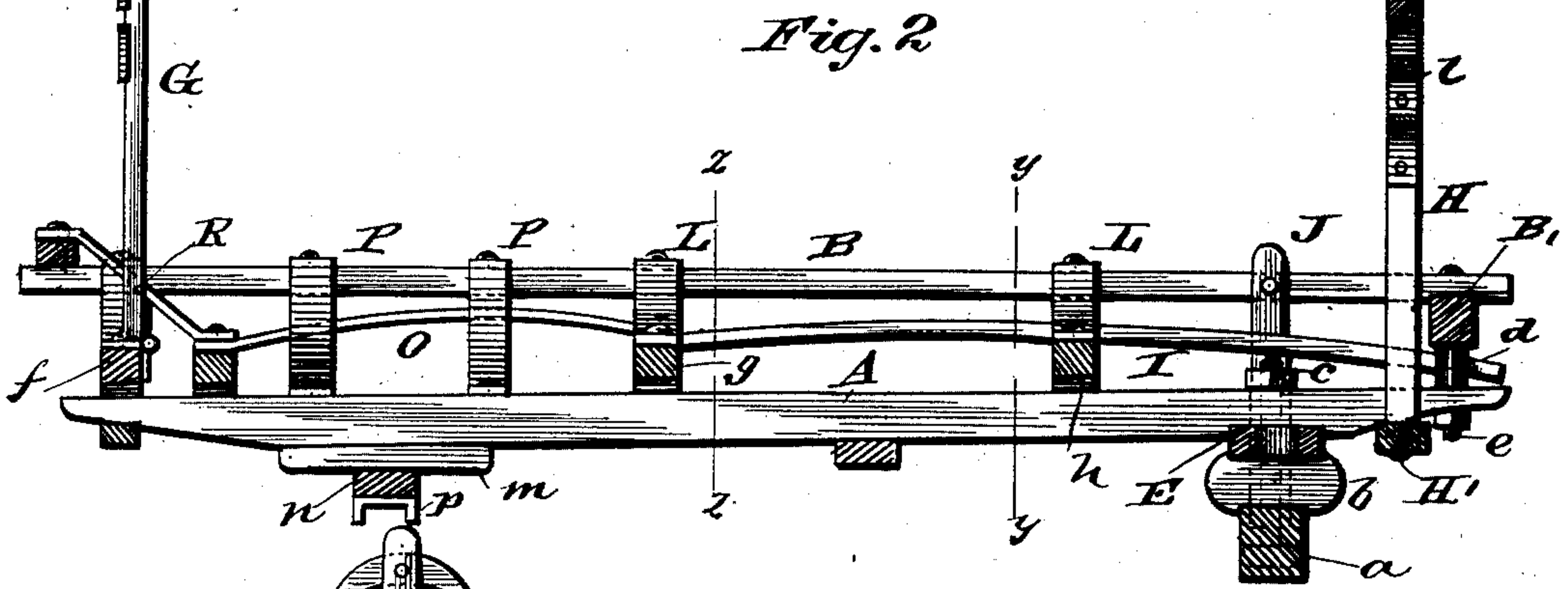
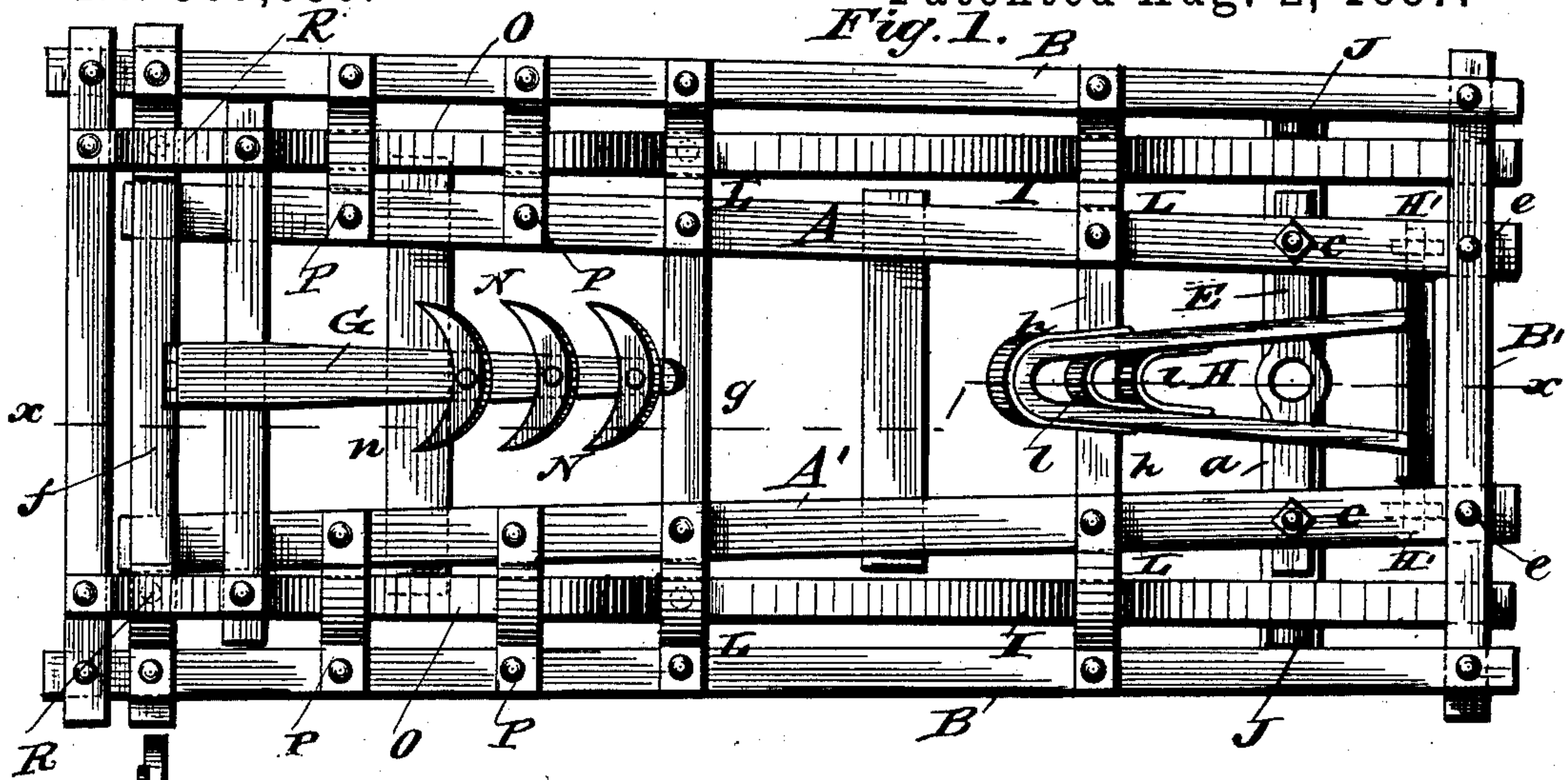
(No Model.)

W. W. JACOB & T. B. PATTON.

HAY LADDER.

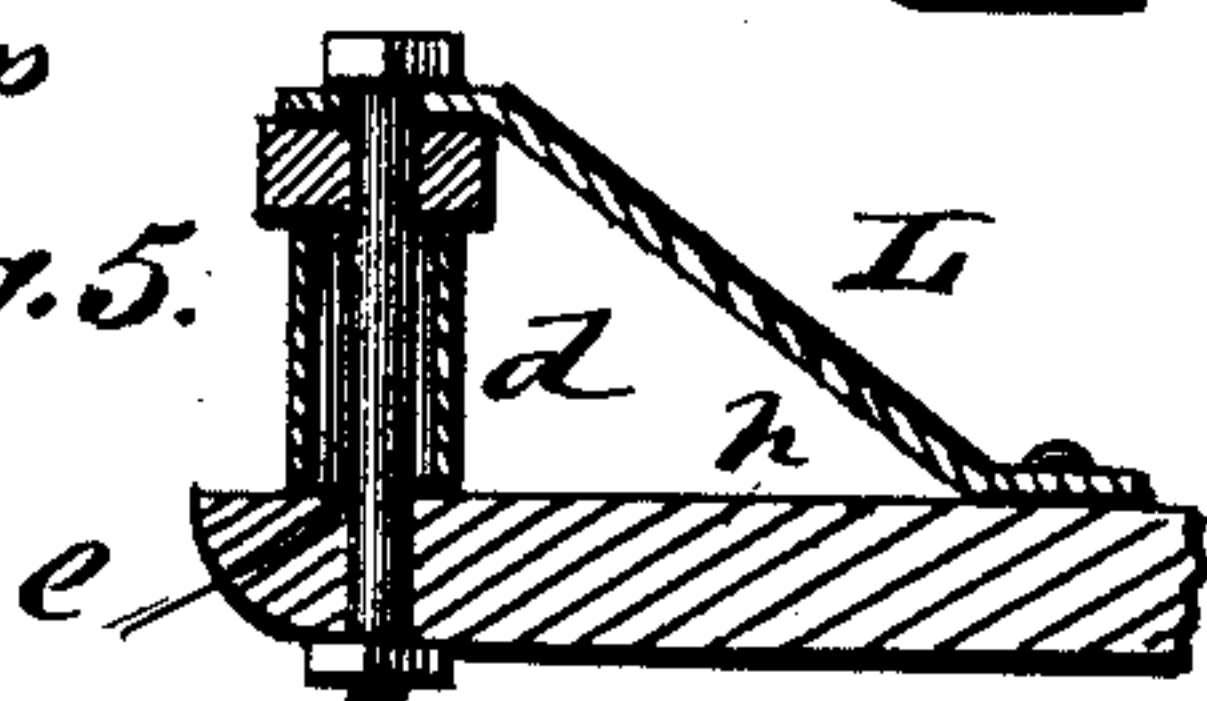
No. 367,636.

Patented Aug. 2, 1887.



WITNESSES

Phil. Mason  
Theo. Munger.



INVENTORS

W. W. Jacob.  
T. B. Patton  
By Anderson & Smith  
Attorneys



# UNITED STATES PATENT OFFICE.

WILLIAM W. JACOB AND THOMAS B. PATTON, OF SALTSBURG, PENNSYLVANIA.

## HAY-LADDER.

SPECIFICATION forming part of Letters Patent No. 367,636, dated August 2, 1887.

Application filed November 27, 1886. Serial No. 230,055. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM W. JACOB and THOMAS B. PATTON, citizens of the United States, and residents of Saltsburg, in the county of Indiana and State of Pennsylvania, have invented certain new and useful Improvements in Hay-Ladders; and we do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a plan view, the front and rear racks being turned down. Fig. 2 is a vertical longitudinal section on the line *x x*, Fig. 1, showing the racks elevated. Fig. 3 is a transverse vertical section on the line *y y*, Fig. 2. Fig. 4 is a similar section on the line *z z*, Fig. 2, and Fig. 5 is a detail view.

Our invention relates to wagon-ladders; and it consists in the construction and novel combination of parts, as hereinafter fully described and claimed.

Referring by letter to the accompanying drawings, *a* designates the front bolster of a wagon gear, the same being detached from the gear, it being sufficient for the purpose of illustration to show only a part of the running-gear.

*A* and *A'* designate the longitudinal bottom rails of the wagon-ladders, which rails are secured near their front ends to a short transverse bar, *E*, which is in turn secured upon blocks or risers *b b*, which rest upon the front bolster, *a*, the said bottom rails, transverse bar, and risers being connected together and to the front bolster, *a*, by vertical bolts *c c* and securing-nuts, so that the front ends of the bottom rails are higher than their rear ends, in order that the front wheels of the wagon may run under said bottom rail in turning the wagon around, or should the rear wheels slip around when the wagon is being drawn along a hillside road.

*m m* designate short blocks or pieces to which the transverse bar *n*, which rests upon the hind bolster of the wagon, is secured, said bar

*n* being provided with brackets *p p* on its lower face near its ends, which brackets fit over the hind bolster and assist in holding the ladders in place on the running-gear.

*B B* are the top rails of the ladders, which top rails are connected at their front ends by a transverse bar, *B'*, said bar *B'* being supported on hollow iron sleeves, *d d*, by bolts *e*, passed through the bottom rails, sleeves, and cross-bar. The top rails, *B B*, are also connected by bolts *e*, passed through interposed hollow iron sleeves *d*, to the rear cross-bar *f* and the intermediate cross-bars *g h* of the ladders.

*L* designates iron braces, which are secured to the upper face of the top rails, *B B*, by the bolts *e*, and to their respective cross-bars by the same bolts that secure the cross-bars to the bottom rails, *A A'*. The front wheels of the running-gear are protected by fenders *I I*, secured to the cross-bars *g h*, and to the under face of the front transverse bar, *B'*. Stakes *J* extend upwardly from near the ends of the front bolster, and are connected at their upper ends to the inner edges of the top rails, *B B*.

At the front end the bottom rails are provided with a rack, *H*, having the cross-bar at its lower end pivoted in bearings *H'*, secured to the lower faces of the bottom rails, *A A'*. The frame of the front rack is made of wood bent to the bowed shape shown, and faced over the bend by an iron strap to give it the requisite strength. Below the bend this rack is provided with metal half-loops *l*, which are designed to engage the front end of the spring-pole when the latter is in place.

To the middle of the rear cross-bar, *f*, is hinged the rear rack, *G*, which is provided near its upper end with crescent-shaped arms *N*, which arms are designed to engage the rear end of the spring-pole to assist in holding the load in place on the ladders.

*O O* designate bows, which are secured to the proper cross-bars and extend over the hind wheels of the running-gear. Braces *P P* are secured to the bottom rails and extend up over the bows *O O*, and are secured at their upper ends to the top rails, so that the hind wheels are amply protected from the load. Braces *R* are used at the bows *O O* to prevent

the hay on the ladders from coming in contact with the spokes of the hind wheels.

Having described this invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with the bottom rails, transverse bars, and top rails, of the bolts *e*, sleeves *d*, and braces *L*, substantially as specified.

2. The combination, with the bottom rails, *A A*, the top rails, *B B*, and the transverse bars of the ladders, of the rigid inclined braces *L*

*P*, connecting the top rails, *B B*, to the transverse bars *g h*, and the inclined braces *R R*, connecting the rear top rail to the rear transverse bar, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM W. JACOB.  
THOMAS B. PATTON.

Witnesses:

WM. I. STERETT,  
W. T. CLINE.