

No. 704,594.

Patented July 15, 1902.

A. Z. THOMAS.  
WAGON RACK FOR HAY LOADERS.

(Application filed May 19, 1902.)

(No Model.)

Fig. 1.

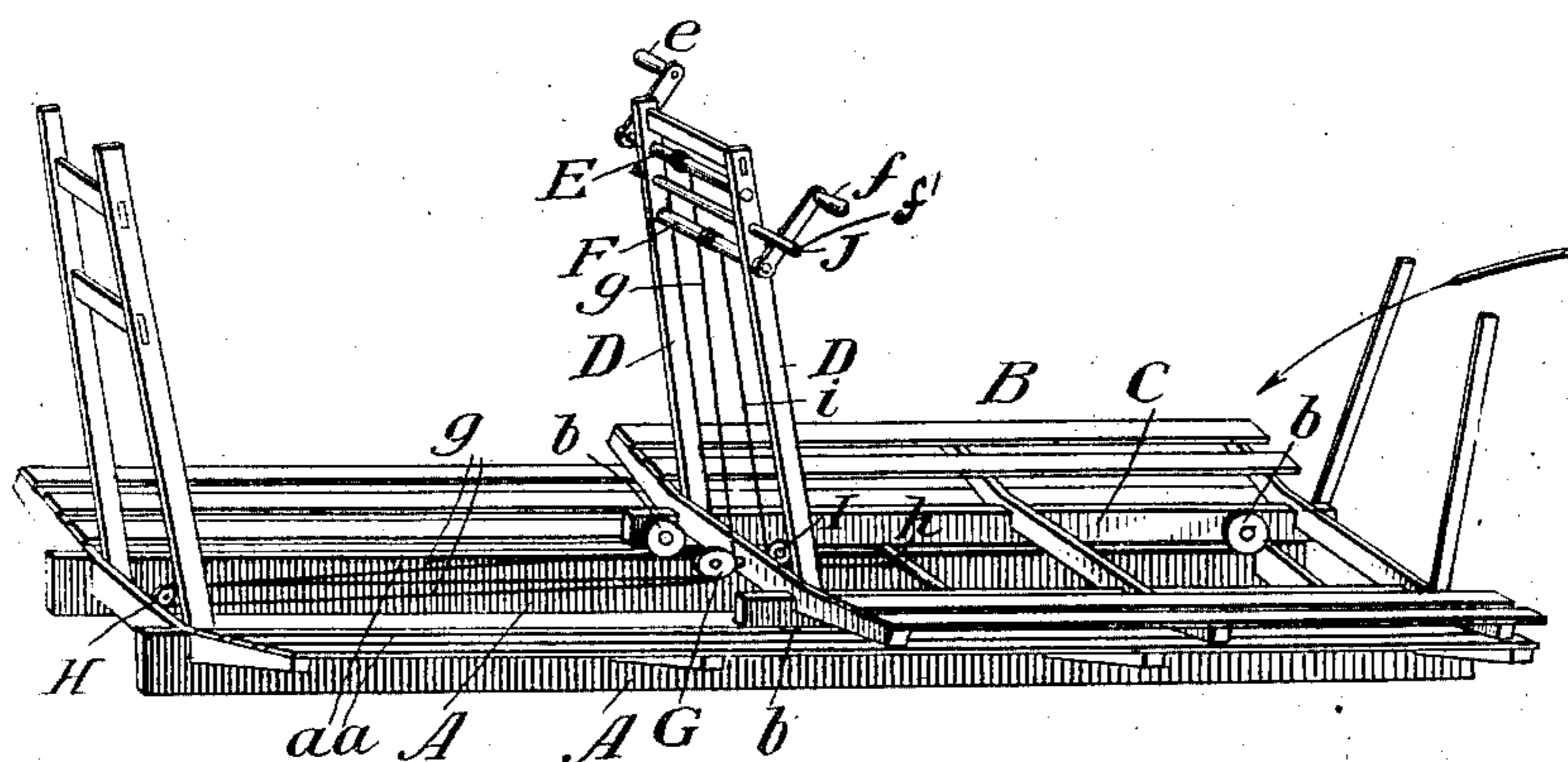
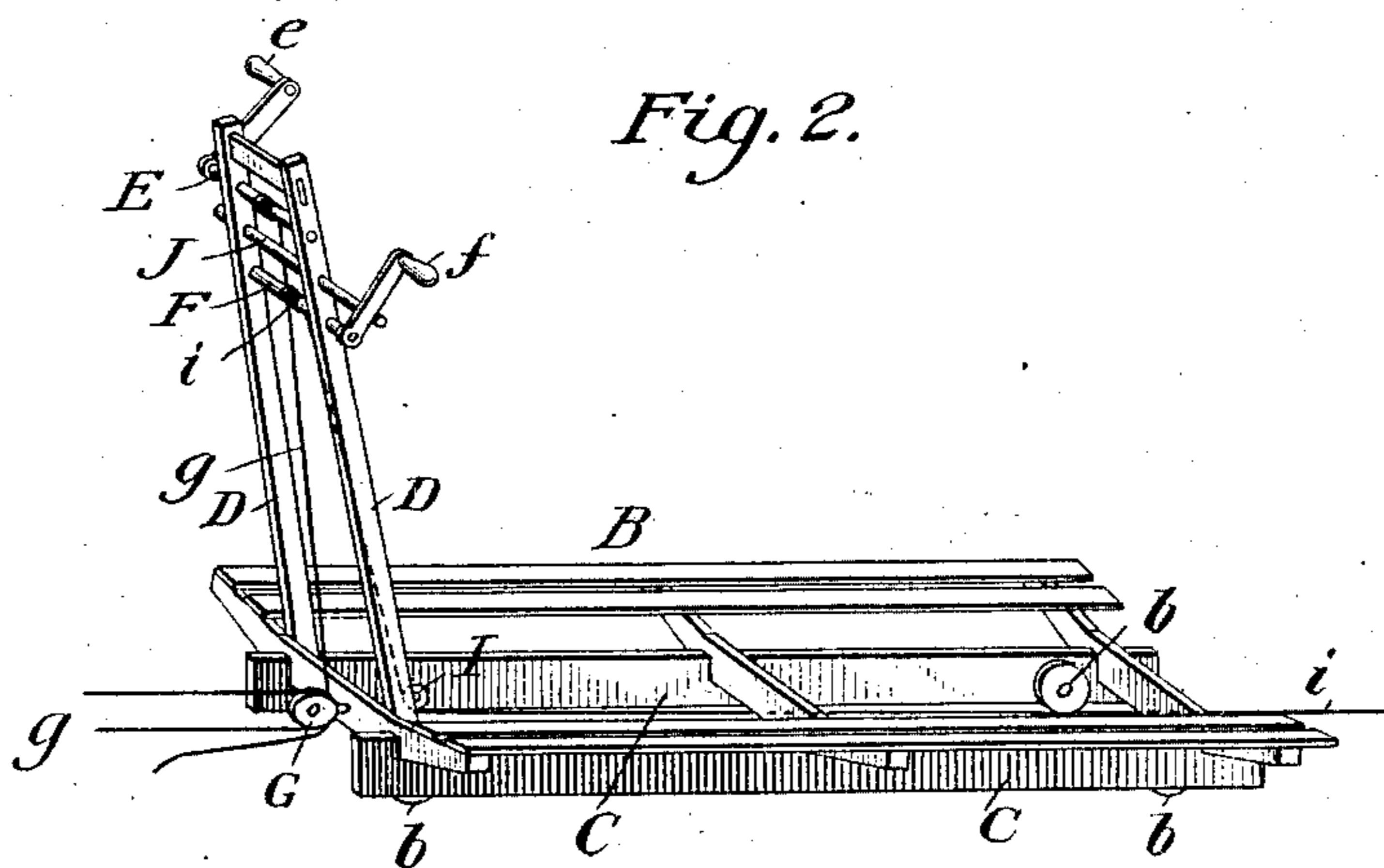


Fig. 2.



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# UNITED STATES PATENT OFFICE.

ABRAHAM Z. THOMAS, OF WOOSTER, OHIO.

## WAGON-RACK FOR HAY-LOADERS.

SPECIFICATION forming part of Letters Patent No. 704,594, dated July 15, 1902.

Application filed May 19, 1902. Serial No. 108,103. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM Z. THOMAS, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Wagon-Rack for Hay-Loaders, of which the following is a specification.

My invention relates to improvements in wagon hay-racks for use with hay-loaders. Its object is to provide improved means in loading for shifting the hay from the rear to the front end or part of the hay-rack in a mass and by mechanical power instead of piecemeal by fork and hand, as heretofore required in the use of such hay-loaders.

My invention consists principally in a novel method of combining with an ordinary wagon hay-rack a movable platform-rack shaped to conform substantially to and about one-half the length of such hay-rack and mounted thereon to move longitudinally from end to end thereof and improved means of operating the same, as hereinafter fully set forth and described.

My invention is illustrated by the accompanying drawings, in which similar letters of reference indicate like parts.

Referring thereto, Figure 1 is a plan view of an ordinary hay-rack and a movable platform-rack mounted thereon embodying my invention. Fig. 2 is a similar view of my movable platform-rack detached.

In the drawings, A A are the sills of a wagon hay-rack, surmounted with metal strips a a to form track-rails for the movable platform B, which is provided with corresponding flanged trucks b b, axled upon the sills C C of the platform-rack to run upon said track.

D D are standards secured at the front end of the platform-rack B and are preferably united by a cross-bar at or near the tops thereof in the form of a ladder similar to the upright ladder at the front end of the wagon-rack.

E F are the parallel axles of two separate windlasses, which are mounted in suitable boxings at or near the top of said standards and provided with cranks e f, which project in opposite directions.

G is a double tackle-block attached to the front cross-bar of the movable rack. H is a

single tackle-block cooperating therewith, attached to the front part of the wagon-rack, and g is a rope passing through said tackle-blocks and around the windlass-axle E.

I is a single tackle-block attached at the front end of the movable rack, and i is a rope passing through the same and around the windlass-axle F, its opposite end being attached to the wagon-rack at a point back of its middle h, as shown.

J is a laterally-sliding horizontal rod operating through the standards D D to engage the opposite cranks e f, respectively, of the axles E F, between which it is situate.

My invention is specially intended for use with that class of hay-loaders which deliver the hay upon the wagon at the rear end of the wagon-rack. Wagon hay-racks having a shiftable rack-section mounted thereon have been heretofore used and said shiftable section operated by means of a windlass attached to the front end of the wagon-rack and in other cases by means of rack and pinion connected therewith. It is the object of my invention to provide improved means for operating the movable rack from a position upon the said movable rack instead of from the wagon-rack and to provide improved means for actuating said movable rack-section back and forth and locking the same upon the wagon-rack. To accomplish this object by mechanical power, I construct the movable platform-rack substantially as shown, Fig. 2, conforming the same with the horizontal plane, contour, and width substantially and of a length to occupy about one-half the length of the wagon-rack. The sills A A of said wagon-rack are preferably reinforced with metal strips a a along their upper edges and the sills C C of the platform-rack fitted with suitable flanged trucks b b, mounted to move upon and along said rail-track from end to end of the hay-rack. The front end of said movable rack is provided with substantially upright standards, framed as a ladder, conformable in incline and height to that of the front standards of the wagon-rack. The object of said platform-standards is twofold—viz., to support the mass of hay loaded against the same when the platform-rack occupies the rear end of the wagon-rack and to provide ready and efficient means for

propelling said platform along said track back and forth from a position at the summit of the load or at any intermediate stage of loading. As the best means I have discovered for accomplishing this movement I mount the two separate windlasses against the upper part of said standards horizontally, so that the crank of each projects in the opposite direction from the other, placing the axles E F one above the other at proper distances apart, and insert horizontally between them a shifting or sliding rod J, so adapted in length that its projecting ends may readily engage or be disengaged from the opposite cranks, respectively, to lock or unlock the windlasses respectively as may be desired, and thereby secure said platform-rack from movement in any direction, or permit such movement, at pleasure, by contact of the crank with the said projecting end of said rod *f'*, as shown, Fig. 1. To propel said platform-rack along said track, I preferably use a rope and tackle in connection with said windlasses, respectively, as follows: Attach a double tackle-block G to the front cross-bar of the movable platform and a single tackle-block to the front cross-bar of the wagon-rack and secure the rope *g*, passing therethrough, to the axle E. Power being applied at the crank *e*, the platform-rack B is drawn forward along said track until it reaches the front end of the wagon-rack, where it may be locked by the engagement of said sliding rod J with the crank, as aforesaid. To move the platform-rack to the rear end of the wagon-rack requires less power, and accordingly I use a single tackle-block I, attached to the front end of the platform-rack, and attach one end of the rope *i*, passing through said tackle-block, to the wagon-rack at a point back of its middle and the opposite end of said rope to the other axle F, whereby the platform-rack may be moved rearwardly to the rear end of the wagon-rack and be there locked securely by shifting the sliding rod J to engage the crank of the windlass F, as aforesaid.

The operation of loading is as follows: The platform-rack being moved to and secured in position upon the rear end of the wagon-rack, the hay is deposited thereon directly from the hay-loader, requiring slight labor to distribute, level, and pack the hay thereon by reason of the nearness of all parts of said platform-rack to the hay-loader during the loading process. When said platform-rack is filled to repletion, the sliding rod J is disengaged from the crank *f* and the opposite windlass then operated to propel the loaded platform-rack to the front end of the wagon-rack, where it is again locked, as aforesaid. The rear end of the wagon-rack being thus freed from encumbrance may be loaded in like manner directly from the hay-loader until the entire loading is accomplished. The opposite ends of the load being thus made up separately, the hay at the center of the load is more easily separated and the unloading

made easier and quicker, as the harpoon or other common unloading mechanism can more readily separate the hay. The ends of the load being separately packed in a mass thus facilitates the unloading, as well as the loading, of the hay. Moreover, by constructing the movable rack-section with standards, on which are mounted the windlass-gear aforesaid, the same is at all times accessible without dismounting from the load, and the said movable rack may be readily shifted while the wagon is in motion and from the top of the load at any stage thereof, and means are afforded for shifting the same backward, as well as forward, from the same position on the load or on said movable rack, and more effective means therefor are obtained by use of the tackles in connection with said windlasses, respectively, and the standards to which said apparatus is preferably attached afford additional means for guiding the loader and better securing the load on the rack.

I do not limit myself to the particular form of construction shown, and the manner and place of attaching the several tackle-blocks and windlasses may be modified to suit the form of hay-rack used, and other equivalent means of propelling the movable platform along the track, and any suitable trucks may be employed.

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

1. The combination with a wagon hay-rack, having longitudinal rails for track, secured thereon from end to end; of a shorter, superposed movable platform-rack mounted thereon to move back and forth along said track; a standard erected upon said platform-rack, a windlass fitted to operate upon said standard; and means for propelling said movable rack from said windlass, substantially as set forth and for the purpose specified.

2. The combination of a wagon hay-rack, having a superposed movable platform-rack mounted thereon to move longitudinally from end to end thereof; said platform-rack having a standard erected thereon; a windlass fitted to operate upon said standard; means for locking said windlass; and means for propelling said platform upon and along the upper surface of said wagon-rack by the action of said windlass, substantially as set forth and for the purpose specified.

3. The combination of a wagon hay-rack having a shorter, superposed platform-rack mounted thereon to move longitudinally from end to end thereof; standards erected upon said platform-rack; a windlass mounted and fitted to operate upon said standards; a rope and tackle connecting said windlass and said wagon-rack and said platform-rack to propel the same upon said wagon-rack, and means for locking said windlass, substantially as set forth and for the purpose specified.

4. The combination of a wagon hay-rack

having a shorter, superposed detachable platform-rack mounted and fitted to move along and upon the upper surface of said wagon-rack; standards erected at the front end of said movable platform; two separate windlass-axles mounted thereon one above the other, a sliding rod actuating between said axles, and having projecting ends to engage the cranks of said axles respectively when shifted laterally; rope and tackle connecting the front end of wagon-rack and platform-rack and one of said axles; rope and tackle connecting the front end of said platform-rack and said wagon-rack back of its middle, and the other of said axles, to actuate said platform-rack back and forth; substantially as set forth and for the purpose specified.

5. The combination of a wagon hay-rack having a shorter superposed rack mounted

thereon and fitted to move longitudinally from end to end of said wagon-rack; a separate windlass mounted upon said superposed rack connected by rope and tackle with said several racks to propel the said movable rack along the upper surface of said wagon-rack; a separate windlass mounted upon said superposed rack connected by rope and tackle with said several racks to propel said movable rack in the opposite direction, and means for locking said windlasses respectively, substantially as set forth and for the purpose specified.

In witness whereof I have hereunto set my hand at Wooster, Ohio, this 10th day of April, 1902.

ABRAHAM Z. THOMAS.

Witnesses:

W. F. LANCE,  
HIRAM SWARTZ.