

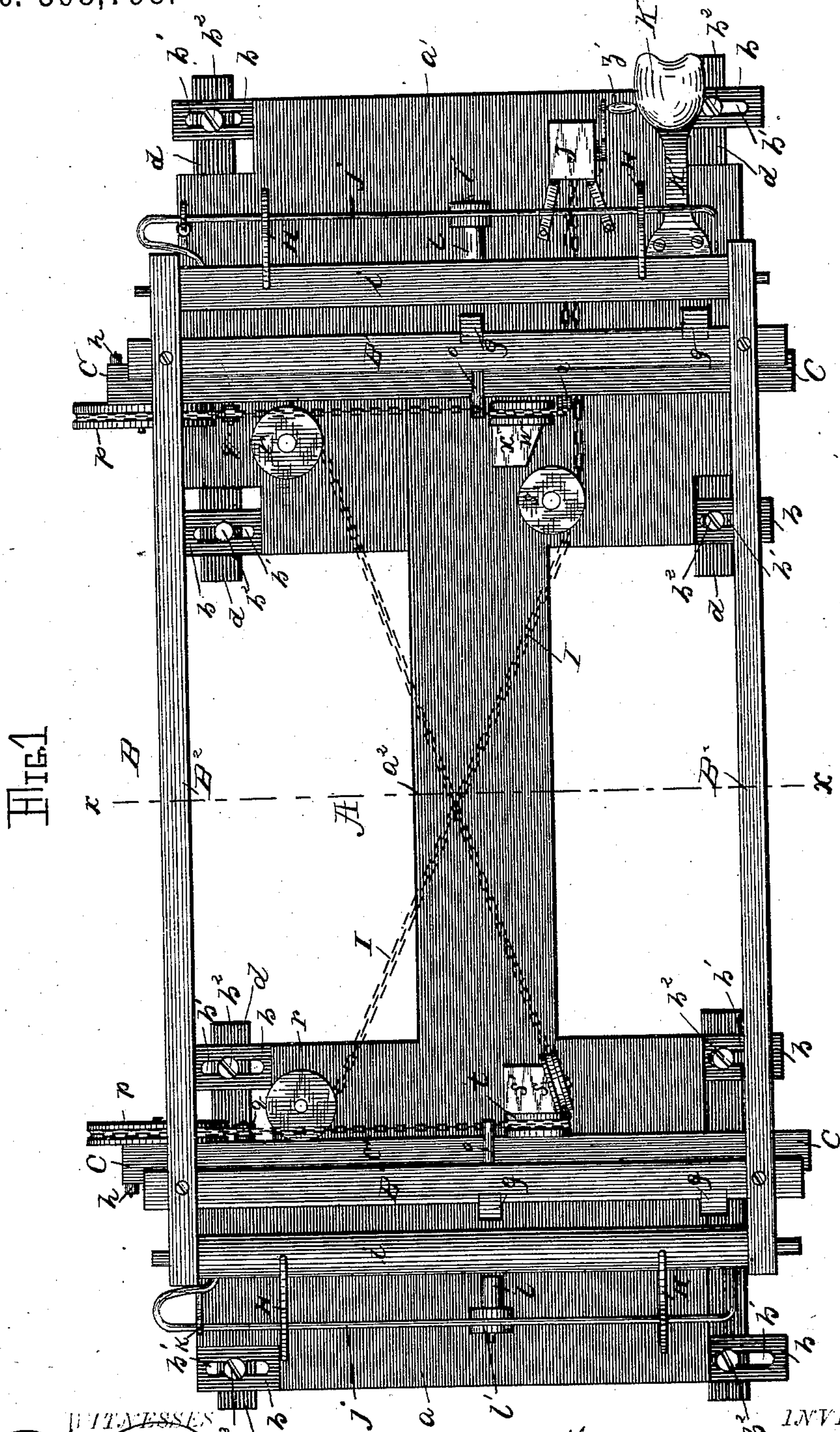
(No Model.)

3 Sheets—Sheet 1.

M. M. REEVES.  
TILTING HAY RACK.

No. 308,798.

Patented Dec. 2, 1884.



WITNESSES  
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*John M. Gill*

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*By [Signature]* Attorneys

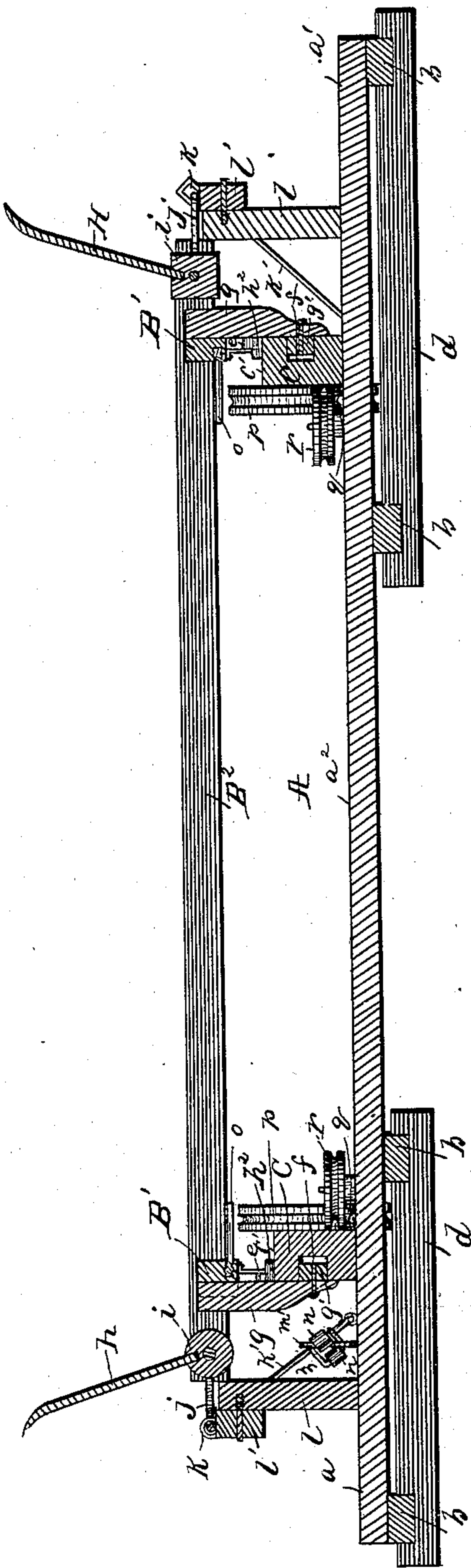
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3 Sheets—Sheet 2.

M. M. REEVES.  
TILTING HAY RACK.

No. 308,798.

Patented Dec. 2, 1884.



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 Attorneys.



(No Model.)

3 Sheets—Sheet 3.

M. M. REEVES.  
TILTING HAY RACK.

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FIG. 3.

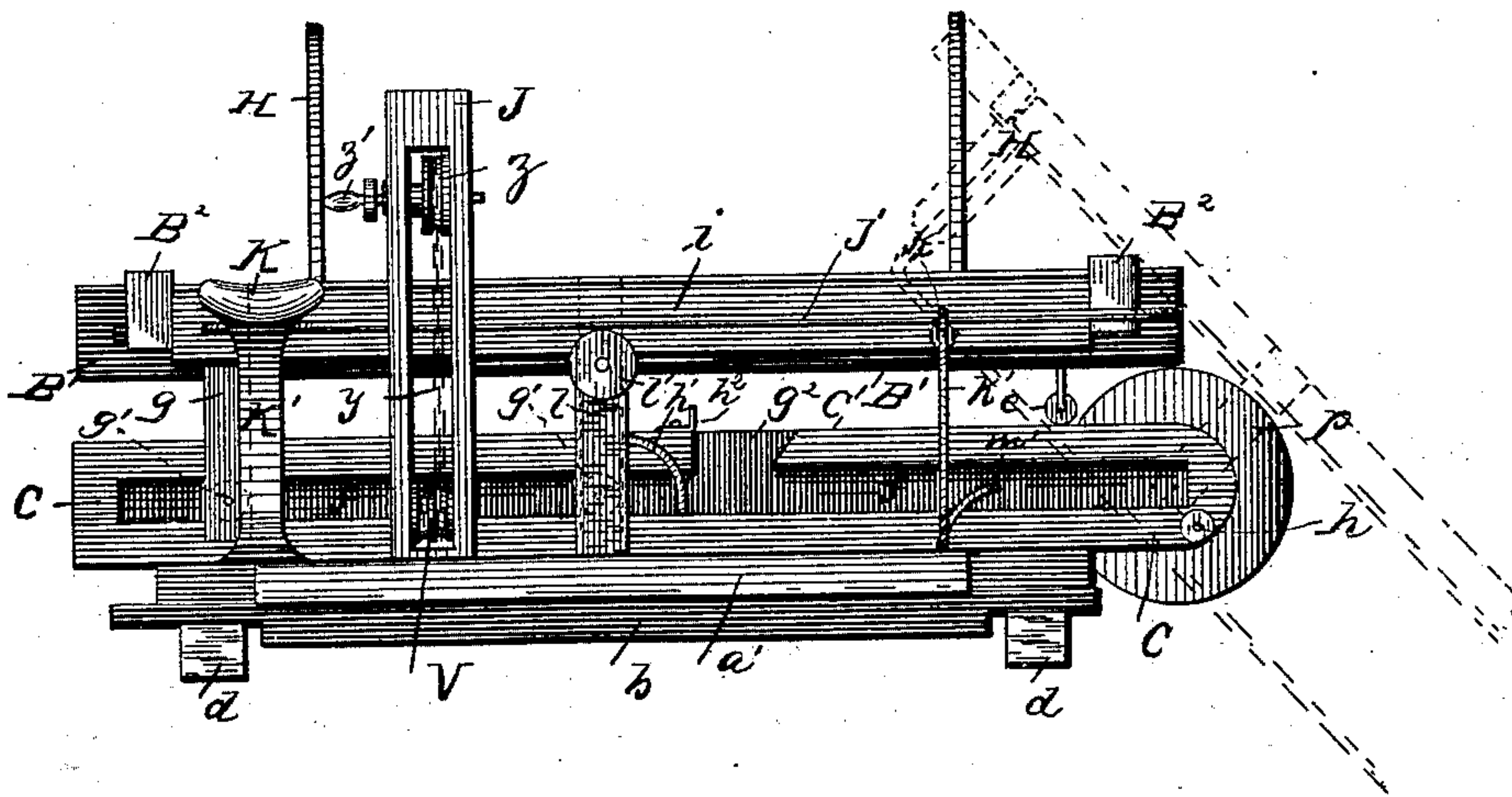
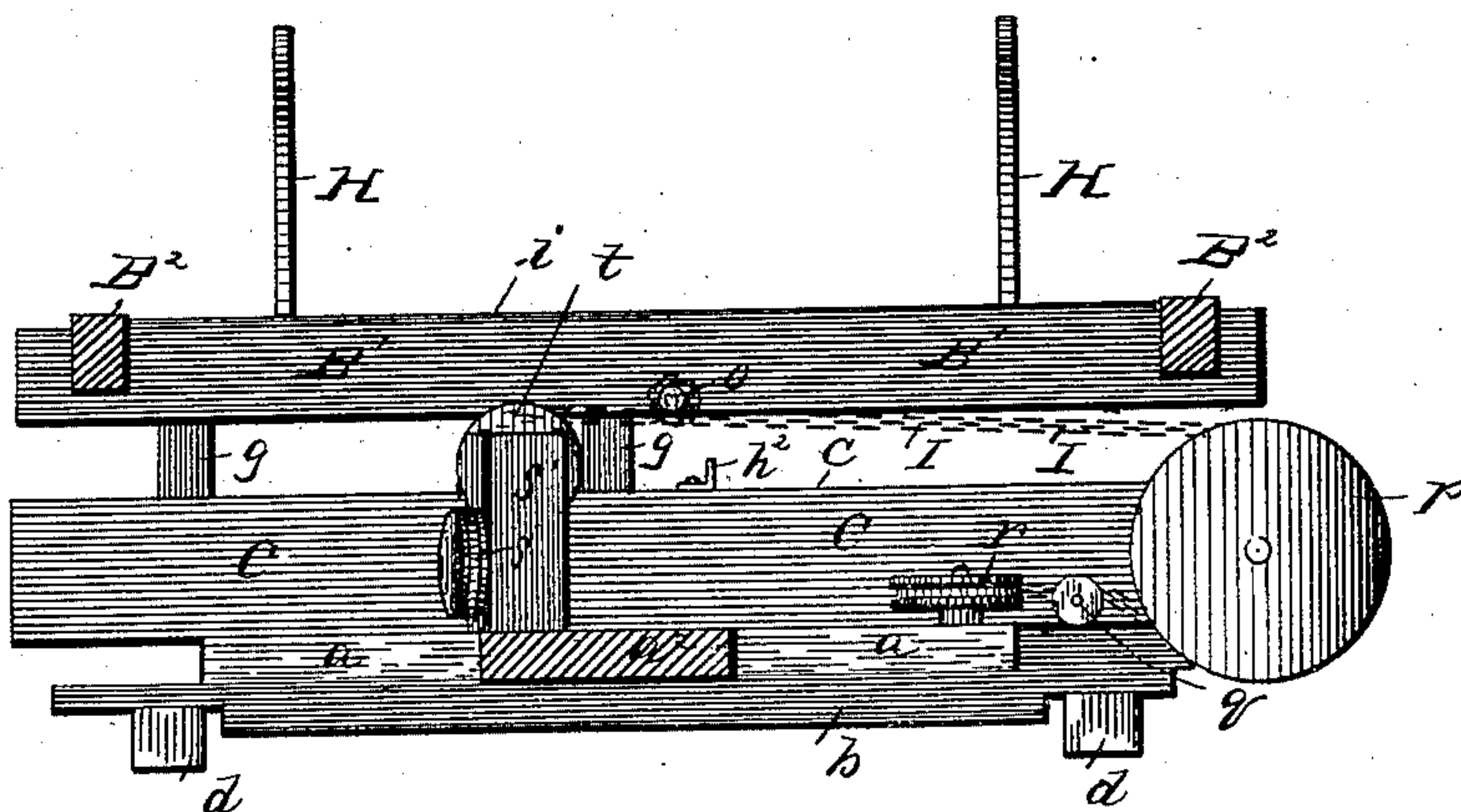


FIG. 4.



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# UNITED STATES PATENT OFFICE.

MILLARD M. REEVES, OF TIME, ILLINOIS.

## TILTING HAY-RACK.

SPECIFICATION forming part of Letters Patent No. 308,798, dated December 2, 1884.

Application filed August 12, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, MILLARD M. REEVES, a citizen of the United States of America, residing at Time, in the county of Pike and State of Illinois, have invented certain new and useful Improvements in Movable Tilting Racks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has relation to improvements in hay-racks which in use are applied to wagon or vehicle running-gears, said invention having for its object to effect the ready tilting and dumping of the load well out of the way of  
15 the wheels, and the ready readjustment of the rack; and the invention consists of the adaptation of the rack to readily travel back and forth and be tilted and again returned to its normal position, and to effect the automatic  
20 lowering and elevation of the standards of the rack, substantially as hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 is a plan view of my improved rack. Fig. 2 is a longitudinal section. Fig. 3 is a rear end view; and Fig. 4 is a transverse sectional view of the same, taken on the line  $x x$ .

In the embodiment of my invention I provide a supporting-platform, A, comprising a  
30 smaller forward end platform,  $a$ , and a similar rear end platform,  $a'$ , with a connecting board or reach,  $a^2$ , between them, said smaller end platforms being each secured upon or connected to two cross-bars,  $b$ , having slots  $b'$  in  
35 their ends, which receive adjusting-screws  $b^2$ , entering cross-bars  $d$ , which in practice rest between the standards and upon the bolsters of a vehicle or wagon running-gear, the rack, as above intimated, being used in connection  
40 with or upon such running-gear. The adjusting-screws and slots, as aforesaid, permit the adaptation of the rack to the space between the standards, thus enabling it to be applied to running-gear of different sizes.

45 B is a frame or the rack proper, with its end bars,  $B'$ , (which are connected to the side bars,  $B^2$ , thereof a short distance inwardly from the ends of the latter bars,) provided with pendent rolls  $e$  at two of their ends, said rolls

traveling upon tracks  $C'$ , consisting of bars or 50  
timber C firmly secured, one upon each smaller end platform of the platform A, and having longitudinal grooves  $f$  in their outer sides. The end bars of the rack or frame B are provided at their other ends and also about at 55  
their middles with pendants  $g$ , carrying rolls  $g'$  at one side of their lower ends, which rolls travel in said grooves  $f$  of the track-bars C, to permit of the lifting out of or withdrawing from said grooves (whose bottoms, as we have 60  
just seen, form tracks for the rolls  $g'$ ) of one set of said latter rolls. Said bars C are recessed or apertured at their upper edges in one side, as at  $g^2$ , said recesses or apertures  $g^2$  opening 65  
up communication with said grooves  $f$  from above. Said recesses or apertures are located, of course, in the same longitudinal plane and a short distance at one side of the center of the bars C—that side of said bars next to the 70  
dumping or tilting side of the frame or rack proper, to permit the entrance thereinto of said set of rolls just when the frame during the tilting thereof begins by gravity to rise at its rear end, to allow the tilting of the rack and the dumping or discharge of its load at 75  
the required time. At the lower edges of those ends of the track-bars C next to the tilting side of the rack-frame, and slightly beyond the same ends of the grooves in said bars, are disposed frictional rolls  $h$ , (or they 80  
may be projections.) Said rolls  $h$ , together with small forwardly and outwardly curved arms or projections  $h'$ , projecting from the roll-pendants nearest to the tilting side of said frame, and with which said rolls engage when 85  
said frame is being tilted, serve to retain the frame while being returned to its horizontal position as against rearward movement until the rear rolls of said frame (those previously lifted out of the grooves in the track-bars C) 90  
have been again passed into said grooves through the recesses  $g^2$ . At the rear edge of each recess is a guide-plate,  $h^2$ , to aid in directing the rolls into said recesses to prevent the possibility of their passing said recesses. 95

Between the projecting ends of the side bars,  $B^2$ , of the rack-frame B, and supported by short axes bearing in said ends, are bolsters  $i$ ,



having slightly outwardly-inclined standards H, to retain the load thereat in place upon the rack. The bolsters *i* have each a bail, *j*, whose outer longitudinal bar or rod passes through a loop or eye, *k*, at the upper end of a rod, *k'*, which may have a frictional roll for said rod or bar to rest upon. Said rod or bar of each bail also rests upon a second frictional roll, *l'*, having a bearing upon a post, *l*, at the outer side of its upper end, said post being planted and secured in platform A. The looped rods *k'* are connected near their lower ends by bails *m* to hooked cam projections *m'*, disposed or secured at that side of the platform A adjacent to the tilting side of the rack. Said hooked or cam projections *m'* are disposed obliquely, leaning toward the rack, and are curved forwardly, or in the direction of the tilting of the rack, and the bails *m*, connecting them to the rods *k'*, embrace frictional rolls *n n*, arranged upon said rods and bails, while said hooks or projections are sandwiched between said rolls, whereby it will be seen that upon the tilting of the rack the action of these parts will depress or lower the standards H, to effect the release of the load at the ends of the rack.

I is an endless chain belt to effect the movement of the rack, said belt being connected to the rack by securing it to staples or projections *o o*, projecting from the inner sides of the end bars of said rack. The belt I is passed around pulleys *p*, arranged upon the inner sides of the track-bars C at their forward ends, the lower portion of said belt being passed over smaller contiguous pulleys, *q*, also supported upon the inner side of said track-bars, thence around horizontally-disposed pulleys *r*, supported upon the platform A. From the pulleys *r* said portion of the belt passes, crossing itself, to other pulleys, *s s*, one being vertically arranged upon a short post, *s'*, secured upon and near one side of the forward end platform, *a*, from whence it passes over a pulley, *t*, hung upon the same post, *s'*, in alignment with one of the large pulleys, *p*. That portion of the belt passing around the other pulley, *s*, which pulley is arranged upon the rear end platform, *a'*, horizontally, passes over a small pulley, *u*, hung upon said latter platform, *a'*, and depending in a cavity of said platform, the belt next being passed through an opening in the track-bar C, to and around one periphery of a double pulley, *v*, hung in between the parts of a post, J, secured also upon said platform *a'*. The belt is passed from the pulley *v* again to, but this time under, the pulley *u*, after which it is carried over a pulley, *w*, supported upon a post, *x*, secured upon the platform *a'*, said pulley *w* being arranged in alignment with the other forward pulley *p*. A separate endless belt, *y*, encompasses the other periphery of the double pulley *v* of the post J, and an upper single pulley, *z*, hung in said post.

The shaft of the pulley *z* is provided with a crank or handle, *z'*, said shaft also being de-

signed to have a ratchet engaged by a pawl hung upon the post J. Alongside of this post contiguously to the crank is located the driver's seat K, said seat being mounted upon a spring standard or support, K', secured to the platform *a'*, whereby the driver can, without dismounting or leaving his seat, conveniently and readily control the rack and effect the tilting of the same in discharging or dumping its load, which, by reason of the above disposition of parts, is effected well out of the way of the wheels of the vehicle or wagon, the advantage of which is obvious; and after the dumping of the load he can as readily effect the return of the rack to its original or normal position for reloading. At the same time it will be seen that the bolsters will be so acted upon by their cam-operating contrivances as to reverse their rotation and cause the elevation again of the standards.

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

1. In a hay-rack, the frame supported to travel upon upper and lower track, said lower track being formed by the bottoms of grooves made in the track-bars, said frame having pendent rolls, in combination with said track-bars and contrivances to effect the movement of the rack-frame, substantially as and for the purpose set forth.

2. In a hay-rack, the combination, with the rack-frame having pendent rolls, the grooved recessed track-bars, and the rack-frame contrivances, of the rotary bolsters and their standards, being arranged to rotate with the tilting of the rack and the return thereof to its normal position, substantially as and for the purpose set forth.

3. In a hay-rack, the track-bars having lower tracks formed by the bottoms of grooves in said track-bars, recesses or apertures opening into said grooves, in combination with the rack-frame having pendent rolls, and hooks at its tilting or dumping side engaging with rolls at the ends of the track-bars, substantially as and for the purpose set forth.

4. In a hay-rack, the track-bars having grooves in their outer sides, and apertures, openings, or spaces, in combination with the rack-frame having pendent rolls, and rolls traveling upon the upper track of track-bars, in combination with the revolving axial cylinders or bolsters having standards and guiding-bails, the looped rods connected to said bails, and oblique hooks connected to said rods and sandwiched between rolls of said rod, substantially as and for the purpose set forth.

5. In a hay-rack, the platform A, having end platforms, *a a'*, in connection with projecting slotted cross-bars and their adjustable screws, substantially as and for the purpose set forth.

6. In a hay-rack, the platform having posts provided with frictional rolls and cam hooked



projections, and the track-bars having grooves  
in their outer sides provided with recesses or  
apertures, said bars also having rolls at one  
of their ends, in combination with the rack or  
5 frame having pendent rolls, hooks, and the  
pivoted standard-bolsters carrying bails, and  
the rods looped to said bails, and having bails  
provided with rolls, between which rolls the

cam or hooked projections are sandwiched,  
substantially as and for the purpose set forth. 10

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

MILLARD M. REEVES.

Witnesses:

CHAS. DOSS,

CHARLES W. PATTERSON.