

HAY RACK.

Patented July 8, 1913.

1,066,745.



S. A. J. Hacken
Reta Strommays

J. O. Mellon
by
Egerton R. Case
atty.

J. O. MELLOM.

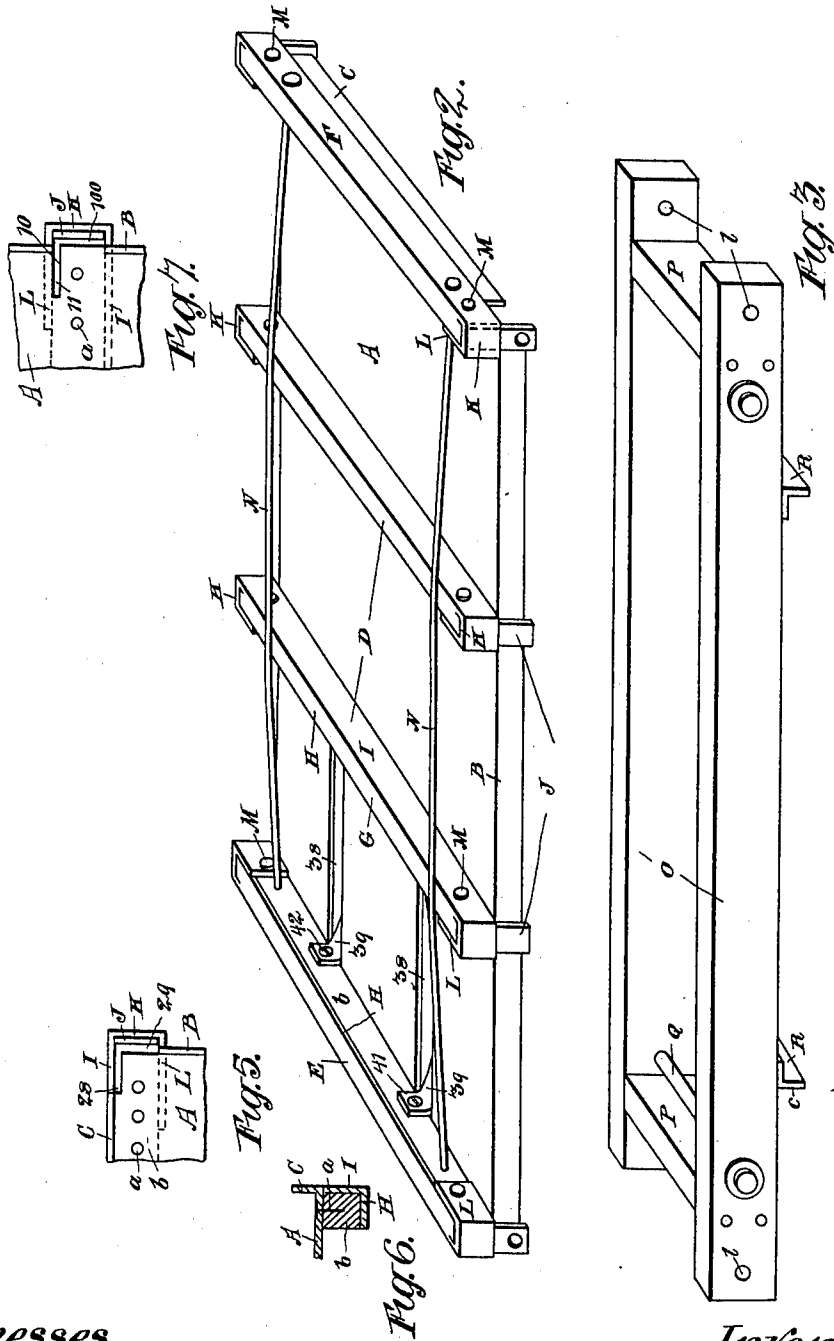
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2 SHEETS-SHEET 2.



Witnesses.
S. L. J. Fisher
Reta Stohmayer

Inventor.
J. O. Mellow,
by
Egerton R. Case
att'y.

UNITED STATES PATENT OFFICE.

JULIUS O. MELLOM, OF BOSCURVIS, SASKATCHEWAN, CANADA.

HAY-RACK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIUS OLSEN MELLOM, of the town of Boscurvis, Province of Saskatchewan, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Hay-Racks, of which the following is a specification.

My invention relates to improvements in hay racks, and the object of my invention is to provide permanent end metal ladders carried by the end metal frames whereby the rack and its floor may be connected to the rack-bed, at each end thereof, in such a manner that ease of access may be had to attach the said ladders to, or remove them from, the said rack-bed.

Another object of my invention is to provide a particular construction of metal posts carried by the side frames, and so mount them in pockets of particular construction formed one at each end of the cross-bars supporting the floor of the rack, as to give lateral as well as longitudinal support to the vertical members of the ladders, and other parts of my rack.

The particular construction of my rack will be hereinafter set forth.

Figure 1 is a perspective view thereof of my rack, showing the parts thereof in assembled position. Fig. 2 is a perspective view of the underside of the rack-frame and the rack-floor. Fig. 3 is a perspective view of the rack-bed. Fig. 4 is a vertical cross section on the line *a-b*, Fig. 1. Fig. 5 is a plan view of the upper side of the rack-frame at one of the corners thereof, the members of the rack composing the railings being removed. Fig. 6 is a vertical longitudinal section on the line *c-d*, Fig. 1 through one of the end cross-bars of the rack-frame and portion of the rack-floor, and Fig. 7 is a plan view of the upper side of the rack-frame at one side thereof showing details of construction hereinafter referred to.

In the drawings like characters of reference indicate corresponding parts in each figure.

A is the floor of the rack made of sheet metal and the edges and sides thereof are upturned as shown at B and C thus forming flanges which prevent loose grain from sliding off the floor. Transversely placed to the floor A are a plurality of cross-bars. D is the middle pair of cross bars and E and

F the end cross-bars. These cross-bars and the said floor are secured together by means of the nails "a", or other suitable fastening means. Each cross-bar is composed of a wooden-bar *b*, one side and the bottom thereof being incased by a metal cross-bar G provided with a bottom H and a side I. The bottom H of each cross-bar G is bent upward against the end of each wooden bar *b* so as to form a stay J at each end of the said wooden-bars, and these stays project above the floor A. Each end of the sides I are lapped over the stays J as shown at K and are secured as shown at L by the pins or rivets M to the wooden-bars *b* and sides L of said cross-bars. The floor A and the cross-bars already described comprise the rack-frame, and this frame is braced by the truss rods N, the ends of which are secured in the cross-bars E and F.

The rack-bed which supports the rack-frame, is composed of two longitudinal bars O which are secured together near their outer ends by the cross pieces P and the tie-rods Q. Secured to the underside of the said longitudinal bars are transverse plates R which are preferably shaped as shown, and the vertical flanges *c* of these plates contact with the bolsters, (not shown,) of the wagon to prevent longitudinal displacement of the rack-bed.

The superstructure comprising the hay-rack in combination with the rack-frame is composed of side and end frames. Each side frame is composed of an upper side railing 2 made of angle iron and a side-bar 3. 4 are posts made of angle iron, and the said upper side railings 2 and side bars 3 are secured by rivets 5 and 6 to the flange 7 of the posts 4. The rivets 5 are passed through the vertical flanges 8 of the upper side railings 2. Each post 4 is provided with a flange 9, and these flanges extend each through a slot 11 formed in the floor A and into pockets 10 formed between each end of the wooden bars *b* and the end L of the sides I of the cross-bars D. The lower ends of the flanges 7 rest in pockets 100 formed between the ends of the wooden bars *b* and the stays J carried by the cross bars D. The lower ends of the said flanges rest upon the bottom H of the cross bars G. The flanges 9 taper from their lower ends to their upper ends, and the upper ends of the said flanges are overhung by the horizontal flange 12 of the upper side railings

2. By constructing the flanges 9 wide at their base, a good lateral support is given to the posts 4. These posts together with their connected parts can be readily removed and so permit the side frames to be removed from the rack-frame. It will be noticed upon referring particularly to Fig. 4, that the stays J extend high enough to support the posts 4 through the medium of the flanges 7 which rest against said stays.

The end frames of the rack are constructed higher than the intermediate portions of the side-frames, and these end frames are each composed of a pair of corner posts 13 which are made of angle iron.

14 are horizontal bars which are riveted by the rivets *d* to the flanges 15 of the side bars 16. These bars 14 are riveted by the rivets *e* at each end to the flanges 17 of the corner posts 13.

18 are horizontal-bars secured by the rivets 19 to the flanges 15 of the side bars 16, through the medium of their vertical flanges 20. The horizontal flanges 21 of the horizontal bars 18 cover the upper ends of the corner posts 13.

22 are horizontal-bars made of angle-iron, and the same are secured through the medium of their vertical flanges 23 to the flanges 15 of the side bars 16 through the medium of the rivets 24.

The side bars 16 and their connected parts form a ladder at each end of the hay-rack.

The lower ends 25 of the flanges 15 rest upon the longitudinal bars O of the rack-bed, and the lower ends 26 of the flanges 27 of the side bars 16 overlap the outer side of each longitudinal bar O, and each lower end is provided with a hole through which a retaining pin or bolt is passed. These retaining pins or bolts also pass through holes 1 formed in the outer ends of the bars O. I have illustrated a bolt and nut used at these points designated by the common character of reference 271.

At each corner of the floor A are provided pockets 28 and 29. Each pocket 29 is formed by a space between the extremities of the end cross-bars and the stays J associated therewith, and these pockets open into the pockets 28 formed by cutting away a portion of the outer side of the wooden bars *b* at their outer ends, and a portion of the outer edge of each corner of the floor A, as clearly illustrated in Fig. 5. Each corner post 13 is provided with a second flange 30, and the lower ends of these flanges 17 and 30, which form the base of the corner posts 13, rest respectively in the pockets 28 and 29 and upon the bottom H of each cross-bar G. The stays J also give lateral support to the corner posts 13, as the stays support the flanges 30.

31 is a pin or bolt held in a hole formed in each stay J positioned at the corners of the

said rack-frame, and these pins or bolts extend each through a hole (not shown) formed in the flanges 30, and these pins or bolts may be retained in place by any suitable means, for instance, by means of a nut 32 screwed thereon.

The middle portions of the upper side railings 2 as well as the side bars 3 connecting the posts 4 together occupy substantially a horizontal position, and the end portions of these members are constructed at an obtuse angle thereto, as illustrated. The end portions 33 of the side bars 3 are detachably connected by pins or other suitable means, for instance, nuts and bolts indicated by the common character of reference 34 to the flanges 30 of the corner posts 13. The horizontal flanges 12 of the end portions 35 of the upper side railings 8 terminate each in a plate 36 which is pierced. These plates 36 fit on top of the horizontal flanges 21 of the bars 18, near the ends of each of the said bars, and the said plates 36 and the said flanges 21 are secured together by pins or other suitable fastening means, such as nuts and bolts designated by the common character of reference 37.

38 are openings formed in the floor A so that a portion of the rear wheels may extend above the top of the said floor. In forming the openings 38 a portion of each side of the floor A is cut therefrom, thus forming guards 39 which rest above the wheels. One end 40 of each of these guards is preferably formed integrally with the floor A and the other end 41 of each of the said guards is bent downward and secured to the wooden bars *b*, by means of screws or bolts 42, carried by the end cross-bar E. These guards may be supported if desired, by any suitable means not necessary to illustrate.

From the foregoing specification it will be understood that my hay-rack will be very durable, and since it is constructed chiefly of angle iron it will not be unduly heavy. The various parts thereof may be readily taken apart and put together.

The flanges B of the floor A are not continuous down each side of the floor, as they are interrupted at the posts 4. It will also be seen upon referring particularly to Figs. 1 and 2 that the flanges C do not extend across the full width of the floor.

Various changes in construction may be made in the construction illustrated and described without departing from the spirit of my invention.

By means of the rivets *n* the vertical flanges 20 of the horizontal bars 18 are permanently secured to the flanges 17 of the corner-posts 13.

What I claim as my invention is:

1. In a hay rack, the combination with the floor, of a plurality of cross bars secured transversely to said floor and under-

neath the same and projecting at each end beyond the sides of said floor, each end of said cross bars being provided with pockets opening into each other, one formed at the
5 end of each cross bar, and the other formed down one side thereof, a rack-frame composed of a plurality of vertical posts made of angle iron, the flanges thereof parallel with the length of said floor resting in said
10 end pockets, and the transverse flanges of said posts resting in said other pockets, and bars secured to said posts in such a manner as to provide the rack with separable side and end frames, as set forth.

15 2. In a hay rack, the combination with the floor, of a plurality of cross bars secured transversely to said floor and underneath the same and projecting at each end beyond the sides of said floor, the said cross bars
20 being composed of a wooden bar resting in a metal cross bar having a bottom and a side, the bottom of each metal cross bar at each end thereof being bent upward to form a stay which is positioned beyond the outer
25 end of its associated wooden bar so as to

form a pocket, each end of the side of said metal cross bars being lapped over the outside of said stays so as to support them, each of the said wooden bars near its end being recessed to form a longitudinal pocket
30 which opens into its associated end pocket, a rack-frame composed of a plurality of vertical posts made of angle iron, the flanges thereof parallel with the length of said floor resting in said end pockets and against said
35 stays, the transverse flanges of said posts widening out toward their lower ends, which lower ends rest each in its associated longitudinal pocket, and extend through a slot formed in said floor and bars secured
40 to said posts in such a manner as to provide the rack with separable side and end frames, as set forth.

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

JULIUS O. MELLOM.

Witnesses:

ROBERT MOIR,
JAMES D. MURPHY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."