

(No Model.)

2 Sheets—Sheet 1.

E. RIES.
HAY OR STOCK RACK.

No. 501,363.

Patented July 11, 1893.

Fig. 1.

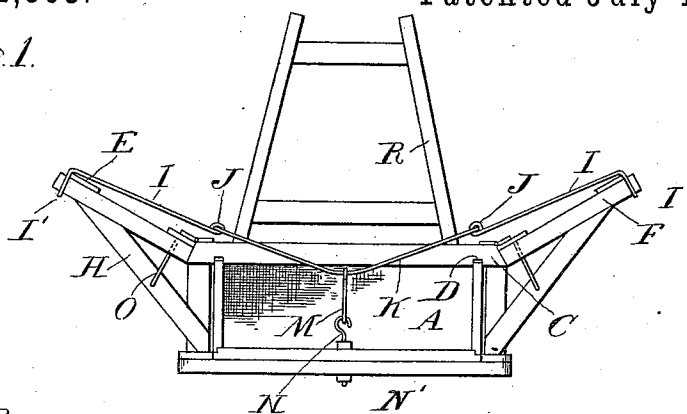


Fig. 2.

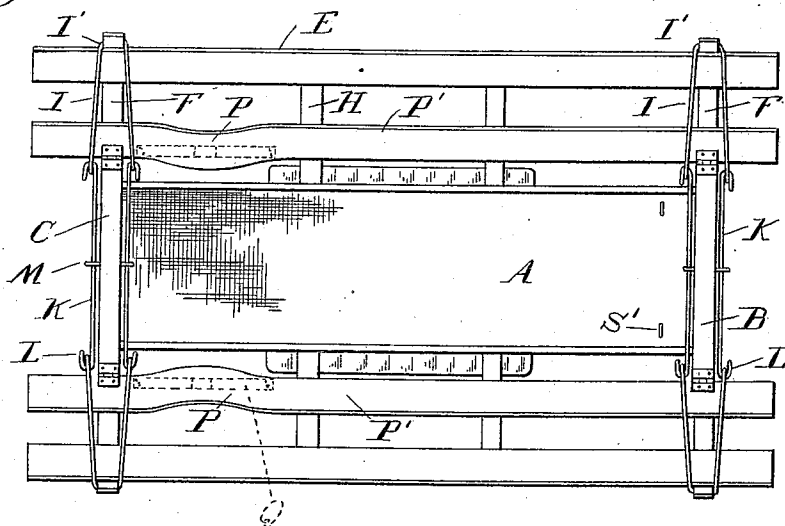


Fig. 3.

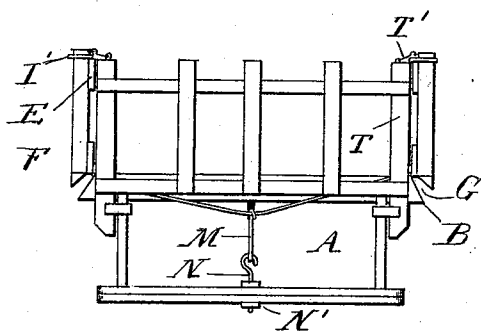


Fig. 4.

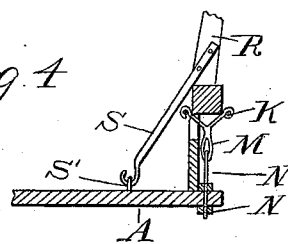
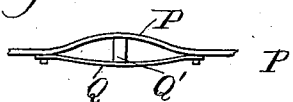


Fig. 5.



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Fig. 7.

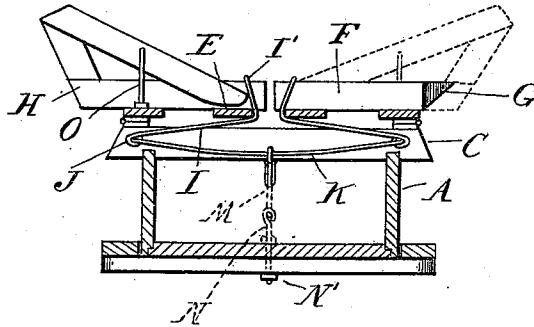


Fig. 6.

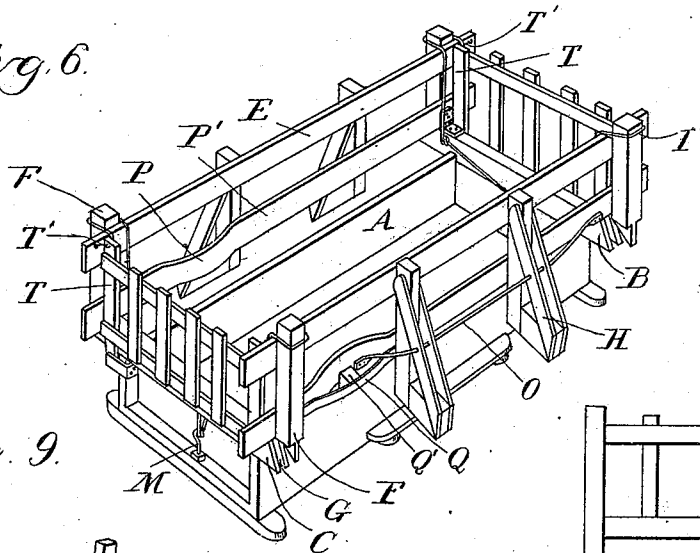


Fig. 8.

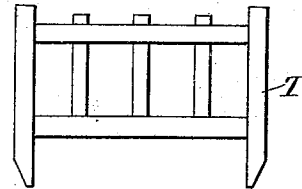


Fig. 9.

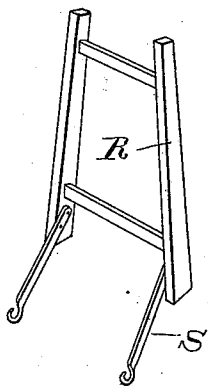
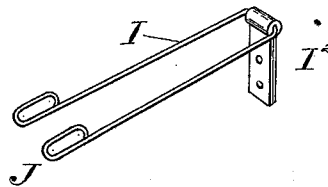


Fig. 10.



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UNITED STATES PATENT OFFICE.

EDWARD RIES, OF GOODRICH, MICHIGAN.

HAY OR STOCK RACK.

SPECIFICATION forming part of Letters Patent No. 501,363, dated July 11, 1893.

Application filed February 6, 1893. Serial No. 461,082. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RIES, a citizen of the United States, residing at Goodrich, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Hay or Stock Racks, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction of the racks, and of trusses for the racks, and further in the peculiar construction, arrangement and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a rear elevation of a wagon box with my improved rack applied thereto. Fig. 2 is a top plan view thereof. Fig. 3 is a rear elevation, showing the rack turned up to be used as a stock rack. Fig. 4 is a section at right angles to Fig. 3, showing the manner of securing the end racks. Fig. 5 is a detail section showing the trussing of the arched bar over the rear wheels. Fig. 6 is a perspective view showing the rack arranged for use as a stock rack. Fig. 7 is a vertical, cross-section showing the rack folded up on a wagon box. Fig. 8 is an elevation of one of the stock rack end standards. Fig. 9 is a detached perspective view of the ladder. Fig. 10 is a perspective view of the truss rod.

A is a wagon box of any known and usual construction to which my rack is intended to be applied. The rack consists of two end cross bars B and C, notched at D to engage over the sides of the wagon box, and side racks E having their end posts F hinged to the ends of the cross bars. These posts and the cross-bars preferably have a mortise and tenon engagement, as shown at G in Fig. 3, the tenon on the post engaging with the mortise on the end of the cross-bar, when the rack is extended for use as a hay rack. The central posts of the rack are provided with triangular braces H adapted to bear against the side of the box in the open position of the rack.

At each end of the rack I form a truss connected at its outer ends to the outer edges of the rack and centrally to a tension post, preferably adjustable in the wagon box, so that

nearly all the strain of the load is taken off the hinges and carried by this truss. I preferably make the truss a double one consisting of three parts. The two end sections I form of a single piece of metal I with a loop I' formed at the ends engaging over the end post F of the rack. The ends thereof extend across the face of the rack and have eyes J formed at the lower ends, and the middle sections K, have hooks L at each end engaging in these eyes and pass down beside the cross bars. The two middle sections are connected by a hooked stirrup M with a tension post N passing through the bottom of the wagon box, and having the adjusting nut N' on the under side whereby the tension of the trusses may be adjusted to any desired degree. The effect of this structure is that when the device is used as a hay rack the strain is almost entirely removed from the hinges as before described, enabling me to use a comparatively light hinge and a comparatively light rack, and the hook and eye in the truss rod enable me to turn the rack upward upon its hinge to be used as a stock rack, as shown in Fig. 3.

In place of using the loop I' passing around the end of the end post of the rack, as shown in Figs. 1 and 2, I may secure the end of the truss to the end of the post in any other desired manner, such for instance as shown in Fig. 10, wherein I have shown a strap I² formed with an eye and secured to the end of the rack post in which the end of the truss is secured.

O is a longitudinal truss rod passing through the braces H and secured at its ends to the ends of the racks. This truss rod supports the center of the rack, when used as a stock rack, as shown in Fig. 6.

P are the arches in the longitudinal strips P' of the rack over the rear wheels. These arches I truss by means of the rod or plate Q secured at opposite sides of the arch, and a central post Q' as shown in Fig. 5, being arranged at one side of the arch out of the path of the wheel.

R is the ladder at the front of the box, which at its lower end rests upon the top of the front end of the box and has inclined hooked arms S engaging in eyes S' in the bottom of the box.

T are the end standards when the device is used as a stock rack, in which case hooks T' are used to secure the upper ends of the side racks and end racks together.

5 It will be seen by examining Figs. 6 and 7 that by pivoting the side racks on the ends of the cross-bars beyond the sides of the wagon box, I obtain a much wider rack for stock
10 uses than has heretofore been done, also when the rack is desired to be stored, the wagon standing in the barn for instance, and when it is desired to get through narrow places the rack may be folded into a compact shape, as
15 shown in Fig. 7, the side racks being folded on the cross-bars. This manner of folding not only is useful for saving space in a barn, or to narrow the rack in going through narrow places, but also enables me to fold it into compact shape for storing when taken from
20 the wagon.

What I claim as my invention is—

1. In a hay rack, the combination of the box, cross bars extending across the ends thereof, side racks hinged to the ends of the cross-bars,
25 truss rods at each end, extending from the outer ends of the end posts of the rack to a point centrally of the cross bar, a tension post on the box connecting to said truss rod, and an adjusting device for said post, substan-
30 tially as described.

2. In a hay rack, the combination with a wagon box, of cross bars at the end extending beyond the sides of the box, side racks hinged thereto and adapted to be turned outward,
35 upward or to be folded upon the cross bars, triangular side braces rigid on the side racks arranged to engage the side of the box and truss rods for said braces, substantially as described.

40 3. In a hay rack, the combination of the wagon box and the hinged side racks, of a dou-

ble truss extending from the outer edges of the racks to a central tension post at the end of the box and made in sections comprising the two end sections I having the loop I' at
45 the outer ends engaging with the outer edges of the racks, the eyes J formed at the lower ends thereof, the section K having hooks at the outer ends, engaging in said eyes, the hooked stirrup M, centrally secured to said
50 middle section and a tension post N passing through the wagon box and having means for adjusting the same, substantially as described.

4. In a rack, the combination of the cross-bars, the side racks having end posts hinged
55 to the outer ends of said cross-bars and having mortise and tenon engagement therewith, the truss rods extending from the outer end of said end posts to a point centrally of the cross-bar, the tension post and longitudinal
60 truss rods O for the racks, substantially as described.

5. In a hay rack, the combination of the cross-bars, the racks having their end posts hinged to the ends of said cross-bars, the
65 trusses for the ends of the rack, substantially as described, the middle braces H and the longitudinal truss rod O extending from the end of the rack through said middle braces, sub-
70 stantially as described.

6. In a hay rack, the combination of the side racks, the inner strips P' thereof having the arches P over the rear wheel, the truss
75 rods Q extending across said arches at one side thereof and the posts Q', substantially as described.

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

EDWARD RIES.

Witnesses:

GEO. F. BROWN,
ORDELL GEORGE.