C. STEVENSON.

Hay-Rack.

No. 207,219. Patented Aug. 20, 1878.

Fig: 1.

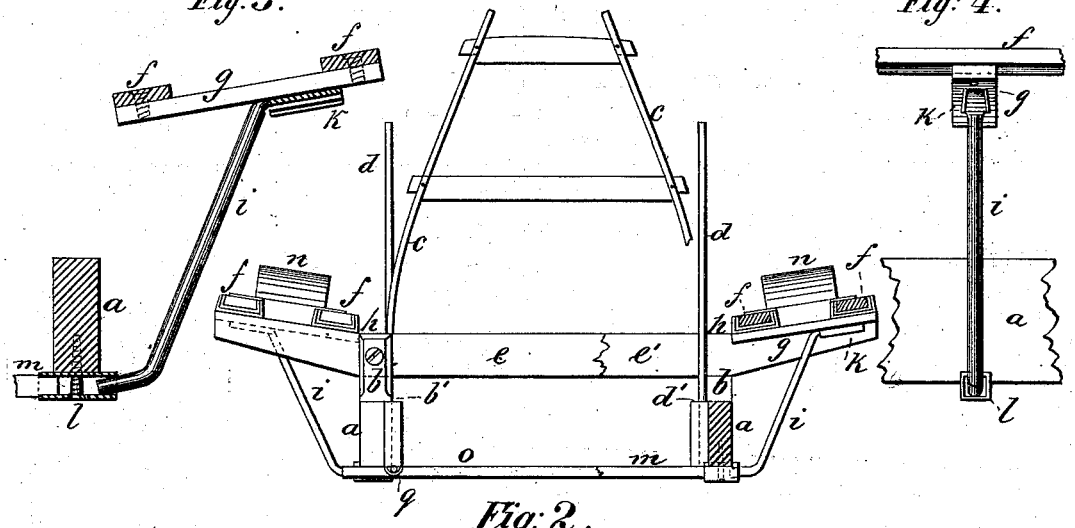
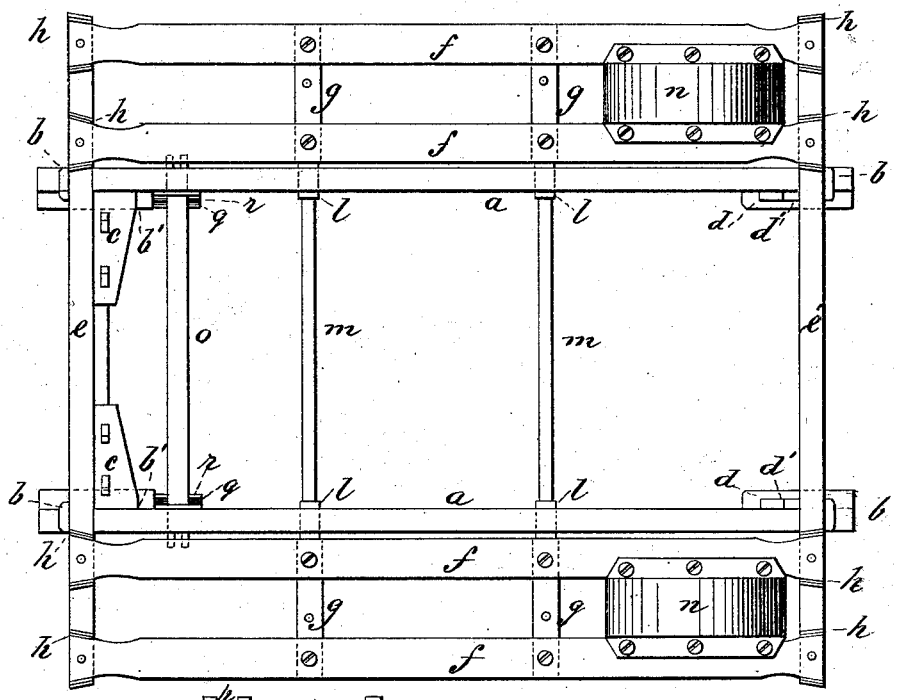


Fig: 3.

Fig: 4.

Fig: 2.



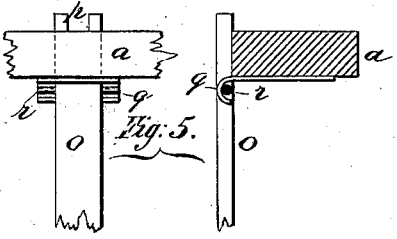


Fig: 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CLINTON STEVENSON, OF SOUTHWEST OSWEGO, NEW YORK.

IMPROVEMENT IN HAY-RACKS.

Specification forming part of Letters Patent No. **207,219**, dated August 20, 1878; application filed July 9, 1878.

To all whom it may concern:

Be it known that I, CLINTON STEVENSON, of Southwest Oswego, in the county of Oswego and State of New York, have invented a new and useful Improvement in Hay-Racks, of which the following is a specification:

The object of my invention is to construct a hay-rack which may be applied to a wagon for use in loading hay, and when not desired for use may be readily taken apart for laying away in a compact form.

My invention consists in connecting the parts of a hay-rack together by dovetail joints and mortises, and in such a manner that the removal of the wedges which bind the main frame will permit the whole rack to be separated.

In the drawing, Figure 1 is an end view at the forward part of my improved rack, one side thereof being in section; and Fig. 2 is a plan of the same. The other figures are separately referred to.

Similar letters of reference indicate corresponding parts.

a a are the side rails or bars of the rack, which rest upon the body or truck of the wagon. These bars *a* are provided at each end with a dovetail mortise for a tenon on the short vertical posts *b b*. The tenons on the posts *b* are narrower than the mortises in the bars, so that there is a space left for the insertion of a wedge to bind the dovetails together. I form the lower ends of the ladder-bars *c* as wedges, for inserting at the front end of the bars *a a*, to hold the posts *b*, as seen at *b'*, and at the rear the stakes *d d* are used for a similar purpose, as seen at *d'*. The posts *b* have attached to them the front and rear cross-bars *e e'* of the rack, which extend at the sides beyond the bars *a a*, as usual.

f f are the side slats of the rack, which are supported by the projecting ends of the cross-bars *e e'*. There are two of these slats at each side, connected together by strips *g g*. The ends of slats *f* are formed dovetailing, to fit into the dovetail flanges of the plates *h* on the cross-bars *e e'*. The ends of *f* may be bound with metal to make them more durable.

i i are metal rods, forming braces for the side slats *f f*. The manner of attaching these braces to the slats *f* and side bars *a* is shown by Figs. 3 and 4.

K is a plate attached to the under side of the strips *g* on slats *f*, provided with dovetail flanges, which take over the upper end of the rod *i*. The lower end of the rod *i* passes into a short tube or socket, *l*, fixed upon the under side of bar *a*. There are two of these braces *i* at each side of the rack, and they serve to support the pairs of slats *f* in the center.

m m are cross-bars passing from one bar, *a*, to the other, and secured at their ends in the tubes *l*. These bars *m* serve to stiffen the rack, and also to support boards, which may be laid on *m*, to form a bottom or floor.

n n are the guards for the rear wheels of the wagon, on which the rack is to be secured.

It is sometimes desirable to construct the rack with its forward end narrower than the rear portion, and in that case there should be some means provided for securing the forward end of the rack to the wagon. To avoid bolting a cross-bar to the rack, I connect a bar, as shown by Fig. 5.

o is the bar, with a mortise, *p*, at each end outside of the bars *a*, through which mortise a stake may be inserted for securing the bar to the wagon. The bar *o* is beneath the side bars *a*, and is thereto connected by hooks *q*, secured by screws on *a*, and catching upon pin *r*, passing through the cross-bar *o* at each end, so that it cannot get out of place while the rack is together. This construction permits the forward ends of bars *a* to be nearer together than the rear ends, and to be secured to the wagon.

The rack, as described and shown, is complete and ready for use. When it is desired to take it apart the ladder *c* is raised to draw its wedge ends out from the mortises on the forward ends of bars *a*, and the stakes *d* are also removed from the mortises at the rear. This permits the posts *b* to be slipped in the mortises, to move the cross-bars *e e'* toward each other, which movement releases the dovetail ends of the slats *f* from the flanges of the plates *h*, and the slats *f* may then be entirely removed by drawing the rods *i* out of the sockets *l* and plates *k*. The cross-bars *e e'* may next be taken off by releasing the tenons

of the posts *b* from their mortises, and the bars *a a* drawn apart to release the bars *m m* and *o*. The rack is now entirely separated, so that the parts can be laid away in compact form.

When wanted for use the rack may be put together very readily without the need of bolts or tools, and there are no small parts to be mislaid.

It will be seen that there are no extra parts to this rack; but the usual form of rack is connected together, as shown, in a firm and reliable manner.

I do not limit myself to the exact construction described. Ordinary wedges may be used in place of the ladder and stakes for binding the parts together, and the slats may be connected to the cross-bars in other ways than the one shown, so that the slats will be released when the cross-bars are loosened. These particulars may be varied without departing from my invention.

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

1. The cross-bars *e e'*, connected to the side bars *a* by dovetail joints and wedges, substantially as and for the purpose set forth.

2. The slats *f*, united to the cross-bars *e e'*, substantially as described, and for operation as set forth.

3. The braces *i*, substantially as and for the purposes described.

4. The ladder *c* and stakes *d*, having wedge-shaped ends, in combination with the bars *a* and cross-bars *e e'*, provided with dovetail connections, substantially as and for the purposes set forth.

5. The combination of the transverse bar *o*, having mortised ends and pins *r*, with the bars *a*, having hooks *q*, as and for the purpose set forth.

CLINTON STEVENSON.

Witnesses:
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