(No Model.)

S. A. STEWART.

HAY RACK.

No. 364,869. Patented June 14, 1887.

Fig. 1.

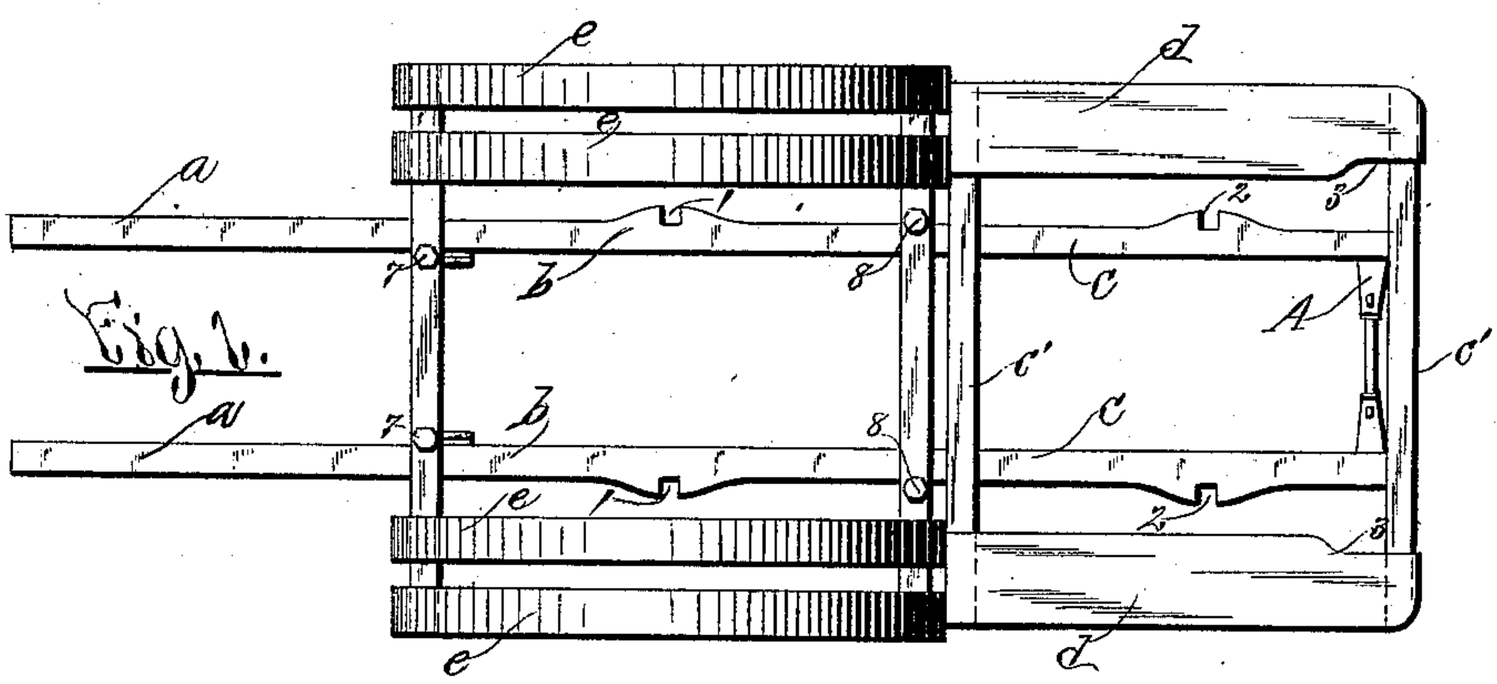

Fig. 2.

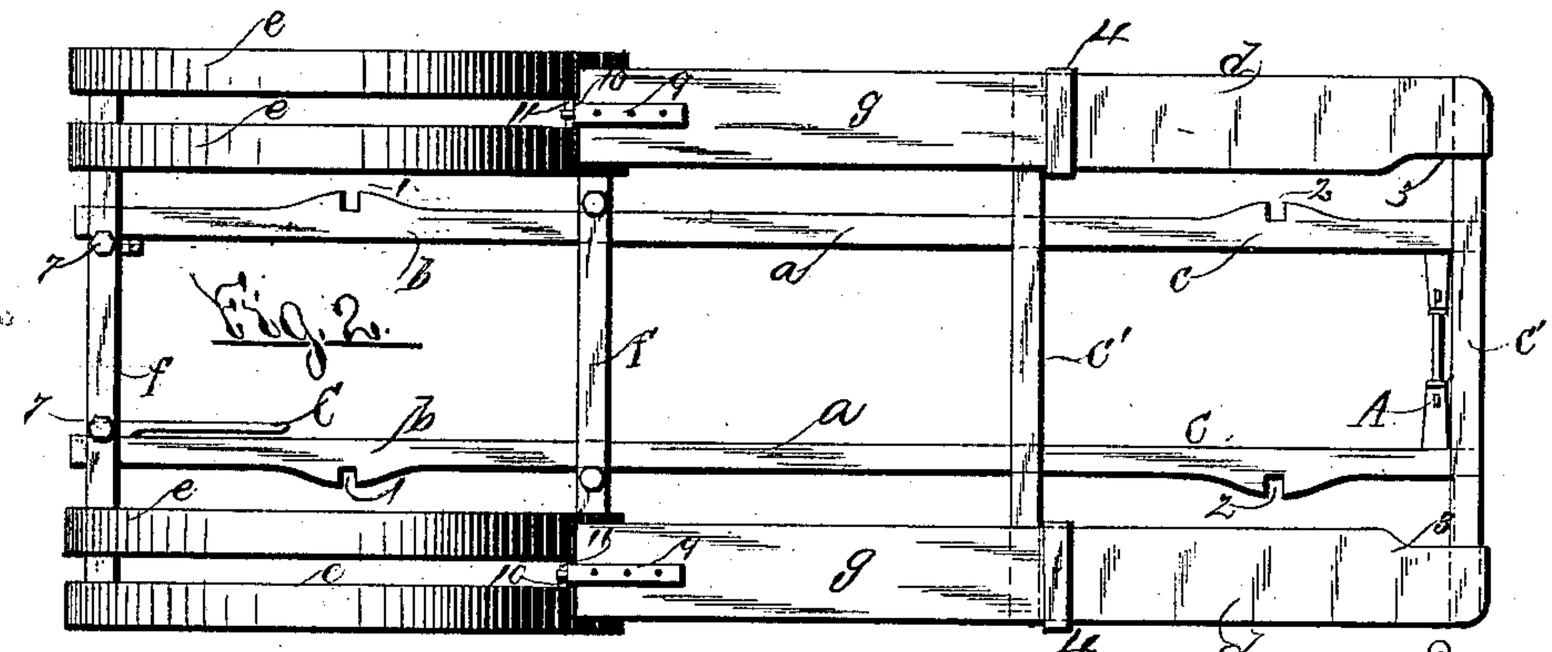

Fig. 3.

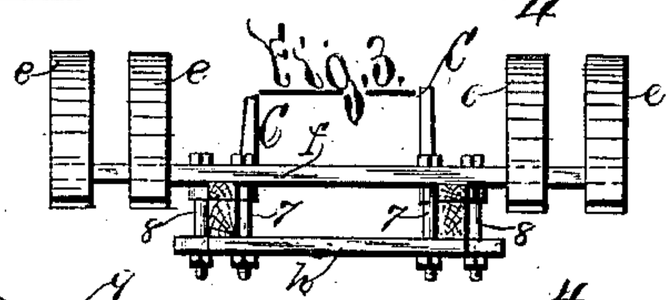

Fig. 4.

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HAY-RACK.

SPECIFICATION forming part of Letters Patent No. 364,869, dated June 14, 1887.

Application filed February 26, 1887. Serial No. 228,913. (No model.)

To all whom it may concern:

Be it known that I, SPENCER A. STEWART, of Cicero, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Hay-Racks, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in the class of hay-racks termed "extensible" or "extension" racks, in which a sliding section or sections are provided, whereby the dimensions of the rack may be changed; and the object is to produce a simple, compact, and strong rack which can be readily applied to the running-gear of the wagon, adjusted to the desired dimensions, and as readily detached and removed from the running-gear; and to this end my invention consists in the detail construction and arrangement of the parts, all as hereinafter more particularly described, and pointed out in the claims.

In specifying my invention reference is had to the accompanying drawings, like letters indicating corresponding parts in all the figures, in which—

Figure 1 is a top plan view showing the general construction and arrangement of the parts, the sliding section of the rack being in contact with the stationary section, and the rack thus adjusted to its smallest dimensions. Fig. 2 is a like view showing the sliding section extended and connected to the stationary section with the detachably-connected adjustable side-boards. Fig. 3 is an end view showing the construction and connection of the sliding section to the bed-timbers, and Fig. 4 shows a side elevation of my invention applied to the running-gear of a wagon.

a a denote the bed-timbers, which are of sufficient length to permit the adjustment or extension of the sliding section of my improved hay-rack to its greatest dimensions.

b denotes the sliding section of the hay-rack, composed of longitudinal cleats or side pieces, *b b*, and provided with notches *l l*, which fit over the bolster, stakes 5, and cross-pieces *f f* *h h*. The cross-pieces *f f* support the wheel-guards *e e e e*, as shown in the drawings, the wheel-guards being curved, as best shown in Fig. 4. The cross-pieces *h h*, Fig. 3, are connected to the upper cross-pieces, *f f*, by means of the bolts 7 7 8 8, and the cross pieces *f f* and bolts 7 7 8 8 embrace the bed-timbers *a a*, as best shown in Fig. 3. It will be observed that the clamps formed by the cross-pieces *f f* and bolts 7 8 serve also to sustain the bed-timbers *a a* laterally in their proper position, and the lower cross-pieces, *h*, also serve as cleats for the bottom boards of the hay-rack. It will be observed, also, that the section *b* is by the described construction so connected to the bed-timbers *a a* as to permit the section *b* to be slid on the timbers *a a* longitudinally forward or rearward, as desired; and the object of thus connecting the section *b* is to permit the adjustment of the rack to the required dimensions.

At the forward end of the bed-timbers *a a*, I provide the stationary rack-section *c*, composed of timbers *c c*, secured to the upper sides of the bed-timbers *a*, and provided with notches 2 2, which fit over the forward bolster-stakes 5. On top of the longitudinal timbers *c c*, I secure cross-timbers *c′ c′*, the forward one resting on the blocks 6, for the purpose hereinafter explained. On top of the cross-pieces *c′ c′*, I secure side-boards *d d*, the forward ends of which being provided with offsets 3 3, facing opposite each other, as best shown in Figs. 1 and 2. The side-boards *d d* are inclined with the top of the incline forward, as best shown in Fig. 4, the object of which is to raise the side-boards *d* above the forward wheel of the running-gear, and this is permitted by interposing the blocks 6 6, as best shown in Fig. 4. The stationary section *c* and sliding section *b* are connected by the detachably-connected adjustable side-boards *g g*, Fig. 2. The side-boards *g* are provided at their forward ends with the clamps 4 4, Figs. 2 and 4, and the connection of the side-boards *g* with the side-boards *d* is permitted by reason of the offsets 3 at the forward ends of the side-boards *d*. The clamps 4, taking over the narrowed end of the side-boards *d*, permit the ready connection of the side-boards *g* with the side-boards *d*, and the side-boards *g* may be as readily detached from the boards *d* by simply sliding *g* forward until the inner clamp, 4, comes in the offset 3, when the board *g* may be detached. At the opposite end of the side-boards *g*, I provide clasps 9 10, formed of an angle-bar provided with a slot which

takes over the staple or hasp 11, Fig. 4, where it may be secured by inserting the pin or cotter-key. The gallows A is pivoted to the blocks 6, as best shown in Fig. 4, and the rear stakes, C, are pivoted in the sliding section *b*. The rear stakes, C, are provided with a downward projection, 12, below the pivot, which takes against the rear cross-piece, *f*, Fig. 4, when the stakes C are depressed, and prevents the stakes C from dropping below the bed-timbers *a a*. The reach *r* is of the usual form to permit the wheels of the running-gear to be adjusted longitudinally as desired. All of the parts of the sliding extension are connected by bolts provided with nuts to set them up, and thus securely tie the frame together.

In extensible racks heretofore constructed no provision was made for supporting the bottom boards of the rack, excepting to secure cleats at the outer ends of the bed-timbers and in the center thereof, and it was necessary in such a construction to provide additional timbers for the sliding section, in order to adjust the same. In my invention it is unnecessary to use auxiliary cleats or cross-timbers, as the cross-pieces *h h* afford an efficient support for the bottom boards without interfering with the adjustment of the sliding section, as desired. Furthermore, the sections may be made very light, and at the same time possess the necessary strength to impart durability to the rack, so as to enable one person to mount the rack upon the running-gear of the wagon. The old racks were heavy and cumbersome, and difficult to set up for use, or to remove the same from the running-gear for storage. It will be observed that by simply loosening the nuts on the connecting-bolts the sliding section can be readily adjusted or removed from the bed-timbers without difficulty, and upon setting up the nuts a strong and durable rack is produced.

The operation of my invention will be readily understood from the foregoing and upon reference to the drawings. The stationary section *c* is applied to the bed-timbers *a* and bolted in place, the notches 2 2 resting over the forward bolster-stakes 5 5, as shown in Fig. 3, and the sliding section *b* is slid onto the bed-timbers *a*, the bed-timbers *a* passing between the bolts 7 and 8 and the cross-pieces *f* and *h*, and the nuts tightened up, after which the detachable side bars *g* are connected to the side bars *d*, as previously described, and then the sliding section *b* adjusted to the desired position, when the side-boards *g* are clasped and locked to the sliding section, as heretofore described. The rack is then ready for use.

If what is termed a "standard rack" is desired, the stationary and sliding sections are made in six-foot lengths, and adjusted as shown in Fig. 1, in which case the detachably-connected side bars *g* are dispensed with, and may be detached at will.

By constructing the side-boards *d g* as illustrated I secure great strength and durability, as it is desirable that the side-boards *d g* should be sufficiently strong to support the person, and in the illustrated and described construction the necessary strength is secured, using simply inch stuff in thickness for the side-boards.

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

1. The combination of the sliding section *b* with the bed-timbers *a*, stationary section *c*, detachable side-boards *g*, the section *c* being provided with side-boards *d*, having offset 3, and the side boards *g* with clamps 4, co-operating with the offsets when the side-boards *g* are connected or disconnected with sections *b* and *c*, substantially as and for the purpose set forth.

2. The combination of the section *c*, having side-boards *d*, provided with offsets 3 at one end thereof, and the side-boards *g*, having clamps 4, embracing the edges of the side-boards *d*, and clasps 9 and 10, to secure the opposite end in position, substantially as and for the purpose set forth.

3. The combination, with the bed-timbers *a a*, of the stationary rack-section *c*, provided with inclined side-boards *d d*, and the sliding section *b*, connected to the stationary section *c* by the detachably-connected adjustable side-boards *g g*, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 23d day of February, 1887.

SPENCER A. STEWART.

Witnesses:
FREDERICK H. GIBBS,
E. C. CANNON.