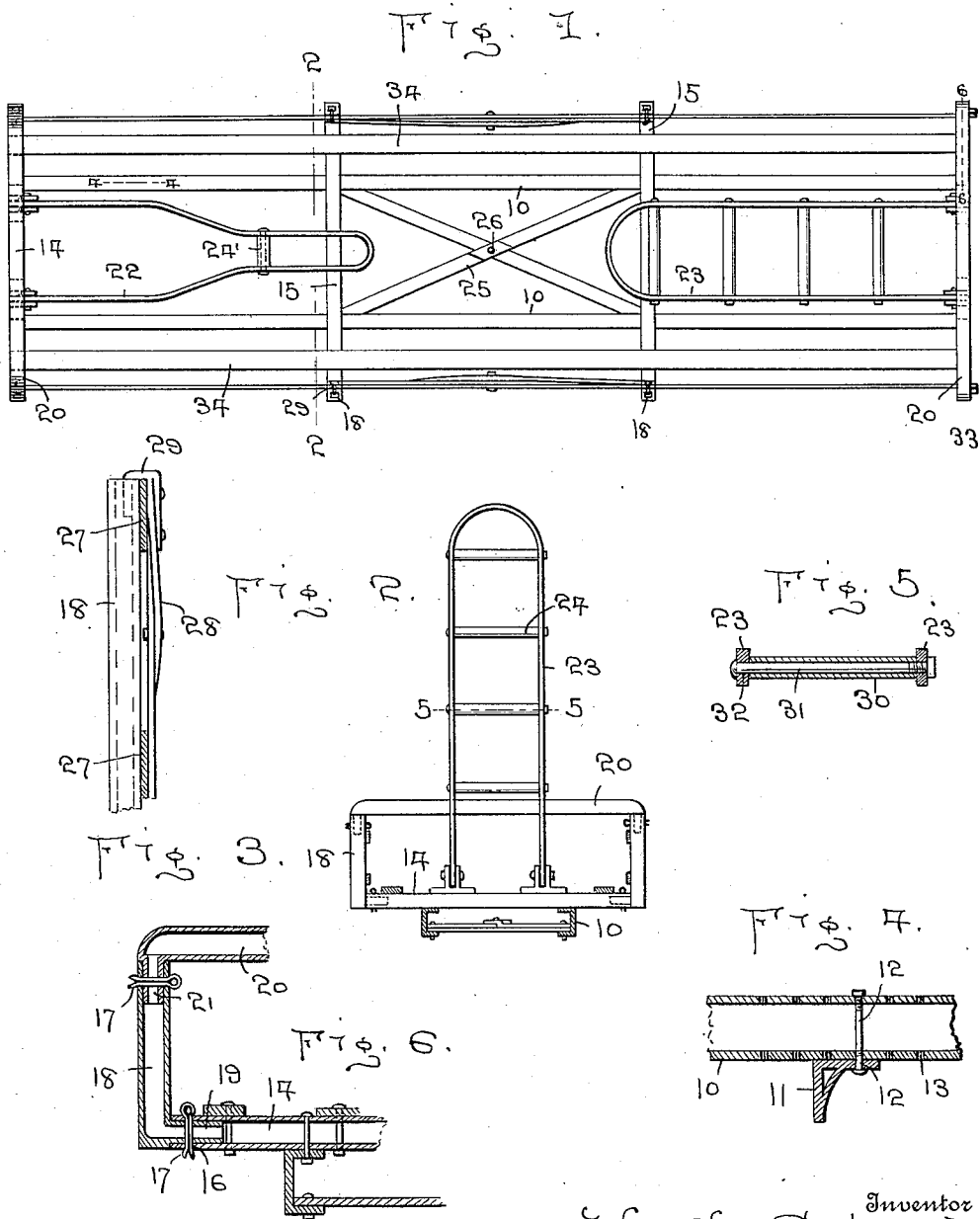


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HAY RACK.
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Witnesses

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HAY-RACK.

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To all whom it may concern:

Be it known that I, HENRY C. SCHROEDER, a citizen of the United States, residing at Charter Oak, in the county of Crawford and State of Iowa, have invented certain new and useful Improvements in Hay-Racks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to hay frames, and it more particularly relates to a load carrying frame, of improved construction, which is adapted to be fitted to a wagon, of usual construction.

An object of the invention is to provide a frame of this character, which may be quickly and easily changed and rearranged to suit the different loads, to be carried thereby.

A further object of the invention is to provide an improved hay frame which is rigid of construction, strong, durable and thoroughly efficient.

Other objects and advantages may be recited hereinafter and in the claims.

In the accompanying drawings which form a part of this application, Figure 1 is a plan view of the complete improved hay frame, in folded position. Fig. 2 is a vertical sectional view, on the line 2—2 of Fig. 1, in open position. Fig. 3 is a somewhat enlarged vertical sectional detail view of a portion of the frame. Fig. 4 is a similar detail view of another portion of the frame. Fig. 5 is a sectional view on the line 5—5 of Fig. 2, and, Fig. 6 is a fragmental sectional view on the line 6—6 of Fig. 1.

Referring to the drawings in which similar reference characters designate corresponding parts throughout the several views, the base rails 10 are adapted to be seated upon the standards of a wagon, of ordinary construction, being provided with a movable stop or keeper 11, secured thereto by a bolt 12, extending through holes 13 in said rails 10. The rails 10 are connected by front and rear end cross beams 14, and by intermediate cross beams 15, all of which are preferably made of hollow tubing or quadrangular cross sections, the end portions of each cross beam being provided with a vertical aperture 16, for the reception of a cotter key 17.

Standards 18, which are also made hollow,

are each provided with a tenon 19, adapted to fit snugly within the ends of the cross beams, and each tenon being provided with a vertical aperture, registering with the apertures 16, so that cotter keys 17 may be applied thereto, as shown, for holding the standards and cross beams together. The tops of the front standards are connected by a yoke 20, the rear standards being connected by a similar yoke 20, these yokes having depending tenons 21 which are fitted into the tops of the hollow standards and held together by means of cotter keys 17. By means of this construction, it is impossible for the standards 18 to become disconnected from the cross beams 14, even if the cotter keys thereof should lose or break.

Seated on each of the end cross beams 14, are a pair of bifurcated castings, to which are pivoted, respectively, front and rear movable end standards 22 and 23. These standards, when in folded position, as shown in Fig. 1, constitute skeleton bottom portions of the frame, and when in open position, as in Fig. 2, they coact with the yokes 20 for supporting the ends of the load carried thereby, in an obvious manner. The movable standard 23 is provided with rungs 24, so that it may also serve as a ladder, by which a driver or other person may ascend to or descend from the top of the load.

The intermediate portions of the base rails 10 are connected by cross braces 25 which are secured together at 26, so that said braces 25 cooperate with the cross beams 15 for rigidly bracing the base rails against relative longitudinal movement.

For carrying certain loads, I may find it desirable to dispense with the intermediary standards 18, while with other loads, I may employ side boards 27, which together with the cross braces 28 constitute side frames, and I may secure the side frames to the standards 18 by any proper and well known means, such as bolts or rivets, (not shown). It may be preferable, however, to provide the side frames with laterally and downwardly extending hooks 29, the downward extension of which is adapted to enter the top ends, respectively, of the intermediary standards 18.

I preferably form the ladder 23 from a single piece of flat bar iron, bent into the shape of an inverted U, so that its upper end is substantially semi-circular, thereby providing a secure anchorage for a tie-pole

or the like, which may also connect with the front movable standard 22, either through the medium of the usual tie-pole, or in any proper way; the said front standard being
 5 formed somewhat similarly to the rear standard or ladder, with a semi-circular loop at its top portion and having its sides connected by a single rung 24'.

The rungs 24 and 24' comprise sections 10 of cylindrical tubing, and bolts 31 extending through said sections and through apertures 32 in the sides of the respective standards.

In operation, assuming that the standards 15 18 and side frames 27—28 are to be used, the latter are preferably secured to the standards in the manner indicated by Fig. 3 and having their ends extending beyond the front and rear standards, respectively. The
 20 ends of the side frames are provided with lugs or keepers 33, which engage the respective forward and rearward surfaces of the end standards and relieve the end cross beams of the torsional strain that would
 25 otherwise be exerted upon them by the pressure of the load against the end standards, which are supported by the yokes 20, said yokes being supported by the end standards, and said standards being supported by the
 30 end cross beams and by the keepers 33, as described.

Seated on top of the cross beams 14 and 15, are floor or bridge boards 34, which diminish the gaps between the base rails 10
 35 and the side frames 27 and 28. While only two of the boards 34 are shown, I may employ any proper number thereof, and of any proper width, to suit varying circumstances.

Instead of the vertical standards 18, I
 40 may at times employ oblique standards, (not shown) whereby the load capacity of the frame may be increased, said oblique standards being interchangeable with the vertical standards; and when these oblique
 45 standards are used, proportionately long yokes 20 will connect the same.

It will be seen that I have provided a frame of this character, which is susceptible
 50 of numerous changes, for making it available and adaptable for carrying loads of va-

rious kinds, such for instance as baled hay, loose hay, corn fodder, barrels, boxes, etc.

I do not limit my invention to the exact details of construction, combination and arrangement of parts, as herewith described 55 and illustrated, but my invention may only be limited by a reasonable interpretation of the following claims.

What I claim is:

1. In a load carrying frame for a wagon, 60 a pair of spaced parallel base rails, a series of quadrangular hollow cross beams connecting the base rails, standards having quadrangular and horizontally extending tenons movably seated in the respective ends of the
 65 cross beams, and removable keys locking the tenons within the hollow cross beams, whereby said standards may be quickly and easily removed and easily replaced by interchangeable standards adapted for a different load
 70 carried by the frame.

2. In a load carrying frame for a wagon, parallel and spaced base rails, a series of cross beams connecting the rails, standards
 75 carried by the cross rails and having apertured upper ends, and side frames having hooks thereon for movable engagement with said apertures, whereby said side frames may be quickly and easily removed from the
 80 standards.

3. In a load carrying frame for a wagon, a pair of base rails, end cross beams connecting the rails, intermediary cross beams between the end cross beams, said end cross
 85 beams carrying end standards, said intermediary cross beams carrying intermediary standards, side frames having thereon supporting means therefor in cooperative and removable connection with the intermediary
 90 standards and having lugs thereon for removably engaging and supporting the end standards, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY C. SCHROEDER.

Witnesses:

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E. D. LYONS.