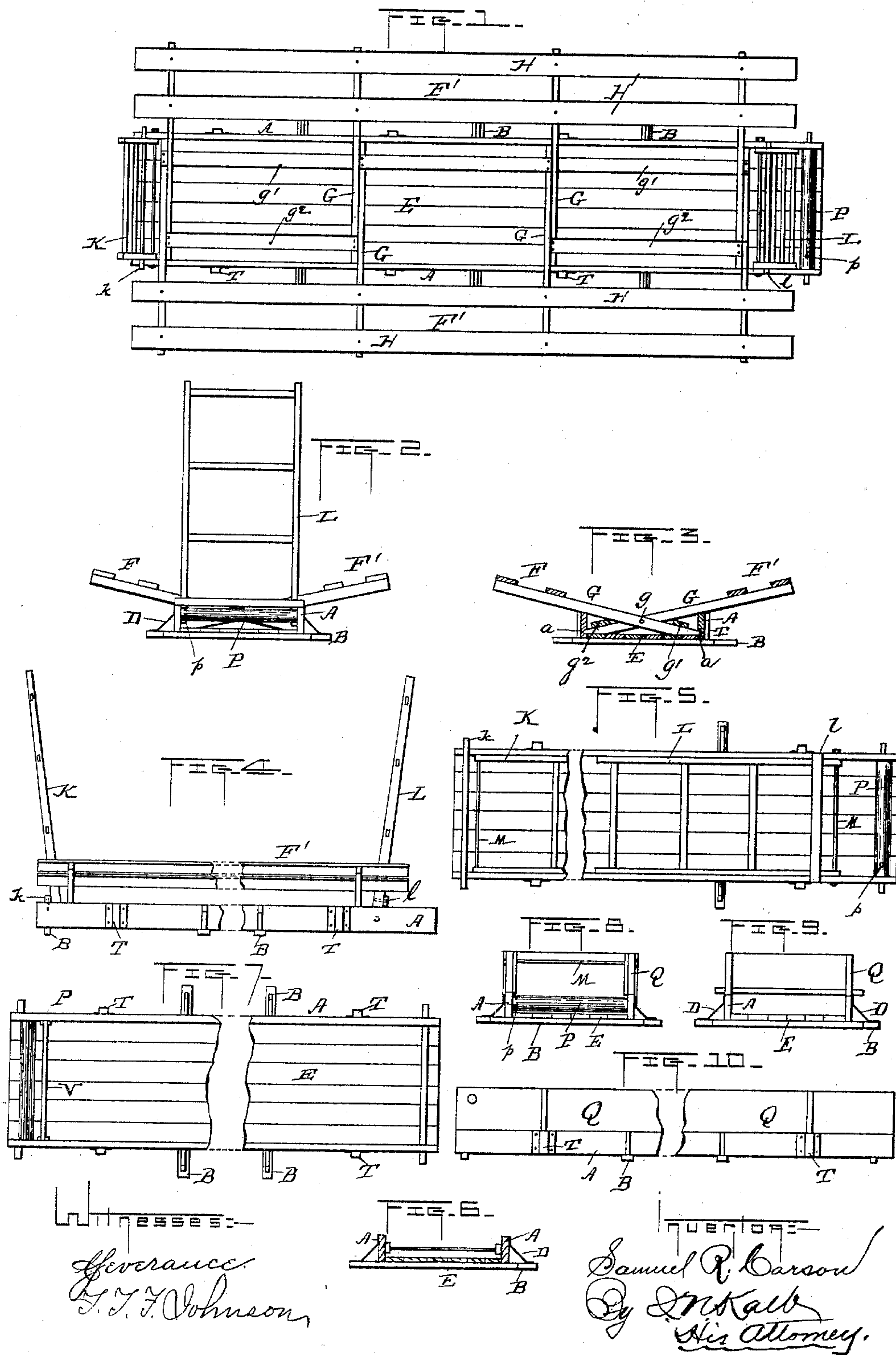


(No Model.)

S. R. CARSON.
HAY RACK.

No. 468,190.

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UNITED STATES PATENT OFFICE.

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HAY-RACK.

SPECIFICATION forming part of Letters Patent No. 468,190, dated February 2, 1892.

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To all whom it may concern:

Be it known that I, SAMUEL R. CARSON, a citizen of the United States, residing at Port Deposit, in the county of Cecil and State of Maryland, have invented certain new and useful Improvements in a Combined Wagon-Bed and Hay-Carrier; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in combined wagon-beds and hay carriers or racks, and has for its object the provision of a simply-constructed and reliable interchangeable device of this sort which shall possess all the requirements for containing and safely transporting large loads of hay or straw in a loose condition or in bundles or sheaves, as well as being capable of being quickly and readily turned into a wagon-bed for general hauling and with higher or lower sides, as may be desired.

The invention consists in the construction and arrangement of parts for accomplishing these objects, as set forth in the following detail description, and pointed out in the claim.

The accompanying drawings illustrate what I consider the best means for carrying my invention into practice.

Figure 1 is a plan view of the combined bed and hay-carrier equipped to carry a load of loose hay or straw or bundles loaded upon it. Fig. 2 is a rear end elevation of Fig. 1. Fig. 3 is a cross-section of the same, taken along-side of the transverse limbs of the racks. Fig. 4 is a side elevation of Fig. 1. Fig. 5 is a plan view of the bed with the rack removed and the ladders turned down. Fig. 6 is a transverse section of Fig. 5. Fig. 7 is a plan view of the bed with the racks and ladders removed. Fig. 8 is a rear end elevation of Fig. 10. Fig. 9 is a front end elevation of Fig. 10. Fig. 10 is a side elevation of the bed equipped with auxiliary side-boards to raise the side walls of the bed.

Similar letters of reference indicate corre-

sponding parts in all the figures where they occur.

A A are the permanent sides of the bed. E is the permanent bottom thereof, and B are transverse bottom stays or supports extending past the sides of the bed, and D are braces set between said sides and said supports B. The number and relative positions of the parts B may be varied as desired, they being old and well-known devices.

Upon the sides A, I may provide staples or ways T, whose function will be presently explained. I may also provide suitable end-boards, as shown at V, Fig. 7. As thus constructed, either with or without the addition of the staples or ways and end-boards, the bed is in condition for use in hauling such loads as baled hay, &c., where shallow sides are all that is needed. For hauling such loads a binding-rope passed over the top of the load is often used, as well as upon loose hay and straw, and to tighten such rope I provide a roller P at one or both ends of the bed, preferably at the rear, and the rope after passing over the load is brought down and attached to the roller in such manner as to be wound thereupon and tightened on the load when the roller is turned. To turn the roll a series of circumferentially-disposed openings *p* are made in the roller and can be engaged by the wagon-hammer or other suitable lever for turning the roller. When it is desired to increase the height of the side in order to enlarge the carrying capacity of the bed for loading with filled bags or loose material—such as wood, coal, lime, sand, &c.—I employ auxiliary side-boards Q, provided with standards R, which extend below said boards and are inserted in the staples T. In such case I may use a tie-rod or rod M for holding the boards Q against lateral distention. These tie-rods are also utilized as pivots for the ladders in the hay-carrier by running them through the sides A, as will presently appear.

When the device is to be used as a hay-carrier, the side-boards Q may be omitted and racks F and F' employed. These racks are formed of transverse inclined arms G and longitudinal strips or boards H, secured upon the outer ends of the arms G. The arms G of the two racks are so placed as that an arm of each

rack shall lie beside an arm of the opposite rack and are pivoted at the points where they cross each other on removable pins, as shown at *g*, and the inner ends of the arms *G* are
 5 carried down and engaged in mortises *a*, which extend only partially through the sides *A* and leave the bed tight and close when the racks are removed in the opposite sides of the bed *A*, which securely lock the racks. The inner
 10 ends of the arms *G* of each rack are connected by bars, which tie and brace them together. On one of said racks—say rack *F*—the connecting-bar *g'* couples the entire series of arms on that rack, while those on the opposite rack
 15 are coupled in pairs by means of bars *g*² and lie between the arms of rack *F*, as seen in the plan view, Fig. 1. The bars *g'* and *g*² lie below the point where the rack-arms cross each other and serve to lock the racks together
 20 while in use, the bar *g'* extends under the arms *G* of rack *F'*, and the bars *g*² lie between the arms of rack *F'*, and the weight of the load rests upon both bars *g'* and *g*². These bars *g'* and *g*² brace the arms *G* laterally and
 25 prevent the weight of the load from spreading them and tearing and destroying the mortises in the sides of the bed.

K and *L* are respectively front and rear ladders used with the hay-carrier. They are
 30 pivoted in the sides *A* by passing the tie-rods *M* through them and are supported in standing position by means of the stops *k* and *l*, which may be attached in the front ladder to the sides *A* and extend across the path of
 35 the ladder, or, as in the rear ladder, may be in the form of a bar of greater length than the width of the ladder to extend out on both

sides thereof and be secured thereto to meet the sides *A* when the ladder *L* is in proper upright position. The manner of stopping or
 40 supporting the front ladder at proper position may be the same as that employed at the rear. The bars or stops *k l* do not interfere with the ladders being dropped into the bed when not in use.

The tightening-roller *P* may be used with the hay-carrier either with or without the usual pole.

When the tie-rods are removed from the ladders and the pivots from the inclined arms
 50 of the hay-racks, these parts can be separated from the bed and from each other and removed by one man with ease.

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

In a device of the kind described, the combination of a bed having mortises *a* in the side-boards, racks *F* and *F'*, pivoted together and having arms *G* extending into and across
 60 the bed and resting upon the side-boards thereof on one side and engaged with the mortises *a* on the opposite side, and a continuous bar *g'*, secured to the arms of one rack, and bars *g*², secured to the arms of the other rack be-
 65 low the point where said arms cross each other, as set forth.

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

SAMUEL R. CARSON.

Witnesses:

JOHN SQUIER,
 W. H. CARSON.