

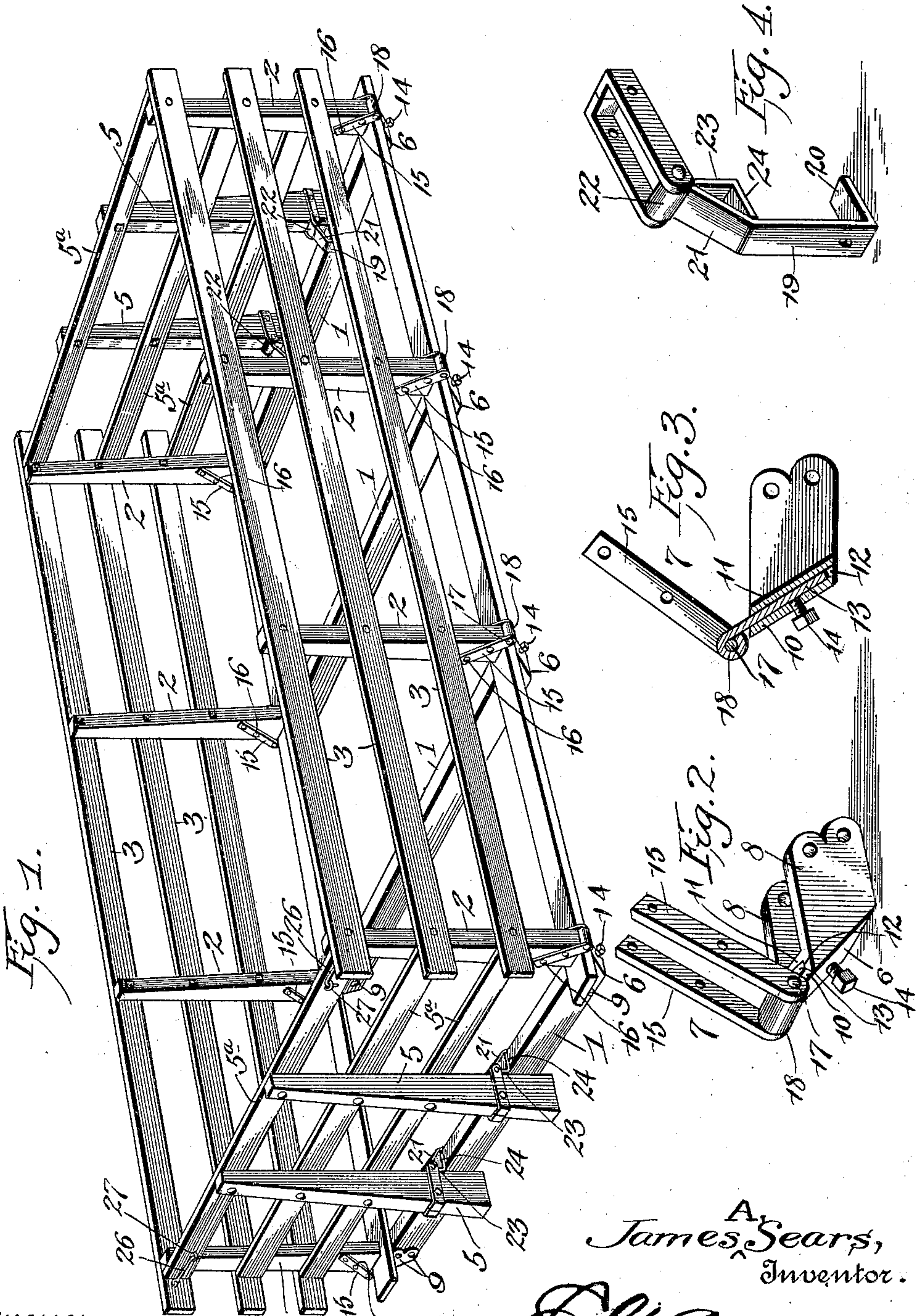
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Patented Dec. 12, 1899.

J. A. SEARS.
HAY OR STOCK RACK.

(Application filed June 1, 1899.)

(No Model.)



Witnesses
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By

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UNITED STATES PATENT OFFICE.

JAMES ANDREW SEARS, OF GRAND HAVEN, KANSAS.

HAY OR STOCK RACK.

SPECIFICATION forming part of Letters Patent No. 639,102, dated December 12, 1899.

Application filed June 1, 1899. Serial No. 719,083. (No model.)

To all whom it may concern:

Be it known that I, JAMES ANDREW SEARS, a citizen of the United States, residing at Grand Haven, in the county of Shawnee and State of Kansas, have invented a new and useful Hay or Stock Rack, of which the following is a specification.

This invention relates to hay and stock racks for wagons, and has for its object to provide simple and novel means for connecting the side and end frames and uprights to the cross-pieces of the body, whereby the sides may be readily placed in position and removed therefrom, and the ends folded down inward and flatwise upon the bottom of the rack.

The invention also contemplates a novel construction of means whereby the members or parts of the hinge may be quickly and properly associated, so that the sides will stand in the proper relation to the bottom rack.

These and other objects of the invention will appear more fully in the course of the subjoined description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a hay or stock rack constructed in accordance with the present invention. Fig. 2 is an enlarged detail perspective view of one of the side hinges. Fig. 3 is a vertical section therethrough, taken longitudinally of one of the bottom cross-pieces. Fig. 4 is a detail perspective view of one of the end hinges.

Similar numbers of reference designate corresponding parts in all the views.

In the accompanying drawings, 1 designates the cross pieces or levers forming part of the bottom of a hay or stock rack, to be permanently or removably mounted upon a suitable truck. The sides and ends are hinged to the bottom of the rack and to the cross-pieces thereof, the sides being composed of a series of uprights 2, connected by horizontal slats or panels 3. The ends are likewise composed of standards or uprights 5, connected by slats or panels 5^a, the slats in

both instances being bolted or otherwise rigidly secured upon the uprights.

The uprights 2 of the sides are connected by hinges to the projecting ends of the cross pieces or beams 1. Each hinge is composed of two members 6 and 7. The member 6 is in the form of a metal socket-piece, which projects beyond the end of its respective cross-piece 1, and is provided with oppositely-located pairs of parallel inwardly-extending ears 8, which embrace the end of the cross-piece and receive the bolts or other fastenings 9, which pass also through the end of the cross-piece. The body portion of the member 6 is set oblique, and comprises an outer wall 10 and an inner wall 11, which extend in parallel relation to each other and which are set at a sufficient distance from each other to leave an intervening space or socket 12 for the reception of the tongue or extension-plate 13 of the other member of the hinge, which when in place therein is securely held by means of a binding-screw 14, passing through the outer wall of the socket-piece and engaging said tongue or extension-plate, thus enabling the said tongue to be adjusted so as to bring the upper member 7 of the hinge and the upright connected thereto into the proper relation to the lower member of the hinge and the bottom or flooring of the rack.

The upper member 7 of the hinge is shown for convenience as composed of two plates 15, arranged on opposite sides of their respective upright and securely connected thereto by means of bolts or other suitable fasteners 16. These plates are also set oblique or at an inclination, and their lower ends project below and outside of the upright and receive a bolt or pivot 17, which passes through a knuckle or sleeve 18, formed on the upper end of the tongue or extension-plate 13. By the construction described the sides may be readily removed by loosening screws 14 and sliding the tongues 13 out of the sockets in the lower members of the hinges, the sides being replaced by simply reversing the operation above described. By disposing the tongue-and-socket connection obliquely or at an inclination to the vertical the removal and application of the sides is greatly facilitated, rendering it practicable to detach the sides

while standing upon the ground. The construction also enables the sides to swing downward and hang without bearing or pressing against the ends of the cross-pieces or bottom of the rack.

The hinge which connects the end uprights to the end cross-pieces is composed of an angle-iron constructed, preferably, of a metal strap, which is bent to form a vertical portion 19, bearing against the inner surface of the end cross-piece, the lower end being bent to form a foot-piece 20, which engages against the upper side of the cross-piece. The upper portion of the hinge member is extended outward obliquely, as shown at 21, to a point outside of the flange of the outer surface of the cross-piece, where it is bent to form an eye or loop 22 for the reception of the hinge-pin or pivot, after which it is bent downward to form a short brace 23 and then bent substantially at right angles to form a horizontal terminal portion 24, which rests upon the upper surface of the cross-piece. The hinge member just described is rigidly connected to the cross-piece by means of a bolt or other fastening passing through said parts. The other member of the hinge just described is similar to the member 7, hereinabove described, and is applied to the end upright in the same manner and connected by means of a pin or bolt with the lower member of the hinge. Owing to the particular location of the hinge-pin the end frames of the rack may be folded inward and downward to lie flatwise upon the bottom of the rack. When the sides and ends are in position, they are locked together by means of hooks 26, applied to one part and engaging the eyes or staples 27 on the abutting part.

From the foregoing description it will be seen that I have provided simple means for facilitating the conversion of an ordinary flat truck or wagon into a hay or stock rack. It is not necessary to remove the ends, and provision is therefore made for allowing them to be folded downward flatwise upon the bottom of the body. It is, however, important and desirable to get rid of the sides, and provision has therefore been made for readily and quickly detaching said sides, and this may be accomplished by the operator while standing on the ground, the advantage of which will be specially noticeable when the wagon or rack is loaded, as the sides may first be swung outward and subsequently removed.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described irons for hay-racks will be apparent to those skilled in the art without further description, and it will be understood that changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a hay or stock rack, the combination with a base-timber, of a hinge member secured to the extremity thereof and provided with an obliquely-disposed socket, an upright or standard, and a second hinge member having an oblique tongue or extension to enter said socket.

2. In a hay or stock rack, the combination with a base-timber and upright, of a hinge comprising a member applied to the end of the base-timber and involving an obliquely-disposed socket, another member comprising parallel plates secured to the upright, and a tongue or extension pivotally connected to said plates, and adapted to enter said socket.

3. In a hay or stock rack, a rack-bottom, and detachable sides, in combination with connecting-hinges, each comprising two members separable in their applied positions, one member being provided with an unobstructed socket, and the other with a smooth pivoted tongue or extension adapted to be slid into and out of and entirely removed from said socket, and a binding-screw passing through the socket member and bearing against said tongue, substantially as described.

4. In a hay or stock rack, the combination with the rack-bottom, and detachable sides, of connecting-hinges, each comprising two members one having a socket which is oblique with relation to the length of its member, and the other provided with a pivoted tongue or extension to enter said socket, substantially as specified.

5. In a hay or stock rack, the combination with a bottom, and hinged upright ends thereof, of connecting-hinges each comprising two members one of which is bent to embrace three sides of the timber to which it is applied, said member being formed with an obliquely-extending portion terminating in an eye or knuckle, substantially as and for the purpose specified.

6. In a hay or stock rack, the combination with a bottom and hinged upright ends, of hinges each comprising two members, one of which is formed of a metal strap bent to embody a vertical portion, a foot-piece at the lower end thereof, an oblique portion at the upper end thereof, a knuckle at the end of the oblique portion, a depending short vertical portion, and the horizontal terminal portion extending inward toward the body of the hinge member, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES ANDREW SEARS.

Witnesses:

H. E. VALENTINE,
CLARKE G. DAILEY.