(No Model.) 2 Sheets—Sheet 1.

E. N. AVERY.

COMBINED HAY AND STOCK RACK.

No. 526,173. Patented Sept. 18, 1894.

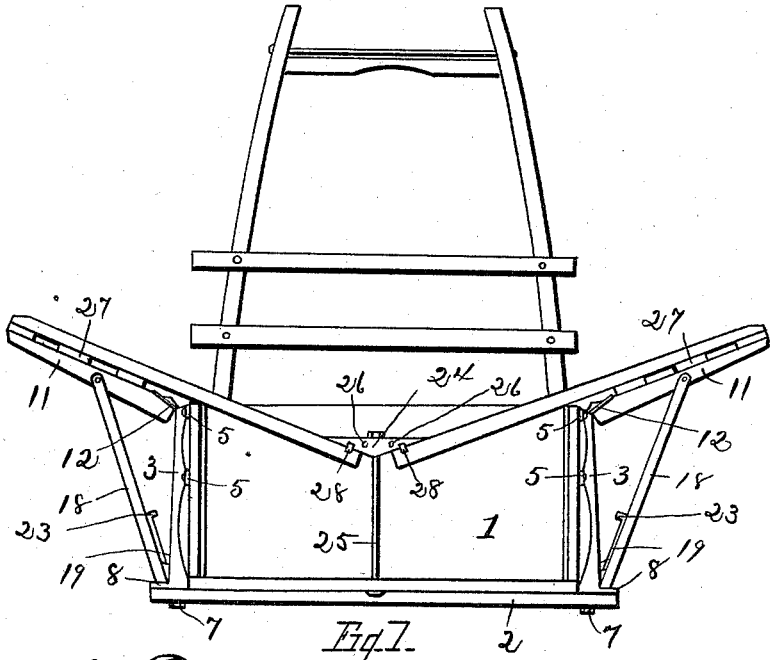

Fig. 1.

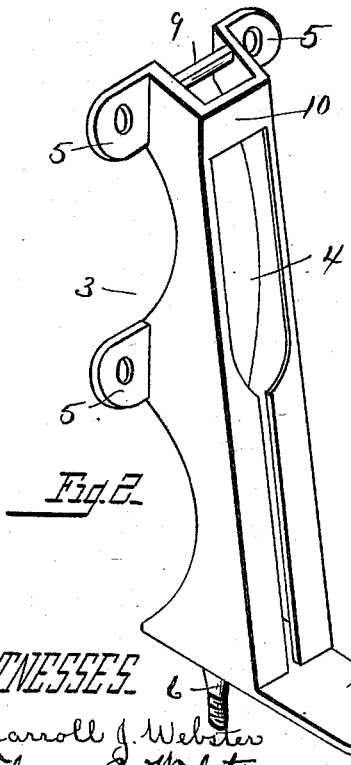

Fig. 2.

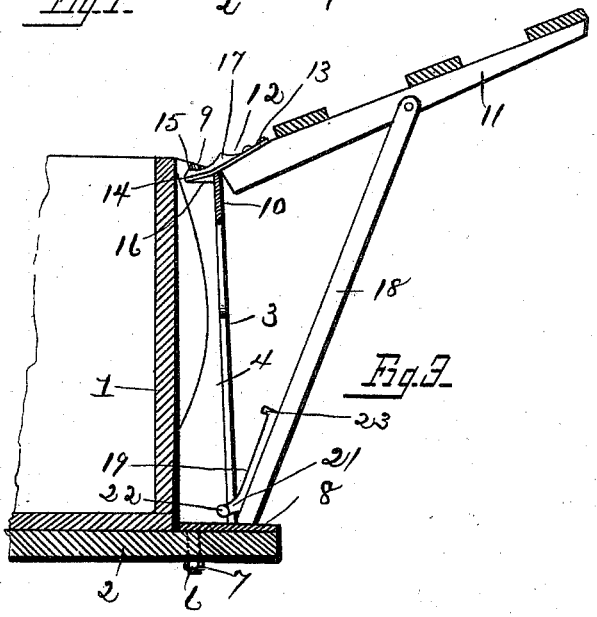

Fig. 3.

WITNESSES.
Carroll J. Webster
Floyd R Webster

INVENTOR.
Edward N Avery
By William Webster
atty

(No Model.) 2 Sheets—Sheet 2.

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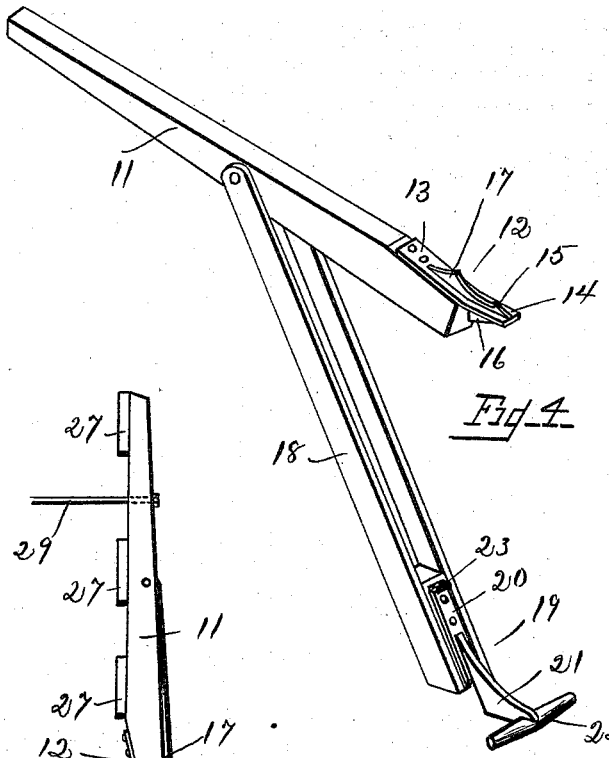

Fig. 4.

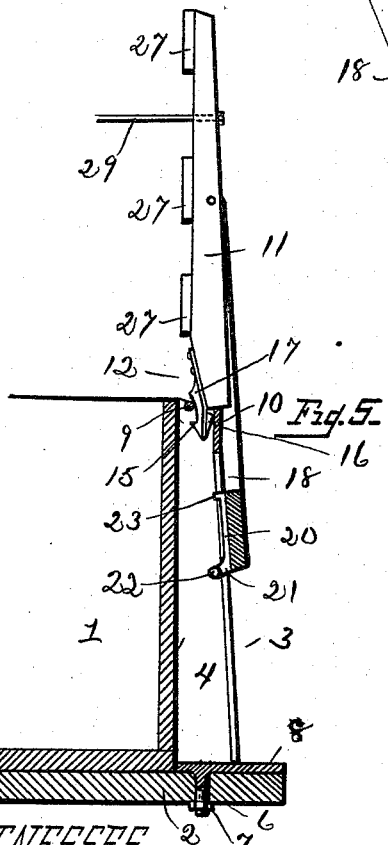

Fig. 5.

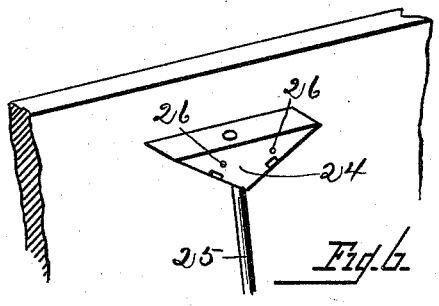

Fig. 6.

WITNESSES.

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Floyd R Webster

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Edward N Avery

By William Webster

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UNITED STATES PATENT OFFICE.

EDWARD N. AVERY, OF TECUMSEH, MICHIGAN.

COMBINED HAY AND STOCK RACK.

SPECIFICATION forming part of Letters Patent No. 526,173, dated September 18, 1894.

Application filed July 20, 1893. Serial No. 481,146. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. AVERY, of Tecumseh, county of Lenawee, and State of Michigan, have invented certain new and useful Improvements in a Combined Hay and Stock Rack; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 figures of reference marked thereon, which form part of this specification.

My invention relates to a combined hay and stock rack, and has for its object to simplify the construction and cheapen the manufacture by a novel arrangement of the parts, by which the elements are assembled to form a hay rack, or adjusted for transporting stock.

A further object is to form of metal a combined brace and slide holder, and a coacting slide arm for attachment to the rack arms, whereby the side racks are firmly sustained in position when extended, and readily folded to form a stock rack, the slide and holder being of a construction to allow of dispensing with the usual brace upon the end rack arms.

The invention consists in the parts and combination of parts hereinafter described and pointed out in the claims.

In the drawings: Figure 1 is an end elevation of a complete rack. Fig. 2 is a perspective view of a combined brace and slide holder. Fig. 3 is a front elevation of a section of the wagon box, showing the brace and slide holder in position, and the brace and side rack in connection therewith. Fig. 4 is a detached view of the rack arm, brace, and slide, showing also the catch upon the end of the rack arm. Fig. 5 is a section of the box in front elevation, showing the side rack in raised position to form a stock rack. Fig. 6 is a section of the end board showing the inclined block for sustaining the inner ends of the end rack arms.

In constructing a convertible hay and stock rack it is desirable that the parts be of a character that the side racks may be conveniently attached to the wagon box, raised to form a stock rack, lowered to form a hay rack, or readily removed from the box. In the construction described, I have accomplished these objects by means of attachments to the box and rack arms that allows of a ready attachment and removal, and at the same time reduces the cost to a minimum.

1 designates the wagon box; 2, the transverse bars beneath the same for supporting the bottom boards. In the ordinary construction of boxes, there are straps secured to the side boards which extend through the transverse bars 2 and have threaded ends upon which nuts are run, and braces are employed, which extend from the ends of the bars 2 to the straps.

3 designates a combined strap brace and slide holder, comprising a shell, rectangular in cross section, forming a chamber 4 throughout the entire length. Strap 3 is secured to the side of the wagon box by means of bolts or rivets passed through right angled ears 5, and the box, and a threaded projection 6 integral with the base is passed through a perforation in the transverse bar 2, and the bar is drawn to its place by means of a nut 7 upon projection 6. In order to thoroughly brace the side board of the box, strap 3 is formed with a base 8, which projects beyond the shell, and rests upon the transverse bar 2, this base also serving as a rest for the brace of the rack arm. Strap 3 is formed with an opening extending from near the top of the front side to approximately midway its length, and from this point is slotted centrally to the base, and at the top has a transverse rod 9 extending across the shell slightly above the solid portion 10 of the front side.

11 designates the rack arms designed to be secured upon the box as shown in Fig. 5 to form a stock rack, and are equipped with a metal plate 12 upon their inner ends for engagement with rod 9 of strap 3. Plate 12 is formed with a strap portion 13 for attachment to the rack arm, and an end portion 14 which projects beyond the end of the rack arm, having a hook 15 upon the upper side to engage rod 9, and a projection 16 upon the lower side to engage the inner side of the solid portion 10 of the strap, the hook 15 and projection 16 being so arranged that the portion of strap is drawn closely between the end of the rack arm and projection 16, thereby closely assembling the parts, when extended to form a hay

rack, and an inclined projection 17 upon the upper side of the plate forces the projection against portion 10, when the side arms are in vertical position to form a stock rack.

18 designates a brace pivotally connected with the rack arm, and having on its lower end a metal slide 19, formed with a plate 20 for attachment with the brace, a web 21 to run in the slot in the strap, and a T head 22 to bear against the inner side of the front of the strap, the head 22 being of a length to admit of passing the same into the opening in the upper portion of the strap, when assembling the parts. Slide 19 is formed with a right angled portion 23, which contacts with the solid portion 10, should the rack arm be raised vertically, thereby preventing the side rack from displacement by reason of the jolting of the wagon box. I have provided means for dispensing with the strap, and brace upon one or both ends of the wagon box and rack if desired, thereby reducing the cost to a minimum, in which event, if the straps and braces are dispensed with at both ends, I employ preferably two straps and braces upon each side of the box, and secure upon the front and rear end boards a V shaped block 24 preferably held from vertical displacement by a rod 25 having a thread and nut upon one end and a head upon the opposite end, and pass the rod through the bottom of the box, and through the block, and secure the block to the end board by bolts or rivets 26. In thus constructing the rack, the rack boards 27 are secured upon the under side of the end rack arms in order to allow for the thickness of the side boards of the box, when the side racks are elevated, the boards 27 being upon the upper side of the intermediate rack arms.

In order to hold the end rack arms from displacement from block 24, I form holes upon the under side of the block, and secure dowels 28 in the upper side of the rack arms, which enter the holes in the block. In operation, to assemble the parts, the slide 19 is passed through the opening in strap 3, and the web run into the slot. End 14 of the plate 12 is passed beneath rod 9, and the hook 15 engages therewith, bringing projection 16 against the portion 10 of strap 3, when the slide passes downward into the chamber of strap 3, until the end of the brace rests upon plate 8, and the end rack arms bear upon block 24 with the dowels entering the holes therein, and the racks are firmly supported.

To form a stock rack, it is only necessary to lift upon the under side of the side racks, and the rack arms swing upon the brace pivot until vertical, the slide 19 riding up the inner side of the strap, and the end 14 of the strap passes down between the bolt and portion 10 of the strap, until projection 16 contacts with portion 10. The side racks are held in position when elevated by a rod 29, or in any other preferred manner, as the tension thereon causes the head 22 of the slide to bear against the inner side of the strap, thereby holding the racks firmly.

It will be seen that the metal parts are inexpensive of construction, that the adjustment of the racks to the box is easily accomplished, and that change from hay to stock rack is but the work of a moment.

What I claim is—

1. In a convertible hay and stock rack, the wagon body, castings secured thereto having a longitudinal chamber, an opening thereto and a slot communicating with the opening, removable rack arms having hooks upon the inner ends for engagement with the casting, and a brace pivotally secured to the same having a T head upon the lower end of a size to pass through the opening in the strap, and a web to pass in the slot.

2. In a convertible hay and stock rack, the wagon body, castings secured thereto having a longitudinal chamber, an opening in the front side of the casting and a communicating slot, said opening extending to near the top of the casting having a cross piece at the top, a pin extending across the top of the casting from side to side, rack arms having ends which extend between the cross piece, and pin having a depending projection for engagement with the cross piece and a hook for engagement with the pin, whereby the cross piece is held to the casting, braces pivotally secured to the rack arms, the lower ends of which are provided with T heads of a size to pass through the opening, and a web to pass in the slot.

3. In a convertible hay and stock rack, a wagon body having cross pieces, castings having a longitudinal chamber and a foot upon the lower end of the same, ears upon the sides of the casting through which and the body pass bolts to secure the same to the wagon body, and an integral threaded projection upon the lower side of the foot extending through the cross piece, having a nut secured thereon whereby the casting is secured to the body, and the body and cross pieces are held in rigid assembled positions, and a rack secured to the casting.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

EDWARD N. AVERY.

Witnesses:
WALTER P. BURRIDGE,
CHARLES BURRIDGE.