

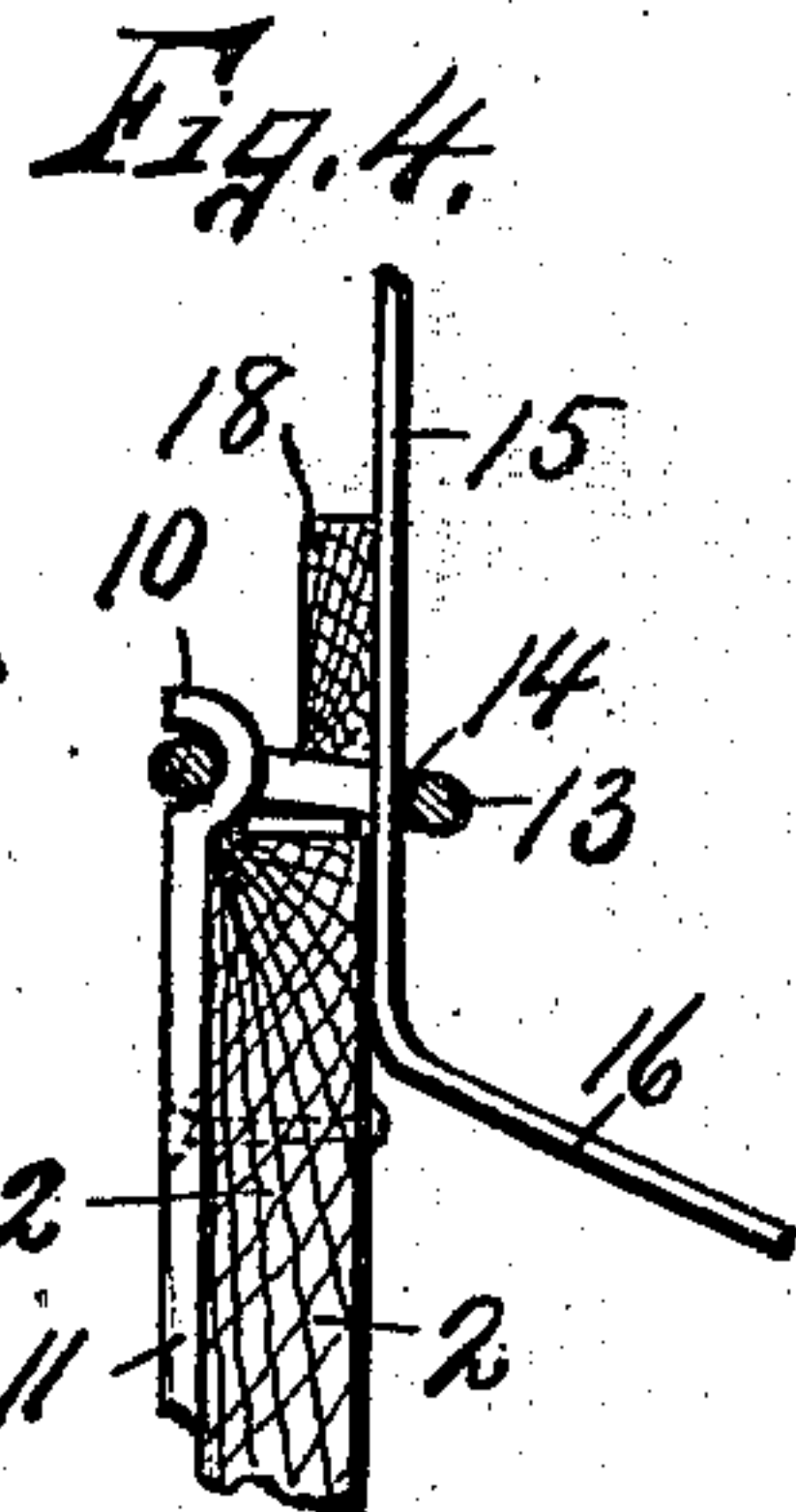
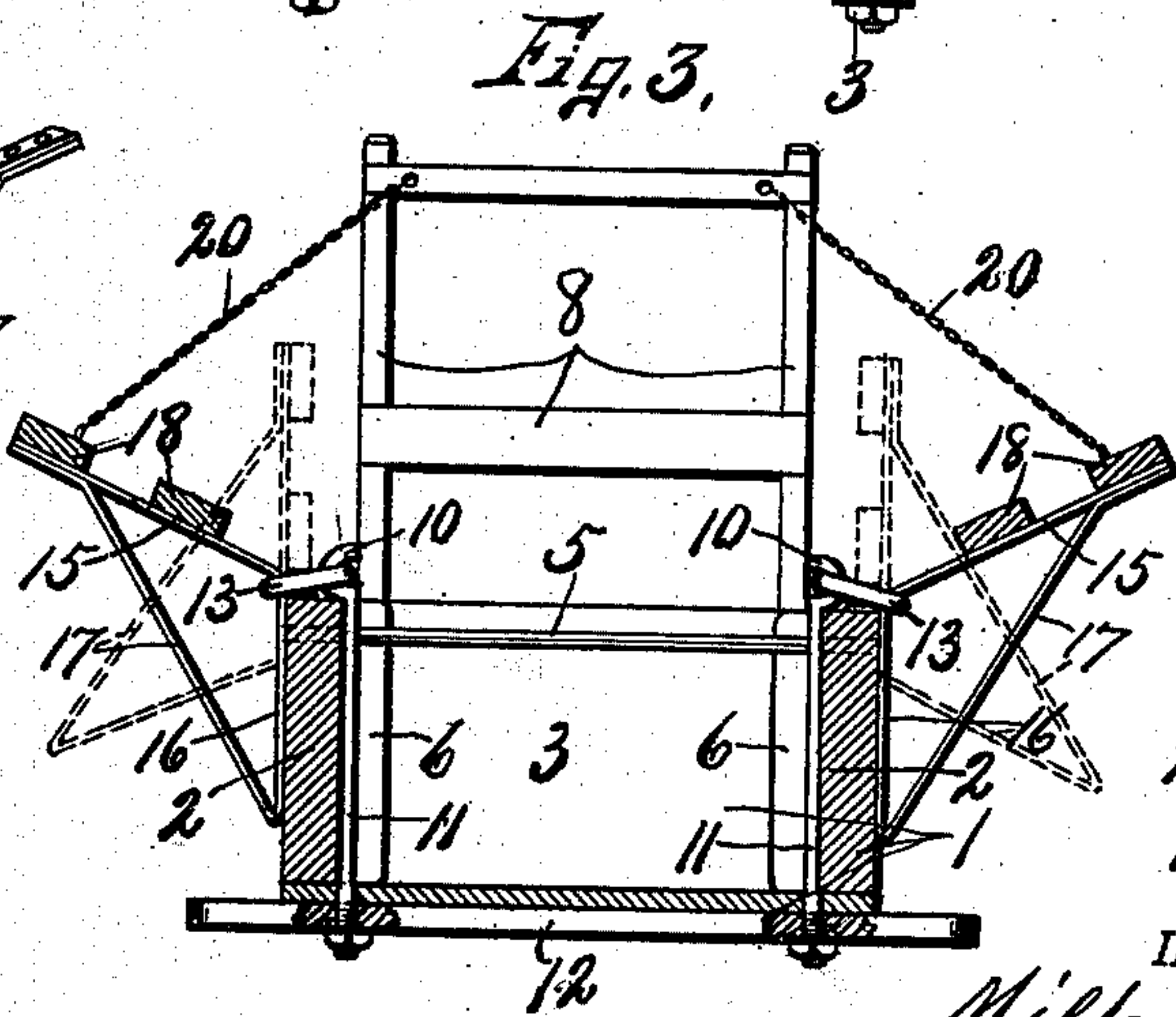
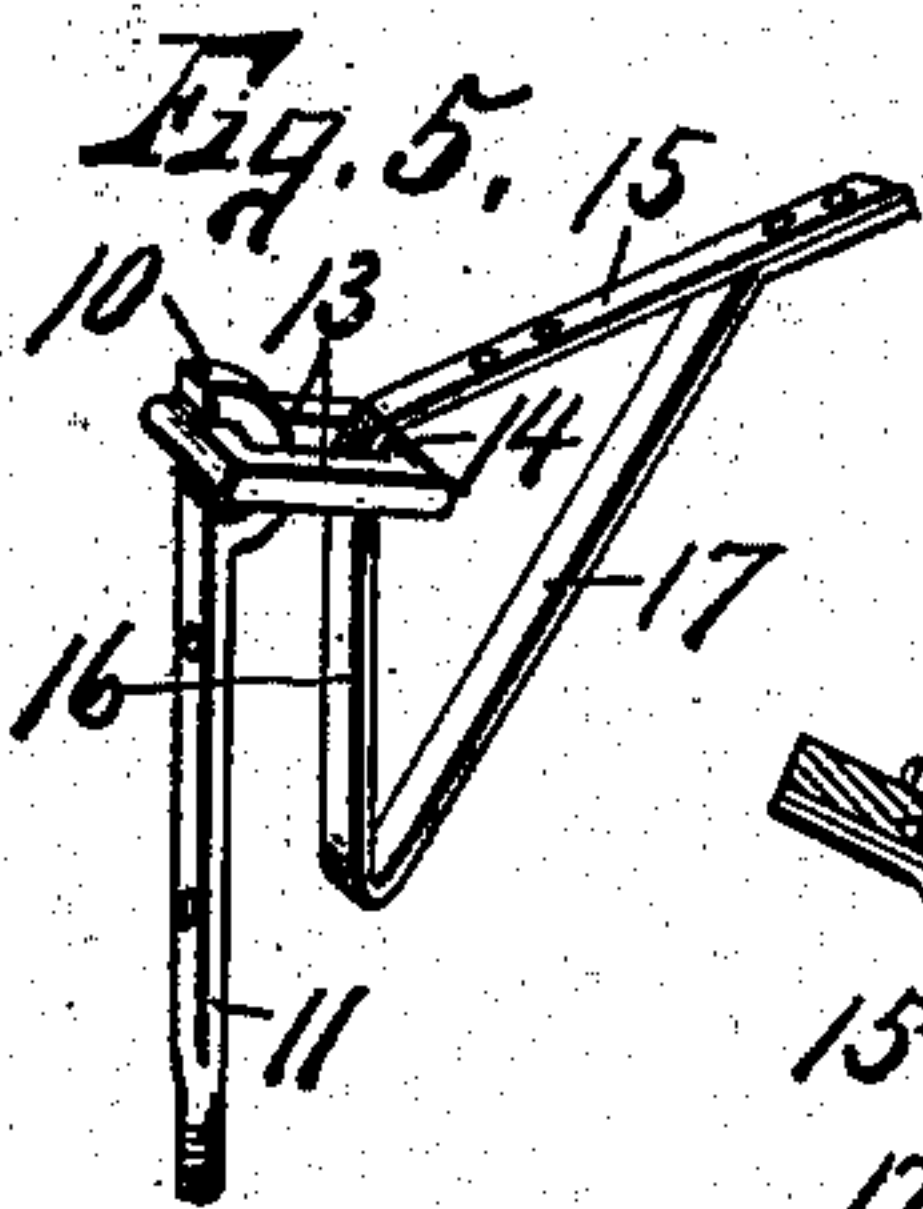
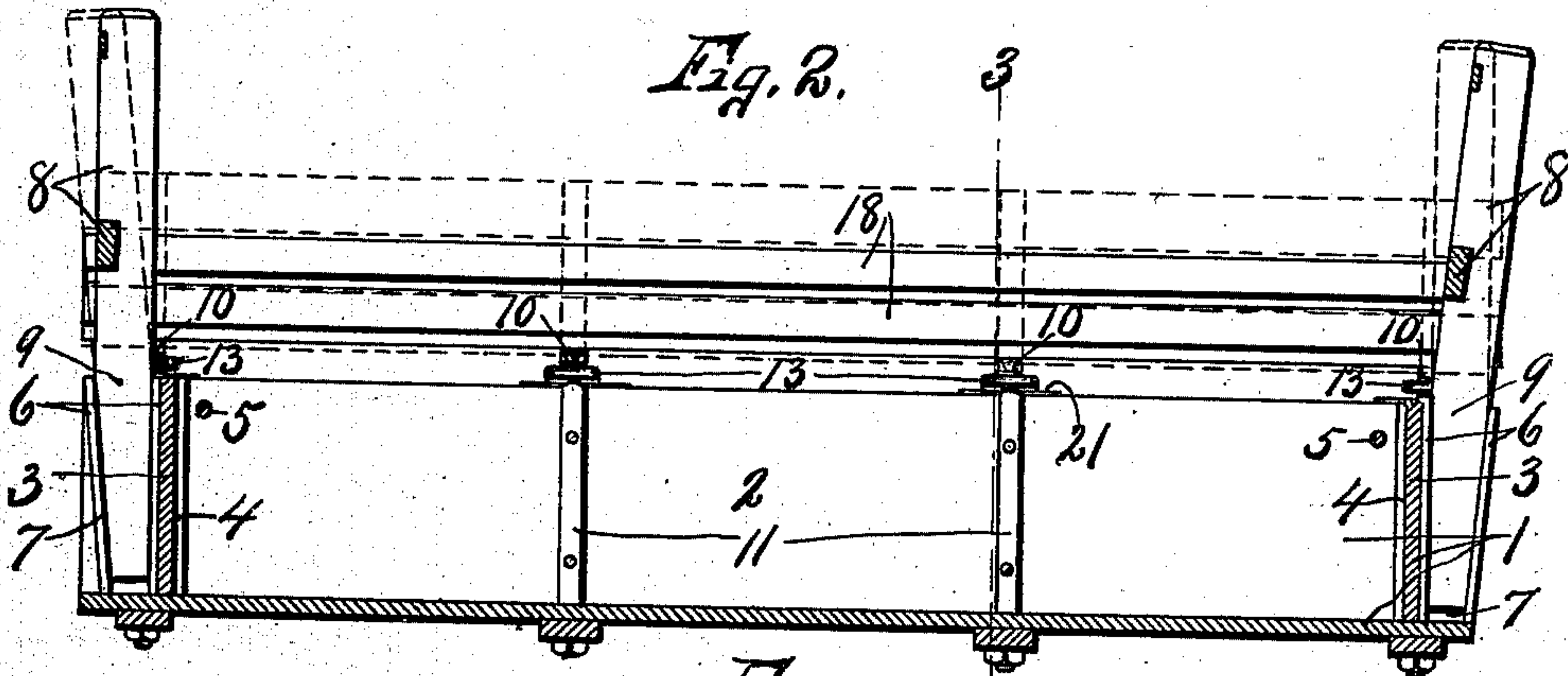
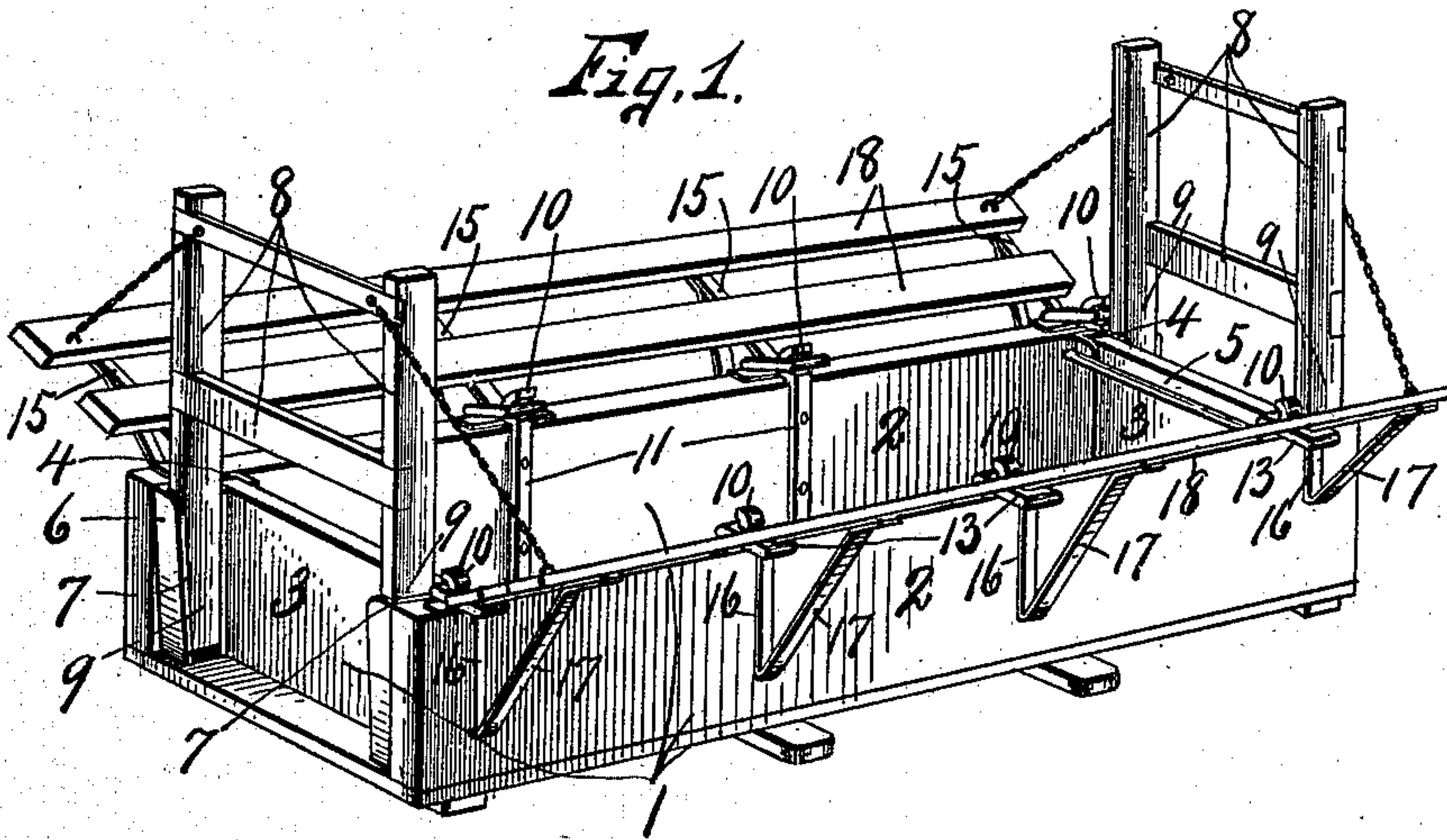
No. 714,535.

Patented Nov. 25, 1902.

M. TIDD.  
WAGON.

(Application filed Sept. 10, 1902.)

(No Model.)



WITNESSES:

J. H. Arthur,  
W. C. Chace

INVENTOR

Milton Tidd

BY

Smith & Hudson  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

MILTON TIDD, OF SENECA FALLS, NEW YORK.

## WAGON.

SPECIFICATION forming part of Letters Patent No. 714,535, dated November 25, 1902.

Application filed September 10, 1902. Serial No. 122,855. (No model.)

*To all whom it may concern:*

Be it known that I, MILTON TIDD, of Seneca Falls, in the county of Seneca, in the State of New York, have invented new and useful Improvements in Wagons, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in wagons, and refers more particularly to a convertible hay and stock rack and specific means for supporting the side-wall extensions and end ladders of the wagon-box.

One of the objects of this invention is to provide connections between the extensions and side walls of the box, whereby the extensions may be readily removed or placed in position, or when the extensions are in operative position they may be readily adjusted to the position adapted for a hay-rack or to that adapted for use as a stock-rack, the supports for the rack-bars of the extensions forming braces whereby the extensions are held in either position.

Another object is to provide opposite end ladders with tapering legs cooperating with suitable tapering guides secured to the ends of the box to hold the ladders in operative position without bolts or other securing means and to permit said ladders to be reversed in one set of guides for supporting the ladder in different planes and also to permit the ladders to be interchanged from one end of the wagon-box to the other.

To this end the invention consists in the combination, construction, and arrangement of the parts of a convertible hay and stock rack, as hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a wagon-box provided with my improved convertible hay and stock rack. Fig. 2 is a longitudinal vertical central section through the device seen in Fig. 1. Fig. 3 is a sectional view taken on line 3-3, Fig. 2. Fig. 4 is an enlarged detail section through one of the links which connects one of the braces of the extension to its hook, the extension being shown in its upright position for carrying stock. Fig. 5 is a perspective view of one of the detached hooks and the link and brace connected thereto.

Similar reference characters indicate corresponding parts in all the views.

In carrying out the objects of my invention I employ a wagon-box 1, having the usual side and end walls 2 and 3, the end walls being interposed between the opposite ends of the side walls and are held in this position in suitable vertical guides 4, the opposite ends of the side walls being drawn firmly into engagement with the ends of the end walls by clamping-bolts 5, which are passed through apertures in the side walls and extend transversely of the wagon-box at the inside of the end walls and in proximity thereto.

The guides 4 for the end walls 3 are formed in metallic cleats 6, which are arranged in pairs, one pair at each end of the wagon-box, and are secured to the inner faces of the side walls of said box, each of these cleats being also provided with additional guides 7, which are disposed between the end walls 3 and the adjacent ends of the side walls for receiving suitable ladders 8, hereinafter described.

One wall of each of the guides 7, preferably the inner wall, is disposed in a vertical plane, while the outer wall diverges from the inner wall upwardly and outwardly, thus forming a tapering guide or socket tapering in the direction of the side walls of the box.

The ladders 8 are adapted to be removably supported in the guides 7 and are each provided with a pair of depending legs 9, having corresponding edges at one side inclining upwardly from the bottom at substantially the same degree of inclination as the outer walls of the groove 7, so that when the ladders are inserted in said grooves the ladder will assume an upright or substantially vertical position, and when it is withdrawn and reversed and then reinserted in the guides 7 the ladder will assume a position in a different plane inclining upwardly and outwardly from a vertical plane. The guides 7 at both ends of the wagon-box are substantially identical and also the ladders 8, and it is therefore apparent that these ladders are interchangeable at opposite ends of the wagon-box and that they may be reversed in the same pair of guides, so that they will stand either in a vertical plane or in outwardly-diverging planes relatively to each other.

Secured to each of the side walls 2 of the



wagon-box are a series of hooks 10, having their open sides facing each other and are disposed in a plane slightly above the inner edges of the side walls 2. The end hooks are preferably formed integral with the metal cleats 6 and are usually disposed at one side of and in vertical alinement with the vertical wall of the guide or socket 7 for a purpose hereinafter described, while the intermediate hooks 10 form continuations of suitable straps 11, which are secured to the inner faces of the side walls 2 and extend through the bottom wall of the wagon-box and also through cleats 12 at the underside of the bottom wall of the wagon, the lower ends of said straps being threaded and engaged by suitable nuts for additionally stiffening the side walls and bottom wall.

Detachably engaged with the hooks 10 are links 13, which overhang the upper edges of the side walls and extend slightly beyond their outer side faces, so as to form a vertical guide or opening 14 between the outer end bars of the links and adjacent upper faces of the side walls 2, the object of which will appear later in the description.

Interlocked with the links 13 and movable independently of and within the opening of said links are triangular braces each consisting of united bars 15 and 16, disposed at an angle with each other and having their free ends connected by a brace-bar 17. Secured to these braces at opposite sides of the wagon-box and particularly to the arms 15 are lengthwise bars 18, which are arranged substantially parallel with each other and with their respective side walls of the box and form continuations or extensions of said side walls to be supported either in a vertical position or at an angle with the side walls. These bars 18, together with the braces to which they are secured, form the wings or extensions of the side walls of the box, said arms being of substantially the same length as the side walls and fold upwardly and outwardly at the side edges of the ladders 8.

The outer ends or transverse bars of the links 13 form suitable bearings upon which the braces of the wings or extensions rock, and the openings between said transverse bars of the links and the adjacent faces of the side walls of the box permit the arms 15 and 16 to be moved vertically therein, and when the extensions are rocked outwardly to the position shown in full lines in Figs. 1 and 3 of the drawings the arm 16 depends beneath the links 13 and rest against the outer faces of the side walls 2, while the upper ends of the arms 16 are held from outward movement by the outer transverse bars of the links, and the adjacent ends of the arms 15, being at an angle with the arm 16, rest upon said transverse bars of the links and hold the extensions from further downward movement. It is therefore apparent that the braces, including the arms 15, 16, and 17, not only

form supports for the lengthwise bars 18, but also serve as hinge-sections upon which the extensions rock, the brace-arms 17 serving to resist downward pressure at the outer edges of the extension when used as a hay-rack. On the other hand, when it is desired to use the extensions as a stock-rack said extensions are rocked upwardly, so that the arms 15 and bars 18 are in a substantially vertical position, whereupon the lower ends of the arms 15 are free to be moved downwardly through the links and engage the outer faces of the side walls of the box, there being sufficient space between the junctions of the bars 15 and 16 of each brace and the inner or lower edges of the inner or lower bars 18 to form a strong bearing for the extensions against the side walls of the box when the arms 15 are in a vertical position, as shown by dotted lines in Fig. 3, to be used as a stock-rack. In this position the lower edges of the inner bars 18 rest upon the upper faces of the links and hold the extensions from further downward movement, while the outer transverse bars of the links and the engagement of the lower ends of the arms 15 with the outer faces of the box prevent the outward movement of the extensions. In order to further support the outer side edges of the extensions or wings when adjusted at an angle with the side walls of the box for use as a hay-rack, I provide suitable cables or chains 20, having corresponding ends connected to the ladders 8 and their opposite ends detachably connected to the outer bars 18.

In the operation of my invention, assuming that the extensions are in the position seen by full lines in Fig. 3 and being used as a hay-rack and it is desired to convert the device into a stock-rack, it is simply necessary for the operator to rock the extensions upwardly, so that the arms 15 are in a substantially vertical position, whereupon said extensions automatically drop by their own gravity to the position shown by dotted lines in Fig. 3, the lower ends of the arms 15 simply sliding through the openings in the links and lapping upon the outer faces of the side walls 2, the inner or lower edges of the inner or lower bars 18 resting upon the links and the links in turn resting upon suitable wearing-plates 21, secured to the top edges of the side walls of the box for preventing any abrasion to said side walls incidental to the movement of the links.

As stated in the first part of the description, the end hooks 10 are alined with the inner vertical walls of the sockets 7, and it is therefore evident that the links engaged with these hooks are also registered with said walls, and when the ladders are in position their side faces are sufficiently close to the open sides of the hooks to prevent displacement of the links, and therefore this prevents the accidental detachment of the extensions. It is sometimes desirable to remove these ex-



tensions entirely to permit the wagon-box to be used for ordinary purposes, in which instance it is simply necessary to raise the ladders out of the sockets 7, whereupon the extensions are rocked upwardly and inwardly until the links are disengaged from their respective hooks.

The distance between the centers of the several brace-bars and link connections of both extensions are so arranged that the extensions may be interchanged from one side to the other, thereby avoiding the inconvenience of selecting the particular extension for each side.

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be noted that some change may be made in the detail construction and arrangement of the connections shown and described without departing from the spirit thereof.

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

1. In a convertible hay and stock rack for wagons, the combination with a wagon-box, side-wall extensions movable in different planes relative to the side walls of the box and each provided with arms disposed at an angle with each other and alternately engaging the side faces of the box as the extensions are moved to different planes, hooks secured to the side walls of the box, and links having corresponding ends detachably engaged with the hooks and their opposite ends receiving the arms of the extension for holding the same in their adjusted position.

2. The herein-described connection between the side wall of the wagon-box and its swinging extension consisting of a hook, a triangular open brace, and a link slidable from one arm to another of the brace and detachably engaged with the hook.

3. In a convertible hay and stock rack for wagons, the combination with a wagon-box, hooks secured to the side walls and projecting above their upper edges, links detachably engaged with the hooks and overhanging the upper edges of the box beyond their outer faces, braces having arms disposed at an angle with each other and slidable in their respective links, said arms alternately engaging the outer faces of the side walls of the box, and lengthwise bars secured to corre-

sponding arms of the braces to form continuations of the side walls of the box.

4. In a convertible hay and stock rack for wagons, the combination with a wagon-box, tapering guides secured to the opposite ends of the side walls of the box, and ladders having tapering legs fitting in the guides, the taper of the guides and legs being substantially the same to permit the ladders to be reversed in the same guides or interchanged from one set of guides to the other.

5. In a convertible hay and stock rack for wagons, the combination with a wagon-box, a pair of guides at each end of the box, each guide having opposite walls diverging from the bottom upwardly, one wall of each guide being vertical, and ladders each having a pair of tapering legs fitting in the guides, to permit the ladders to be reversed and interchanged the ladders being held in different planes when reversed in the same pair of guides.

6. In a convertible hay and stock rack for wagons, the combination with a wagon-box, side-wall extensions movable in different planes relative to the side walls of the box and each provided with arms disposed at an angle with each other and alternately engaging the side faces of the box as the extensions are moved to different planes, hooks secured to the side walls of the box, and links having corresponding ends detachably engaged with the hooks and their opposite ends receiving the arms of the extension for holding the same in their adjusted position, a pair of tapering guides at each end of the box secured to the inner faces of the side walls, one wall of each guide being vertical, and ladders having tapering legs fitting in their respective guides, said ladders being reversible in said guides for the purpose set forth.

7. The herein-described ladder and guide-holder therefor, the ladder having tapering legs, one edge being straight and the opposite edge inclined, and the guides having corresponding vertical and inclined walls to receive the legs with a wedge fit and serving to hold the ladder in different planes when reversed in the guides.

In witness whereof I have hereunto set my hand this 3d day of September, 1902.

MILTON TIDD.

Witnesses:

STEPHEN WEATHERLOW,  
WESTBROOK S. DECKER.