

No. 689,310.

Patented Dec. 17, 1901.

J. F. HUGHES.

WAGON END GATE AND SHOVELING BOARD.

(Application filed Mar. 11, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

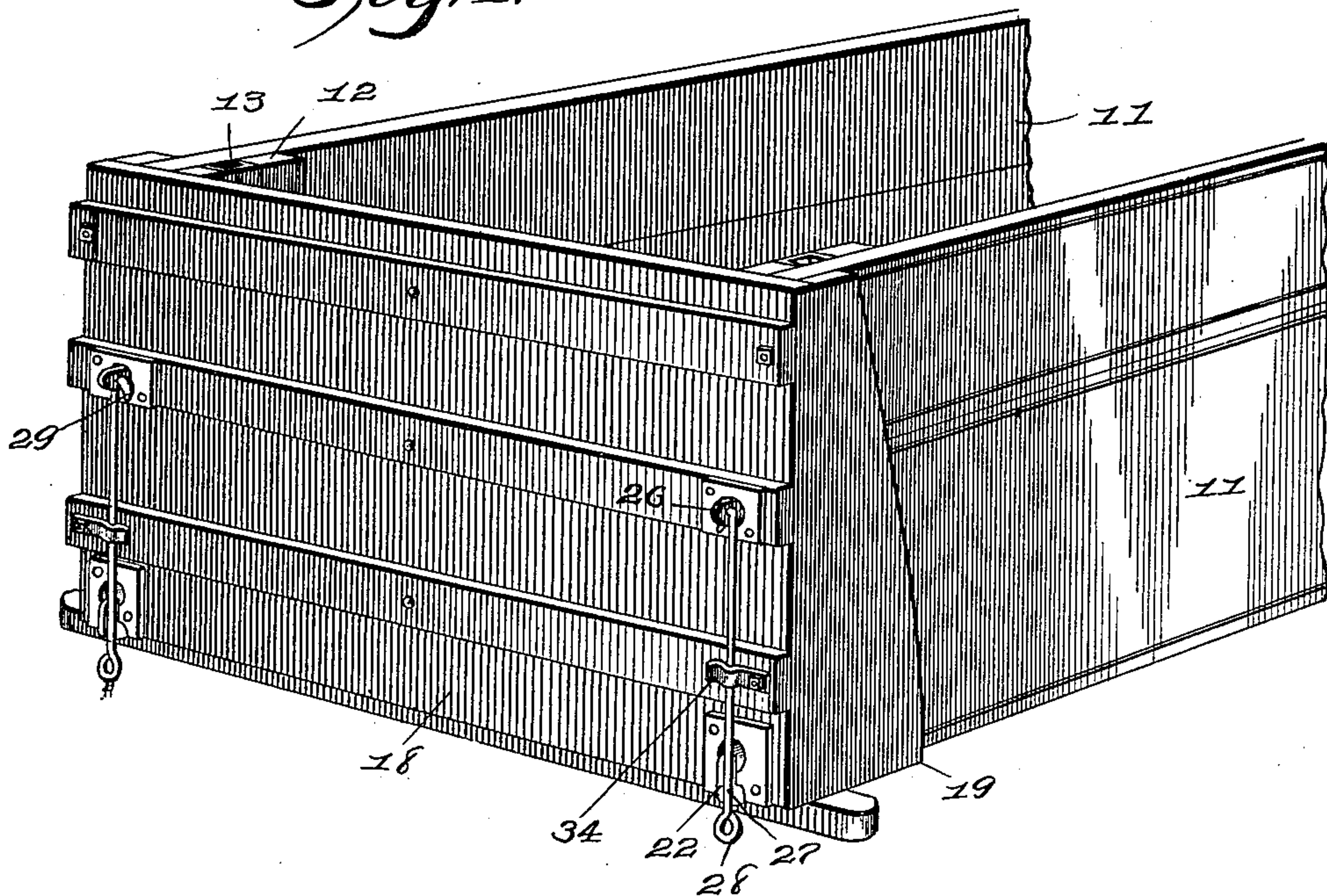
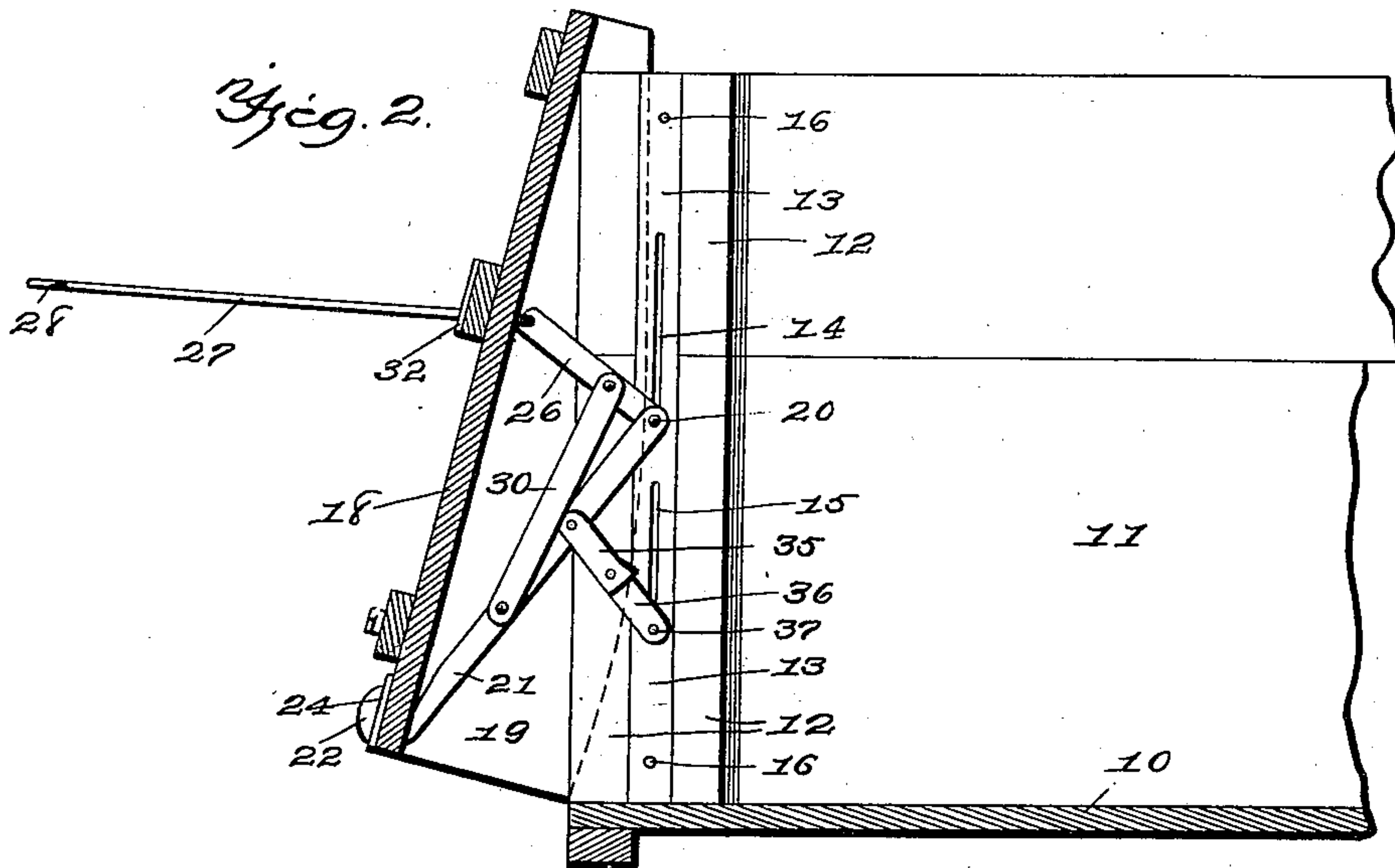


Fig. 2.



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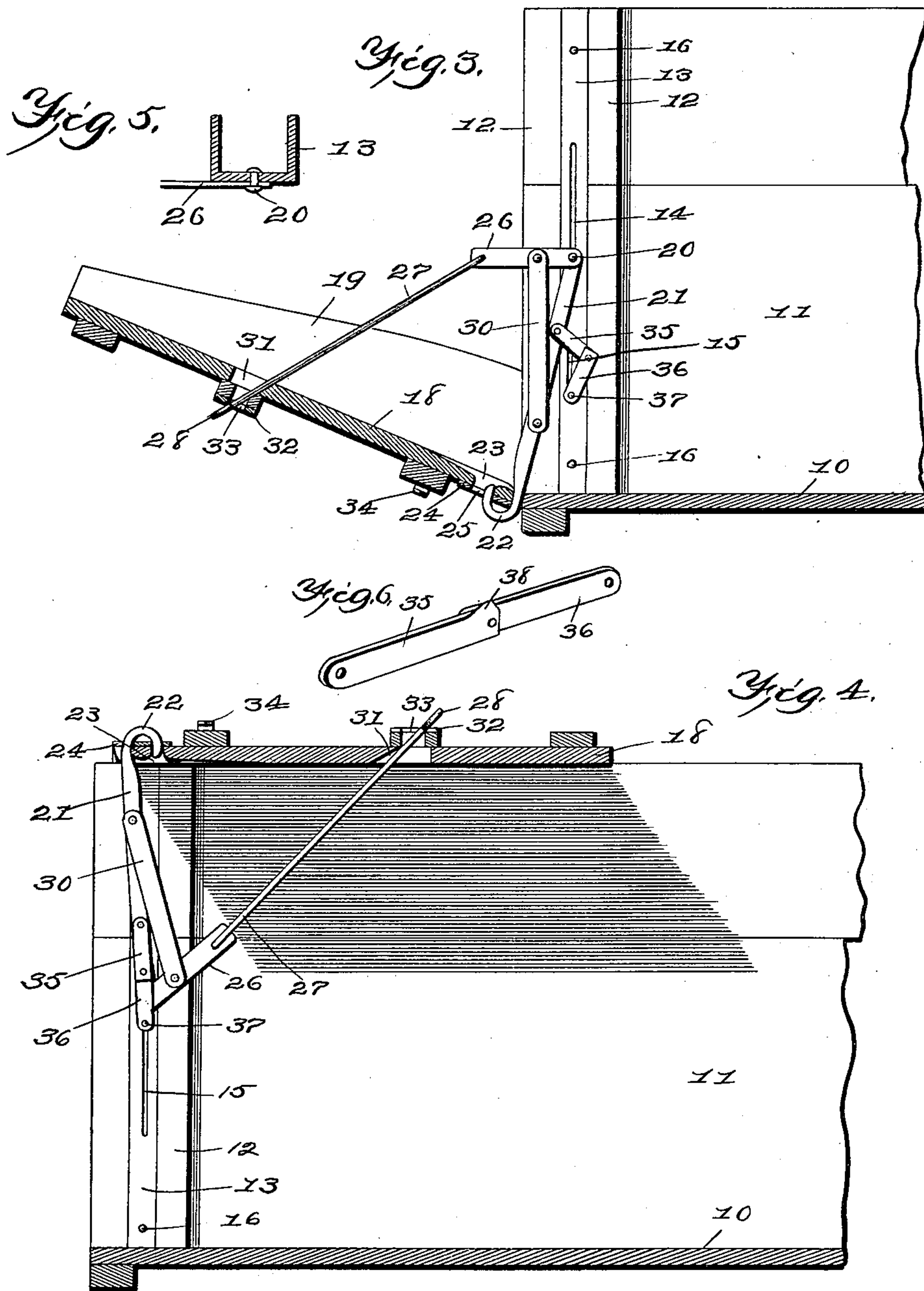
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UNITED STATES PATENT OFFICE.

JOHN F. HUGHES, OF OSKALOOSA, IOWA.

WAGON END-GATE AND SHOVELING-BOARD.

SPECIFICATION forming part of Letters Patent No. 689,310, dated December 17, 1901.

Application filed March 11, 1901. Serial No. 50,603. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. HUGHES, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska, State of Iowa, have invented certain new and useful Improvements in Wagon End-Gates and Shoveling-Boards, of which the following is a specification.

This invention relates to that class of wagon end-gates and shoveling-boards in which the wings of the end-gate overlap the sides of the wagon when closed, provided with means for securely locking the end-gate to the wagon in its closed position and for firmly supporting the end-gate in position for use as a shoveling-board and for permitting the end-gate to be swung on top of the wagon-body and also for permitting the lower end of the end-gate to be separated a slight distance from the bottom of the wagon-box.

The objects of this invention are to provide an end-gate and shoveling-board of this class in which the entire device may be attached to a wagon-box by simply securing two channel-bars in the grooves prepared for the end-gate on all ordinary wagon-boxes, thereby providing means whereby the entire device may be readily, quickly, and easily connected with and removed from the wagon-box without manipulating any other fastening device than the means for securing said channel-bars in place, and, further, to provide means whereby the end-gate may be quickly detached from the supporting devices therefor without releasing any screws, bolts, or the like.

A further object is to provide means in a device of this class whereby both the upper and lower end portions of the end-gate are firmly supported in their closed position or in their position for use as a shoveling-board with only one point of attachment to the channel-bars in the wagon-box at each side, thereby dispensing with all fastening devices secured to the bottom of the wagon-box and to the lower end portion of the end-gate and at the same time providing a wagon end-gate and shoveling-board that may be readily turned to a position on top of the wagon-box without the manipulation or adjustment of any fastening devices whatsoever.

A further object is to provide a device of this class in which the end-gate and shovel-

ing-board may be adapted to readily turn and assume a position resting on top of the wagon-box even if extensions of various heights are placed on the side-boards of the wagon-box.

A further object is to provide in a device of this class simple, durable, and inexpensive means whereby the lower end of the end-gate may be firmly supported in a position slightly separated from the rear end portion of the wagon-box, while the top portion of the end-gate assumes a position adjacent to the top of the rear end of the wagon-box for convenience in discharging grain from the wagon-box.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device with the wagon end-gate and wagon-box, and particularly in the construction of the means for supporting both the upper and lower end portions of the end-gate from the same pivotal point of attachment to the wagon-body, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective a portion of a wagon-body having my improved end-gate and shoveling-board attached thereto and shown in its closed position. Fig. 2 shows a central vertical sectional view of the same parts shown with the lower end portion of the end-gate separated from the bottom of the wagon-box for convenience in discharging grain therefrom. Fig. 3 shows a similar view with the end-gate supported in position for use as a shoveling-board. Fig. 4 shows a similar view with the end-gate swung to position resting on top of the side-boards of the wagon-box. Fig. 5 shows an enlarged detail sectional view of the channel-bar to which the end-gate-supporting devices are pivotally attached. Fig. 6 shows an enlarged detail perspective of the hinged brace for supporting the lower end of the end-gate at a distance from the rear end of the wagon-body.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the bottom of the wagon-box, 11 the sides thereof, and 12 the vertical strips secured to the inner face of the sides at the rear end of the box to provide a space between them for

the admission of an end-gate. These parts are all of the ordinary construction, and wagon-boxes are usually provided with the strips 12.

I have provided two channel-bars 13 of a size and shape to rest in and fill the spaces between the strips 12. These channel-bars are each provided with the slots 14 and 15, for purposes hereinafter made clear, and they are designed to be held in position by the bolts 16, passed through the channel-bars and into the sides of the wagon-box. The numeral 18 indicates the back of the end-gate and shoveling-board, and 19 the wings thereon, which same are designed to overlap the sides of the wagon-box. In each of the slots 14 I have placed a rivet 20, capable of vertical movement in said slot. To this rivet 20 I have secured a bar 21, and at the lower end of said bar is the hook 22. This bar is of such length and the hook is so shaped as to be capable of entering a hole 23, formed in the lower end of the end-gate to receive said hook, whereby the end-gate is supported by the bar in a position flush with the bottom of the wagon-box. A plate 24, having an opening 25, is placed on the rear face of the end-gate, with said opening 25 in alinement with the opening 23, thereby serving to reinforce the end-gate at this point. Obviously the lower end of the end-gate is firmly supported in position in alinement with the bottom of the wagon-box, and the end-gate may freely swing to a position as required for use as a shoveling-board or in a position parallel with the rear end of the wagon-box. Furthermore, the end-gate may be readily and quickly detached from the hooks 22 by first elevating it slightly and then moving it rearwardly. I have also connected with each of the bolts 20 an arm 26 to project rearwardly, and pivoted to the rear end of each of the arms 26 is a rod 27, having formed in its end a loop 28. This rod 27 is detachably and pivotally connected with the arm 26 by means of the hook 29, formed in the end of the rod adjacent to the arms 26 to pass through an opening in said arm. A brace 30 is fixed to the bar 21 and the arm 26, thereby firmly maintaining the said bar and arm in their relative positions. Each of the rods 27 is passed through an opening 31 in the upper end portion of the end-gate, and the plates 32, having openings 33, are placed on the rear face of the end-gate in position with the openings 33 therein in alinement with the said openings 31, said loops 28 being large enough to prevent their passage through the openings 33. Said rods 27 are of such length that when in the position shown in Fig. 3 they will support the upper end of the end-gate in the position in which it may be used most advantageously as a shoveling-board. On the rear surface of the end-gate are two spring-cleats 34, each secured at one end to the end-gate, having the other end free. These cleats are designed to engage and hold the rod 27 in position when the end-gate is closed, as clearly shown in Fig. 1.

In practical use and assuming that it is desired to use this device as a shoveling-board the end-gate is lowered until the loops 28 of the rods 27 engage the plates 32, and obviously when in this position the said rods will support the rear end of the end-gate, and the bars 21 will support the forward end of the end-gate in alinement with the bottom of the wagon-box. Obviously no fastening devices of any kind need be secured to the bottom of the wagon-box, because all of the weight of the end-gate, together with that of a person standing upon it, will tend to force the lower end of the end-gate into close engagement with the bottom of the wagon-box, for the reason that the entire end-gate is supported from one pivotal point, which pivotal point is at the bolts 20. Assuming, further, that it is desired to close the end-gate, the operator simply pushes it to its closed position, whereupon the arms 26 will project through the openings 31 and 33, and the bars 21 will remain in position. Then the rods 27 are passed under the cleats 34, where they are firmly held in position. Obviously the rods 27 will prevent the upper portion of the end-gate from moving rearwardly, because they engage the rear surface of the end-gate. Furthermore, the lower end of the end-gate will be firmly held in position, because the bars 21, which support it, cannot move rearwardly unless the arms 26 move upwardly, and, as before stated, said arms are firmly held in position by means of the rods 27 being held by the cleats 34, so that the device is firmly supported when in either of said positions.

Assuming that it is desired to swing the entire end-gate to a position on top of the wagon-box, it is obvious that from its position for use as a shoveling-board the end-gate may readily be swung to position on top of the wagon-box without adjusting any fastening devices whatever. The slots 14, in which the bolts 20 may freely slide, provide means whereby the end-gate may be made to rest on top of the wagon-box no matter what the height of the box may be.

Assuming, further, that it is desired to provide an opening between the lower end of the end-gate and the bottom of the wagon-box for the convenient discharge of grain, &c., from the wagon-box, it is only necessary to draw the end-gate rearwardly until the arms 26 clear the openings in the end-gate. Then the end-gate may be raised, and its lower end will swing rearwardly and upwardly to the position shown in Fig. 2. I have provided means whereby the end-gate may be firmly supported in this position, as follows: To the bar 21 I have pivoted an arm 35, and to the arm 35 I have pivoted another arm 36, which latter arm is pivoted to a bolt 37, passed through the slot 15. One end of the arm 35 is provided with a lip 38, capable of overlapping the adjacent end of the arm 36, whereby the said arms are prevented from moving beyond a position in alinement with each

other. Obviously when the bar 21 is moved rearwardly to the position shown in Fig. 2 the said arms 35 and 36 will assume a position in alinement with each other, and the lip 38 will prevent them from passing beyond this point. Hence the end-gate will be firmly supported by said arms in the position shown. These arms 35 and 36 will not in any way interfere with the other operations of the end-gate, because when the end-gate is closed they will assume a folded position on top of the wagon-box. The bolts 37 will slide upwardly in the slots 15, so that they cannot interfere with the movement of the end-gate.

The entire end-gate and its supports may be readily and quickly detached from the wagon-body by simply removing the two channel-bars from the wagon-box, and my invention differs from prior end-gates essentially in that no fastening devices of any kind are required on the bottom of the wagon-box and both the upper and lower end portions of the end-gate are supported from a common pivotal center—to wit, the bolt 20—so that the end-gate may be swung to various positions of which it is capable without the necessity of adjusting or manipulating any fastening devices whatsoever. Furthermore, the end-gate proper may be detached from its supports by first unhooking the rods 27 and then swinging the end-gate rearwardly and elevating it out of the hooks 22 on the bars 21.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. The combination of a wagon, of an end-gate having two openings in the central portion thereof near its sides and also having two openings at the lower corners thereof, two arms pivotally mounted on the opposite sides of the wagon and having hooks formed in their lower ends to pass under the lower edge of the end-gate and then upwardly and having their ends capable of passing through the holes near the lower edge of the end-gate when the end-gate is in position for use as a shoveling-board, two arms fixed to the aforesaid arms to project rearwardly therefrom, and rods pivoted to the rear ends of said latter-mentioned arms and passed through the openings in the central portion of the end-gate, substantially as and for the purposes stated.

2. The combination with a wagon and an end-gate having two openings in the central portion thereof near its sides and also having two openings at the lower corners thereof, two arms pivotally mounted on the opposite sides of the wagon and having hooks formed in their lower ends to pass under the lower edge of the end-gate and then upwardly and having their ends capable of passing through the holes near the lower edge of the end-gate when the end-gate is in position for use as a shoveling-board, two arms fixed to the aforesaid arms to project rearwardly therefrom,

rods pivoted to the rear ends of said latter-mentioned arms and having enlarged loops on their rear ends and being passed through the openings in the end-gate, and catches secured to the rear surface of the end-gate to hold said rods in position against the rear surface of the end-gate, substantially as and for the purposes stated.

3. The combination with a wagon-box and an end-gate, of two bolts or the like, attached to the sides of the wagon-box and capable of a limited vertical movement, two bars pivoted to said bolts and pivotally connected with the lower end of the end-gate, in alinement with the bottom of the wagon-box, and end-gate-supporting devices attached to the upper end portion of each bar and also attached to the upper end portion of the end-gate, for the purposes stated.

4. The combination, with a wagon-box and an end-gate, of two bolts or the like, attached to the sides of the wagon-box and capable of a limited vertical movement, two bars pivoted to said bolts, and pivotally and detachably connected with the lower end of the end-gate, in alinement with the bottom of the wagon-box, and end-gate-supporting devices attached to the upper end portion of each bar and also attached to the upper end portion of the end-gate, for the purposes stated.

5. The combination, with a wagon-box, of an end-gate having wings to overlap the outer surfaces of the sides of the wagon-box, of two bolts or the like connected with the inner faces of the sides of the wagon-box, and capable of limited vertical movement, a bar connected with each bolt, and having a hook at its lower end, said hooks being pivotally and detachably secured to the lower end portion of the end-gate, said arms being of such lengths as to support the end-gate in alinement with the bottom of the wagon-box, an arm fixed to each bar, to project rearwardly when the bar projects downwardly, a rod pivotally and detachably secured to each arm and passed through the upper end portion of the end-gate, substantially as, and for the purposes stated.

6. The combination, with a wagon-box having parallel strips on the inner faces of its sides, of two uprights designed to be secured in the spaces between said strips, and having the slots 14 therein, bolts 20 or the like slidably mounted in said slots, bars 21 connected with said bolts, and having the loops 28 at their ends, and an end-gate having wings to overlap the sides of the wagon-body, and having openings near its lower end, to receive said hooks 22, also having openings near its upper end to receive the rods 27, substantially as, and for the purposes stated.

7. The combination, with a wagon-box and an end-gate, of two bars pivotally secured at one end to the wagon-box, and pivotally secured at their other ends to the end-gate, means connected with said bars for supporting the upper end portion of the end-gate, a

folding brace pivoted to each of said bars and
pivotally connected with the wagon-box, and
means for limiting the movement of said fold-
ing brace, so that the parts thereof cannot
5 pass beyond a position in alinement with each
other, and a folding brace attached to each
of the bars 21 and slidingly connected with
the uprights in the sides of the wagon-box,

and means for limiting the movement of the
parts of said folding brace past a position in 10
alinement with each other, substantially as,
and for the purposes stated.

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