

(No Model.)

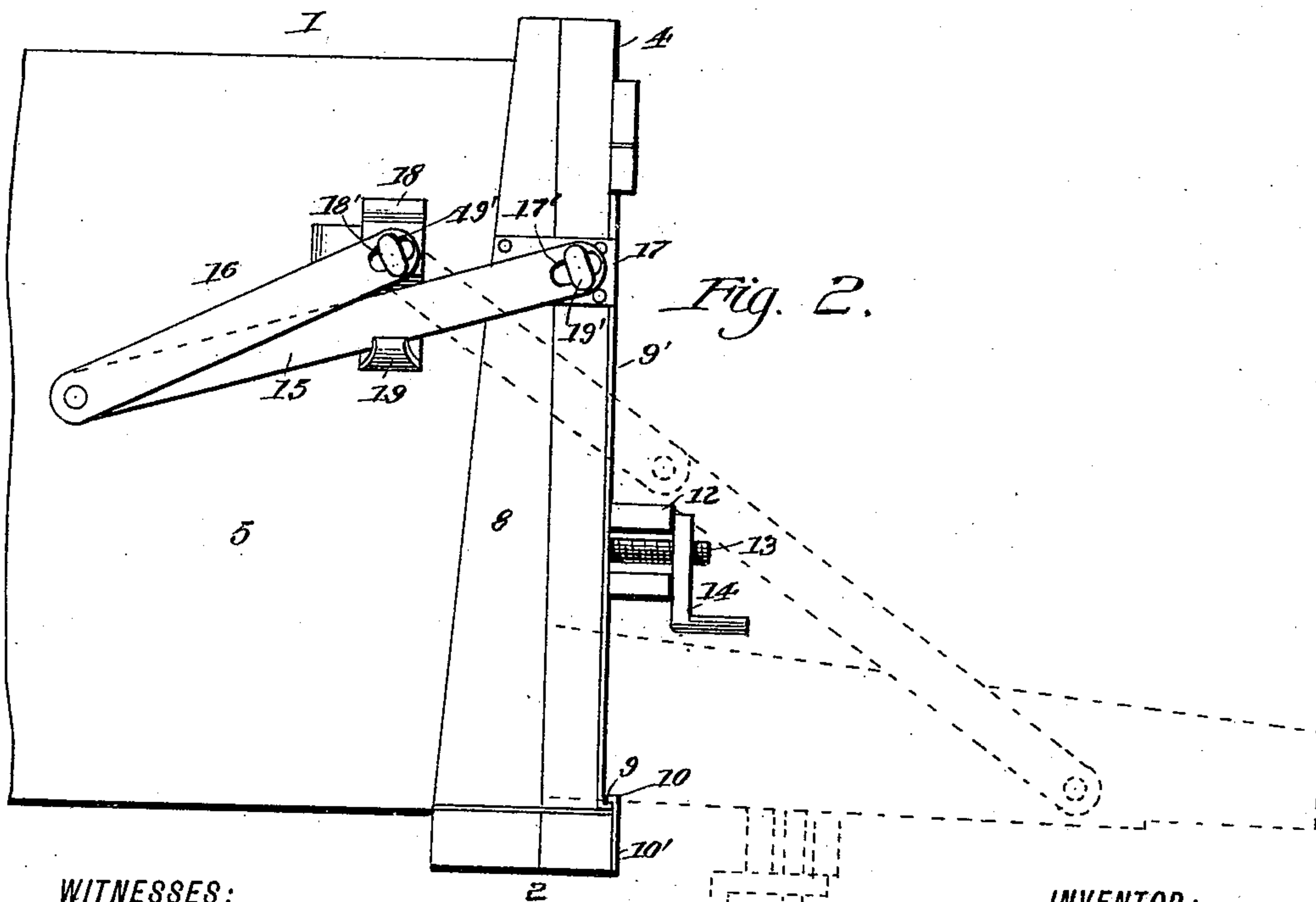
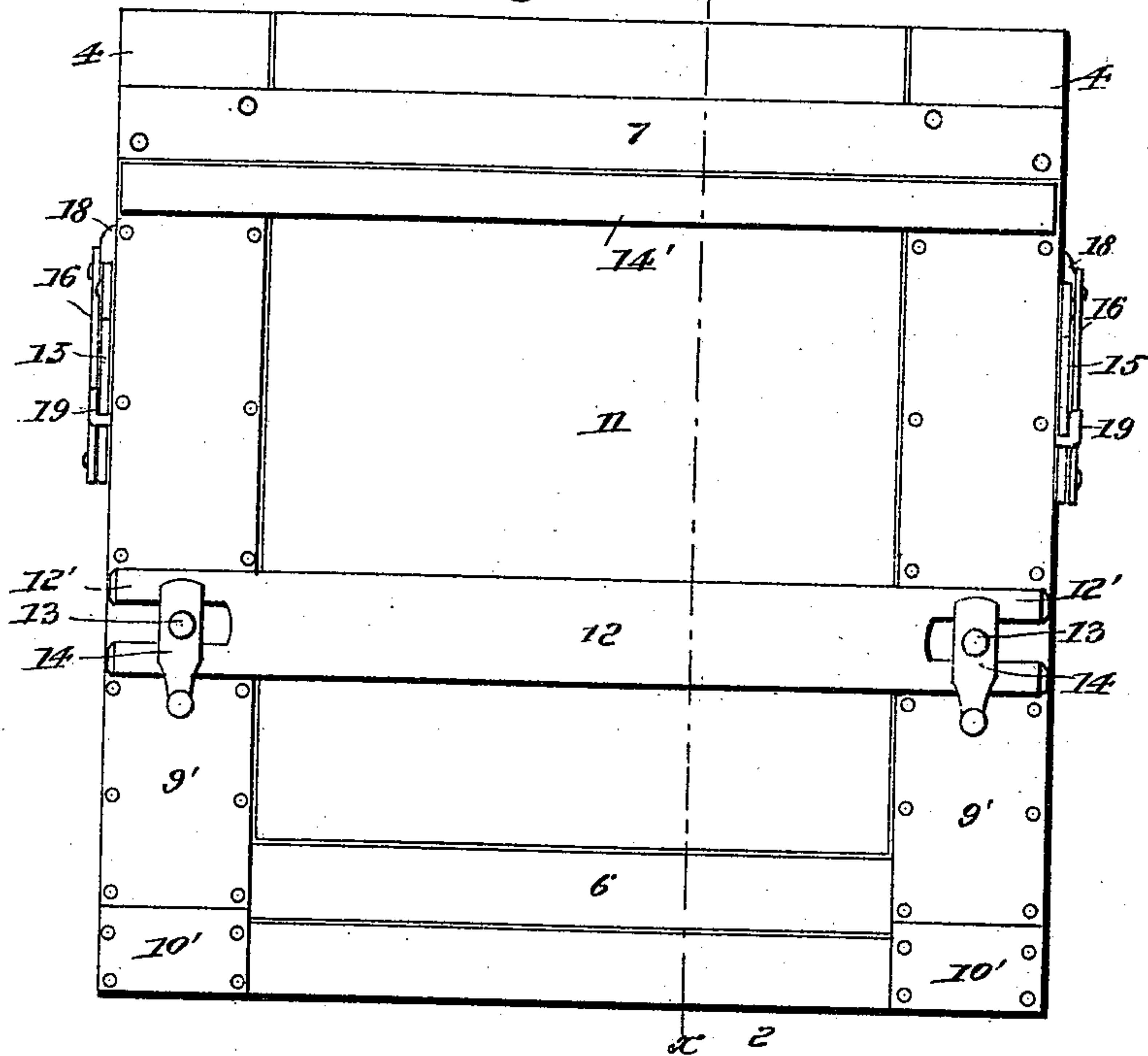
2 Sheets—Sheet 1.

F. S. SEARS.

END GATE.

No. 395,852.

*Fig. 1.* Patented Jan. 8, 1889.



**WITNESSES:**

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C. Sedgwick

***INVENTOR:***

F. E. Sears

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(No Model.)

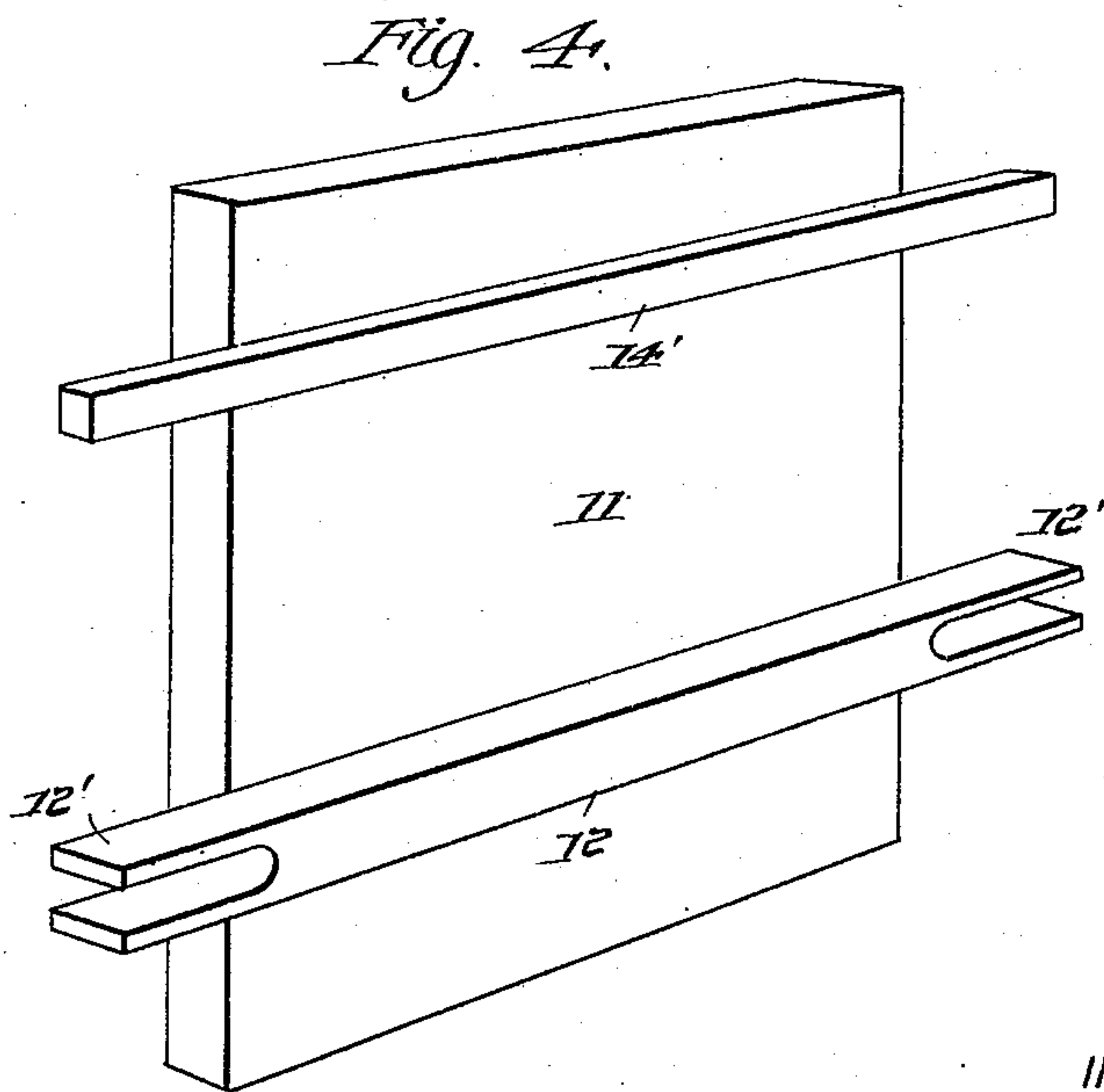
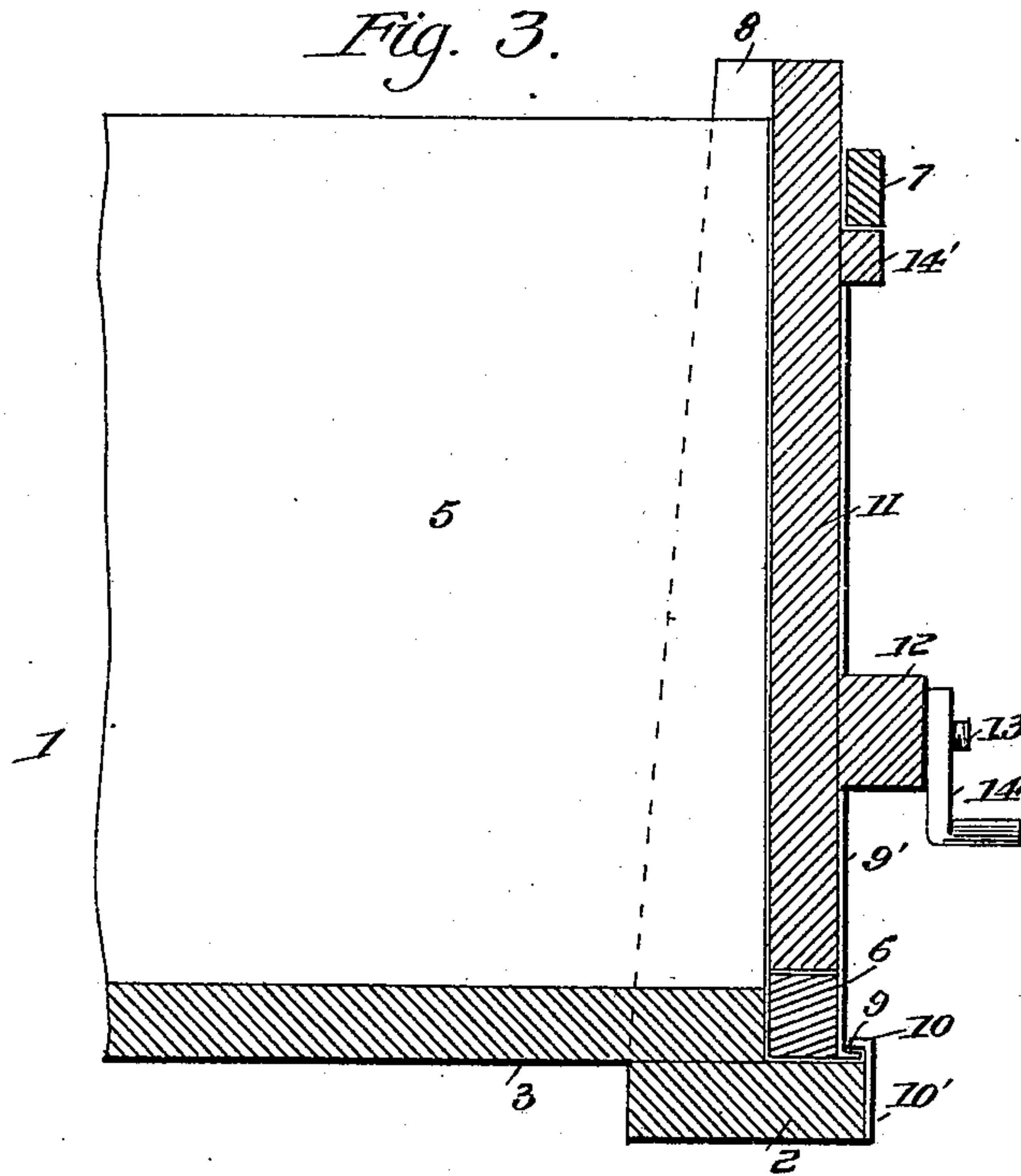
2 Sheets—Sheet 2.

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*J. B. Clark.*  
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INVENTOR:

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# UNITED STATES PATENT OFFICE.

FRANK. S. SEARS, OF ATKINSON, ILLINOIS.

## END-GATE.

SPECIFICATION forming part of Letters Patent No. 395,852, dated January 8, 1889.

Application filed October 29, 1888. Serial No. 289,387. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK. S. SEARS, of Atkinson, in the county of Henry and State of Illinois, have invented a new and Improved  
5 End-Gate, of which the following is a full, clear, and exact description.

This invention relates to wagon end-gates, and has for its object to provide an end-gate which can be readily opened, swung into and  
10 held in horizontal position at the open end of the wagon-body, or swung beneath the wagon-body, and so constructed that a part of the end-gate only may be opened.

The invention consists in an end-gate and  
15 in details thereof, constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.  
20

Figure 1 is an end view of a wagon-body provided with an end-gate constructed in accordance with this invention. Fig. 2 is a side view thereof with the wagon-body broken  
25 away. Fig. 3 is a vertical longitudinal section on the line  $x x$ , Fig. 1; and Fig. 4 is a perspective view of a portion of the gate detached.

In carrying out this invention a wagon-body, 1, is constructed with a strip, 2, secured  
30 beneath and projecting beyond the rear end of its bottom 3 and forming a ledge on which the lower edge of the end-gate may rest. The end-gate is formed with vertical portions 4, which when the end-gate is closed lie against  
35 the ends of the sides 5 of the wagon-body and are connected at their lower ends by a horizontal bar, 6, resting on the ledge 2 and adjacent to their upper ends by a horizontal bar, 7. The vertical portions 4 are formed with  
40 side strips, 8, which overlap the sides 5 of the wagon-body when closed.

To aid in retaining the end-gate in position on the ledge 2, the lower edge of the end-gate is detachably connected to the ledge 2 by any  
45 suitable means, and as here shown by means of hooks 9 and 10, preferably formed by the bent ends of plates 9', secured to the vertical portions 4 and plates 10' on the ledge or projecting strip 2.

To complete the end-gate, the space between the vertical portions 4 is closed by a  
50 panel, 11, held in place by the horizontal bar

7, extending across its upper portion, and a cross-bar, 12, secured to panel 11, adjacent to its lower part and having slotted ends 12',  
55 which engage projecting bolts 13 on the vertical portions 4, and are preferably held in place by crank-nuts 14 on the threaded ends of bolts 13. The panel 11 is held from inward movement adjacent to its top by a horizontal  
60 bar, 14', having projecting ends bearing against the vertical portions 4 of the end-gate. The panel 11 may be removed from the end-gate by turning the nuts 14 so as to register with the slots in the ends 12', and then  
65 swinging the panel outward at its lower end, so as to clear the cross-bar 6, and then drawing the end-gate down out of engagement with cross-bar 7.

The end-gate is swung into and out of closed  
70 position with the open end of the wagon-body by means of flexible metallic straps 15 and 16 on each side of the end-gate, the straps 15 being pivoted at one end to metallic plates 17, secured to the sides of the end-gate, and at  
75 the other end pivoted to one end of the straps 16. The straps 16, which are somewhat shorter than the straps 15, are pivoted at their other end to brackets 18, secured to the sides  
80 of the wagon-body, and formed at their lower end with a hook, 19. When the end-gate is in closed position, the straps 15 and 16 are in the folded position shown in Fig. 2 and serve to keep the end-gate closed.

In order to open the end-gate, it is only necessary to raise straps 15 and 16 to clear straps  
85 15 from engagement with hooks 19, there being enough play of the parts and the straps being flexible enough to permit of the disengagement above described. The end-gate  
90 may be then swung to the horizontal position shown in dotted lines in Fig. 2, the straps 15 and 16 unfolding and extending to the inclined position shown in dotted lines, and the lower edge of the gate abutting against the  
95 ends of the sides 5 of the wagon-body, with the lower end of the gate resting on the ledge 2. If it is desired to move the end-gate entirely out of the way, its lower end may be  
100 lifted off of the ledge 2 and the end-gate swung beneath the wagon-body and suspended by the straps 15 and 16. The metallic facings 9' and 10' serve to strengthen and protect from wear the vertical portions 4 and the ends



of strip 2. The straps 15 and 16 are formed at their outer pivotal ends with oblong slots 17' and 18', which engage pins on the plate 17 and bracket 18, having oblong heads 19'.  
 5 with which the slots 17' and 18' may register upon turning the straps 15 and 16 on the pins. By this means the straps 15 and 16 may be detached from their pivot-pins and the end-gate entirely removed from the  
 10 wagon.

By means of this invention it will be seen that an end-gate is provided which may be easily operated, may be only partly opened to discharge the contents of a wagon, (as, for  
 15 example, grain,) and will be effective.

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

1. The combination, with a wagon-body  
 20 having a projecting strip or ledge at the rear end of its bottom, of an end-gate adapted to rest on the projecting strip and connected to the wagon-body on each side by metallic straps pivoted together and hooks on the sides of  
 25 the wagon-body with which the straps pivoted to the end-gate engage, substantially as described.

2. An end-gate constructed with a detachable panel and means for fastening the panel  
 30 to the end-gate, substantially as described.

3. An end-gate constructed with the vertical portions 4, having projecting screw-threaded bolts 13, the bottom connecting-bar, 6, the top connecting-bar, 7, and the panel 11,  
 35 with its upper end projecting within the bar 7 and its lower end resting on bar 6, the cross-bar 14', secured to panel 11 and having projecting ends overlapping vertical portions 4, and the cross-bar 12, secured to panel 11 and  
 40 having projecting slotted ends 12', engaging bolts 13, and held in place by crank-nuts 14 on the bolts 13, substantially as described.

4. The combination, with a wagon-body

having a projection at the rear end of its bottom, of an end-gate resting on the projection, 45 brackets on the sides of the wagon-body, and hooks and straps on each side of the end-gate pivoted together at their inner ends and at their outer ends to the brackets and end-gate, respectively, the straps pivoted to the end-  
 50 gate being laterally movable into engagement with the bracket-hooks, substantially as described.

5. The combination, with the wagon-body 1, having the projecting strip 2 at the rear  
 55 end of its bottom provided with metallic plates 10', having inwardly-projecting hooks 10, and the brackets 18, with hooks 19, on the sides of the wagon-body, of an end-gate formed with vertical portions 4, having a con-  
 60 necting-bar, 6, at their lower ends and a connecting-bar, 7, adjacent to their upper ends, metallic plates 9' on the vertical portions 4, provided with outwardly-projecting hooks 9 at their lower ends engaging hooks 10, and  
 65 screw-threaded bolts 13, projecting from vertical portions 4, and a detachable panel, 11, having its upper end projecting within bar 7; a bar, 14', secured to panel 11 adjacent to bar 7, with projecting ends overlapping vertical  
 70 portions 4, a cross-bar, 12, secured to panel 11 adjacent to its lower portion, having slotted ends 12', engaging bolts 13, and fastening crank-nuts 14 on bolts 13, adapted to register with slots 12', metallic straps 15 and 16 on  
 75 each side of the wagon-body and pivoted together at their inner ends, the straps 15, which are laterally movable into and out of engagement with hooks 19, being pivoted at their outer ends to the end-gate, and the straps 16  
 80 being pivoted at their outer ends to the brackets 18, substantially as described.

FRANK. S. SEARS.

Witnesses:

JOHN F. NOWERS,  
 A. J. DICKEY.