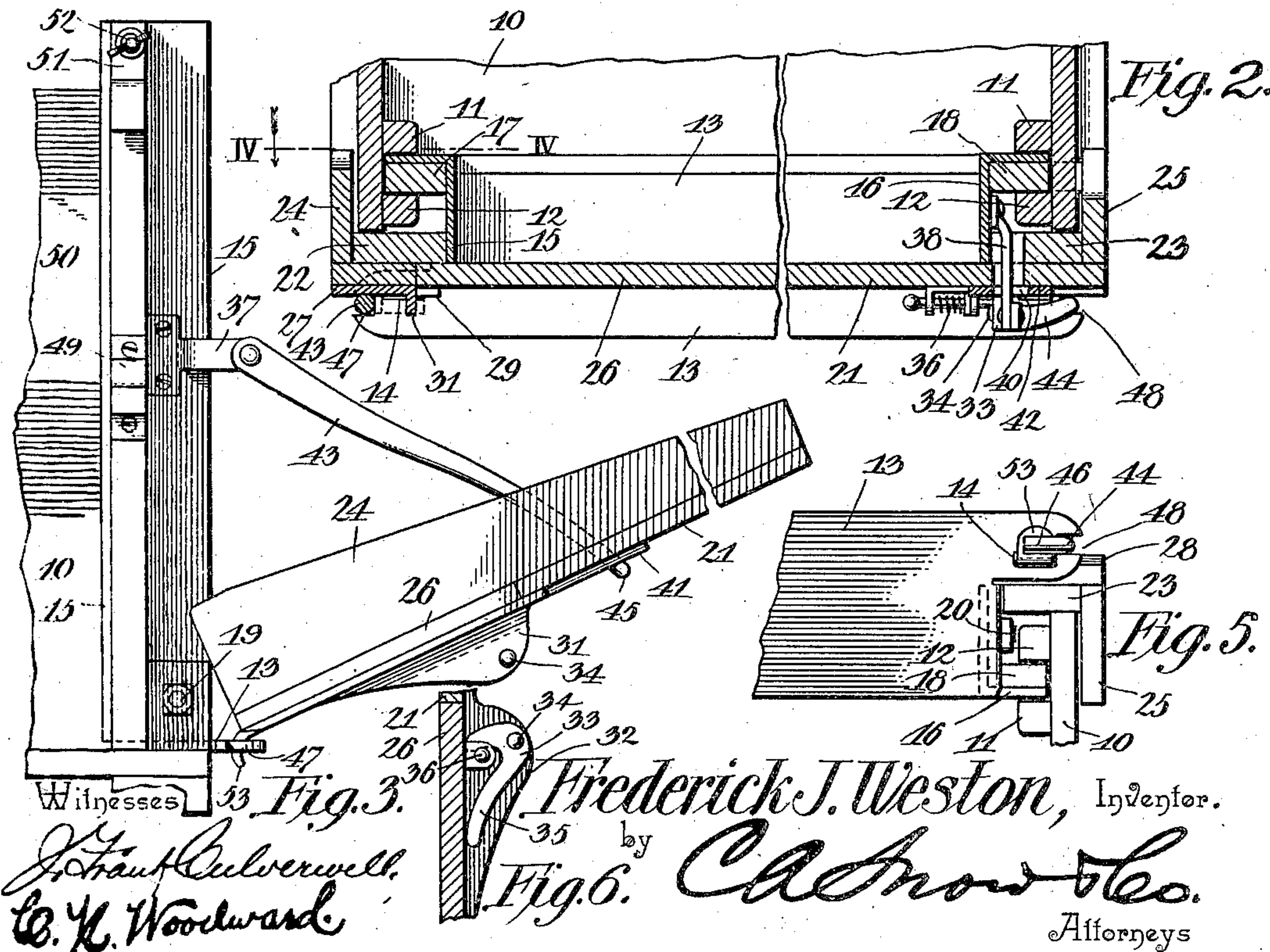
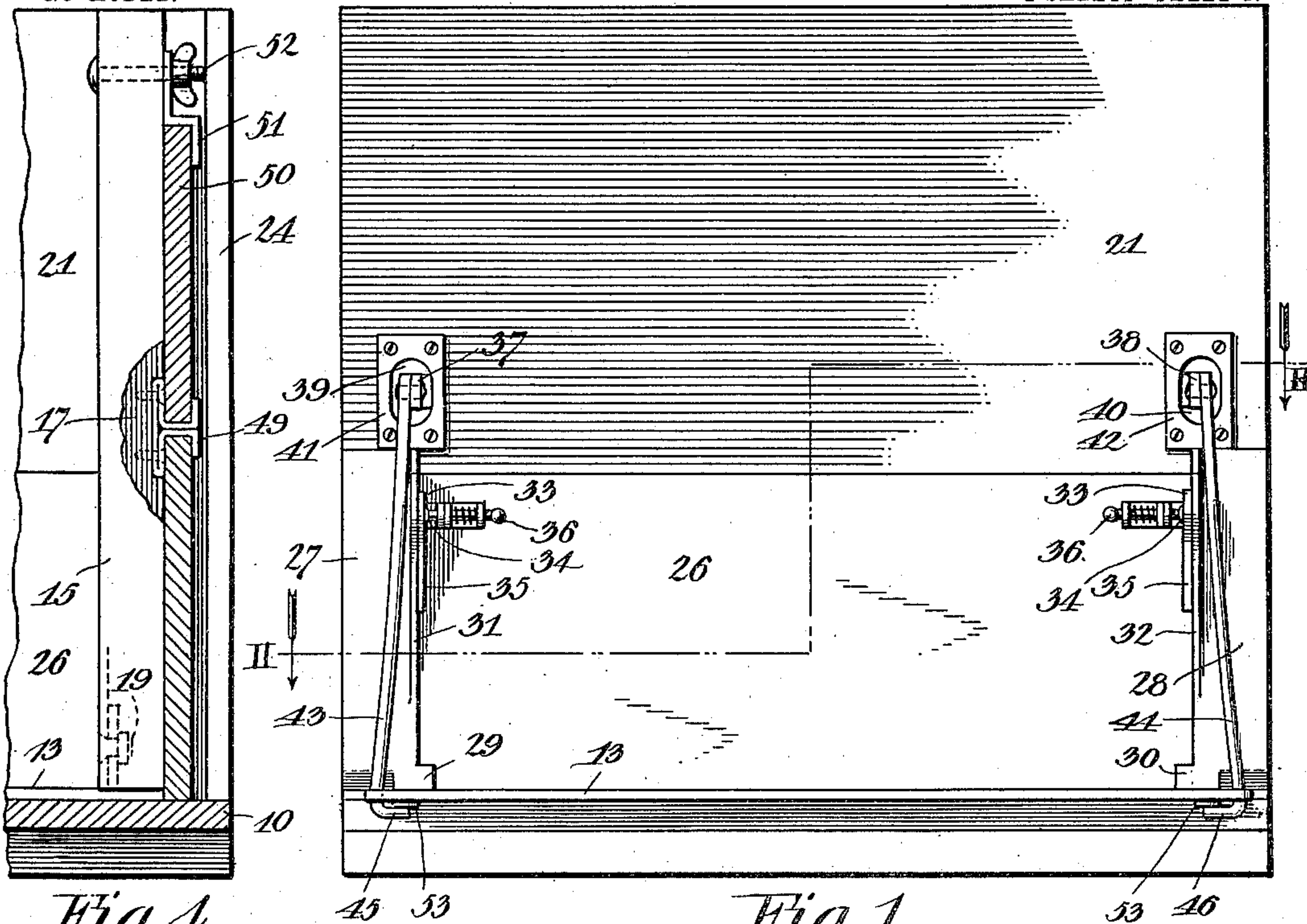


F. J. WESTON.  
END GATE AND SHOVELING BOARD.

APPLICATION FILED DEC. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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No. 741,200.

PATENTED OCT. 13, 1903.

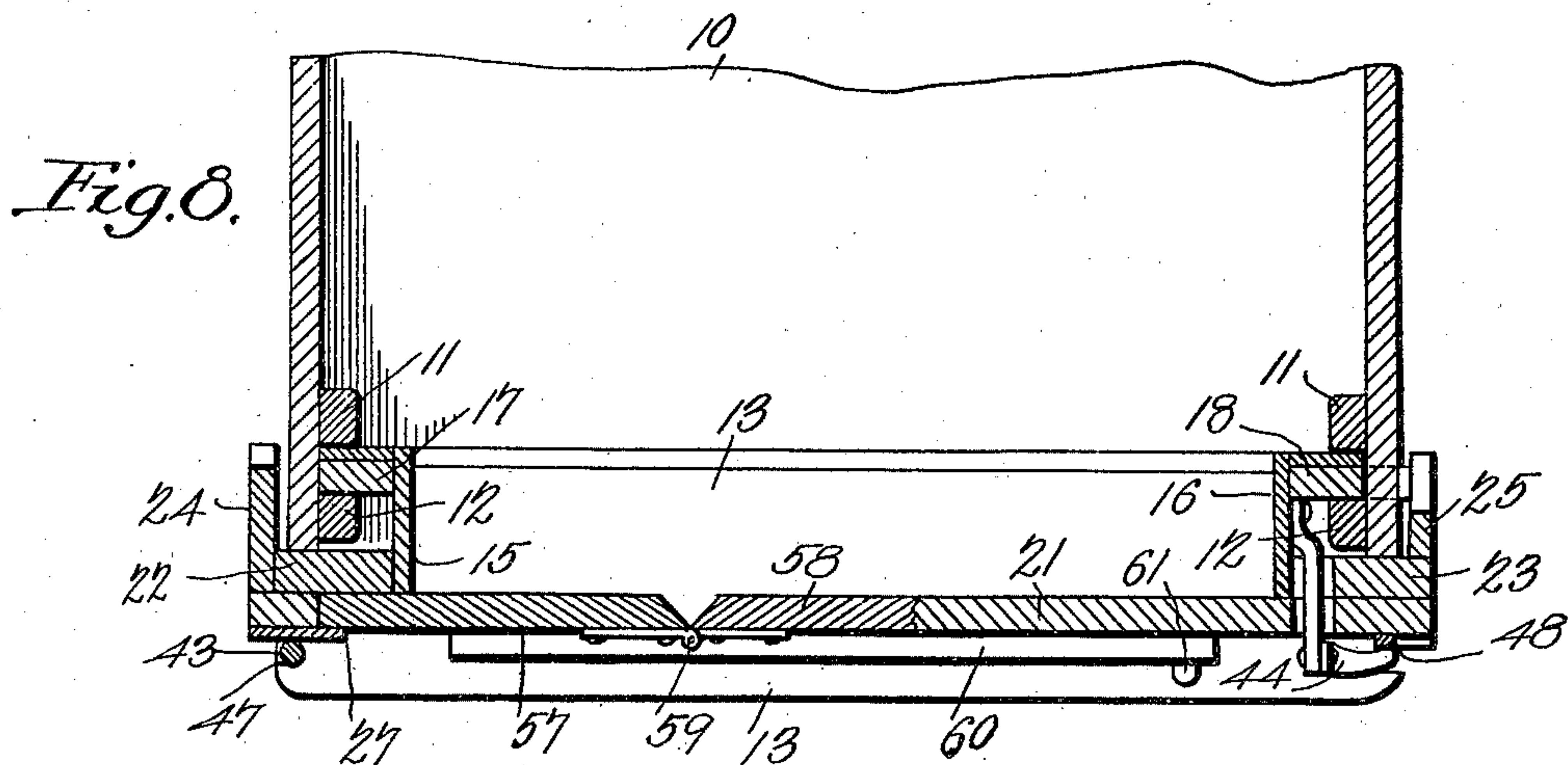
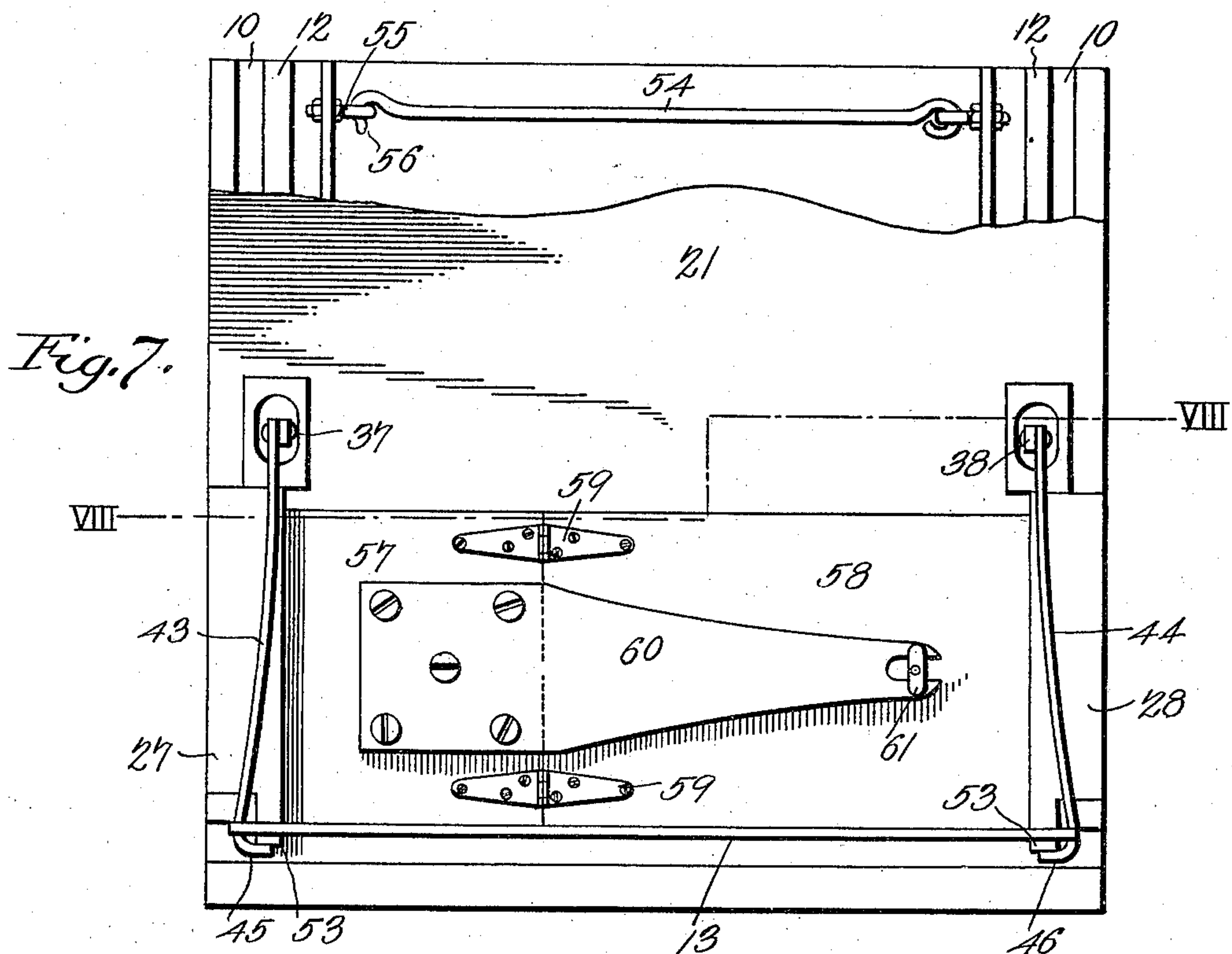
F. J. WESTON.

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APPLICATION FILED DEC. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



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## UNITED STATES PATENT OFFICE.

FREDERICK J. WESTON, OF MONTGOMERY, IOWA.

## END-GATE AND SHOVELING-BOARD.

SPECIFICATION forming part of Letters Patent No. 741,200, dated October 13, 1903.

Application filed December 12, 1902. Serial No. 134,971. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK J. WESTON, a citizen of the United States, residing at Montgomery, in the county of Dickinson and State of Iowa, have invented a new and useful End-Gate and Shoveling-Board, of which the following is a specification.

This invention relates to devices connected to or forming a part of farm-wagons for assisting in handling and discharging the load, and has for its principal object to combine in one device a shovel or scoop board and the ordinary detachable end-gate so constructed and combined as to be attachable to and detachable from the wagon-box without changing the structure of either the wagon-box or attachment.

The invention consists principally in a supporting-frame adapted to be detachably connected to a wagon-box and having a combined closure and shovel-board movably connected thereto and adapted to be supported in either its closed or open position relative to the wagon-box.

The invention further consists in a supporting-frame adapted to be detachably connected to the wagon-box and having a combined closure and shovel-board detachably connected thereto and adapted to be supported either in its closed or open position relative to the frame or wagon-box and likewise provided with a removable end-gate to provide for dumping or otherwise discharging the contents of the wagon-box without actuating the shovel-board.

Other novel features of the invention will appear in the annexed description and be specifically pointed out in the claims following.

In the drawings illustrative of the invention, in which like designating characters are employed to denote corresponding parts in all the figures, Figure 1 is an end elevation of a wagon-box with the device applied. Fig. 2 is a transverse section on the line II II of Fig. 1. Fig. 3 is a side elevation of the parts shown in Fig. 1, with the shovel-board open and one side of the wagon-box removed. Fig. 4 is a vertical sectional elevation on the line IV IV of Fig. 2 looking in the direction of the arrow. Fig. 5 is a bottom plan view of a portion of the device illustrating its con-

struction. Fig. 6 is a detached detail of the locking-cam. Fig. 7 is a view similar to Fig. 1, illustrating a modification in the construction of the end-gate portion of the device. Fig. 8 is a transverse section on the line VIII VIII of Fig. 7.

This invention may be applied to any of the standard makes of farm-wagons and will be constructed to be connected therewith without change of structure either of the improved device or of the wagon-box; and it consists in a supporting-frame adapted to be attached to the rear end of the wagon-box, preferably utilizing the ordinary vertical-spaced guides in which the ordinary end-gate is supported, the wagon-box being indicated at 10 and the spaced guide members at 11 12 of the usual construction. The supporting-framework will preferably be of sheet metal, such as steel, and consists in a flat sill portion 13, engaging the bottom rear end of the box 10 and extending rearwardly thereof, as shown in Fig. 2, the sill portion having spaced perforations near its ends, one of these perforations being indicated at 14 in Fig. 5; but it will be understood that each end of the sill portion will be provided with one of these perforations. The ends of the sill portion 13 will be turned upwardly and connected to L-shaped standards 15 16, the elbows of the standards being inward toward the body of the wagon-box and preferably reinforced by wooden strips 17 18, the standards and the reinforcing-strips being so placed that they will engage the space between the guides 11 12, by which means the frame may be detachably connected to the wagon-box and firmly supported in position relative thereto, as will be obvious. By this arrangement when the framework is in position the sill portion 13 and the inner faces of the standards 15 16 together form a frame completely filling the rear end of the wagon-box with the outer edges of the standards and the rear edge of the sill portion extending beyond the rear ends of the sides and bottom of the wagon-box. The parts forming the frame will be firmly united by bolts or rivets 19 20 to enable them to resist the strains to which they will be subjected.

The combined closure and shovel-board consists in a framework composed of a main



board member 21, reinforced by side cleats 22 23 and side wings 24 25, the cleats 22 23 adapted when the shovel-board is closed to engage the outer portions of the standards 15 16 and the side wings 24 25 adapted to likewise engage the outer surfaces of the wagon-box sides, as indicated in Fig. 2, the cleats 22 23 thus forming stops to prevent lateral movement of the standards relative to the shovel-board and the side wings 24 25 supporting the wagon-box and assisting in preventing the spreading thereof and coacting with the transverse stay-rods, as herein-after explained. The lower portion of the shovel-board is provided with an opening longitudinally disposed relative thereto and extending nearly to its ends, this opening being filled with an end-gate 26, as shown. Attached to the portions of the shovel-board opposite the end-gate opening are plates 27 28, having inwardly-extending lips 29 30 at their lower portions to form stops to retain the lower edge of the end-gate in position, while the upper edge is supported detachably in its seat by cam-catches, one upon each side, as shown. The cam-catches are supported upon ribs 31 32, turned rearwardly from the plates 27 28, and are formed, as shown in Fig. 6, and as both catches are precisely alike like designating characters are employed to denote both the catches. The cam-catches each consist of a cam-head 33, pivoted at 34, each to its respective supporting-rib and having an operating-handle 35. The cam-catches will be so constructed and located relative to the end-gate 26 that when moved into the position shown in Fig. 1 the cam-heads will forcibly engage the end-gate while the handle members will rest against the gate and limit the further upward movement. To prevent the release of the cam-heads, spring-controlled bolts 36 will be connected to the end-gate and adapted to extend beneath the cam-heads and effectually prevent their release until the bolts are withdrawn. When it is desired to detach the end-gate, the spring-bolts are released, the handle members of the catches thrown upwardly, and the upper edge of the gate moved outwardly until free from its seat, when it can be lifted out of engagement with the lips 29 30. By this simple arrangement the contents of the wagon-box may be dumped or otherwise discharged through the end-gate opening in the lower portion of the shovel-board and without removing the latter from its position in connection with the supporting-frame. This is a very convenient and valuable feature of the invention, as it effectually provides for the discharge of the contents of the wagon-box when such contents are of a nature to be thus discharged.

The standards 15 16 will be provided with brackets 37 38, extending rearwardly therefrom and adapted to project through apertures 39 40 in the portion 21 of the shovel-board, the apertures being preferably surrounded exteriorly of the shovel-board with

wear-plates 41 42. Pivotaly connected to the outer ends of the brackets are brace-rods 43 44, having their extremities 45 46 bent off at right angles and adapted when the shovel-board is in its closed position, as shown in Figs. 1, 2, and 5, to engage notches 47 48 in the ends of the extended portion of the sill 13, the brace-rods when in this position forming a locking means between the supporting-frame and the shovel-board. The brace-rods are so formed that they press with considerable force against the outer surface of the shovel-board when their lower ends are forced into the notches 47 48. To accomplish this latter result, the brace-rods will be slightly curved or enlarged near their upper ends, and the length of the brackets 36 37 and the contour of the brace-rods will be so proportioned that the action of connecting the ends into the notches will require the exercise of considerable force, the brace-rods thus serving as spring catches or locks and binding the parts firmly together, the resistance being sufficient to prevent accidental displacement and obviating the necessity of any other fastening means to hold the shovel-board in its closed position. This is an important feature of the invention and adds materially to its value and effectiveness. The brace-rods will preferably be of spring-steel and of sufficient strength when connected into engagement with their holding notches to firmly support and hold the parts. The brace-rods also serve as supports to the shovel-board when in its open position, the inwardly-bent ends 45 46 engaging the wear-plates 41 42, as indicated in Fig. 3, and serving as stops to prevent the brace-rods being withdrawn from the shovel-board.

The device will be manufactured independently of the wagon and transferable from one wagon to another or sold as a distinct structure to be applied to any of the various makes of wagons and will be as readily attachable and detachable as other detachable portions of the vehicle.

Attached, preferably, to the outer surfaces of the reinforcing-plates 17 and 18 are catches 49, adapted to rest over the upper edge of the wagon-box 10 and likewise formed to support the lower edge of the extension 50 of the wagon-box, as shown in Fig. 4. Attached to the plates 17 18 are clips 51, extending over the upper edges of the extensions 50 and supported in place by binding-bolts 52. By this means the improved device may be firmly secured in place upon the wagon-box and readily detachable therefrom when required. The sill member 13 will preferably be chamfered upon its inner-edge to offer the least resistance to the material being discharged from the wagon-box. The device thus fits all parts of the wagon-box closely to prevent leakage when finer particles of material compose the load.

The plates 27 28 will preferably be of sheet metal and will be secured to the wooden parts of the structure by bolts or screws, the plates



not only serving as supports for the locking means of the removable end-gate, but also as means for connecting the shovel-board to the sill member 13 through the medium of the tongues 53, projecting through the apertures 14 in the sill 13, as indicated in Figs. 1, 3, and 5, the tongues being turned off at an angle to the plates after passing through the apertures, so that the shovel-board will be connected movably to the sill-plate, but cannot be detached therefrom while the device is in operation. This makes a very simple and easy method of attachment and materially simplifies the structure. As a further means for supporting the framework and preventing it from spreading under the pressure of the load a stay-rod 54 will be connected detachably between the standards 15 16 by eyebolts 55 and hooks 56, as shown. The stay-rod can thus be readily detached when not in use.

In Figs. 7 and 8 a modified form of the end-gate is shown, consisting in constructing it in two parts 57 58, connected by hinges 59 and with its ends disposed in recesses in the rear of the plates 27 28, the parts 57 58 being locked in their closed position by lock-bar 60 and button 61, as shown.

The parts of the device may be modified in minor particulars without affecting the principle of the invention or sacrificing any of its advantages.

Having thus described the invention, what is claimed is—

1. In a device of the character described, the combination of a wagon-box, a supporting-frame comprising a sill portion and spaced standard portions connected to the sill and removably engaging the wagon-box, a shovel-board pivotally connected to said sill portion and adapted to be closed against said standards, means for supporting said shovel-board in its closed position relative to said frame, and means for supporting said shovel-board in its open inclined position relative to said frame, substantially as described.

2. In a device of the character described, the combination of a wagon-box having spaced vertical guide-cleats, a supporting-frame consisting of a sill portion engaging the bottom of the box and having vertical standards movably engaging said guide-cleats, clips disposed to connect said standards to said wagon-box, a combined shovel-board and closure movably connected to said sill-frame, means for supporting said shovel-board in its closed position relative to said frame, and means for supporting said shovel-board in its open inclined position relative to said frame, substantially as described.

3. In a device of the character described, the combination of a wagon-box having spaced guide-cleats, a supporting-frame formed of a sill portion having spaced standards extending therefrom and movably engaging said guide-cleats, a combined shovel-board and closure pivotally connected to said sill portion and having spaced cleats adapted to en-

gage the outer lateral faces of said standards, and side wings adapted to engage the similar faces of said wagon-box when said shovel-board is closed, substantially as described.

4. In a device of the character described, the combination of a wagon-box, a supporting-frame formed of a sill portion rearwardly extended and provided with spaced perforations and with standards extending therefrom, said sill and standards movably engaging said wagon-box, a combined shovel-board and closure having depending tongues engaging the perforations in said sill member, means for supporting said shovel-board in its closed position relative to said standards, and means for supporting said shovel-board in its open inclined position relative to said frame, substantially as described.

5. In a device of the character described, the combination of a wagon-box, a supporting-frame detachably connected to said wagon-box and provided with a rearwardly-extended sill portion having spaced recesses, a shovel-board pivotally connected to said frame and having spaced perforations, brackets extending from said frame and engaging said perforations when the shovel-board is closed, and suspension-rods pivotally connected to said brackets and operable for engagement with the recesses in said sill portion and to bear upon the shovel-board when the latter is closed to form a locking means therefor, said rods having angularly-disposed ends to engage and sustain the shovel-board in its open position, substantially as described.

6. In a device of the character described, the combination of a wagon-box, a combined closure and shovel-board movably connected to said wagon-box and having an opening longitudinally disposed relative thereto, an end-gate detachably engaging said opening, cam-catches movably supported upon said shovel-board and forcibly engaging said end-gate when closed, and spring-bolts disposed to lock said cam-catches in their closed positions, substantially as described.

7. In a device of the character described, the combination of a wagon-box, a combined closure and shovel-board movably connected to said wagon-box and having an opening longitudinally disposed relative thereto, an end-gate detachably engaging said opening, plates connected to said shovel-board adjacent to said opening and having outwardly-extended ribs with extending lips engaging said end-gate, cam-catches having operating-handles and pivotally connected to said ribs and adapted to forcibly engage said end-gate and lock it in position in said opening, and spring-bolts disposed to lock said cam-catches against displacement, substantially as described.

8. In a device of the character described, the combination of a wagon-box, a supporting-frame comprising a sill portion having spaced perforations and spaced standard por-



tions movably engaging the wagon-box, a shovel-board having guide-plates provided with tongues movably engaging said spaced perforations whereby said shovel-board is  
5 movably connected to said sill portion, means for supporting said shovel-board in its closed position relative to said frame, and means for supporting said shovel-board in its open inclined position relative to said frame, sub-  
10 stantially as described.

9. In a device of the character described, the combination of a wagon-box, a supporting-frame comprising a sill portion and spaced standard portions and movably engaging the  
15 wagon-box, a shovel-board movably connect-

ed to said sill portion and adapted to be closed against said standards, means for supporting said shovel-board in its closed position relative to said frame, means for supporting said shovel-board in its open position, and a tie- 20 rod detachably coupled between said standard portions, substantially as described.

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

FREDERICK J. WESTON.

Witnesses:

B. A. WEBB,

H. G. TAGGART.