

No. 685,703.

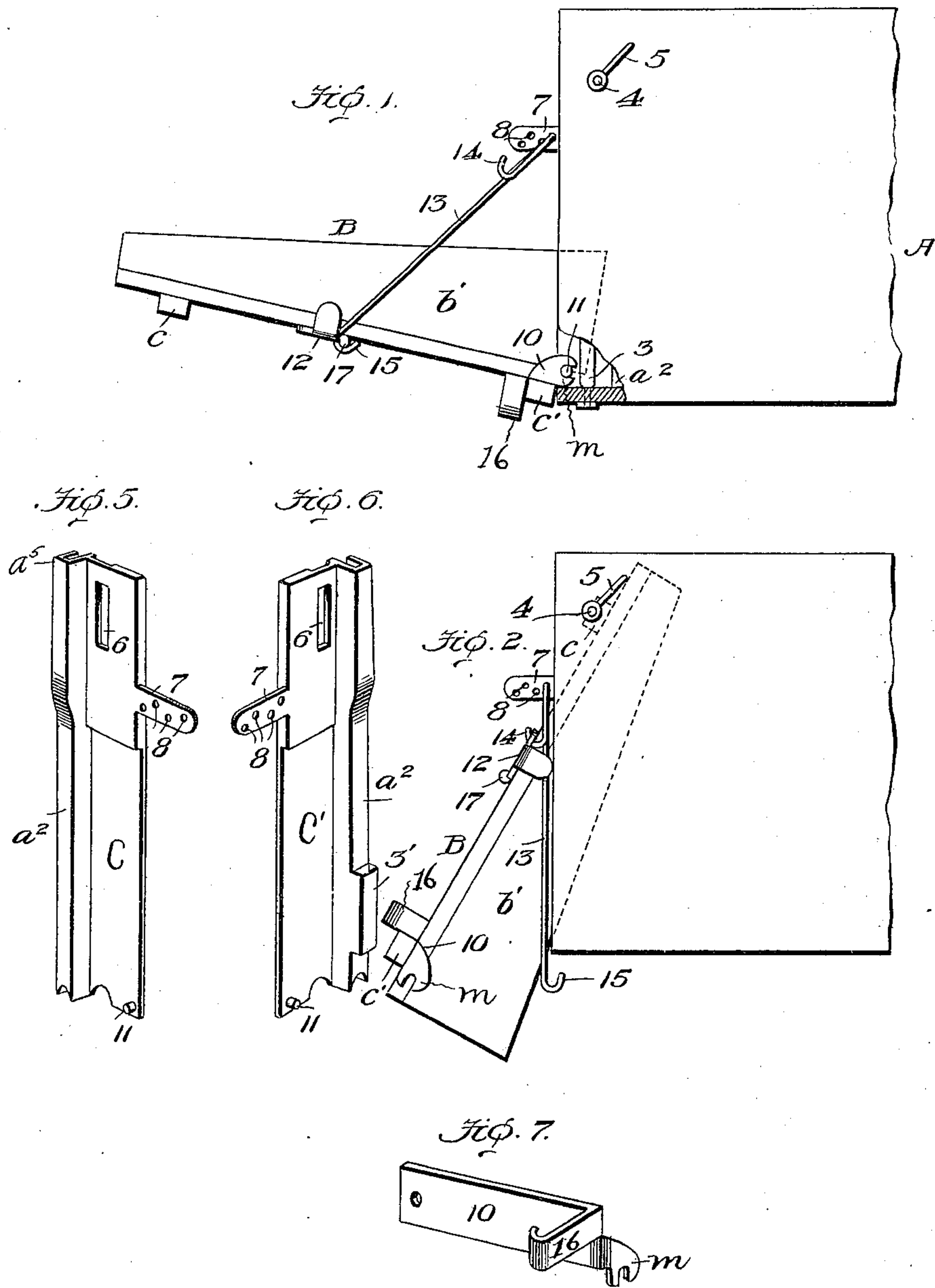
Patented Oct. 29, 1901.

D. WILDE & F. STEWART.
END GATE.

(Application filed Mar. 26, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

Wm. O. Ashiee
Ralph L. Worfield

Frank Stewart & Daniel Wilde Inventors

by *Phesa & Brist Co.*
their Attorneys

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2 Sheets—Sheet 2.

Fig. 3.

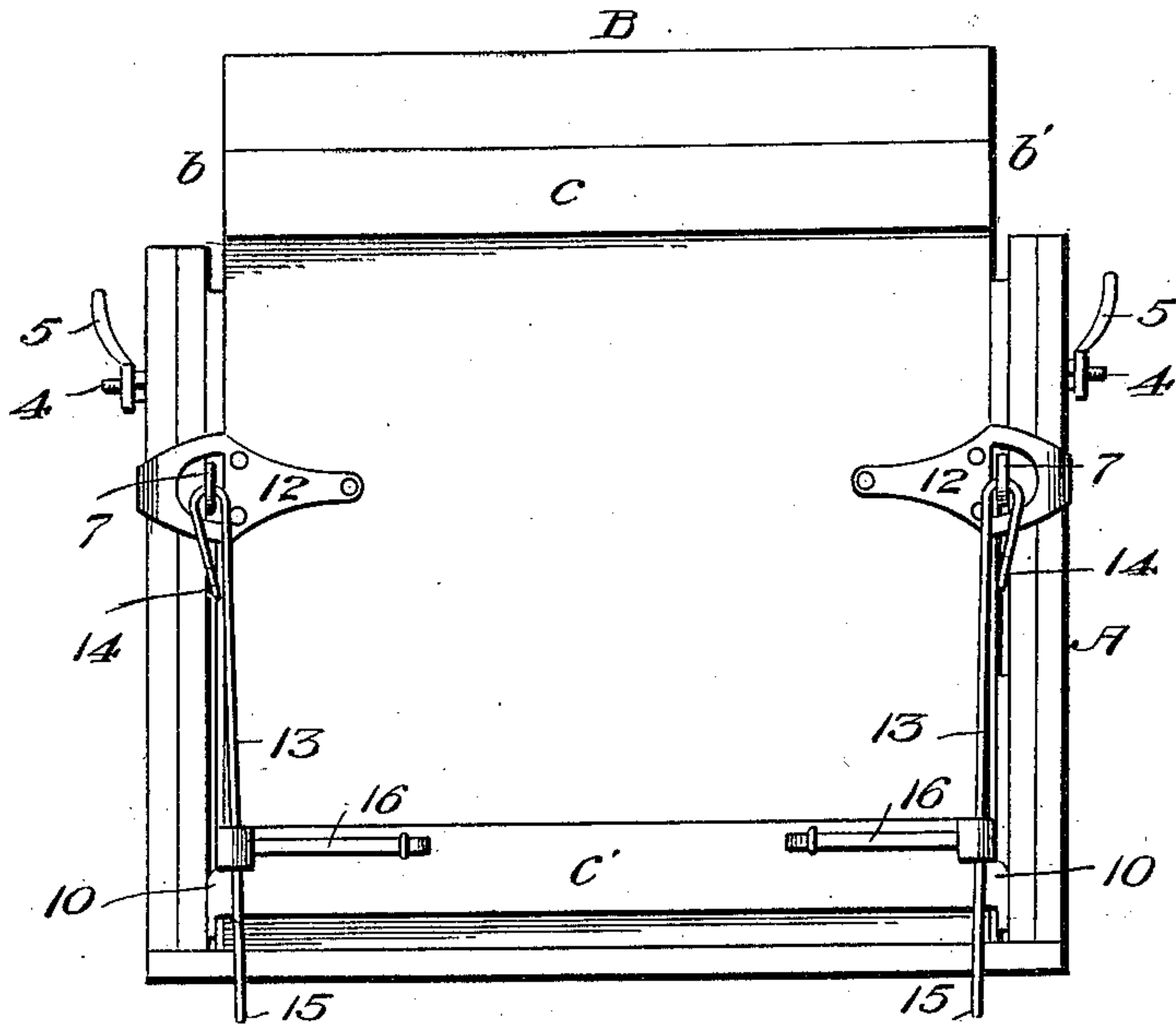
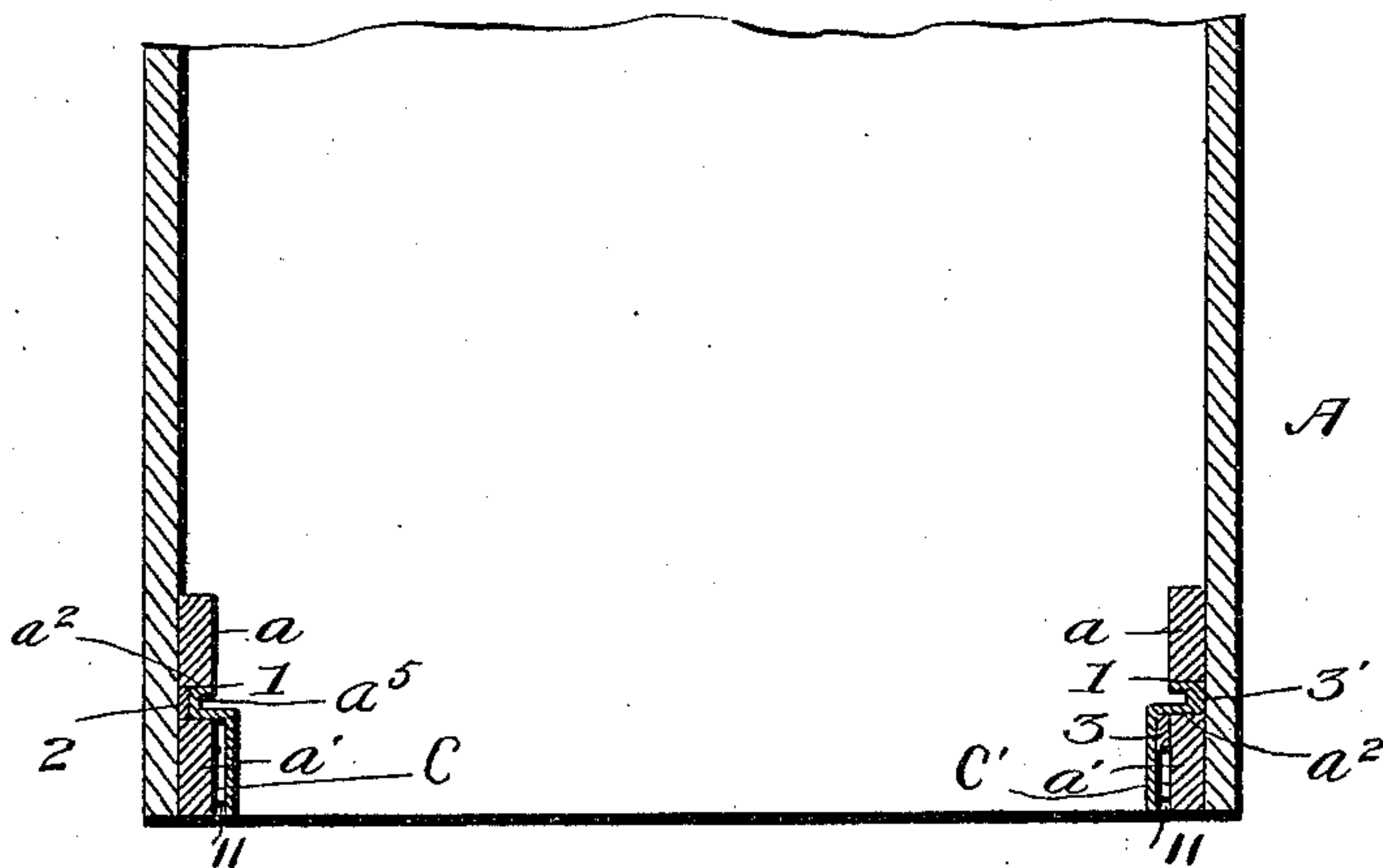


Fig. 4.



Witnesses

Wm. C. Dashiell
Ralph H. Warfield

Inventors
Frank Stewart & Daniel Wilde
by *Russell D. Brist Co.*
their Attorneys.

UNITED STATES PATENT OFFICE.

DANIEL WILDE AND FRANK STEWART, OF WASHINGTON, IOWA; SAID
WILDE ASSIGNOR TO SAID STEWART.

END-GATE.

SPECIFICATION forming part of Letters Patent No. 685,703, dated October 29, 1901.

Application filed March 26, 1901. Serial No. 53,012. (No model.)

To all whom it may concern:

Be it known that we, DANIEL WILDE and FRANK STEWART, citizens of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented a new and useful Improvement in End-Gates, of which the following is a specification.

Our invention relates to an improvement in combined end-gates and shoveling-boards for wagon or sled beds, the object being to provide an attachment to be placed at the rear end of a wagon or sled to facilitate in unloading the contents. If the material, grain, or what not is to be unloaded by means of a shovel or scoop, it is known as a "shoveling" or "scoop" board; but if it is to be unloaded by releasing the grain or other material by removing the end-board that holds said material in then it is known as a "dump-board." Our invention is constructed and adapted to be used either way preferred, as in accordance with the arrangements for the reception of the load.

One of the main features of our invention is its adaptability to any wagon bed or body in common use, which is brought about by its capability of attachment, notwithstanding variations in size and in the relative positions of parts of the ordinary wagon box or body.

With the foregoing in view our invention consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, showing the gate open as adjusted when used as a shoveling-board, a part of the bed or body being broken. Fig. 2 is a similar view with the gate in position for dumping the contents of the wagon or sled bed or body. Fig. 3 is a rear view. Fig. 4 is a section, and Figs. 5 and 6 are detail views of two forms of clamping strips or plates.

A represents the body or bed of the wagon or sled to which the end-gate is applied, and B is the end-gate, it being provided with the usual side pieces $b\ b'$, and it is preferably strengthened across the back by cross-strips $c\ c'$. The bed or body presents no new features and requires no description except to state that it is supposed to have the usual

cleats $a' a'$ at the ends. This, however, is not necessary, although our invention is made in reference to them.

$C\ C'$ are clamping plates or strips. These plates or strips are constructed to lie or fit against the inner faces of the outer cleats $a' a'$ on the wagon-body, and they are provided with flanges $a^2 a^2$ at their inner edges to enter the grooves 1 1, formed between cleats. Although the two plates shown are in the main alike, yet they are slightly different at their lower ends to accommodate the securing-straps 2 and 3, which fasten the sides and bottom of the bed or body together, which may be either secured inside of the grooves 1 1, as shown at one side, or outside of the groove, as shown on the other side. Beds or bodies are constructed both ways, and these plates are made in pairs for either construction. When for a wagon bed or body in which the strap 2 is inside of the groove, as shown at the left hand in Fig. 4, the flange is recessed or offset to correspond, as at a^5 , and when the strap 3 is on the cleat or outside the groove, as on the other side of Fig. 4, then the flange of the clamping plate or strip (see Fig. 6) has a block 3' thereon of sufficient width or thickness to reach the bottom of the groove or to correspond to the thickness of the strap; otherwise the clamping plates or strips are alike and a description of one will serve for both. The plates are secured in place by the short bolts 4 4, which pass through the holes in the sides of the bed or body present in all wagons to receive the usual securing-bolt for holding the sides against spreading. Nuts on the ends of these bolts, and preferably tail-nuts 5 5 to prevent accidental displacement, are employed to hold them securely in place. These bolts pass through slots 6 6 in the clamping-plates, and the slots 6 6 are elongated to insure their falling opposite the holes which in different makes of wagons may be at slightly-different heights. Thus the clamping-plates are attached to any wagon box or body and no change in the box is required for their accommodation. The clamping-plates are each provided with an outwardly-projecting lug 7, and these lugs have several holes 8 8 formed therein, the object being to provide for cleats a' of different widths in different wagons.

The end-gate is provided at the lower

corners with forked plates 10 10. These extend rearwardly and parallel with the sides of the end-gate, with their openings *m* extending downward. These forked plates reach 5 into the space between the clamping-plates and the cleats and hook over bearing-pins 11 11 on the lower ends of the clamping-plates arranged to receive them and upon which the end-gate turns or swings. Hook-plates 12 12 10 are secured to the rear surface of the end-gate at or near the center, and these plates project far enough beyond the edge of the end-gate to embrace the sides of the box or body, whereby to prevent the latter from spreading 15 with the weight of the contents of the wagon, thus performing the function of the customary rod for this purpose. These hook-plates are slotted to receive the lugs 7 7, which always protrude sufficiently far beyond the end of 20 the bed or body to extend through and beyond the hook-plate. Fastening-rods 13 13 are loosely connected with these lugs, they extending through whichever hole in the lug is most convenient or nearest the end of the 25 bed or body. The fastening-rods may be variously constructed, but preferably they are made of wire of suitable size to pass through any hole 8 and at the same time afford the required strength and resiliency for the purpose to which they are intended and applied. 30 These rods after passing through a hole are bent back, and an upturned hook 14 is formed at the upper end, and a downturned hook 15 is located at the lower end, their functions being to engage and hold the hook-plates accordingly as the end-gate is adjusted for dumping or for shoveling or scooping, respectively, as will be hereinafter more fully explained in the operation of the invention. 40 Spring-catches 16 16, located at the end of the lower cross-strip *c'*, are adapted to lock these fastening-rods to the end-gate when the latter is closed, and to give adequate spring to the fastening-rods the enlargements 17 17 are 45 made on the hook-plates. These enlargements serve as fulcrums for the fastening-rods, insuring the holding of the fastening-rods tight in the catches and at the same time holding the end-gate firmly and securely to 50 the bed or body. As a convenient construction the rigid plate of the spring-catches and the forked plate are made in one single integral piece of sheet metal, although, of course, this is only an approved arrangement and 55 not by any means absolutely necessary.

Briefly, the operation is as follows: First, as has been stated the clamping-plates are secured at the end of the bed or body, they being constructed for universal application— 60 in other words, to any wagon bed or body. Then to attach the end-gate the forked plates are inserted in the space between the lower ends of the clamping-plates and the cleats *a'* *a'*, so that the forks straddle and turn upon 65 the bearing-pins 11 11. The fastening-rods are then threaded through the slots in the

hook-plates, and the end-gate is pushed back as far as the hook-plates will let it go into place, the rods naturally dropping by gravity when they are sprung into the spring-catches 70 on the ends of the lower cross-strip *c'*. This is one position of the end-gate—the “normal” position, it may be termed. Another position is that of dumping, and that is acquired by unhooking the fastening-rods and raising 75 them to an upright position. The end gate is then forced back by the weight of the grain against it until the hook-plates catch in the upper hooks 14 14, after which the rods which have been held up are released. With the 80 hook-plates in this position in the upper hooks 14 14 the end-gate is lifted from the bearing-pins 11 11, and the grain pushes its lower end outward for it to flow out, an opening of some twelve inches being in this way 85 provided for the escape of the grain. A third adjustment is that of a “shoveling-board” so called. Assuming that the end-gate is in its normal position, the fastening-rods are 90 unfastened and the gate is permitted to drop or swing open to its utmost extent, the lowermost hooks 15 15 catching the hook-plates, as shown in Fig. 1. In this way we obtain an end-gate of practical merit, having adequate strength and capable of quick and easy 95 adjustment, at the same time performing all of the required and prescribed functions of the end-gate, dumping-gate, and shoveling-board.

It is evident that slight changes might be 100 resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of our invention, and hence we do not wish to limit ourselves to the exact construction set forth; but, 105

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with clamping-plates and means for securing them to the bed or 110 body of a wagon or sled, of an end-gate having pivotal connection therewith, hook-plates secured to the end-gate and adapted to hook over the sides of the bed or body to prevent them spreading, and fastening-rods threaded 115 through said hook-plate and fastening means for securing the rods at their free ends.

2. The combination with the bed or body of a wagon or sled, and an end-gate removably pivoted thereto, of slotted hook-plates 120 secured to the end-gate and adapted to embrace the sides of the bed or body and prevent their spreading when closed, and means passed through the slots in the hook-plates for securing the gate in its normally closed 125 position.

3. The combination with the bed or body of a wagon or sled, and an end-gate removably pivoted thereto, of slotted hook-plates secured to the end-gate and adapted to em- 130 brace the sides of the bed or body and prevent their spreading when closed, and fasten-

ing-rods adapted to pass through the slots in the hook-plates and means for fastening the outer ends of said rods to the end-gate.

4. The combination with the bed or body of a wagon or sled, and an end-gate removably pivoted thereto of fastening-rods pivotally connected with the bed or body and having hooks one at the extreme end and the other located at some distance from the pivot of the rod, one or the other of which is adapted to engage the gate accordingly as the gate is to permit dumping of the contents of the bed or body or shoveling or scooping of its contents therefrom.

5. The combination with the bed or body of a wagon or sled, and an end-gate hinged thereto, said end-gate carrying a slotted hook-plate at or near the center of each side edge, said hook-plates adapted to hook over and engage the rear edges of the bed or body and prevent spreading, of fastening-rods pivotally connected at the rear end of the bed or body, said rods threaded through the slots in the hook-plates and spring-catches on the lower end of the end-gate for securing these rods thereto.

6. The combination with the bed or body of a wagon or sled and an end-gate removably hinged thereto, said end-gate carrying a slotted hook-plate at or near the center of each side edge, said hook-plates adapted to hook over and engage the rear edges of the bed or body and prevent spreading, of fastening-rods pivotally connected at the rear end of the bed or body, said rods threaded through the slots in the hook-plates, spring-catches on the lower end of the end-gate for securing these rods thereto, said fastening-rod having a hook at or near each end, one of which is adapted to engage the hook-plate accordingly as the gate is used for dumping or shoveling.

7. The combination with clamping-plates having flanges thereon and constructed and adapted to be secured to a wagon or sled bed or body, said plates having bearing-pins thereon, and means for securing the plates, of an end-gate having forked plates adapted to receive and turn upon the bearing-pins, slotted hook-plates secured to the end-gate, the hooks adapted to embrace the sides and prevent spreading, and fastening-rods adapted to be threaded through the slots in the hook-plates and be fastened.

8. The combination with clamping-plates having flanges thereon and constructed and adapted to be secured to a wagon or sled bed or body, said plates having bearing-pins thereon, and means for securing the plates, of an end-gate having forked plates adapted to receive and turn upon the bearing-pins, slotted hook-plates secured to the end-gate, the hooks adapted to embrace the sides and prevent spreading, and fastening-rods adapted to be threaded through the slots in the hook-plates, and spring-catches for securing these rods to the end-gates.

9. The combination with clamping-plates having flanges thereon and constructed and adapted to be secured to a wagon or sled bed or body, said plates having bearing-pins thereon, and means for securing the plates, of an end-gate having forked plates adapted to receive and turn upon the bearing-pins, slotted hook-plates secured to the end-gate, the hooks adapted to embrace the sides and prevent spreading, fastening-rods adapted to be threaded through the slots in the hook-plates, and spring-catches for securing these rods to the end-gates, said fastening-rods having a hook at or near each end.

10. The combination with clamping-plates having elongated vertically-disposed slots, said plates reaching to the lower edge of the wagon-body sides, and constructed to clear the usual securing-strap, the clamping-plates each having a perforated outwardly-projecting lug, of an end-gate and means for fastening said end-gate to the clamping-plates.

11. The combination with slotted clamping-plates, said plates constructed to clear the usual securing-strap, the clamping-plates each having a perforated outwardly-projecting lug, of an end-gate having a catch and forked plate made in one piece, the forked plate constituting a pivotal attachment to the clamping-plates, the end-gate carrying slotted hook-plates, and fastening-rods pivoted in one of the perforations of the lugs and having hooks thereon, said rods adapted to be threaded through the slots of the slotted hook-plates and held by the catches.

12. In an end-gate for vehicles, a clamping plate or strip of a length to reach the wagon-body sides having a flange adapted to enter the groove formed between cleats on a wagon bed or body, said flange provided with an offset to make room for the strap which secures the side and bottom of a bed or body together.

13. In an end-gate for vehicles, a clamping plate or strip of a length to reach the width of the wagon-body sides having a flange adapted to enter the groove formed between cleats on a wagon bed or body, said flange provided with an offset and a projection on the offset portion of the flange.

14. In an end-gate for vehicles, a clamping plate or strip of a length to reach the width of the wagon-body sides having outwardly-projecting perforated lugs of sufficient length to extend over the widest cleat ever used in wagon bed or body construction in combination with rods adapted to enter one of said holes, and an end-gate secured by said rods.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

DANIEL WILDE.
FRANK STEWART.

Witnesses:

FRED N. ANDERSON,
GERTRUDE STEWART.