

(No Model.)

W. A. CRAWFORD.
WAGON END GATE.

No. 505,566.

Patented Sept. 26, 1893.

Fig. 1.

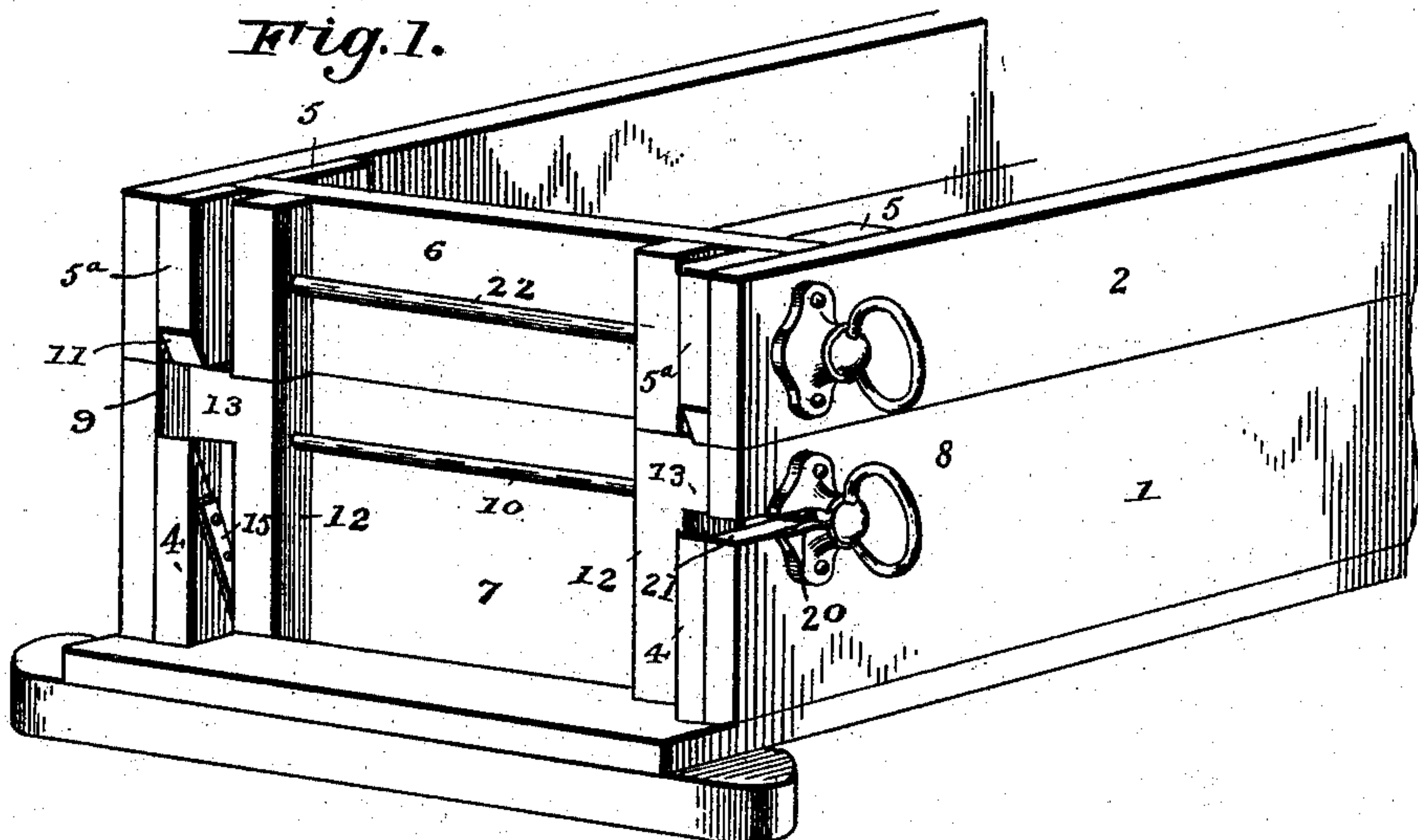


Fig. 2.

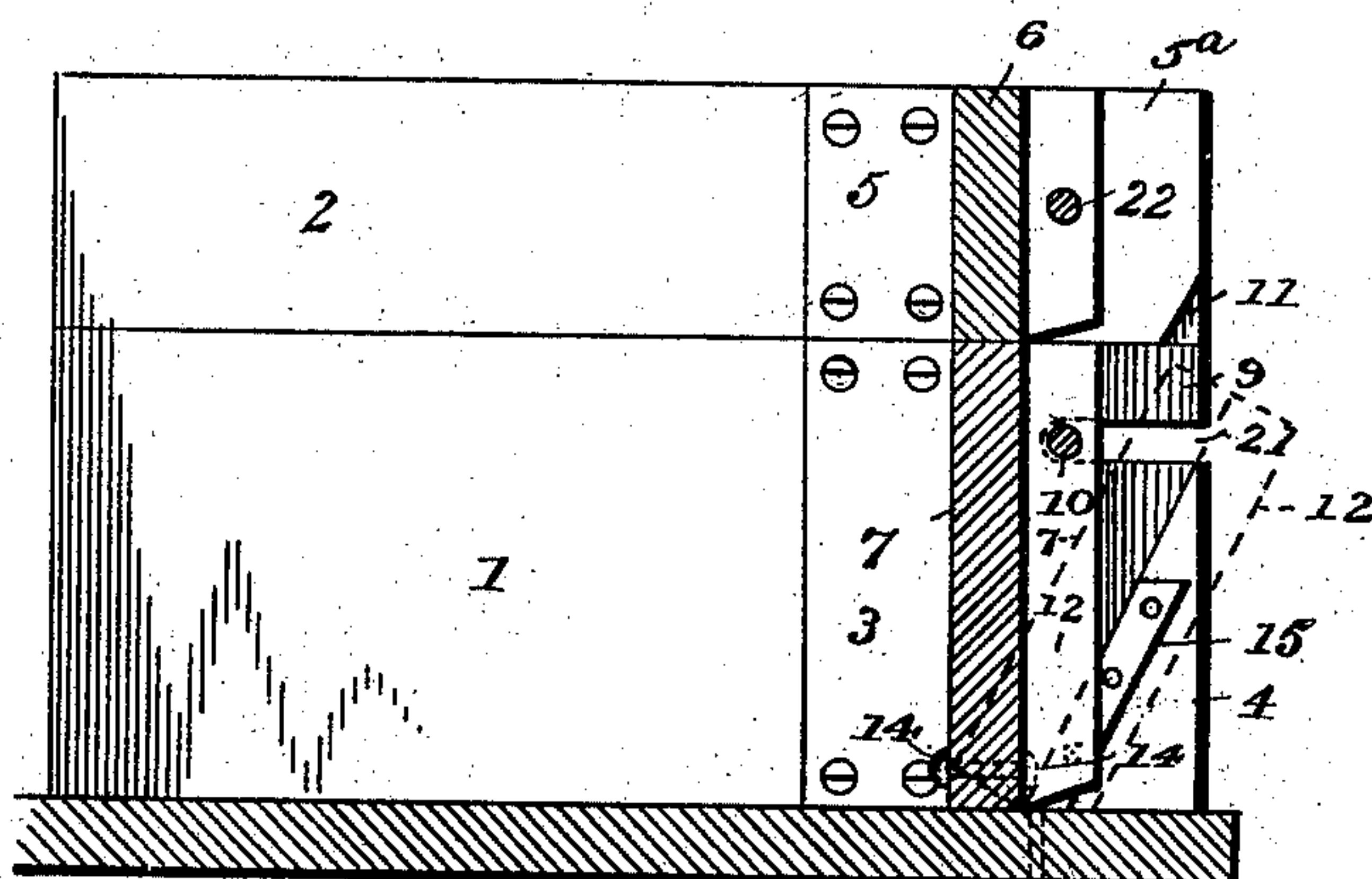
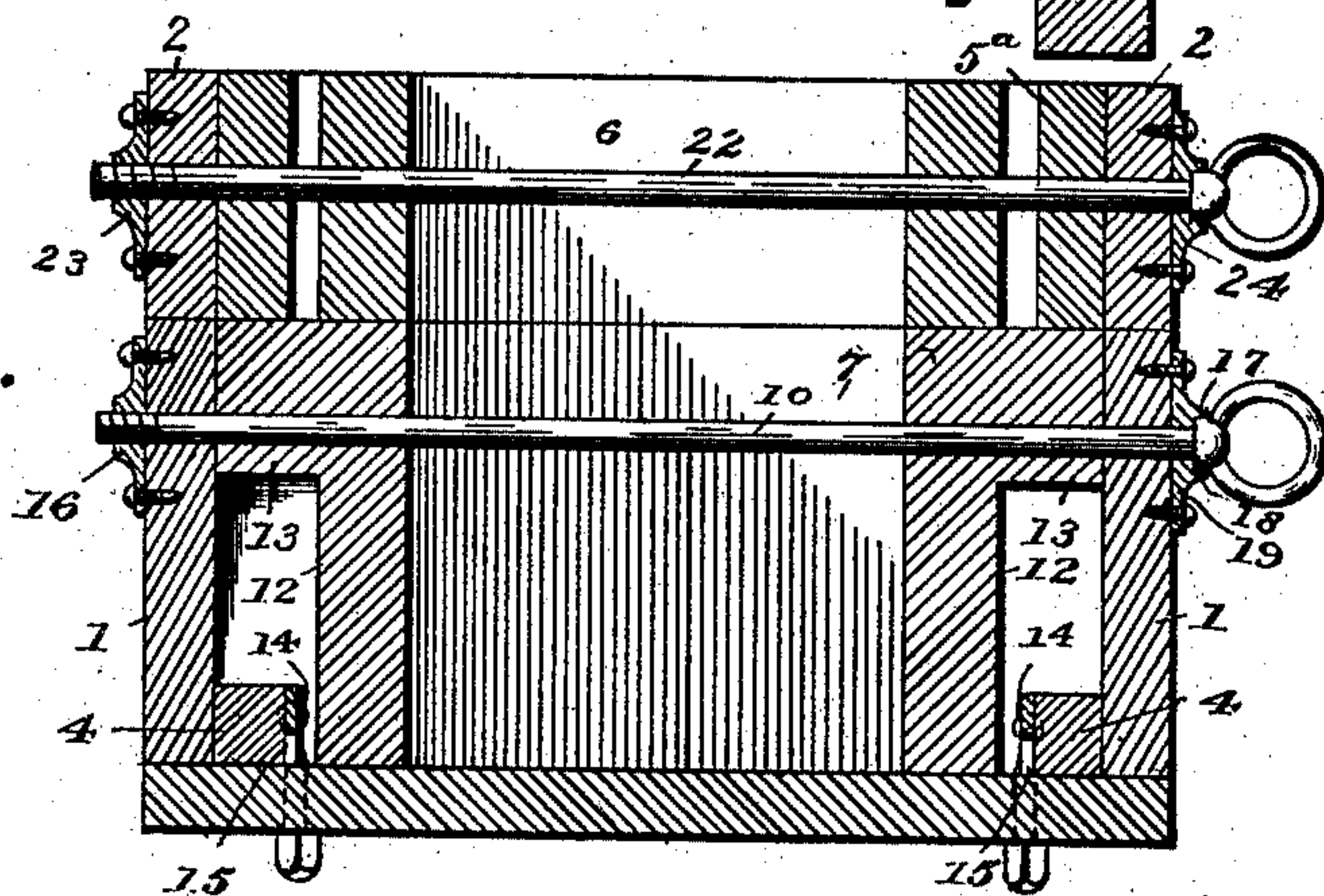


Fig. 3.



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM ANDREW CRAWFORD, OF ST. CHARLES, MINNESOTA.

WAGON END-GATE.

SPECIFICATION forming part of Letters Patent No. 505,566, dated September 26, 1893.

Application filed June 28, 1893. Serial No. 479,029. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ANDREW CRAWFORD, a citizen of the United States, residing at St. Charles, in the county of Winona and State of Minnesota, have invented a new and useful End-Gate, of which the following is a specification.

The invention relates to improvements in end-gates.

The object of the present invention is to improve the construction of end gates for wagons, and to enable the end gate of the body of a wagon to be readily removed without detaching the end gate of the top box, and to permit the latter to be readily detached when desired.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a wagon body provided with end gates constructed in accordance with this invention. Fig. 2 is a vertical sectional view taken longitudinally of the wagon body. Fig. 3 is a transverse sectional view.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a wagon body, having a top box 2 and provided on the inner faces of its sides and the sides of the top box with vertical end-gate ways formed by lower cleats 3 and 4 and upper cleats 5 and 5^a, and receiving upper and lower end gates 6 and 7. The cleat 4 has its front edge inclined and it terminates short of the upper edge of the adjacent side 8 of the wagon body to enlarge the way and to form an entrance and exit opening 9 to permit the end gate 7 of the body when its transverse rod 10 is disconnected from the latter to be tilted rearwardly to enable it to be removed from the ways through the openings 9. The cleats 5^a are cut away at their rear edges at 11 to enlarge the entrance and exit openings 9 to permit the end gate 7 of the body to be readily lifted out.

The end gate 7 of the body is provided on its rear face with cleats 12, provided at their tops with lateral horizontally disposed extensions 13; and the said end gate 7 is provided

at its ends adjacent to its lower edge with rivets 14. Securing bars or irons 15, for holding the sides 8 of the wagon bed to the bottom thereof, are arranged on the inner faces of the cleats 4 adjacent to and flush with the inclined edges thereof; and by this construction the end gate may be readily removed and replaced without wearing the parts.

The securing rod 10 of the end gate 7 of the body has one end threaded to engage a threaded opening of a plate 16, and its other end is provided with a handle ring and has an annular shoulder 17 to fit in and engage an annular recess 18 of a plate 19. The plate 19 is secured to the right hand side of the wagon body, and is provided with a slot 20 which registers with a slot 21 of the adjacent side of the wagon body to enable the transverse rod 10, after the latter has been unscrewed from the plate 16, to be removed with the end gate 7 without entirely withdrawing it. The transverse rod 10 may be detached by entirely withdrawing it, and when so used the slots 20 and 21 will not be employed.

The upper end-gate of the top box is secured by a transverse rod 22, and is arranged in openings of plates 23 and 24 of the top box; the plate 23 has its opening threaded to receive the threaded end of the transverse rod 22; and the latter is entirely withdrawn when it is desired to move the top box end gate. In removing the top box end gate it is lowered to the bottom of the vertical ways, and it is withdrawn through the entrance and exit openings 9 in the same manner as the end gate 7 of the body. In replacing the end gates, the top box end gate is first inserted through the entrance and exit openings 9, and is then lifted to the top portion of the vertical ways between the cleats 5 and 5^a, and is secured by its transverse rod 22. The body gate is then inserted, and is secured by its rod 10.

It will be seen that the end gate is simple, inexpensive, strong and durable, and that the body end gate may be readily detached and replaced without disturbing the top box end-gate, and that the latter may be readily detached when desired.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or

sacrificing any of the advantages of this invention.

What I claim is—

1. The combination of a wagon body having a top box and provided on the inner faces of its sides and the sides of its top box with vertical ways having their lower portions rearwardly enlarged, and provided intermediate of their ends with rearwardly extending openings forming entrances to the ways, and upper and lower end gates arranged in the ways and adapted to be inserted in and removed from the ways through the openings thereof, substantially as described.
2. The combination of a wagon body and top box, the cleats 5 and 5^a secured to the inner faces of the sides of the top box, the cleat 5^a having its rear edge cut away at the bottom, the cleats 3 and 4 secured to the inner faces of the sides of the body, the cleat 4 terminating short of the upper edge of the adjacent side of the body and having its front edge inclined, and upper and lower end gates arranged between the cleats in ways formed thereby, substantially as described.
3. The combination of a wagon body having a top box and provided on the inner faces of its sides and the sides of its top box with vertical ways having their lower portions enlarged rearwardly and provided intermediate of their ends with rearwardly extending openings, the sides of the body being provided at their rear ends adjacent to their upper edges with slots, upper and lower end gates arranged in the ways, a plate 18 secured to one side of the body adjacent to the slot thereof and provided with an annular recess and having a slot registering with that of the body, a plate secured to the other side of the body and having a threaded opening, and a transverse rod attached to the lower end gate and having

one end threaded to engage the threaded opening of the plate and provided at its other end with an annular shoulder fitting said annular recess, the latter end of the rod being arranged in the slots of the body and the adjacent plate, substantially as described.

4. The combination of a wagon body having a top box, the upper cleats 5 and 5^a secured to the sides of the top box, the cleats 5^a having their lower ends cut away at their rear edges, the lower cleats 3 and 4 secured to the sides of the body, the cleats 4 terminating short of the upper edges of the sides of the body and having their front edges inclined, the securing bars arranged on the cleats 4 adjacent to the inclined edges thereof, a lower end gate provided at its bottom with rivets and having vertical cleats provided at their tops with outward extensions, an upper end gate, and transverse rods securing the end gates in place, substantially as described.

5. The combination of a wagon body having a top box and provided on the inner faces of its sides and the sides of its top box with vertical ways, and provided intermediate of their ends with rearwardly extending openings 9 forming entrances to the ways, and upper and lower end gates arranged in the ways and adapted to be inserted in and removed from the ways through the openings thereof, and locking rods 10 and 22 for the upper and lower end gates, the lower one being removable, 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.

WILLIAM ANDREW CRAWFORD.

Witnesses:

RICHARD N. MILLER,
CHARLES E. SMITH.