

(No Model.)

2 Sheets—Sheet 1.

C. L. GORRELL.

STOCK CAR.

No. 333,747.

Patented Jan. 5, 1886.

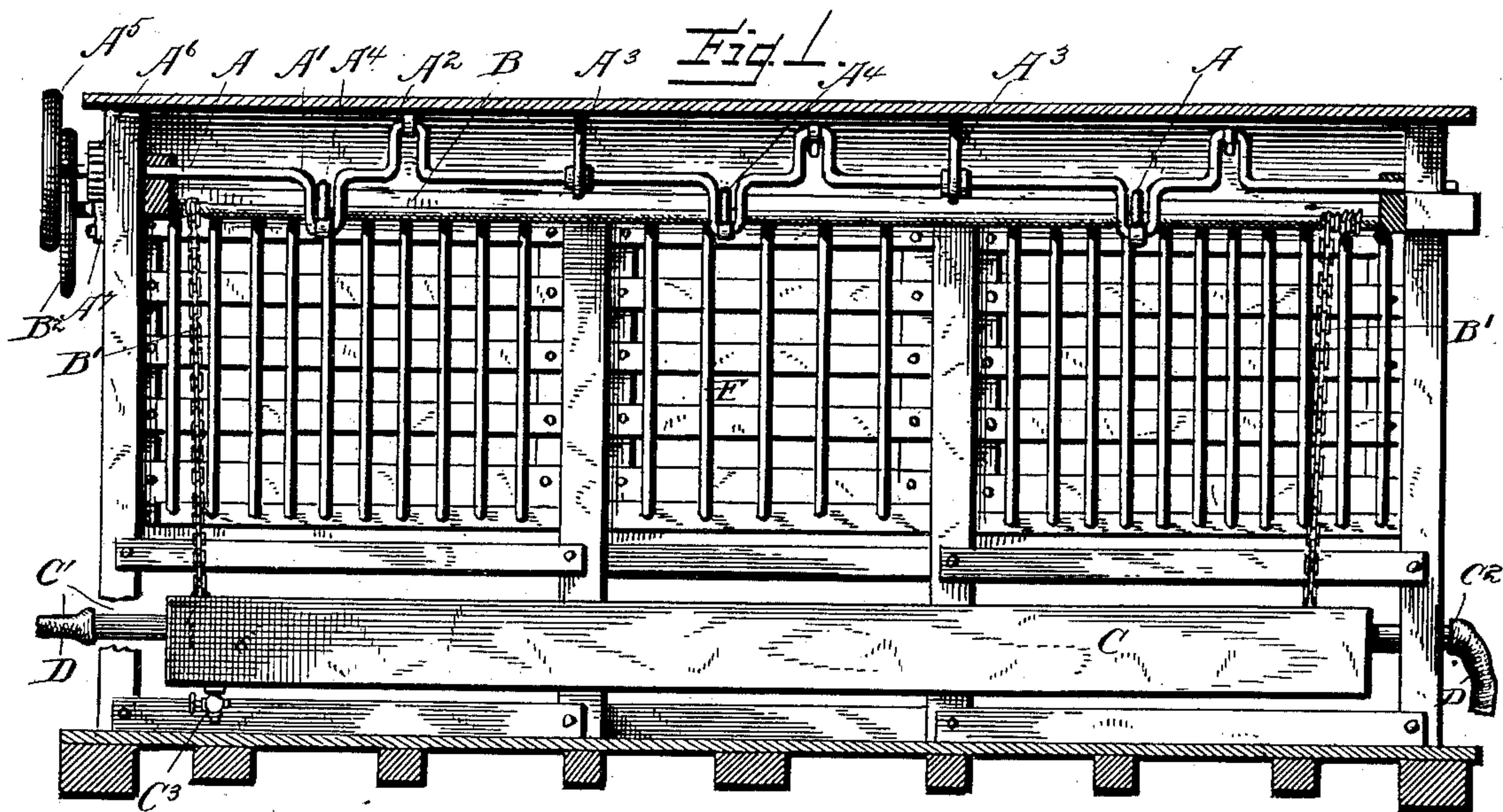
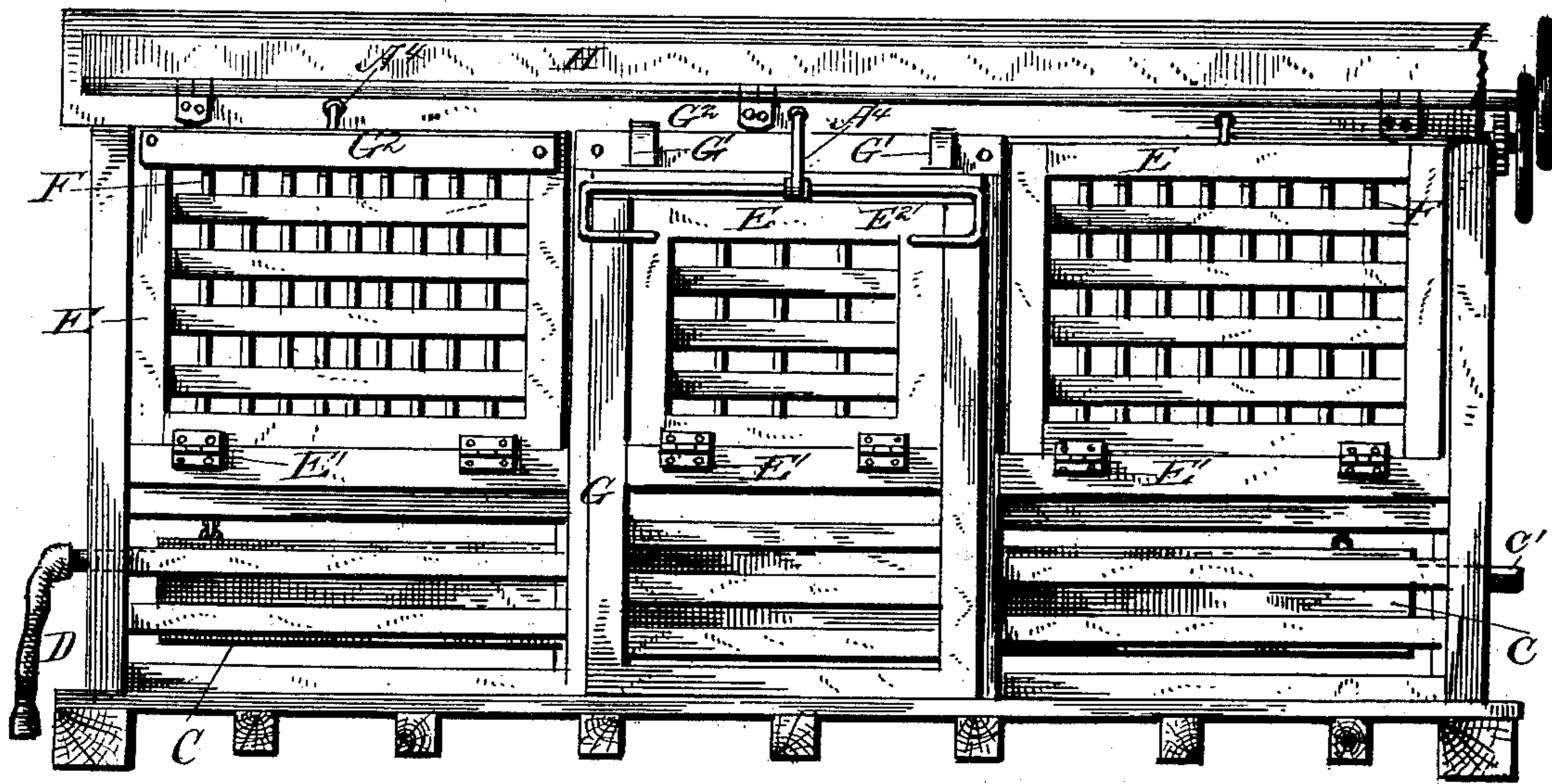


Fig. 2.



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(No Model.)

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2 Sheets—Sheet 2.

STOCK CAR.

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Fig. 3.

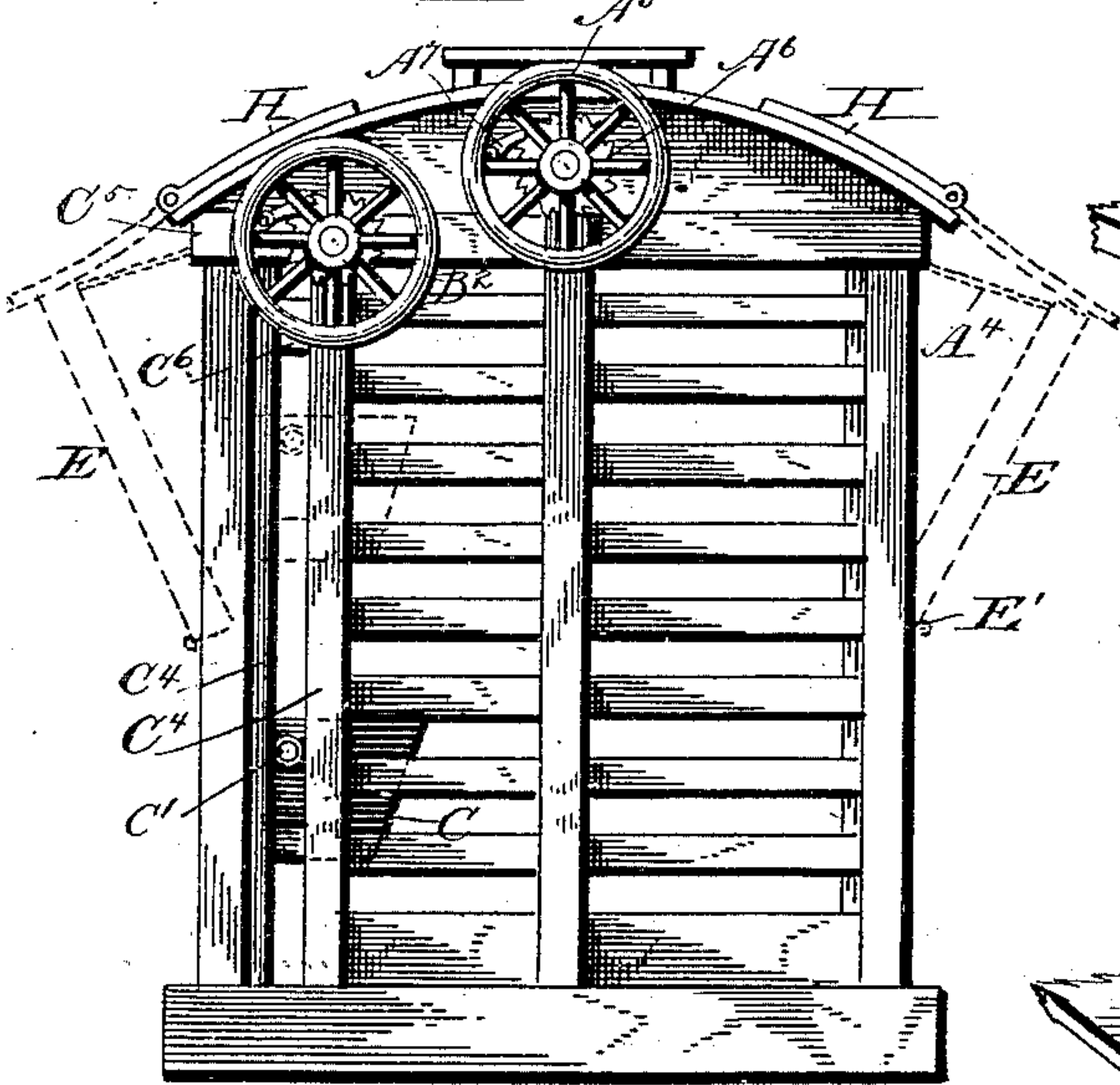


Fig. 4.

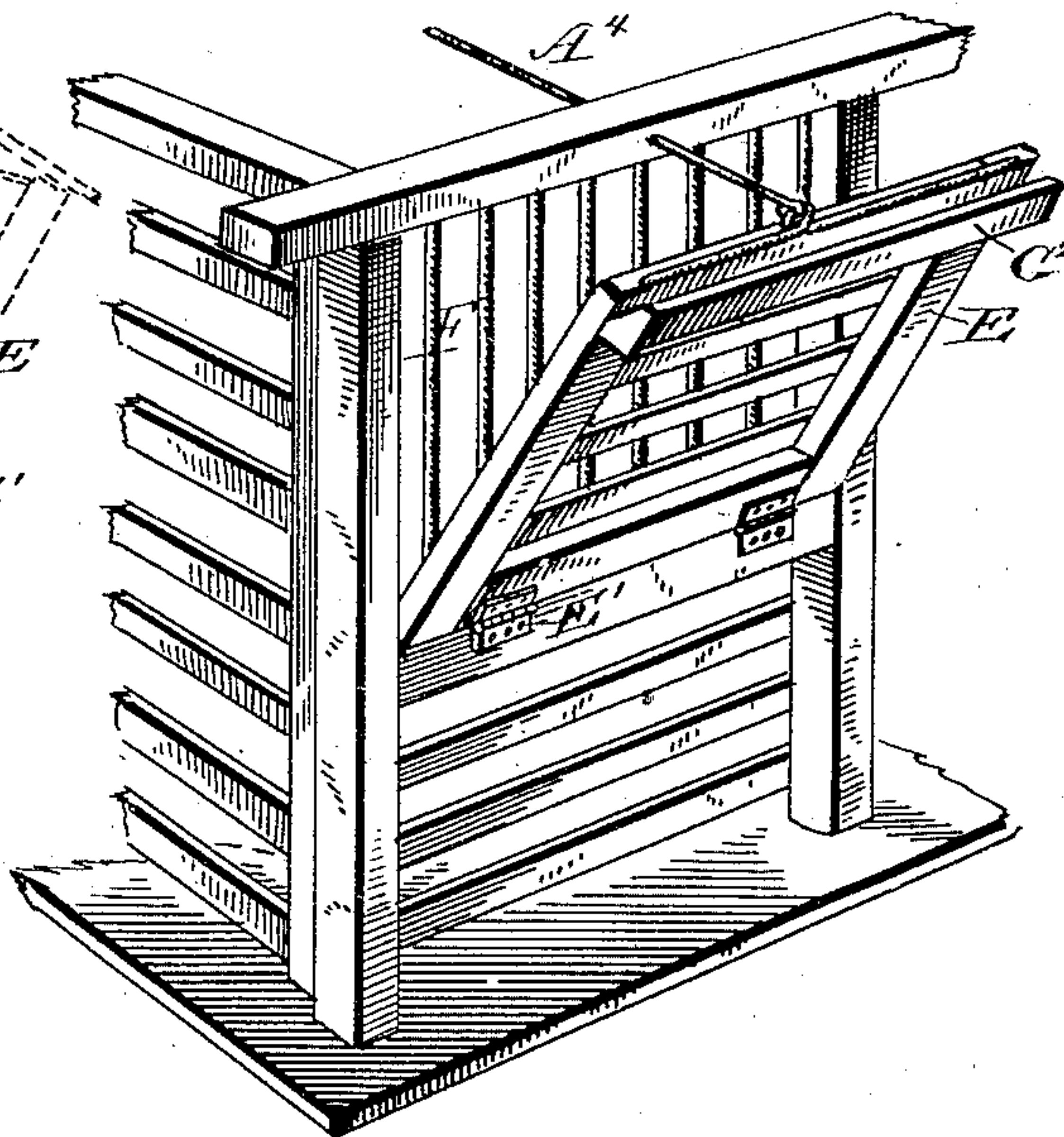


Fig. 5.

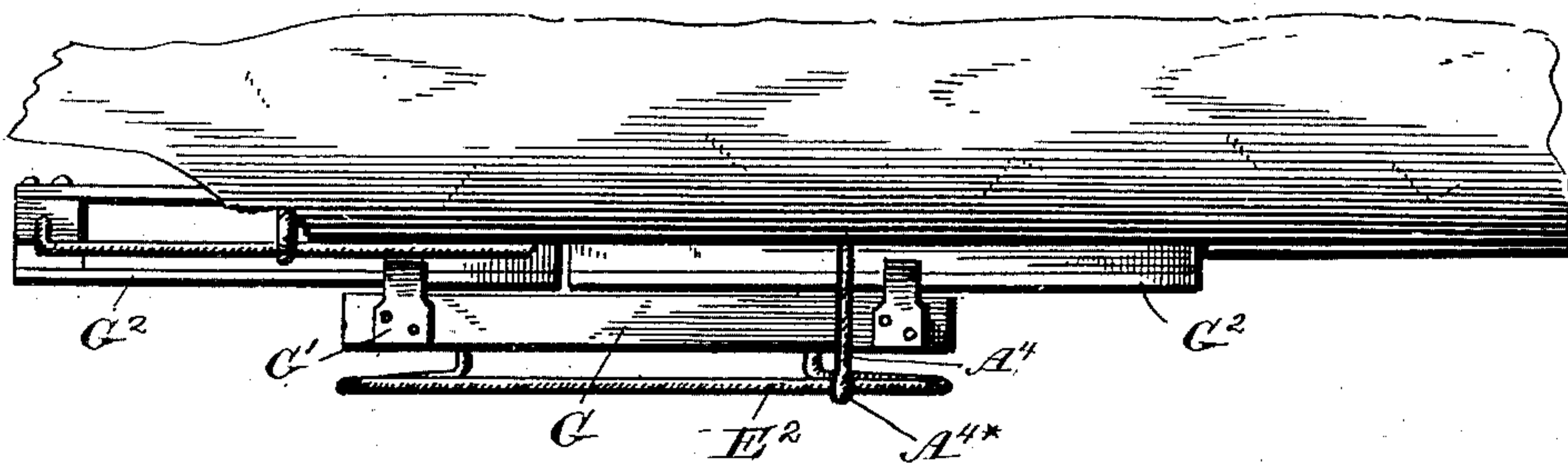
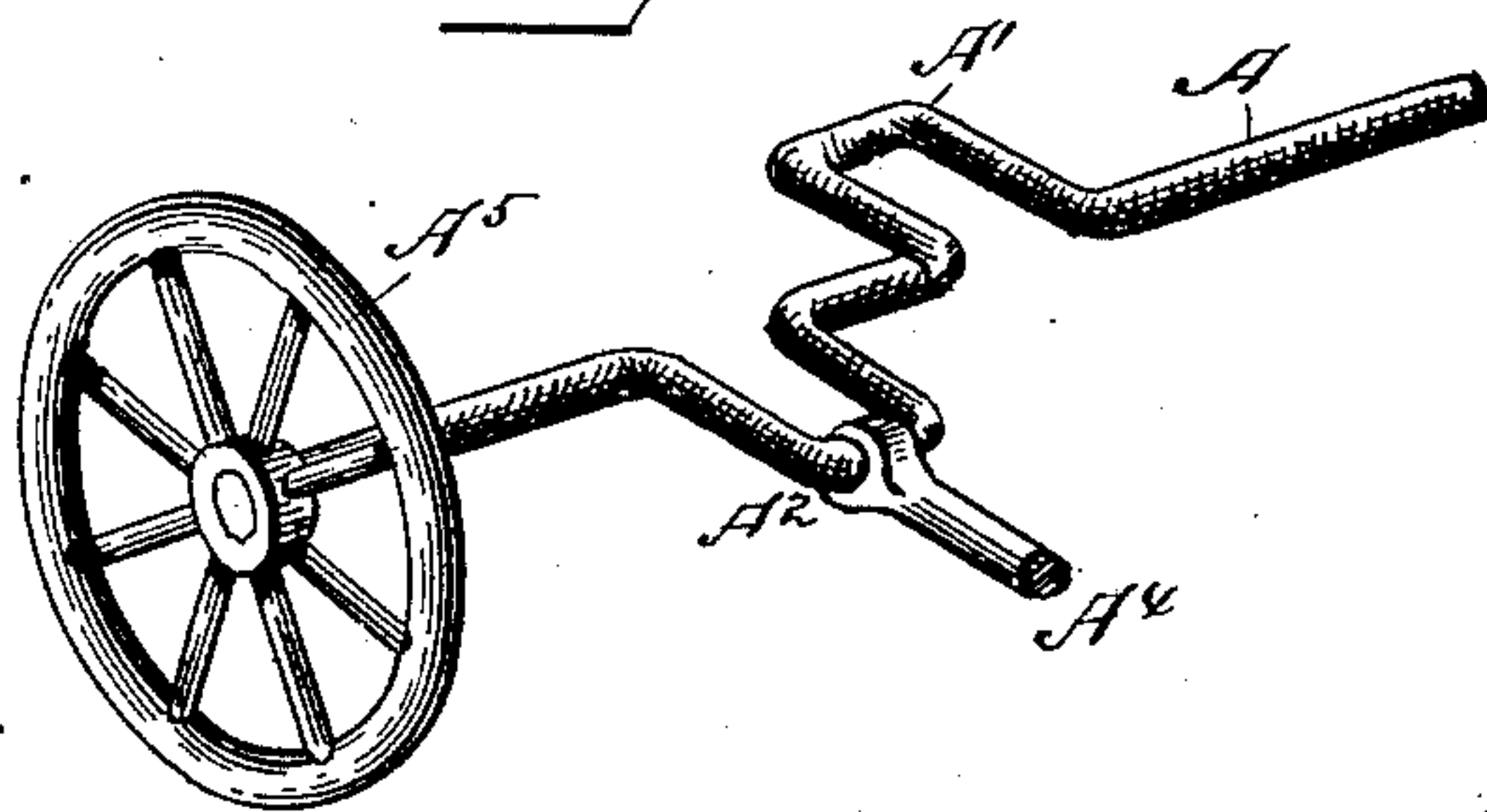


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES L. GORRELL, OF BELAIR, MARYLAND, ASSIGNOR OF TWO-THIRDS
TO AQUILLA B. AND OCTAVIAN M. WHITAKER, OF SAME PLACE.

STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 333,747, dated January 5, 1886.

Application filed October 27, 1885. Serial No. 181,087. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. GORRELL, a citizen of the United States, residing at Belair, in the county of Harford and State of Maryland, have invented certain new and useful Improvements in Stock-Cars, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to stock-cars, the object being to construct a car for the transportation of live stock in which fodder and water may be provided at any time during the day or night, and while the car or a train of such cars are either standing or in motion, and to accomplish these purposes by devices which are exceedingly simple and practicable, and which can be applied to stock-cars of common construction, and which, when applied, shall not affect the same in use or operation or materially change their general appearance.

Heretofore fodder-racks have been connected with the sides of cars; but each rack has required separate manipulation in order to place it in position for use and to close the same after being used. So, also, have watering-troughs been provided which required separate manipulation to raise and lower the same, so that each rack and each trough of each car in a train required separate attention, whereas by my invention all the troughs and racks of a car can be simultaneously put into and out of operation and the entire troughs of a train supplied with water.

The invention consists in certain features of construction hereinafter described, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a substantially central longitudinal vertical section of a stock-car constructed in accordance with my invention. Fig. 2 is a side elevation. Fig. 3 is an end elevation with the fodder-racks shown in dotted lines as distended, the spark-protector being also shown by dotted lines in operative position. Fig. 4 is a perspective showing one of the racks distended for the reception of fodder. Fig. 5 is a partial plan view showing the door partly

opened, and Fig. 6 is a detail of the crank-shaft.

Like letters refer to like parts in all the figures.

Running from end to end of the car is a crank-shaft, A, and a windlass-shaft, B, the latter being connected by chains B' with a water-trough, C, which has supply-pipes C' C² at each end thereof, which, by means of flexible hose D, may be connected with the supply-pipes of a trough of preceding or succeeding cars of the train, so that water from a supply-tank upon a car, preferably back of the tender of the locomotive of the train, may supply water to all of the cars in the train. The trough C is provided at one end with a drain-cock, C³, this being to withdraw from the trough any water remaining after the use of the same for watering stock. The supply-pipes C' C² serve as guides for directing the trough when it is elevated by rotating the wheel B², mounted on the end of the windlass-shaft and arranged outside of and at the end of the car, so as to be accessible either from the roof or from the bumper-platform of the car. Said pipes act as guides by reason of their passing between posts C⁴, (see Fig. 3,) extending from the bottom of the car up to the cross-beam C⁵ of its frame-work. In the upper portion of the slots that are formed in the frame-work of the car and at each end is a rubber block or cushion, C⁶, so that as the trough is elevated to its highest position the pipes C' C² are brought snugly against the cushions C⁶, and are thus prevented from rattling and from injury.

In case of a double-deck car, or one having two floors for the transportation of small live stock, a trough, C, may be provided for each compartment of the car.

Along each side of the car and within the panels between the upright posts of the frame-work thereof, and also upon a sliding door of the car, are mounted by hinges fodder-racks E, the hinges E' being arranged at the lower edges of the racks, so that their upper ends may be swung outwardly away from the car, as illustrated by dotted lines, Fig. 3. The

wall of the car at those portions of the panels which are covered by the racks is formed by vertical rods F, a sufficient distance apart to permit access to the fodder by the stock within the car.

Now, in order to obviate the necessity of manipulating each of the fodder-racks E separately and independently from each other, though this may be done, if desired, I provide the crank-shaft A with crank-arms A' A², projecting from the shaft at right angles to each other, as many of said crank-arms projecting from one side of the shaft as there are fodder-racks upon one side of the car, and as many of said cranks projecting from the other side of the shaft as there are fodder-racks upon the opposite side of the car. Suitable hangers, A³, may be provided for supporting the shaft, and these may be secured to the car in any suitable manner. I extend connecting-rods A⁴ from the cranks on one side of the shaft to the rack opposite said crank, so that when the shaft is oscillated by means of the wheel A⁵, mounted thereon and at the end of the car, the crank-arms are brought from the vertical position to a horizontal position, and are retained in said position by means of a ratchet, A⁶, and pawl A⁷, operating therewith. A similar pawl and ratchet is provided for the windlass-shaft B. Now, it will readily be seen that all of the fodder-racks upon each side of the car may be opened and closed by giving a quarter-revolution to the shaft A.

As stock-cars are provided with doors upon each side thereof, and as I arrange fodder-racks upon the doors, it becomes necessary to make provision for the opening and closing of the doors. Such doors, as indicated at G, Figs. 2 and 5, are usually suspended on hooks G', which hang upon a bar or track, G², secured to the frame-work of the car, and extending sufficiently far to form a support for the door, whether open or closed. This bar G² is made in sections, as shown, one being secured above the door and the other upon the fodder-rack E, and both arranged to be in line with each other, as clearly shown in Fig. 5. The fodder-rack in the panel in front of which the door slides when it is opened is connected with its rod A⁴ back of the bar G², (see Fig. 4,) so that said connecting-rod shall not interfere with the supporting-hook G' of the door. Of course it is not necessary to provide for the downward inclination of the fodder-rack when the car-door is open, so that said rack may be provided with a bar, G², and sustain the door when the rack is closed.

Another provision is required in the connection of the rod A⁴ with the rack E, which is mounted upon the door, and that provision is a construction which will permit of the sliding of the door while the rod remains stationary. To comply with this requirement of the problem, I provide a horizontal bar or rod,

E², which is mounted in the rack E, and which passes through an eye, A^{4*}, formed in the end of the rod A⁴. The rod E² is bent to form a straight portion as wide as, or it may be wider than, the door, and to form an upward portion, which is secured to the rack below the straight portion. Now, it will readily be seen that the door G may be opened and supported by the bars G², while the rod A⁴ will remain stationary, and the rod E² pass through the eye of said stationary rod, and that when the door is closed an oscillation of the crank-shaft will open the rack upon the door in the same manner that it opens the remaining racks of the car.

H represents a fire protector or screen, which is pivoted to the roof of the car and near its edge, and which extends the whole length of the car, or is of sufficient dimensions to cover all the racks on one side of the car. The object and purpose of the protector H is to provide a fire-proof covering which shall be capable of being folded over upon and so as to cover the racks when they are inclined from the car, as indicated by dotted lines, Fig. 3. If desired, additional folding protectors may be provided at the front or at both ends of each rack, in order that sparks shall not have access to the fodder in the rack while the train is in motion. In this instance I have shown the rack as consisting of a frame-work of slats; but it is apparent that it may be made of wood or metal and without openings, in order to insure further protection against sparks from the engine.

Having thus fully described my invention and its operation, what I claim, and desire to secure by Letters Patent, is—

1. A stock-car provided with a hinged fodder-rack, in combination with a connecting-rod and a crank-shaft mounted in the car, substantially as specified.

2. In a stock-car, the combination of a hinged fodder-rack, a connecting-rod, a crank-shaft mounted in the car, and a spark-protector adapted to be folded over the rack, substantially as specified.

3. In combination with the door of a stock-car, a hinged fodder-rack provided with a horizontal rod, a connecting-rod movably mounted thereon, and a crank-shaft mounted in the car, substantially as specified.

4. In a stock-car, and in combination with the door thereof, a hinged fodder-rack mounted upon the door and provided with a horizontal rod, a connecting-rod movably mounted thereon, an adjacent hinged fodder-rack provided with a door-supporting bar, and a connecting-rod extending from the rack in rear of the bar, and a crank-shaft mounted in the car, substantially as specified.

5. In a stock-car, the combination, with a windlass-shaft mounted in its upper portion, a water-trough extending the whole length of the car and having pipes projecting between

posts at the ends of the car, chains connecting the trough with the shaft, and a ratchet and wheel mounted on the shaft, and a holding-pawl, substantially as specified.

5 6. The combination of the posts C⁴ of the frame-work of the car, arranged at each end thereof, the troughs C, having the pipes C' C² projecting between the posts, the cushions C⁶,

chains B', and shaft B², substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES L. GORRELL.

Witnesses:

THOMAS H. ROBINSON,
S. A. WILLIAMS.

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