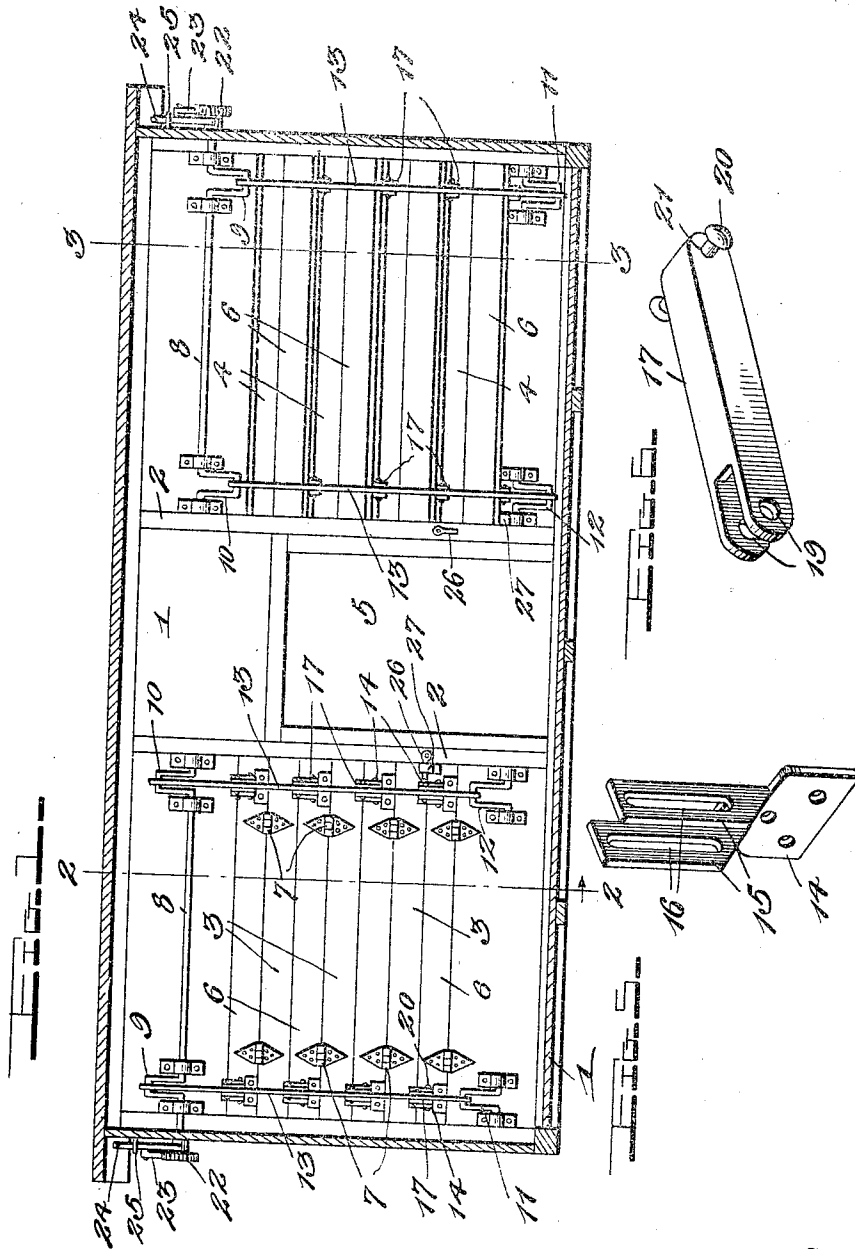


E. R. HAYMES.
COMBINATION STOCK AND BOX CAR.
APPLICATION FILED MAY 4, 1912.

1,060,981.

Patented May 6, 1913.

2 SHEETS-SHEET 1.



Inventor

E. R. Haymes,

Witnesses

Chas. L. Giestbauer.
A. B. Norton.

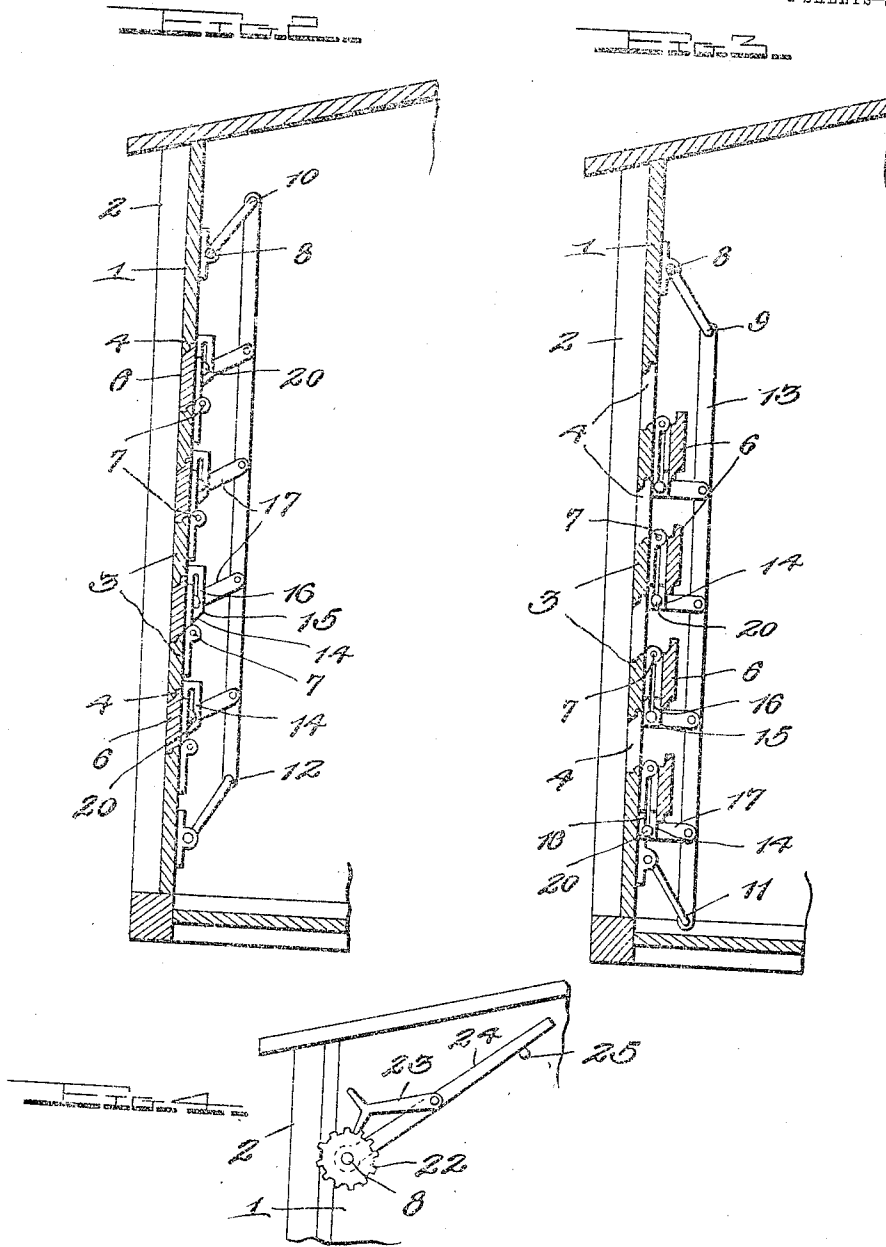
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UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

Patented May 6, 1913.

Application filed May 4, 1912. Serial No. 685,210.

To all whom it may concern:

Be it known that I, ELMER R. HAYMES, a citizen of the United States, residing at Marshfield, in the county of Webster and State of Missouri, have invented certain new and useful Improvements in Combination Stock and Box Cars, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in combined stock and box cars, whereby one car is adapted in a very simple and inexpensive manner for use either as a stock car with practically open sides or as a closed box car for the shipment of inanimate freight of any kind.

The invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which—

Figure 1 is a longitudinal sectional view of a box and stock car constructed in accordance with my invention. Fig. 2 is a transverse sectional view through one wall of the car, the section being taken on the line 2—2, of Fig. 1. Fig. 3 is a similar view on the line 3—3, of Fig. 1. Fig. 4 is a fragmentary end view of the car illustrating a ratchet and pawl used and hereinafter fully described. Fig. 5 is a detail perspective view of a link member employed, and, Fig. 6 is a similar view of another link member.

Corresponding and like parts are referred to in the following description and designated in the accompanying drawings by like reference characters.

Referring to the drawings, the numeral 1 designates the sides of a freight car provided with vertically arranged beams forming the skeleton frame 2 of the usual stock car. Upon this underlying skeleton frame are disposed horizontal slats 3 which are rigidly fixed thereto in vertically spaced relation to provide intermediate spaces 4, the spaces and slats being of any desired proportion relative to each other. This slatted portion of the car preferably extends from about eight inches above the car floor to a distance of about three feet from the car roof and longitudinally from the usual sliding box car door 5 to the end of the car. The ends of the car would ordinarily be

closed and provided with the usual small door in the upper portion thereof, although such feature has nothing to do with my present invention.

In order to close the car during stormy weather or to convert the same into a closed box car, I employ a series of movable slats 6 having a width corresponding to the width of the spaces 4, said slats being adapted to lie within said spaces and to fill the same. These movable slats are hingedly connected along their inner edges by hinges 7 to the upper edges of the fixed slats 3 so that they will swing from a closed position in the plane of the slats 3 inwardly to an open position, as illustrated in the right and left hand ends, respectively of Fig. 1 of the drawings.

In order to operate the slats in unison and to hold them in adjusted position, I mount upon the side of the car above the slatted portion, a rock shaft 8 provided with crank arms 9 and 10, the arms of the shaft being arranged directly above the crank arms 11 and 12 which are mounted below the slats. These arms have a length slightly greater than the width of the slats and are connected by crank rods 13 which bridge the space between the arms.

Upon the inner edges of each of the movable slats is fixed a link member 14 having upturned flanges 15 provided with opposed slots 16, while to the rods 13 are pivoted link members 17 having apertured ears 19. Pins 20 extend through the openings 21 and in the slots 16 to form a hinged link, the members of which have a slotted connection one with another and which are, respectively, connected to the movable slats and to the crank rods. At a suitable point upon the rock shaft 8, is fixed a ratchet wheel 22 engaged by a pawl 23 carried by the operating lever 24, whereby the crank arms may be operated to open and close the movable slats through the instrumentality of the crank rods and links. The ratchet wheels and levers are preferably mounted close to the roof of the car and on the outer sides of the ends thereof and are adapted to be operated from the roof. They are adapted to rest upon keepers 25, as best illustrated in Fig. 4, and a latch 26 is mounted upon the side of the car and is adapted to engage with a keeper 27 to directly secure the slats in closed position.

From the foregoing, it will be seen that

my invention as applied to a freight car, readily adapts the same to be used as a closed box car for general freight or to be speedily transformed into a substantially open car for the transportation of live stock. It has a further advantage as applied to a stock car in that the ventilation of the same may be graduated and in case of stormy weather, the exposed side of the car may be closed while the lee side may be left open. The changes from closed to open condition may be effected in a moment's time by merely throwing the operating lever from one of its positions to the other, whereby the slats on one side of the car and at one side of the door may be operated simultaneously and independently of the opposite side of the car or of the slats on the same side of the car but on the other side of the door.

While the accompanying drawings illustrate what I believe to be the preferred embodiment of my invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the invention, as defined in the appended claims.

Having thus described the invention, I claim:

1. In a combination stock and box car, vertically spaced relatively fixed slats, movable slats interposed between the fixed slats and hingedly connected thereto, crank rods, a shaft to which the crank rods are connected, means for turning said shaft to move the crank rods, link members pivotally connected to the crank rods, slotted link members connected to the movable slats, and pins connected to the first named link members and movable in the slots of the second named link members.

2. In a combination stock and box car,

spaced relatively fixed slats, movable slats interposed between the fixed slats and hingedly connected thereto, slotted link members carried by the movable slats, link members having a sliding connection with the first named link members in the slots of the latter, link rods pivotally connected to the second named link members, a crank shaft connected to the link rods, and means for turning said crank shaft, for the purpose specified.

3. In a combination stock and box car vertically spaced fixed slats forming the car side, other slats having a width corresponding substantially to the space between the fixed slats and hinged along their lower edges to the fixed slats, and means to swing the movable slats in unison to and from a position to close the interspaces, said means comprising a rock shaft mounted on the car side above the slats, crank arms carried by said shaft, other crank arms mounted on the car below the slatted space and in vertical alinement with the upper crank arms, crank rods connecting the vertically alined crank arms and bridging the space between the same above the hinged slats, links connecting the hinged slats and crank rods and comprising one member secured to the slat and having upturned slotted marginal flanges and a second member hinged to the rod and having perforated marginal flanges taking into the space between the flanges of the first member, and a pin disposed within the perforations and slots to connect the said members, and an operating lever arranged to rock the shaft to open and close the slats.

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

ELMER R. HAYMES.

Witnesses:

G. E. WISE,

D. A. ROBERTSON.