A. WESTPHAL.

CONVERTIBLE STOCK CAR.

APPLICATION FILED MAR. 23, 1909.

955,238.

Patented Apr. 19, 1910.

3 SHEETS—SHEET 1

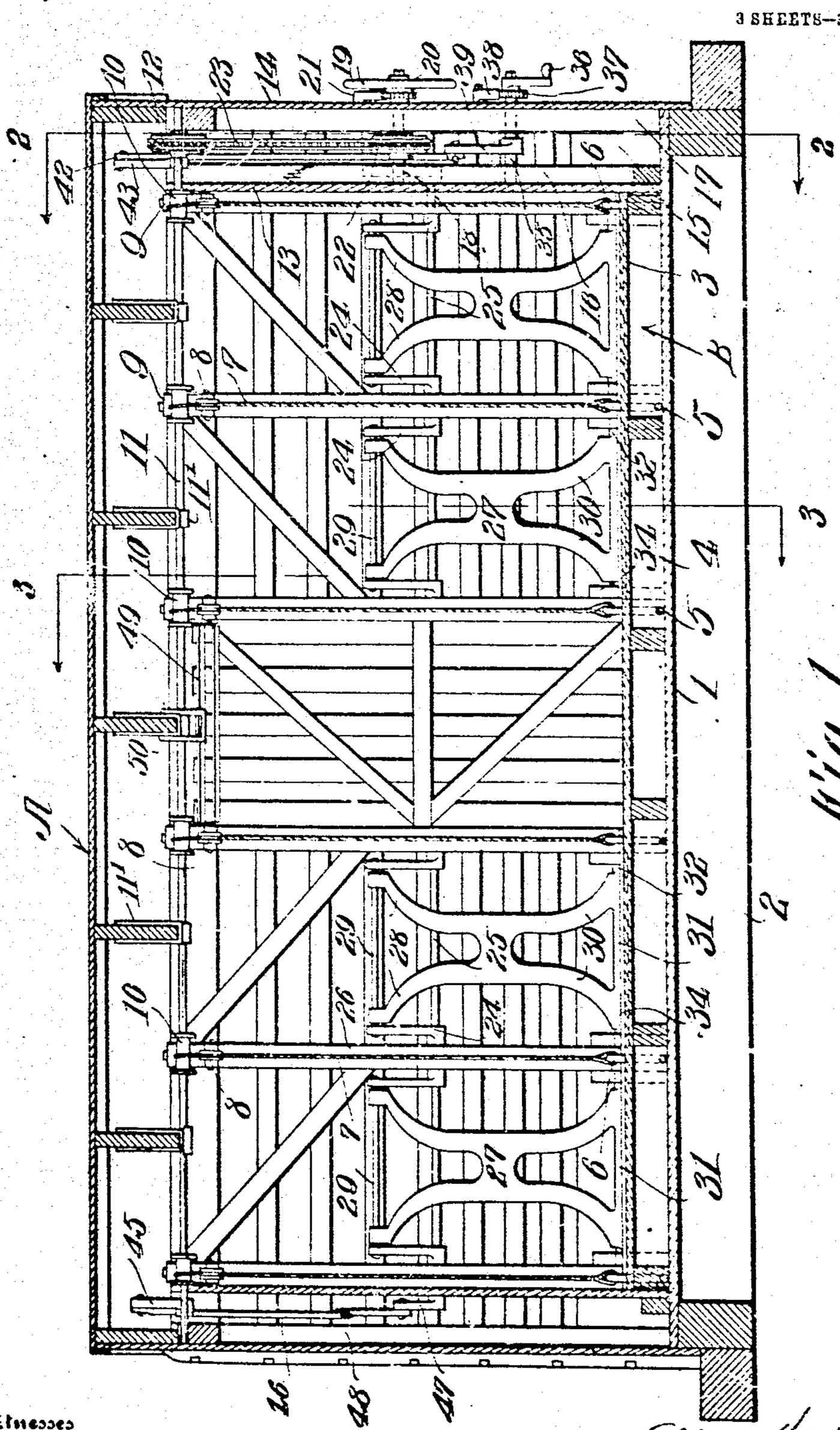

Fig. 1.

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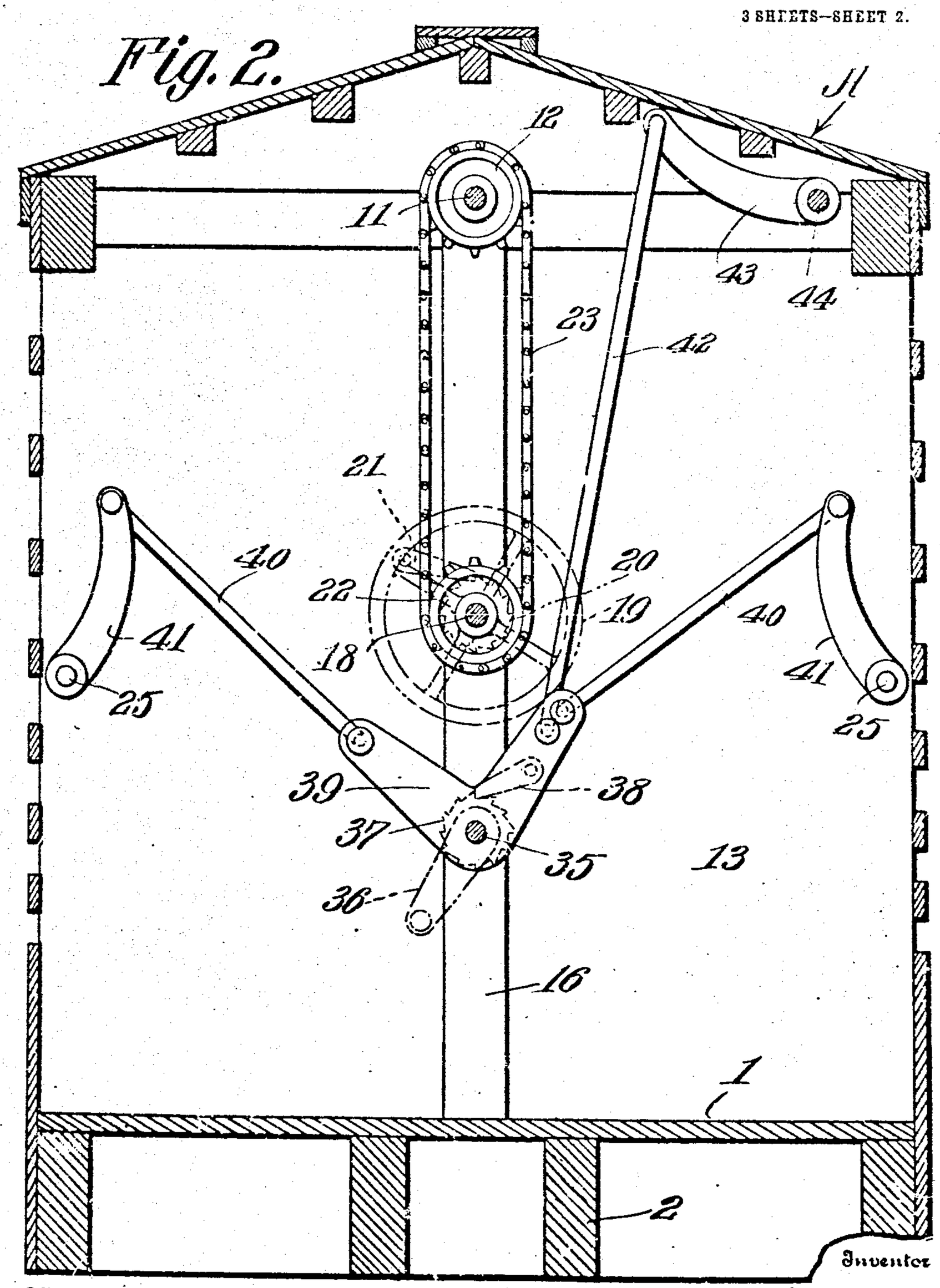
3 SHEETS—SHEET 2.

Fig. 2.



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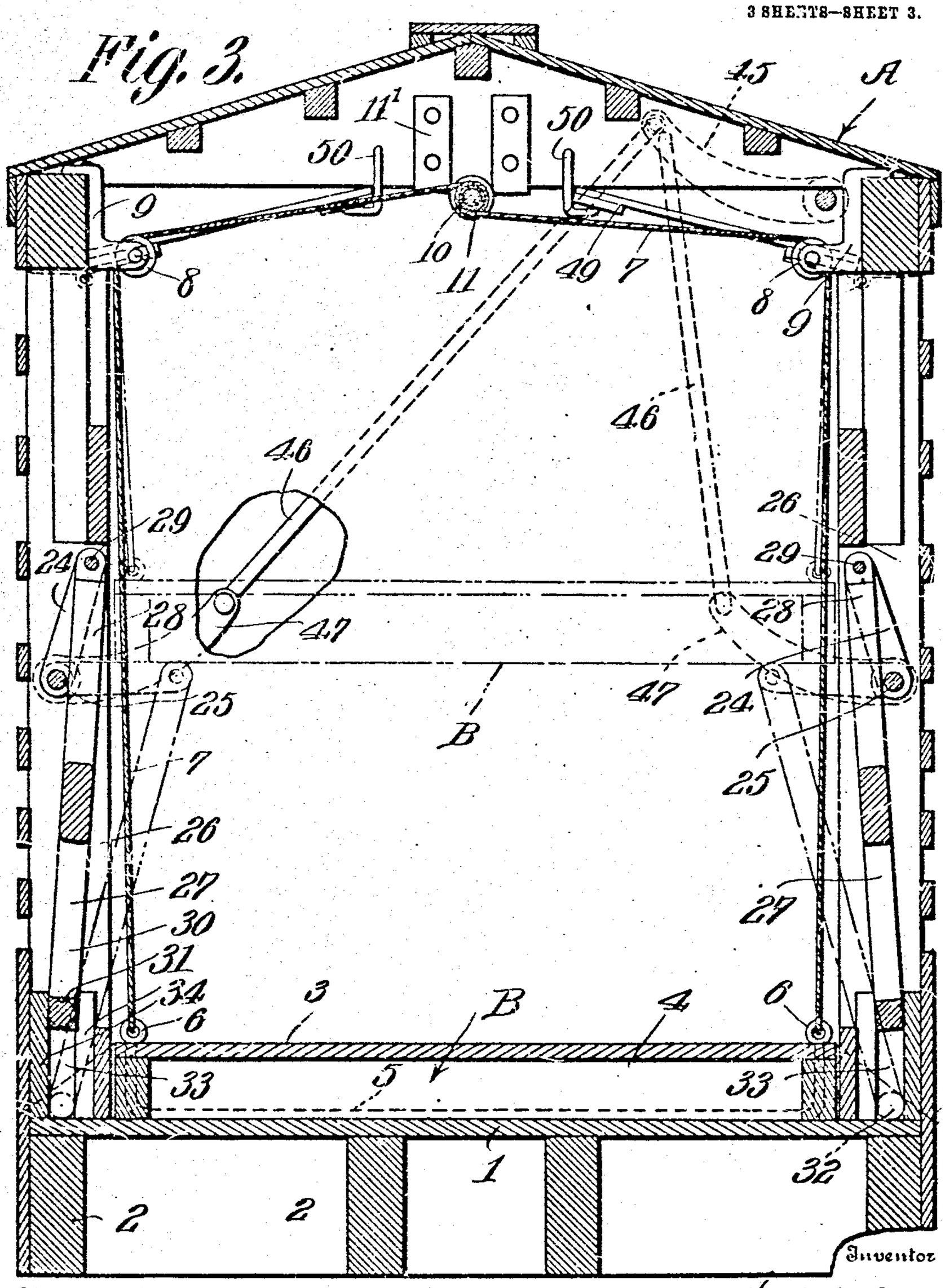
3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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CONVERTIBLE STOCK-CAR.

955,238. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed March 23, 1909. Serial No. 485,260.

To all whom it may concern:

Be it known that I, ALBERT WESTPHAL, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented certain new and useful Improvements in Convertible Stock-Cars, of which the following is a specification.

My invention relates to an improvement in freight railway cars, and more particularly to that class of cars known as stock cars, used for the transportation of calves, hogs, sheep, and other like animals, the object being to provide a means whereby the car may be converted into separate compartments for the accommodation of animals of small size or different kind, means being also provided whereby the movable structure may be returned to its normal position again, converting the car into a single compartment or ordinary freight or cattle car.

With the foregoing objects in view, my 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, forming a part of this specification, in which like letters and numerals are used to designate similar parts in the several views, Figure 1 is a longitudinal section of a car constructed in accordance with my invention. Fig. 2 is a transverse sectional view on the line 2—2 of Fig. 1, and Fig. 3 is a view similar to Fig. 2, taken on the line 3—3 of Fig. 1, the adjustable floor being shown in elevated position in dot and dash lines.

In the drawing A indicates generally the body of a car constructed in accordance with my invention, the floor 1 of which rests on sills 2, as in the ordinary construction of freight cars. When the car is to be used as a single compartment, there rests on the floor 1 a movable structure B, designed to be elevated to the position shown in dotted lines in Fig. 3, when it is desired to divide the car into two compartments. The structure B comprises a floor 3 surmounting a frame 4. Extending transverse of this frame 4 at spaced intervals, are a number of rods 5, the ends of which are upturned and brought above the floor line where they are formed into eyes 6; secured to each eye 6 is one end of a rope, which is then taken up and over a pulley 8, said pulley being mounted in a bracket 9, the upper end of which overlaps one of the timbers of the car frame. From the pulley 8 the rope or chain 7 goes to a drum 10, where the other end is secured. Said drum is secured to a longitudinal shaft 11, extending the length of the car body and is hung from the rafters thereof by strap hangers 11^1 secured to said rafters. The shaft 11 is supported at its ends by the framework of the car and near one end has fixed thereto, a sprocket wheel 12.

A partition 13 is spaced from one end 14 of the car and forms a pocket 15 for housing the mechanism for raising and lowering the auxiliary floor structure B.

Having bearings in a pair of posts 16 and 17, within the pocket 15 is a shaft 18, which projects through the end 14 of the car and has fixed thereto a hand wheel 19; also secured to the shaft 18 is a ratchet wheel 20, and engaging therewith is a dog or pawl 21 pivoted to the end 14 of the car. Secured to the shaft 18 within the pocket 15 and in alinement with the sprocket wheel 12, is another sprocket wheel 22, a link belt 23 passing over the two sprockets 12 and 22, whereby motion is imparted from the hand wheel 19 to the drums 10, when it is desired to elevate or lower the structure B. When said structure has been elevated a sufficient distance, means are provided for maintaining it in such elevated position by arms 24, said arms being secured at one end to a rock shaft 25, said shaft 25 having bearings in posts 26 of the car frame. To the free end of the arms 24 are pivoted brace members 27, said members presenting in elevation approximately an X shaped contour, the upper arms 28 of which are pivoted on a shaft 29, the opposite ends of which are secured in two adjacent arms 24. The lower arms 30 of the member 27 are connected by a horizontally disposed piece 31, the ends of which are rounded as indicated at 32, and project into guide-ways 33, formed by strips 34 secured to the upright posts 26.

When the car is used as a single compartment, the brace member 27 is supported from the rod 29, and is folded out of the way in the space formed by the posts 26; but when it is desired to support the structure B in elevated position, the braces 27 are allowed to swing out to the dotted line position shown in Fig. 3, in which position the part 31 rests on the floor of the car, as shown, forming a substantial support for the structure B resting on the arms 24.

Means for operating the shaft 25, to there-

by rock the arms 24 into and out of position, is located in the pocket 15, and consists of a stub shaft 35 mounted similar to the shaft 18, and provided on its extension end with a hand lever 36 and a ratchet 37, a pawl 38 secured to the side 14 of the car coacting therewith. Within the pocket 15 and secured to the shaft 35, is a two-armed lever 39, to the arms of which are attached one end of connecting rods 40, the other end is attached to levers 41 secured to the ends of the shafts 25.

It will here be stated that by reason of the door opening, the shafts are not extended the full length of the car body, that is, are separated at the door opening, and provision is therefore made for operating both sections of said shafts simultaneously and from the same lever. To accomplish this object, there is attached to one arm of the lever 39, one end of a rod 42, the other end being attached to a lever 43 secured to one end of a rock shaft 44, extending the length of the car and having secured at its other end a lever 45, which has attached to its free end connecting rods 46, which are in turn attached to levers 47 secured to their respective shafts 25. The levers and connecting rods at this end of the car are housed in a pocket 48 formed in this end.

A door 49 is hinged at each side of the car and is of such length that when lowered will close the door opening above the supplemental floor; when not in use, said door is supported near the rafters by hooks 50 provided for the purpose.

Slight changes and alterations might be resorted to in the form and arrangement of the several parts herein described, without departing from the spirit and scope of my invention, hence I do not wish to limit myself to the exact construction as herein set forth; but

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A convertible stock car having a movable floor independent of the floor proper, pockets at each end of the car, a plurality of rods extending transverse of the said floor, a longitudinal shaft extending the length of the car, and hung from the rafters thereof, a plurality of brackets secured to the upper sides of the frame of said car, a plurality of pulleys mounted therein, a plurality of drums provided on the said longitudinal shaft, cables passing over the said pulleys and connecting the said drums with the said transverse rods of the said movable floor, means for rotating the said drums whereby the said floor is elevated and lowered, and means for supporting the said floor in elevated position, substantially as described.

2. A convertible stock car having a movable floor independent of the floor proper, pockets at each end of the car, a plurality of rods extending transverse of the movable floor, a longitudinal shaft extending the length of the car and suspended from the rafters thereof, a plurality of pulleys mounted in brackets secured to the upper sides of the frame of said car, a plurality of drums secured on the said shaft, cables connecting with said drums, passing over the said pulleys, the free ends thereof connecting with the said transverse rods of the floor, means for operating the said longitudinal shaft whereby the said floor is elevated and lowered, means for supporting the said floor in elevated position and means for operating the supporting means, substantially as described.

3. A convertible stock car having a movable floor independent of the floor proper, pockets at each end of the car, a plurality of rods extending transverse of the movable floor, a longitudinal shaft extending the length of the car, and hung from the rafters thereof, a plurality of pulleys mounted in brackets secured to the upper sides of the frame of said car, drums secured on said shaft, cables connected with said drums and passed over said pulleys, the free ends thereof being connected with the said transverse rods of the said movable floor, means provided on a single end of the car for operating the said longitudinal shaft whereby the said floor is elevated and lowered, means for supporting the said floor in elevated position, and means on the same end of the car as the operating means for operating the supporting means, substantially as described.

4. A convertible stock car having a movable floor independent of the floor proper, pockets at each end of the car, a longitudinal shaft extending the length of the car, means suspending the shaft from the rafters of said car, drums secured on the said shaft and spaced pre-determined distances apart, a sprocket wheel carried on one end of the shaft, a plurality of brackets having pulleys mounted therein, secured to the upper sides of the frame of said car, cables passing over the said pulleys, the ends of which are connected with the said drums and movable floor respectively, a shaft mounted in one end of said car and extended beyond the end thereof, a sprocket wheel carried thereby and in line with the sprocket wheel on the said longitudinal shaft, a link belt connecting the said sprocket wheels, a ratchet wheel secured on the extended end portion of said shaft, a pawl secured on the end of the said car frame engaging with said ratchet, a hand wheel carried on the extended end of said shaft adjacent to the said ratchet wheel, whereby motion is transmitted to the said longitudinal shaft and the said movable floor elevated and lowered, means for securing the said floor in elevated position and

means provided on the same end of the car as the operating means for operating the supporting means, substantially as described.

5. A convertible stock car having a movable floor independent of the floor proper, pockets at each end of the car, a longitudinal shaft extending the length of the car and suspended from the rafters thereof, drums secured on the shaft, a sprocket wheel carried on one end of the said shaft, a plurality of brackets having pulleys mounted therein, secured to the upper sides of the car frame, means passing over said pulleys connecting with the said drums and movable floor, a plurality of arm supports secured to the sides of the car frame, a rock shaft, means connecting the said arms and rock shaft, a stub shaft mounted in posts in one end of the car, a ratchet wheel secured on the end portion of the said shaft exterior of the end of the car, a pawl secured on the end of the car frame engaging with the said ratchet, means connecting the rock shaft with the stub shaft, a lever secured on the free end of the stub shaft for imparting motion to the said rock shaft whereby the said supports are operated, and mechanism provided on the same end of the said car frame for elevating and lowering the said movable floor, substantially as described.

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

ALBERT WESTPHAL

Witnesses:
E. WALTON BREWINGTON,
MARY M. MACRAW.