

(No Model.)

4 Sheets—Sheet 1.

R. C. VIDLER & E. R. M. PIERCE.

STOCK CAR.

No. 418,629.

Patented Dec. 31, 1889.

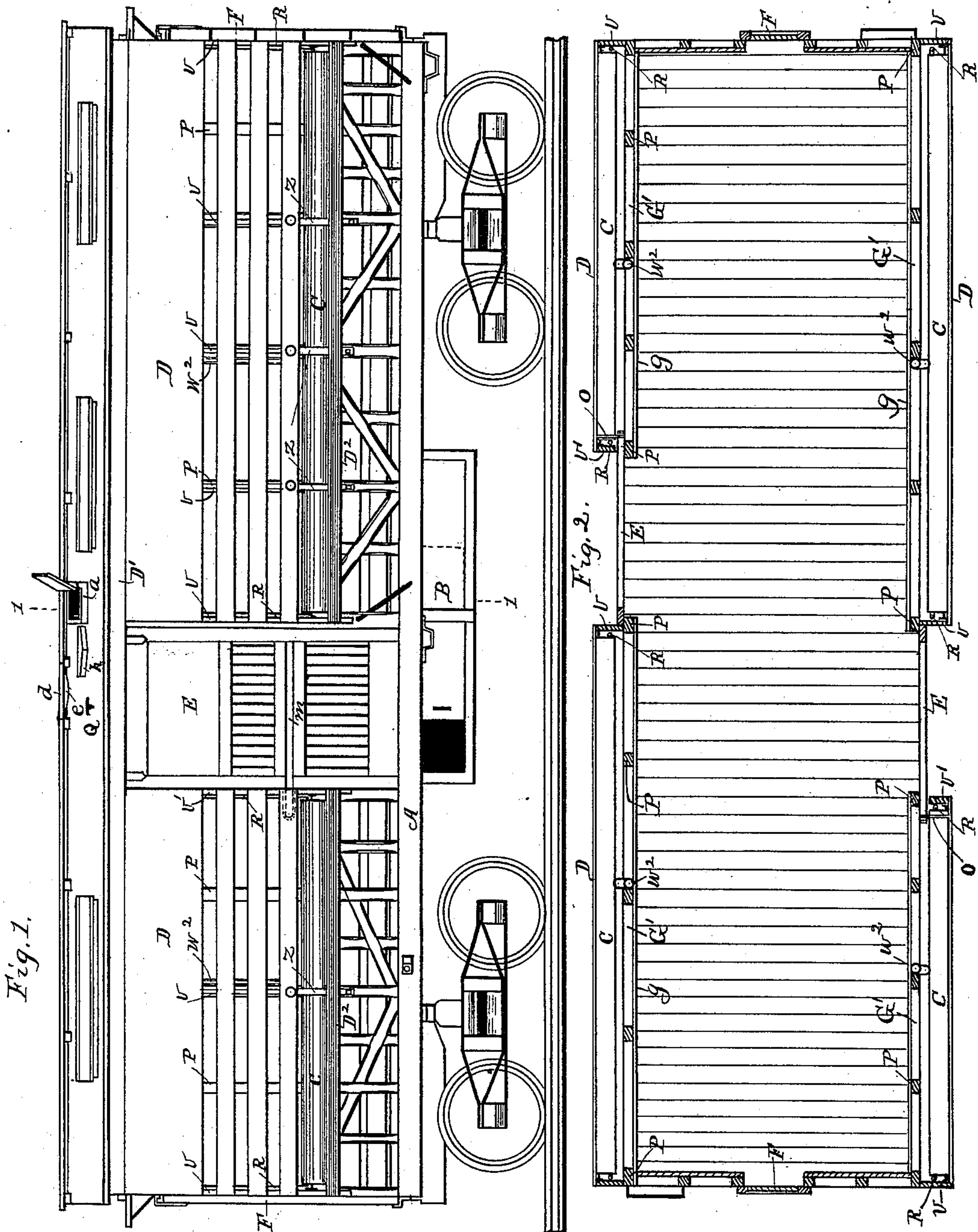


Fig. 1.

Fig. 2.

Witnesses.
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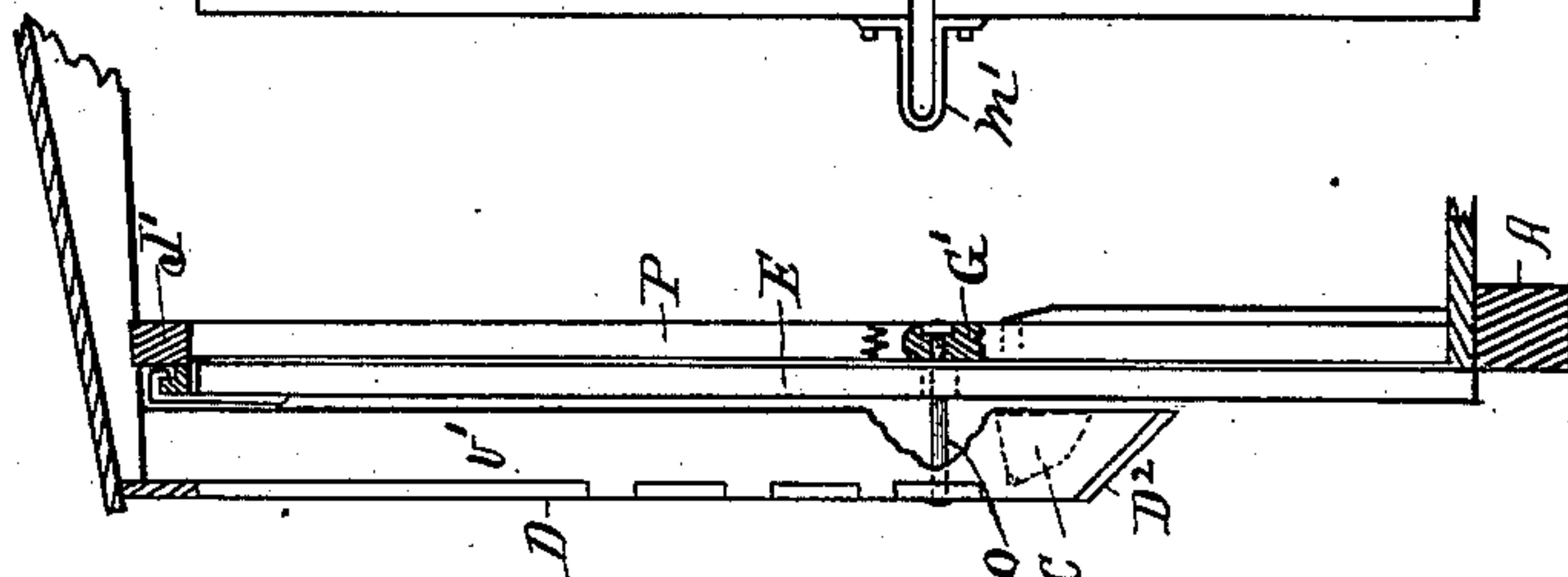
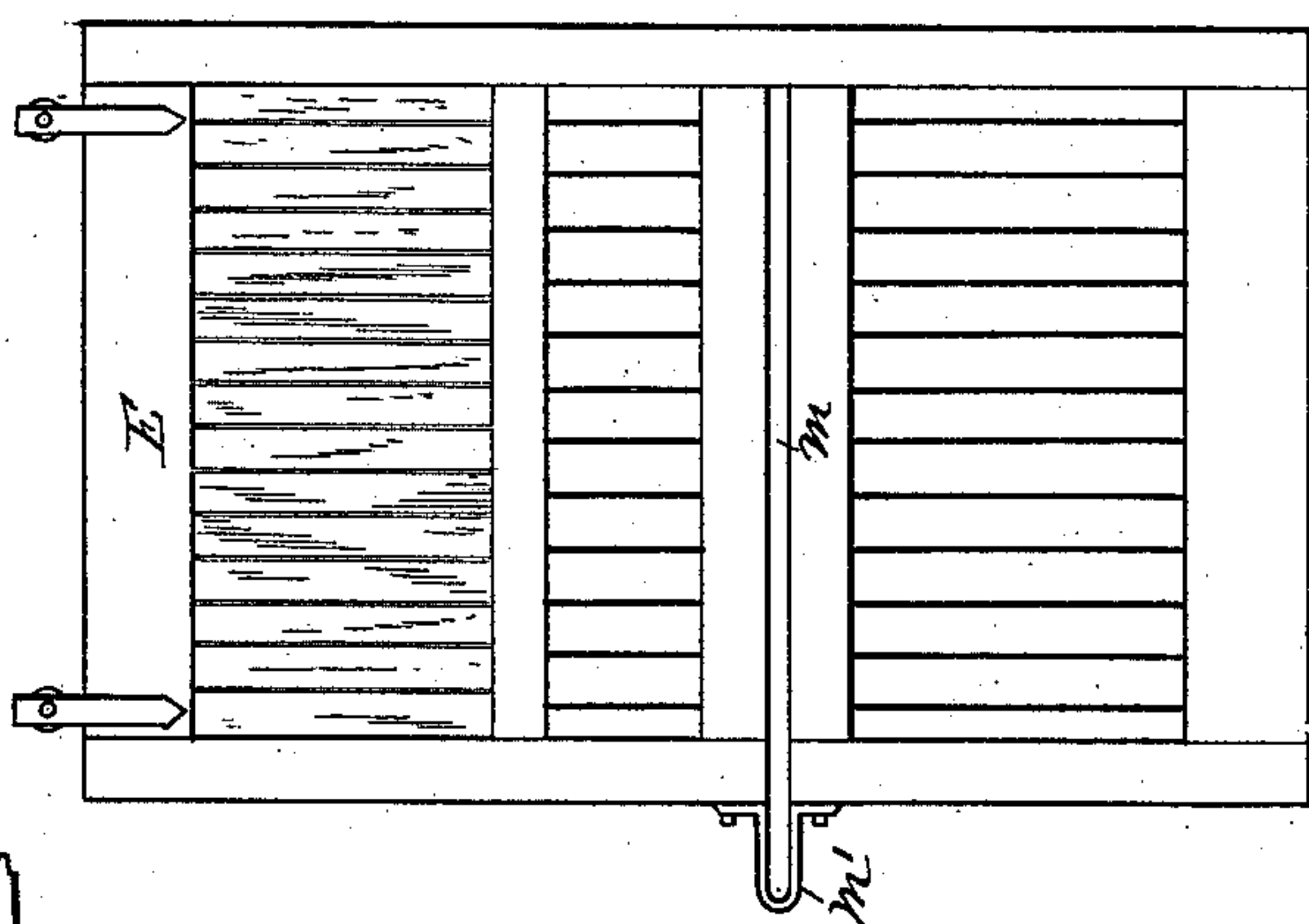
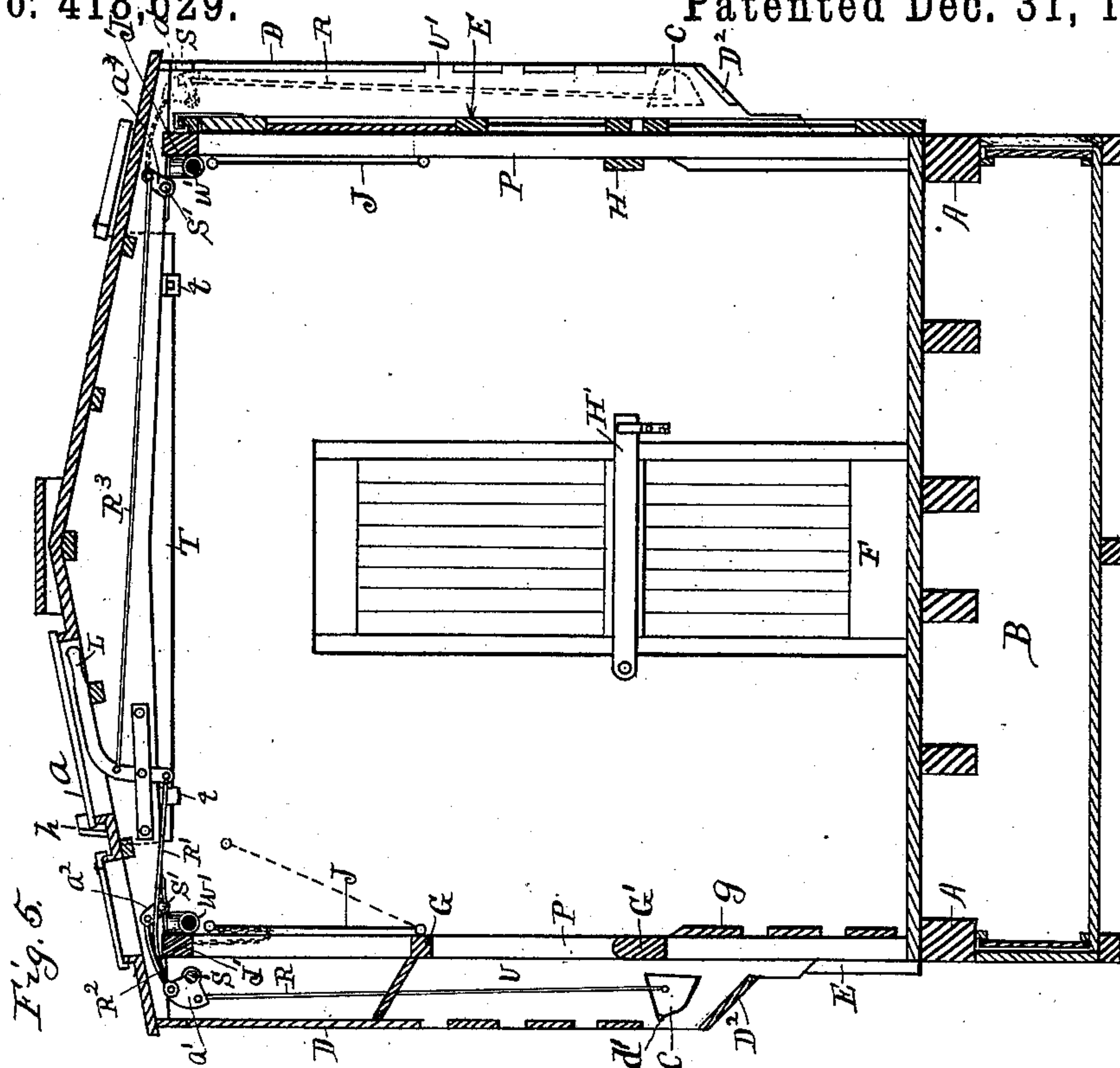
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By W. J. Hutchins Atty.

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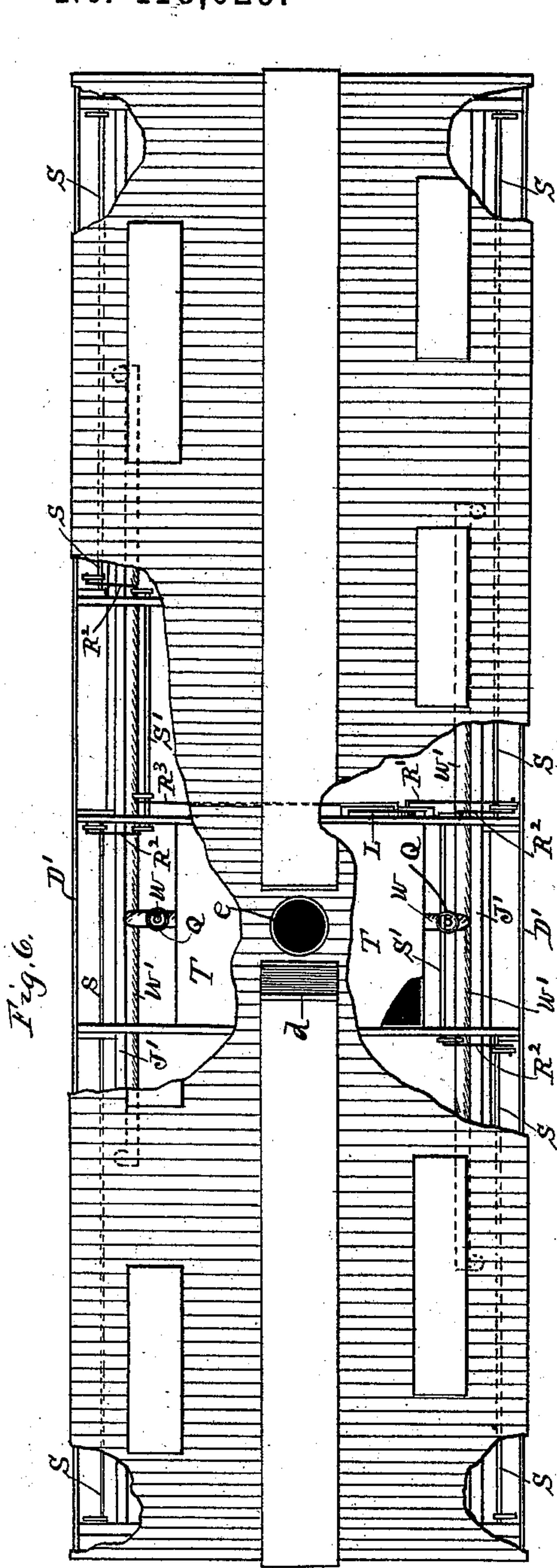
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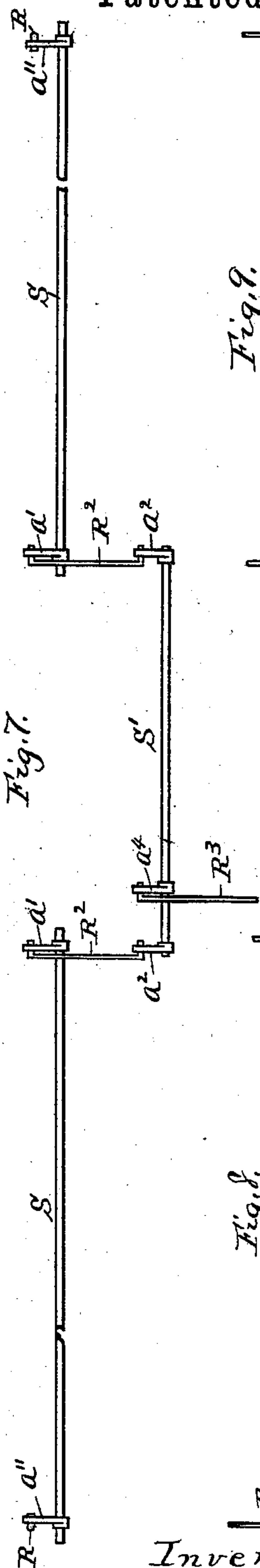
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STOCK CAR.

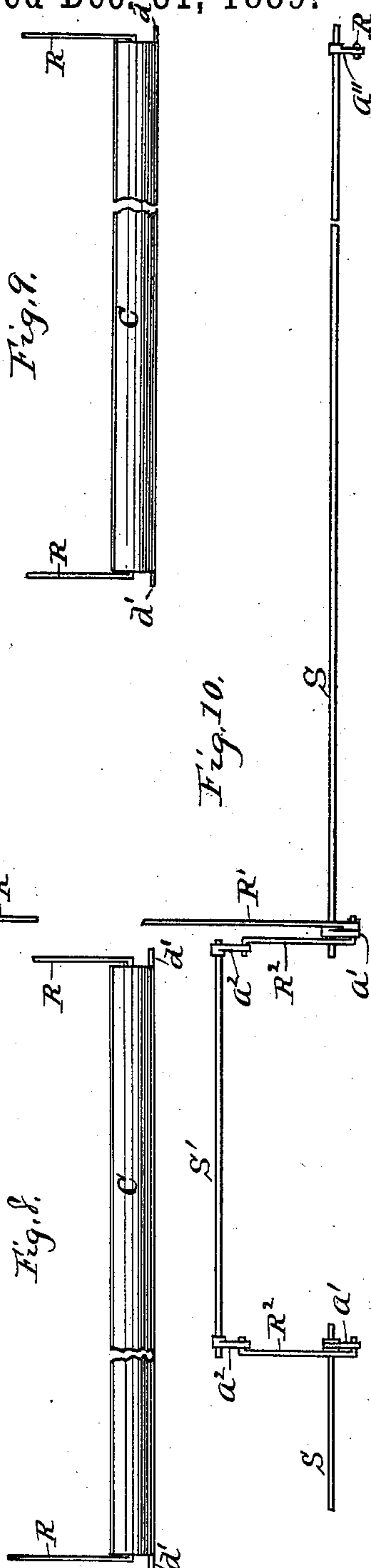
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UNITED STATES PATENT OFFICE.

REES C. VIDLER AND EDGAR R. M. PIERCE, OF WICHITA, KANSAS.

STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 418,629, dated December 31, 1889.

Application filed January 24, 1889. Serial No. 297,354. (No model.)

To all whom it may concern:

Be it known that we, REES C. VIDLER and EDGAR R. M. PIERCE, citizens of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Stock-Cars, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a side elevation of the car. Fig. 2 is a horizontal sectional view of the car immediately above the watering-troughs. Fig. 3 is a vertical sectional view of one side of the car at a door-space, showing an edge view of the door, also having portions broken away to more clearly show the securing-bolt of the lower part of the side wings of the car at the place where the doors slide back. Fig. 4 is a plan view of a side door of the car. Fig. 5 is a cross-sectional view of the car on line 1 of Fig. 1, looking to the left. Fig. 6 is a top plan view of the car, having portions broken away to show the interior mechanism of the car. Fig. 7 is a detail plan view of the shaft, crank, and link mechanism of one side of the car for operating the troughs below. Figs. 8 and 9 are side plan views of a pair of watering-troughs of one side of the car. Fig. 10 is a detail view of the shaft, crank, and link mechanism similar to and of the opposite side of the car from that shown in Fig. 7. Fig. 11 is an inside plan view of a portion of one of the sides of the car. Fig. 12 is an end elevation of the car. Fig. 13 is a vertical sectional view of one side of the car at the section adjacent the door-space at the side where the door slides back. Fig. 14 is an enlarged detail vertical sectional view of the lower portion of one side of the car, showing the manner of securing braces at the lower part of the ribs of the side wings of the car. Fig. 15 is an enlarged detail view of a watering-trough of the car, shown in cross-section, the dotted lines showing the down position. Fig. 16 is a detail plan of a section of one of the end ribs of a side wing of the car, showing the trough-socket. Fig. 17 is a detail horizontal sectional view of a portion of one of the side wings of the car and a door-post of the car-side, also of a portion of a door where the

door slides back, showing the tie-bolt and securing-bracket for securing the side wing; and Fig. 18 is a top plan view showing in detail a portion of a trough and a trough-socket.

The object of this invention is to so construct the car that it is well adapted for the purpose of transporting stock and feeding and watering the stock while aboard the car; also so that the feeding and watering appliances are out of the way, leaving the car interior free for freight purposes when not employed in transporting stock, and also so that each section either way from either side-door space will be provided with watering and feeding appliances, as well as other sections; and to meet this object the car is constructed with side wings, the upper part of which gives hay-space and the lower part gives space for pivotally arranging watering-troughs entirely within the side wings and a distance from the side posts of the car, which makes it possible to extend the side wings and troughs each way from and adjacent the side-door spaces, and permit the side doors to slide back within said wings and between the watering-troughs and side posts of the car; and the shaft, crank, and link mechanism, operated by means of a lever through the roof of the car, is arranged in the upper part and side wings of the car in such manner as not to obstruct the car interior, as is also arranged a water-supply tank and conductor-pipes leading to the troughs. The side doors are slotted, so that they may pass when sliding back, and tie-bolts assist in securing the side wings.

Referring to the drawings, A represents the car-sills, which rest upon the usual trucks, as shown in Fig. 1, and have the usual floor laid upon them, as shown.

P represents the side posts of the car arranged at intervals along the car-sides, as shown in Figs. 1, 2, and 11, and have secured upon them the usual plates J'. (See Figs. 5 and 11.) Upon plates J' are arranged the usual car-lines, which support the roof and extend at either side of the car a distance equal with the width of the side wings, and thus give ventilation above plates J' and beneath the roof, as shown in Fig. 5.

G' represents a series of rails arranged and secured between posts P at either side of the car, except at the door-spaces, about one-third

the height of posts P, as shown in Figs. 2, 3, 5, 11, and 13, which form the heading of the inside side inclosure, and below said rails, secured to the inner side of posts P, except at the door-spaces, are strips *g*, (shown in Figs. 2, 5, and 11,) which form the lower side inclosure.

v represent ribs which are secured to the side posts P of the car, as shown in Figs. 1, 2, 5, 12, 13, and 14, and, by means of the sheathing and strips secured to their outer part, form the side wings of the car. The end ribs *v* are longer than the intermediate ones, and extend below said intermediate ones far enough to pivotally support the watering-troughs *c* between them and below the intermediate ribs, as shown. *v'* are similar ribs for a similar purpose, and are arranged a distance off from the side door-posts P. At the side the doors E slide back in such manner that the said doors may slide between the door-posts and said ribs, and they are secured at their upper part to a car-line and plate J', and at their lower part by means of bolts *o*, as shown in Figs. 2 and 3.

In order that the doors E may pass the bolts *o*, they are formed with a slot *m*, (see Figs. 1 and 4,) inclosing said bolts; and in order that said slots may be of sufficient length to accommodate the door to slide entirely back the door-stile is cut on one side and the slot extended by means of a yoke *m'*, as shown in Fig. 4. The hangings of the said doors and their construction other than said slots are the same as in ordinary use.

Between the end ribs *vv* and *v'v'* (see Fig. 2) are pivotally arranged the watering-troughs *c*—two troughs at either side of the car—extending from either door-post either way to either end of the car, and adapted to be turned up immediately below the said intermediate ribs *v*, as shown in Fig. 13, so that they may be supplied with water and be accessible by stock in the car, and let down to discharge any surplus water and be out of the way and protected from jamming and dirt, and also free the space where the doors slide back. Said troughs are formed in cross-section somewhat on the plan of a triangle, as shown in Fig. 15, and when in upright position their outer wall is nearly vertical and their inner wall takes the angling position from the pivot-line of the trough at the base of the outer wall to a point near the upper part of rail G' of the car, as shown in Fig. 13, (see Fig. 15,) and by reason of such form and position of trough an animal can enter its nose in the trough to drink much better than from a half-round trough. The trunnions *d'* of said troughs (see Figs. 8, 9, and 15) enter sockets of the end ribs *vv* and *v'v'*, which are arranged near the outer part of said ribs, in order that the inner part of the said troughs may turn down and not engage the side posts of the car.

Z are a series of braces (see Figs. 1, 13, and 14) secured to the lower part of the interme-

mediate ribs *v* and the outer part of posts P by means of lag-screws *j j'*, and form a protection for troughs *c*, and support the inclined shielding-boards D², as shown, which boards D² serve, also, as water-sheds when discharging surplus water from the troughs. It will be observed that each one of said braces may be removed, together with boards D², by removing the lag-screws, (see Fig. 14,) thus giving access to the troughs *c*, so that they may be removed for any cause without entering the car.

S represent a set of four rock-shafts, one arranged in bearings through ribs *v* in the upper part of wings D over its respective trough *c*, and have secured thereon at their end part at the ends of the car each a crank-arm *a''*, (see Figs. 7 and 10,) and on their end parts adjacent the door-spaces each a bell-crank *a'*, (see Figs. 5, 7, and 10,) which crank-arms and bell-cranks are connected, through the medium of rods R, to the watering-troughs *c* at their ends, as shown, and when said shafts are rocked said troughs are operated to be turned as stated, and as both ends of the troughs are thus held they cannot but retain their proper position throughout.

S' are a pair of short intermediate rock-shafts boxed to a pair of car-lines at either door-space in such manner as to reach opposite the inner end of each shaft S either way from the door-spaces at either side of the car, as shown in Fig. 6, and have crank-arms *a²*, (see, also, Figs. 7 and 10,) secured to their ends and connected with bell-cranks *a'* of shafts S by means of links R² in such manner that when either side shaft is caused to rock they will each jointly rock by means of such connection.

L represents a hand-lever pivotally secured to the side of a center car-line, and is connected with a bell-crank *a'* of shaft S at one side of the car by means and through the medium of rod R', and at the opposite side of the car to crank-arm *a⁴* of shaft S' through the medium of rod R³, as shown in Fig. 5.

a represents a door in the car-roof immediately above lever L, for the purpose of opening to give access to said lever, which lever is bent to be wholly within the car when the troughs are lowered in the position shown in Fig. 5; but when the lever is thrown up and the cranks reversed said troughs will likewise be turned up and be in position to receive water for supplying stock aboard the car.

T represents a water-tank, and is arranged in the upper part of the car between a pair of car-lines, as shown in Figs. 5 and 6, and has a central supply-opening *e*, suitably covered by a door *d* at that place. (See Figs. 1 and 6.) Water-pipes *w, w', and w²* (see Figs. 5, 6, 11, and 13) are arranged connected with said tank at either side of the car, which conduct water from said tank to about the center of each of the four troughs *c*, as shown. Valves may be used in said pipes to close

them and retain a supply of water in the tank for use in transportation of stock between regular watering-stations, when it is so desired.

5 *h* represents a step block or cleat secured to the car-roof near door *a*, and is for the purpose of preventing the foot from slipping while operating lever *L*.

10 *G* represents girts arranged about the sides of the car, except at the door-spaces, at the base of the hay-space, and have the folding hay-racks *J* hinged thereto in such manner that said racks may be folded close to the car-sides and there held by latches or 15 other suitable means when not in use for feeding. Between girts *G* and the sheathing of wings *D* are arranged inclined floors to support the hay in the racks, as shown in Fig. 5.

20 The hay-space extends back within the wings *D* at each part about the side of the car, except at the door-spaces, and also the spaces where the doors slide back, where, at the latter spaces, sheathing is placed between 25 posts *P*, as shown in section in Fig. 13, as a protection for the doors. Hay is introduced into the hay-receptacles through doors in the car-roof in the ordinary manner.

The car ends are inclosed in the ordinary 30 manner, except that they are provided with sliding doors *F*, as shown, which add to the usefulness in loading many kinds of freight, and are provided on the inside with a bull-bar *H'*, as shown in Fig. 5. The side doors 35 are likewise provided at the inside across their space with bull-bars *H*, as shown in Fig. 11, which bars are pivoted to turn back out of the way in the usual manner.

By reference to Fig. 17, which is shown in 40 detail cross-section, it will be seen that bolt *o*, used as a tie at the lower part of wing *D*, adjacent the door *E*, where the door slides back, is arranged a distance back from the face of said door-post *P*, and is secured to wing 45 *D* by means of a cast bracket *o'*, secured to rib *v'* on its inner side, thus giving space between the face of said door-post *P* and that end of wing *D* and said bolt for the stile of door *E* to fall back into to leave free the full 50 width of the door-space, and for the reason that bolt *o* is thus arranged back it becomes necessary to apply the yoke *M'*, to the door to make slot *M* long enough to permit the door to close.

55 The sockets *y*, (shown in Figs. 16 and 18,) which are secured to the lower part of ribs *v* and *v'* and *v'* at either end of each wing, are for the purpose of supporting troughs *c*, and have curved openings, as shown at *y'*, 60 which receive the trunnions *d'* of the troughs, as shown in Fig. 18, and by means of the curved form of the openings in said sockets the jolting of the car cannot throw the trough-trunnions out, but by turning the trough it 65 may be raised and removed from the sockets, and from the car from the outside when braces *z* and board *D²* have been removed, as stated.

To give strength to the troughs *c* they have secured in them at suitable intervals along their length iron ribs *c'*, as shown in Figs. 15 70 and 18, which are riveted or otherwise secured to the troughs.

By means of the bent form of lever *L* it rests in a reclining position immediately under door *a* at such times when the troughs *c* 75 are let down out of service, as shown in Fig. 5, and when in such position door *a* may be locked closed by suitable means, and thus lock the troughs secure in such down position, where they are safely protected and only re- 80 versed when in service.

Q represents ordinary cut-off valves arranged in pipes *w*, leading from tank *T*, which may be used to close said pipes to hold a supply of water in said tank, and the stems of said 85 valves extend up through the car-roof and have a hand-wheel, as shown in Figs. 1 and 6, at the surface of the roof, which may be grasped to turn said valves.

Having thus described our invention, what 90 we claim as new and useful, and desire to secure by Letters Patent, is as follows, to wit:

1. The combination, in a stock-car provided with the side posts *P*, of the side wings *D* and their ribs *v* and *v'*, securing them to said 95 posts, wherein the end ribs thereof extend below said intermediate ribs, bracket *o'*, secured to the depending end of rib *v'*, adjacent the sliding side car-door and extending within the side wing, the bolt *o*, connecting 100 said bracket with the door-post, the door *E*, having the body-slot *m*, for the admission of bolt *o*, and the yoke *m'*, for elongating said slot, and adapted to slide open within said wing adjacent said side posts, the trough *c*, 105 pivotally supported between said depending ribs and below said intermediate ribs *v* a distance from said side posts by means of the sockets *y*, and of the mechanism consisting of rods *R*, shafts *S S'*, cranks *a''*, *a²*, and *a⁴*, 110 bell-cranks *a'*, links *R²*, rods *R'* and *R³*, and lever *L*, whereby said troughs are turned into or out of position for use, substantially as set forth.

2. The combination, in the stock-car de- 115 scribed, provided with the side posts *P* and the wings *D*, of the end ribs *v v'*, said wings extending at the car-side below the intermediate ribs *v*, the sockets *y*, secured to said extending ribs, the troughs *c*, having the trun- 120 nions *d'* and pivotally seated in said sockets between said extending ribs, and the mechanism consisting of the rods *R*, shafts *S S'*, cranks *a''*, *a²*, and *a⁴*, bell-cranks *a'*, links *R²*, rods *R'* and *R³*, and lever *L*, substantially as 125 set forth, whereby the said troughs are turned into or out of position for use at each side of the car by operating said lever at the car-roof, in the manner specified.

3. The combination, in the stock-car de- 130 scribed, having the side wings *D*, secured to the car-side by means of the ribs *v*, of the end ribs *v' v'* thereof extending below the slatting of said wings, the sockets *y*, secured

to the inner part of said extending ribs, the troughs *c*, pivotally supported below said wings by means of their trunnions *d'*, resting in said sockets, the braces *z*, secured to the lower part of said wings and car-sides and extending about and shielding said troughs, the water-sheds *D*², arranged at an incline a distance from the car-sides below said troughs, and the mechanism consisting of the rods *R*, shafts *S S'*, cranks *a'' a² a⁴*, bell-cranks *a'*, links *R²*, rods *R' R³*, and lever *L*, substantially as set forth, whereby said troughs are turned into or out of position for use at either side of the car, in the manner specified.

4. The combination, in the stock-car described, having the side wings *D*, secured to the car-sides thereof either way from the side doorways, of the end ribs *v* of said wings extending below their slatted portion, the end ribs *v'*, adjacent the side doors, secured at their upper end to the carlings of the car-roof and at their lower part by means of the bolts *o* and the brackets *o'* to the door-posts and a distance from the said door-posts and extending below the wing-slatting, the sockets *y*, secured to the inner lower part of said extending ribs, the troughs pivotally supported between said extending ribs below the wing-slatting by means of their trunnions *d'* and said sockets, and the doors *E*, having the body-slots *m*, for the admission of said bolts,

and the yokes *m'*, for elongating said slots, whereby the said doors are adapted to slide open between said ribs *v'* and the door-posts and between the side posts of the car and said troughs, substantially as set forth.

5. The combination, in a stock-car provided with side posts *P* and side-extending wings *D*, divided longitudinally by means of an inclined partition and forming a hay-receptacle in the upper part, of the racks *J*, hinged at their lower part to the inner upper part of said side posts and forming the inner walls of said hay-receptacles, the end ribs *v v'* of said wings extending below their slatted portion, the sockets *y*, secured to the lower inner part of said extending ribs, the troughs *c*, having the trunnions *d'*, pivotally supported by means of said trunnions and sockets a distance from the said side posts and below said wings, and the mechanism consisting of the rods *R*, shafts *S S'*, cranks *a'' a² a⁴*, bell-cranks *a'*, links *R²*, rods *R' R³*, and lever *L*, whereby the said troughs are turned into or out of position for use, substantially as specified.

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