

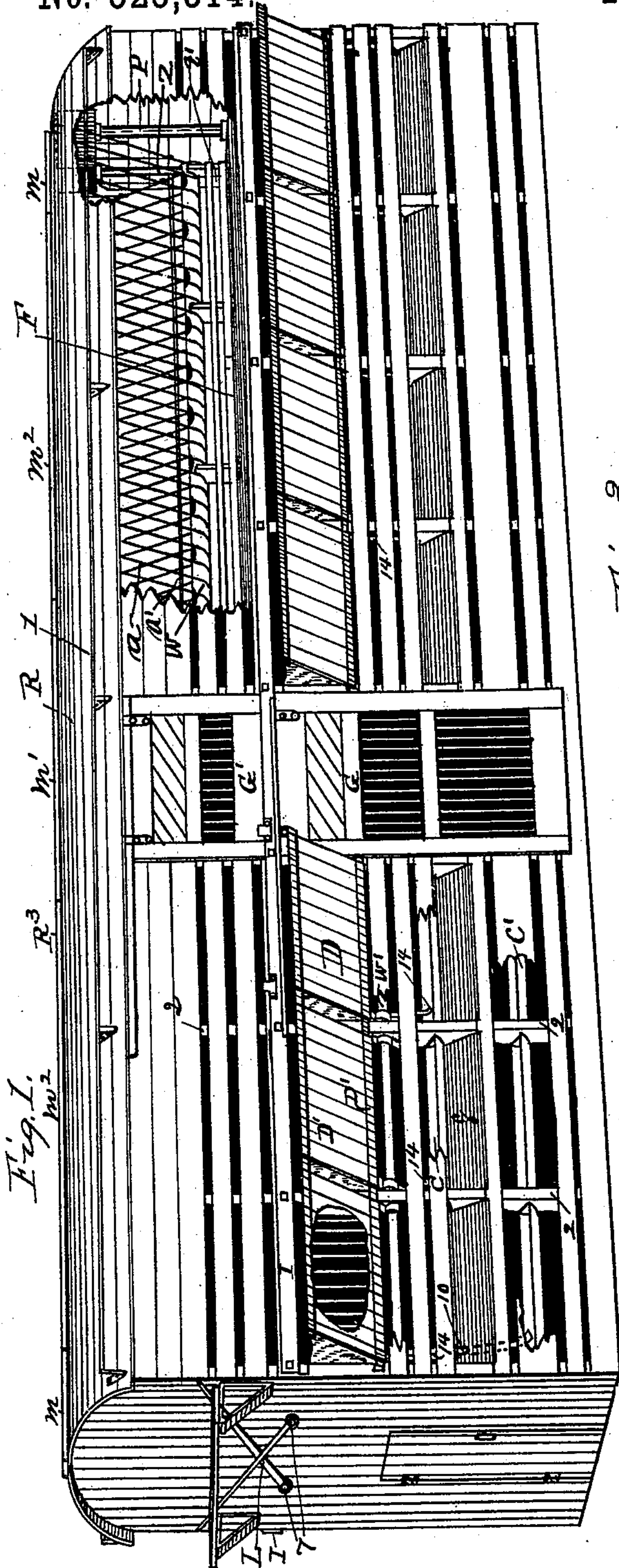
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2 Sheets—Sheet 1.

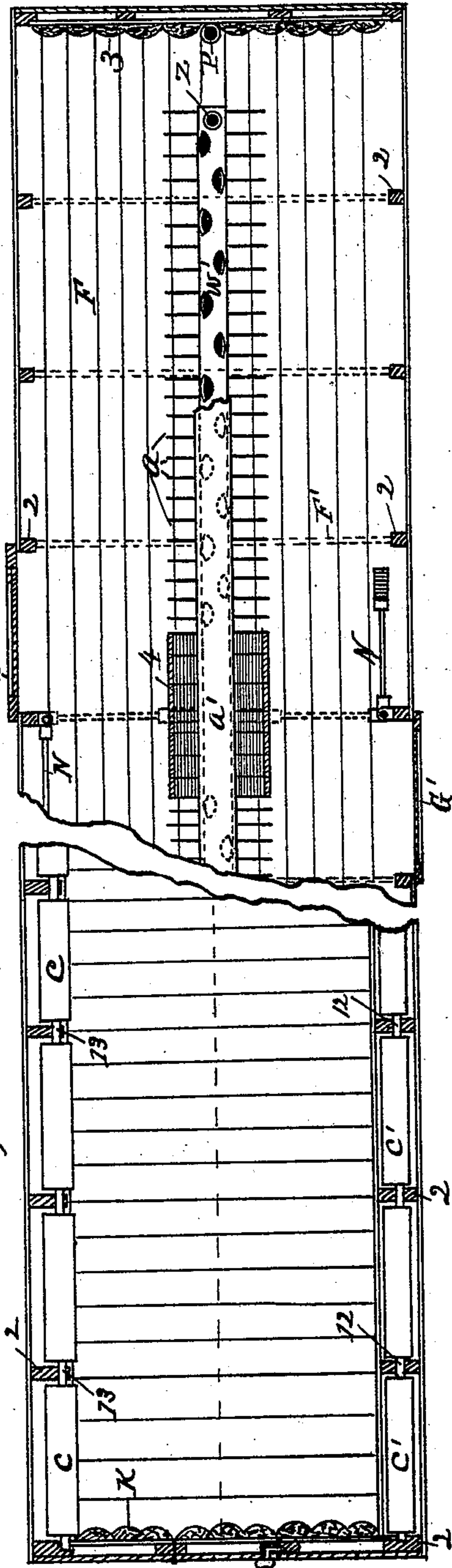
J. M. BURTON.  
STOCK CAR.

No. 525,314.

Patented Aug. 28, 1894.



Witnesses  
R. B. Baker  
C. R. Hutchins



Inventor.  
John M. Burton  
By W. J. Hutchins  
Atty.

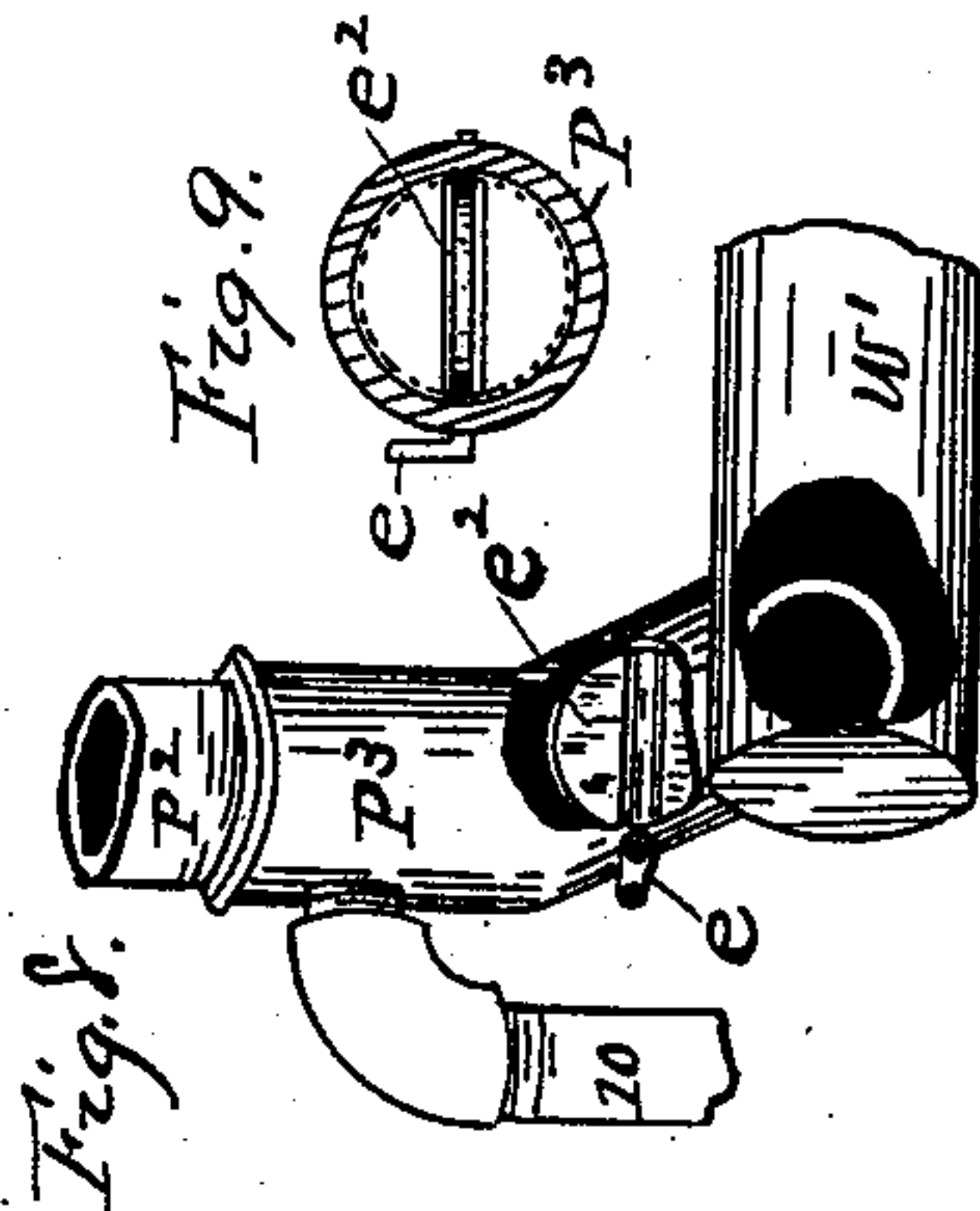
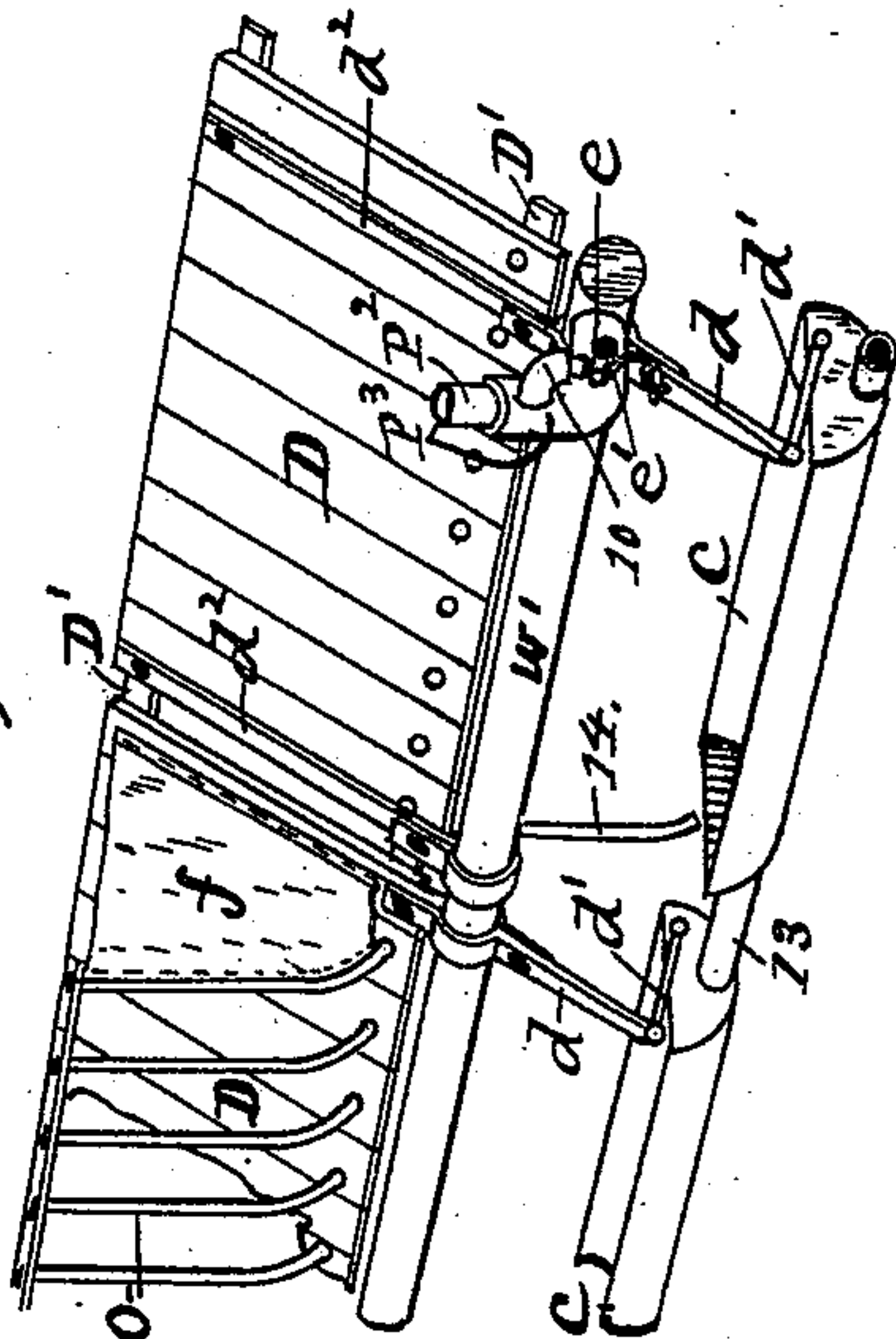
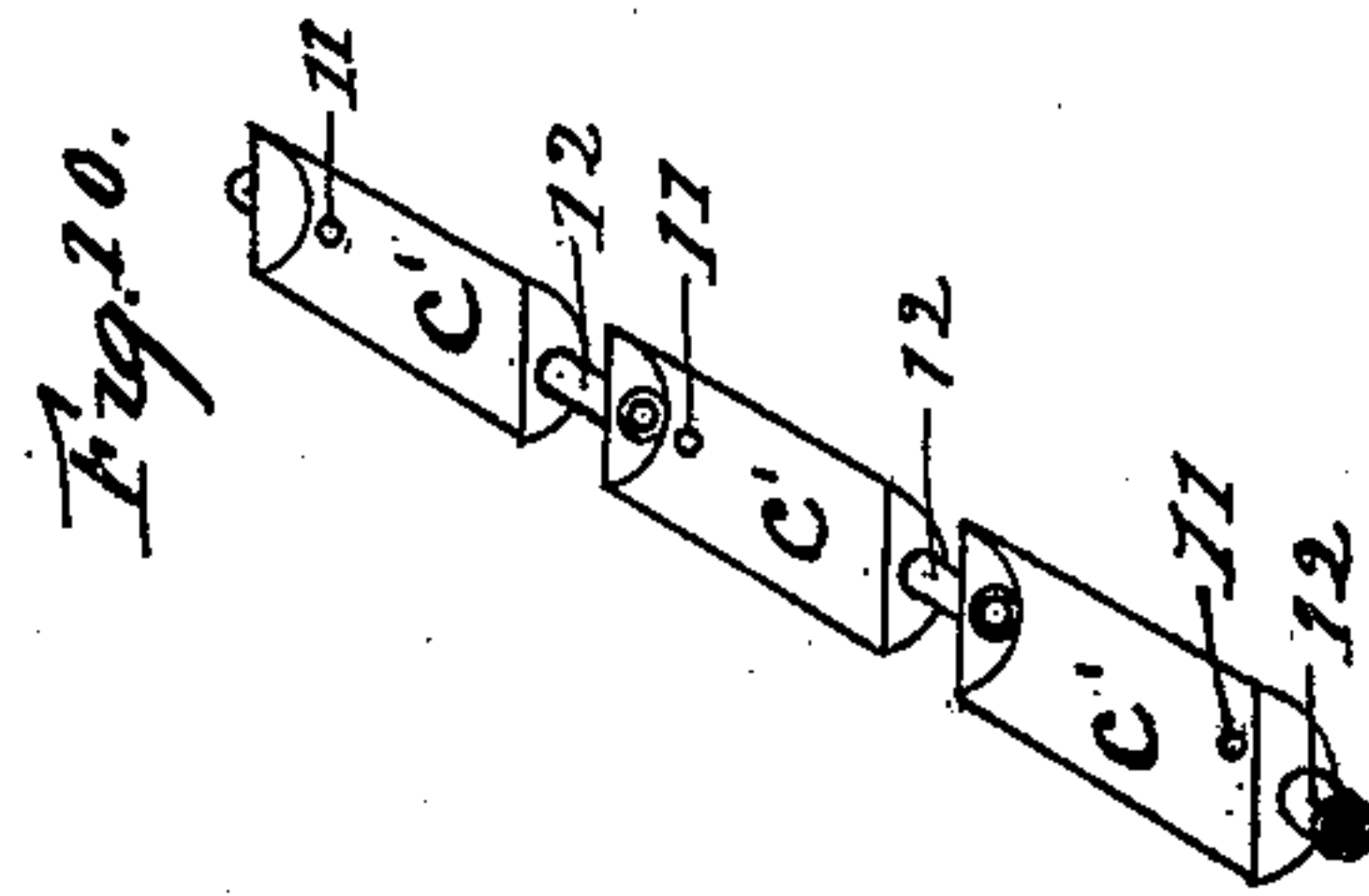
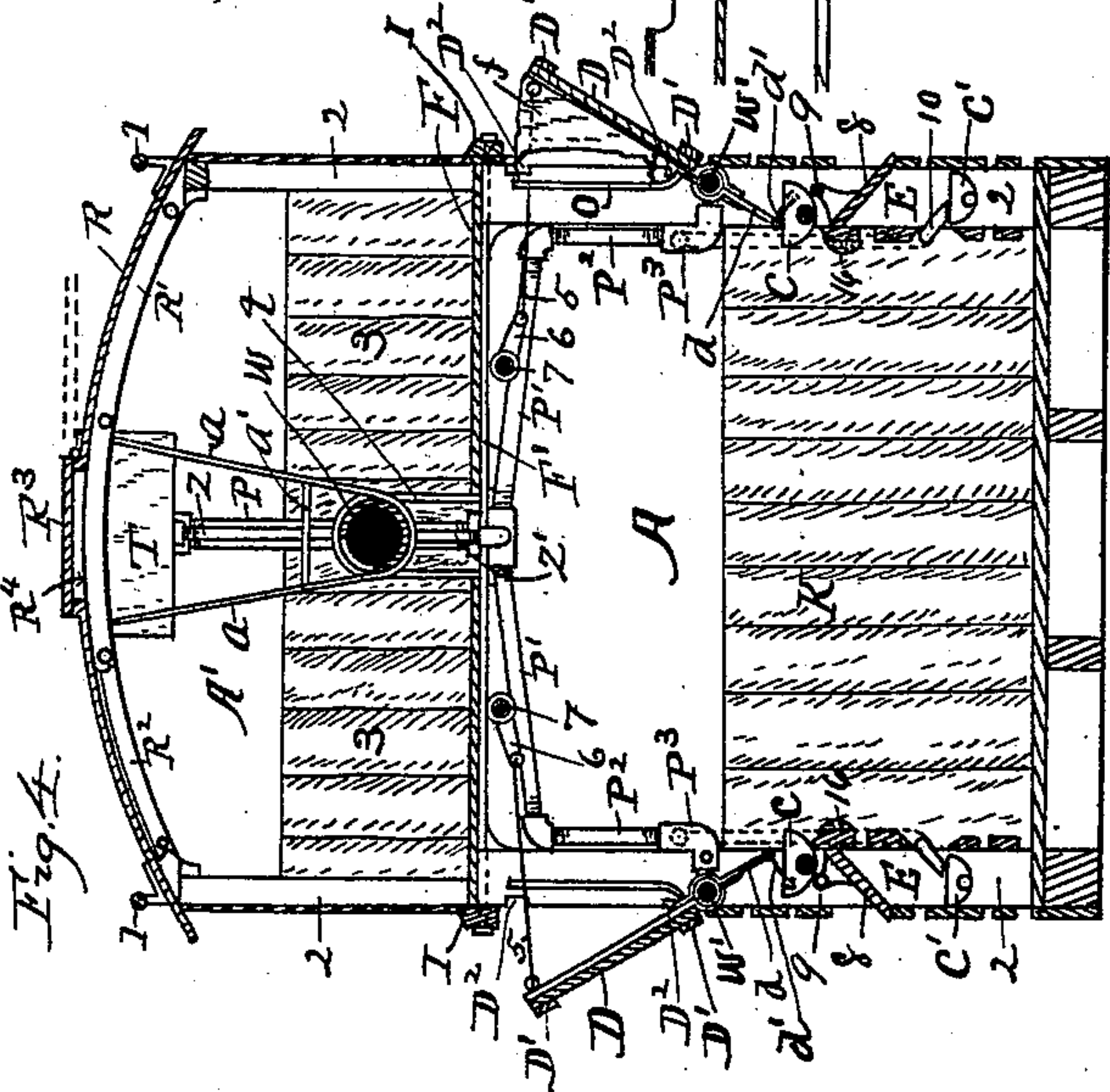
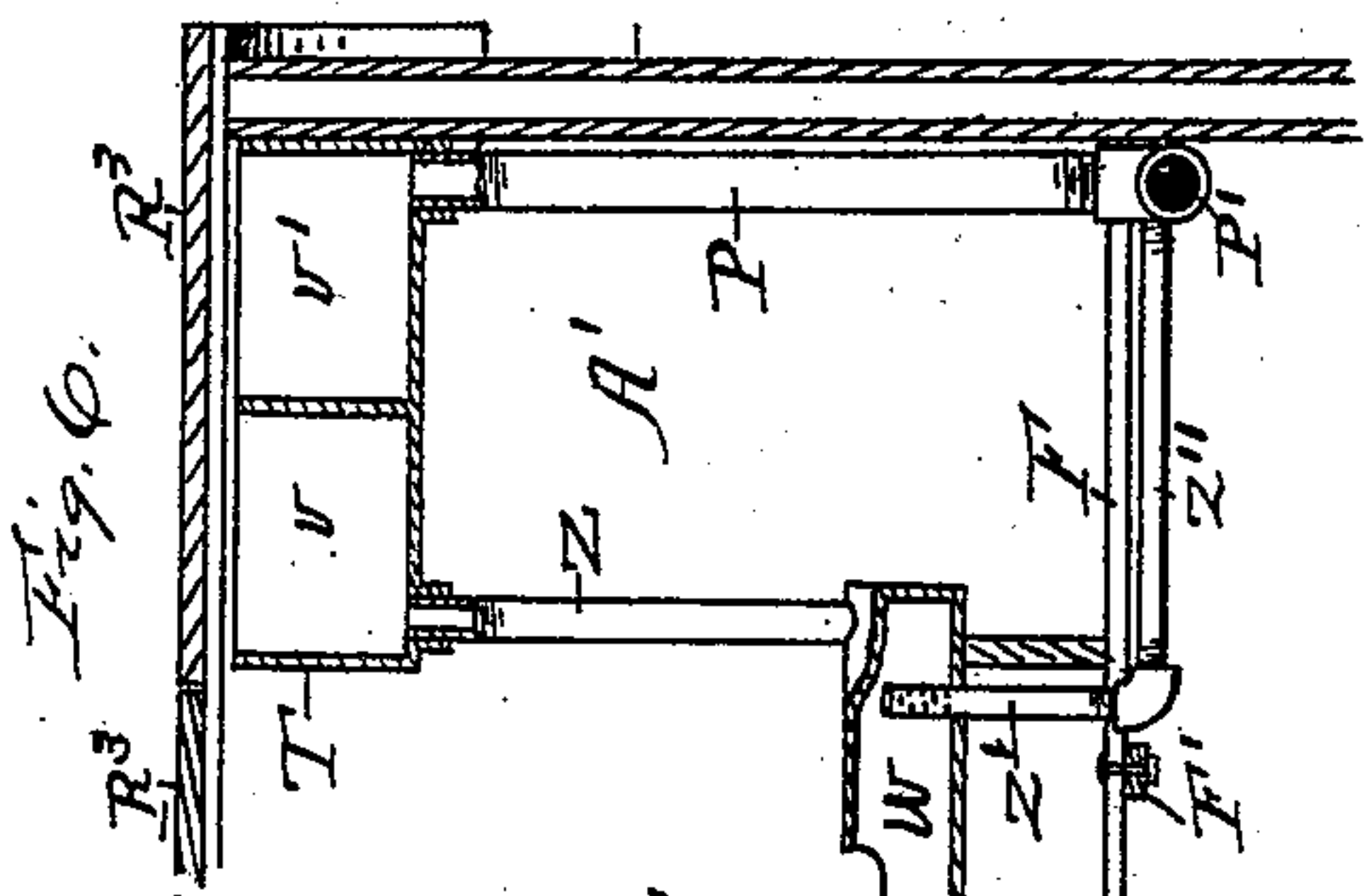
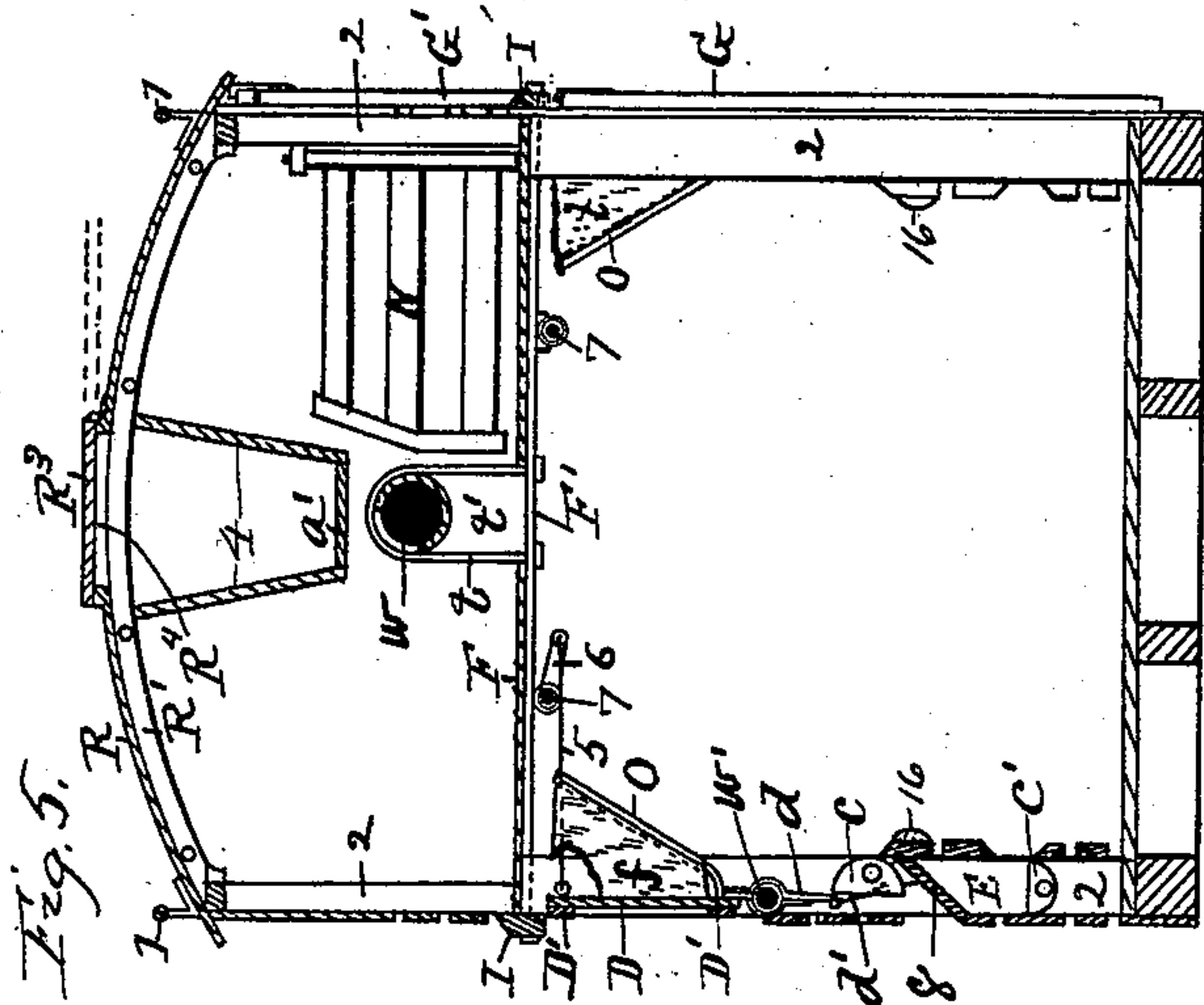
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J. M. BURTON.  
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2 Sheets—Sheet 2.

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By W. J. Hutchins  
Att'y.



# UNITED STATES PATENT OFFICE.

JOHN M. BURTON, OF WICHITA, KANSAS.

## STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 525,314, dated August 28, 1894.

Application filed September 13, 1889. Serial No. 323,799. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. BURTON, a citizen 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 and figures of reference thereon, forming a part of this specification, in which—

Figure 1. is a perspective elevation of the car, having a portion broken away to show the interior construction. Fig. 2. is a horizontal longitudinal sectional plan view of one end of the car; that portion above the central dotted line, taken on a line with the tilting watering troughs C, and that portion below said dotted line, taken on a line with the lower fixed troughs C'. Fig. 3. is a similar view of one end of the car and also the central portion, on a line a little above the upper watering trough w. Fig. 4. is a vertical cross-sectional view of the car near one end thereof. Fig. 5. is a similar view immediately to one side of the car center. Fig. 6. is a detail view, showing a vertical longitudinal section of a portion of one end of the car and of the water tank and a portion of the upper watering trough, and a plan of the supply and overflow pipes. Fig. 7. is a detailed perspective view of a connected pair of the pivoted side sections of the car, of the troughs below them and operated thereby and of a portion of the side water supply pipe upon which the sections are pivoted and also of the valve for regulating the flow of water to the lower troughs of the car. Fig. 8. is a detailed perspective view of one of the valves for regulating the supply of water to the lower troughs of the car, a portion being broken away to show its interior. Fig. 9. is a cross-sectional view of the same adjacent the valve seat. Fig. 10. is a detailed perspective view of a connected section of the lower troughs of the car and Fig. 11. is a cross-sectional view of one of the carlings of the car.

This invention relates to certain improvements in double deck stock cars, and consists in the particular construction and arrangement of parts whereby the car is adapted for the transportation of a full load of either hogs

or sheep on each deck or a divided load of either hogs or sheep on the upper deck or a combination of the two, and of cattle or the like on the lower deck, and wherein means are provided for feeding and watering the same, and when the car is not in use transporting stock the lower compartment thereof may be utilized for common freight purposes, as the feeding and watering appliances are arranged so as not to obstruct the car interior for such purpose.

Referring to the drawings A represents the lower compartment and A' the upper compartment, the former having the usual floor, and sills as shown.

2 represents the side posts of the car which are of considerable width throughout the height of the lower compartment and reduced in width at the upper compartment. F represents the floor of the upper deck or compartment, and is supported on the cross rods or metal joists F', one at each side post spanning the car (see dotted lines in Fig. 3.) and secured at either end through the outer side rails I by means of nuts on their screw-threaded ends. The carlings of the car, are for the purpose of making them light and strong, composed of a center metallic part R<sup>2</sup> and a similar but slightly broader part of wood R' on either side held together by bolts or rivets as shown in Figs. 4. and 11. and support the roof R thereon by securing the roof fastenings in the wood parts of the carlings. The roof R is divided at the center, leaving the space R<sup>4</sup> between the two roof parts the entire length of the car, which is covered by the run board R<sup>3</sup>, which is hinged in such manner as to turn over as indicated by the dotted lines in Figs. 4. and 5. to give access to the feeding racks of the upper compartment A' and the water tanks at either end of the car, also to a center storage box, and for convenience the said run board is divided into separate hinged sections m. m. m.' and m<sup>2</sup> m<sup>2</sup> so that either tank, rack section or the center storage box may be opened into independently. As a means of preventing one from slipping off the car roof a fender 1 is arranged along either side of the roof as shown in Figs. 1. 4 and 5. The sides of the upper compartment A' are inclosed by the ordinary sheathing and slatting as shown in Fig. 1.



$w$  is a trough for supplying water to the upper compartment  $A'$  and is supported on benches  $t'$  as shown in Figs. 1 and 5. and is some shorter than the car, enough so to leave a passage way at either end of the car as shown in Figs. 1 and 3. and is tied down upon said benches by a suitable number of straps  $t$  arranged astride the trough and extend down at either side and through holes in bars  $F'$  and are secured by turning nuts on their screw-threaded ends. And the trough and its immediate parts and the floor by means of such connection with said trough, are securely tied in firm position by means of the series of rods  $a$  which extend under the trough and up at either side to the roof where their ends are fastened, and thus form the feeding racks at either end of the car either way from the center storage box, and 4 represents said storage box at the center and is of about the same form as said racks, and is closed at its sides to form a receptacle, accessible through the door  $m'$  in the car roof, for the storage of feed, and has a bottom  $a'$  which extends either way therefrom between the lower part of the racks  $a$  to serve as a cover to protect the trough  $w$  from hay and the like. The trough  $w$  is circular in cross-section and has a series of openings along either side serving as nose holes for the animals to enter their nose to drink and thus they cannot crowd one another neither can they get dirt into the trough.

$C$  represents watering troughs arranged in connected sections at either side of the car each way from the side door ways, at a height suitable to accommodate cattle, and are pivotally supported between the side posts 2. by means of their tubular connecting bearings 13 which are seated in holes or recesses in the posts, and which permit the flow of water from one section to another.

$W'$  are water supply pipes arranged through holes in posts 2 a distance above troughs  $C$  and adjacent the outer part of the posts and are provided with smaller pipes 14 leading down, one at each trough section  $C$ , to supply said troughs with water from pipes  $w'$  (see Figs. 1 and 7).

$D$  represents side sections of the car pivoted at their lower part to pipes  $w'$  by means of their arms  $d, d^2$ , which inclose said pipes said upper arms  $d^2$  being secured to the sections  $D$ , while the lower arms  $d$  connect with troughs  $C$  through the medium of the links  $d'$  (see Fig. 7), to turn the troughs  $C$  when the side sections are operated.

$D'$  are ribs or bars secured to the outer part of sections  $D$  one at the upper and one at the lower part thereof, thus connecting the said sections together, at either side of the car either way from the side door ways, as shown in Fig. 1. The sections  $D$  are of closed sheathing and constructed and arranged to closely fit between the side posts 2 and set in a short distance from the outer surface of the posts (as shown in Fig. 5), and to thus permit them

to enter between the posts recesses  $D^2$  are made in the posts (see Fig. 4) in which the bars  $D'$  are seated when the sections  $D$  are closed as shown in Fig. 5.

$o$  represents rack bars which are secured to the inner lower part of side sections  $D$ , and extend up about equal with said sections and further connected to the said sections at either end adjacent each side post 2, by means of canvas ends  $f$  as shown which canvas together with the bars  $o$  form the hay racks in the upper side parts of the lower compartment  $A$  of the car for the purpose of supplying hay to cattle or the like, which racks are, by such construction and arrangement independent one from the other and operate with the side sections  $D$  to incline within the car when the sections are closed as shown in Fig. 5, or be in a vertical position between post 2 when the said sections are open as shown in Fig. 4. Also when the sections are open their connection with troughs  $C$  will turn the said troughs into position for service as shown in said figure, and when the sections are closed, out of service as shown in Fig. 5.

7 represents rods or shafts which are secured in suitable bearings immediately below the upper deck floor, and extend the entire length of the car, one on either side and are respectively provided with the crank arms 6, one opposite each side section, and connected with the side sections  $D$  by means of the links 5, (see Figs. 4 and 5,) and  $L$  represents levers, one of which is secured on each shaft 7 at the outer end of the car, as shown in Fig. 1, for the purpose of turning said shafts and thereby operate the arms 6 and links 5 and thus open and close the said side sections  $D$ , and by means of the two separate shafts and levers either side may be operated independent from the other. It is intended that shafts 7 shall be provided with levers at each end of the car so the sections  $D$  may be operated at either end of the car.

$C'$  are watering troughs arranged between posts 2 below troughs  $C$  a short distance from the floor and supported in a fixed position by means of their hollow connecting bearings 12, and are supplied with water at either end of the car from pipes 10 and flows throughout each section through the hollow bearings 12.

8 represents doors pivoted or hinged in a longitudinal position between posts, 2, below troughs  $C$  with their surface inclined downward and outward and rest at their outer edge upon the side slatting of the car, and form water sheds to run off surplus water dumped from troughs  $C$ , and also form doors which when open, by turning up on their pivots 9, give access to the lower hay receptacles  $E$  immediately above troughs  $C'$  and between the side posts 2 and between the inner car slatting between troughs  $C$  and  $C'$  and the outer slatting below said doors 8. The car slatting on the inner lower portion of posts 2 has beveled edges and is arranged a distance apart oppo-



site the upper part of troughs C for the purpose of giving nose space to the animals in the lower part of the car, so they may get water from said troughs (see Figs. 4 and 5).

5 Beside the slatting mentioned the outer sides of the car either way from the side doors, are slatted from the lower portion of the side sections D to a point about opposite the lower part of troughs C' terminating far enough  
10 from doors 8 to permit them to open.

G and G' represent the side doors the former of compartment A and the latter of compartment A' which are of the usual construction and operate in the usual manner, and are  
15 preferably arranged so that the doors of opposite sides are diagonally disposed with reference to each other as shown in Fig. 3.

T represents a water tank arranged in the upper part of the car at one end thereof, and  
20 accessible through a door *m*, of the run board R<sup>3</sup> and is divided into two compartments *v*, *v'* (see Fig. 6), compartment *v* being connected with trough *w*, to supply water thereto through the medium of pipe Z, and compartment  
25 *v'* being connected with supply pipes *w'* to supply water thereto and from thence to troughs C, as described, through the medium of pipes P, P' and P<sup>2</sup> and valves P<sup>3</sup> branching from pipe P to either side of the  
30 car, (see Figs. 4 and 6) and to the lower troughs C' through the medium of said pipes and valves and the extreme down pipes 10, leading from said valves at a point near their upper part and above their gate. Said valves  
35 P<sup>3</sup> are provided with gates *c*<sup>2</sup> in their horizontal portions (see Fig. 8), arranged on a pivoted axis which axis extends at one side and is provided with the crank *e* which is connected to arm *d* of the end side section,  
40 through the medium of link *e'* (see Fig. 7), in such manner as to turn said valve gate automatically when said side section is operated to open the gate when the side sections are open and the troughs C in position  
45 for service, so water flowing down pipes P, P' and P<sup>2</sup> will pass direct into pipes *w'* and thence to troughs C through the distributing down pipes 14, and to close the gate when the side sections are closed and the troughs  
50 C are out of position for service, so the flowing water will back up at the valve gate and flow down the lower supply pipes 10, of said valves, to supply the lower troughs of the car. Each end of the car is thus supplied  
55 with watering appliances so that all departments of the car may be readily and quickly supplied with water.

Z' represents a pipe arranged through the bottom of upper trough *w* with its upper end  
60 extending up to a point about equal with the surface of the water when the trough is full of water, and is connected with the main down pipes P, P', through the medium of pipe *z''* (see Fig. 6), for the purpose of conducting off the surplus water supplied to  
65 trough *w*, and its extending end, within the trough is provided with small perforations

for the purpose of conducting off the water from the trough remaining after the stock has been supplied, and discharging it through  
70 the pipes to pipes *w'* and thence out the down pipes 14 to the troughs C and if the said troughs are turned out of service, then, down upon the water shed 8 and off to the ground. The perforations of this pipe Z',  
75 within trough *w*, are very small, and not of sufficient capacity to drain the water from the trough as rapidly as the trough is supplied, in fact the water will escape through the perforations very slowly, and after the  
80 stock have been supplied and the water supply cut off from this trough, by the slow escape through the said perforations, the surplus water in the trough will drain off, as before described. The object in arranging the  
85 pipe Z' so water in the trough *w* will, after it has reached its proper level, flow from the trough down the pipe by overflowing its top, is to prevent the overflow of the trough at the openings where the stock drink. The  
90 water remaining in the lower stationary troughs C', after the stock have been supplied is slowly discharged through small perforations 11 in the bottom of the troughs (see Fig. 10,) and thus after watering the stock in  
95 a car all the troughs and pipes are so constructed as to be emptied of all surplus water.

As a means to prevent stock from injury by being jammed against the end walls of the car, padding is secured to the inner end walls  
100 of the car a distance from the floor at each deck as shown at K, and 3. Also padding may be applied to the top rail of the inner slatting of the lower compartment A, for a like purpose, as shown at 16 Figs. 4, and 5.  
105 N represents gates arranged hinged to or adjacent one door post in the upper compartment A', one gate at either side the car, and opposite each other as shown in Figs. 3, and 5, which may be used as a means of dividing  
110 the upper deck to facilitate in loading the car or for dividing the deck so that a divided or assorted load may be transported (see dotted lines in Fig. 3).

It will be observed that in watering cattle  
115 aboard the lower deck, it is necessary to open the side sections D in order to turn the troughs C into position for use, and as the hay racks *o* are attached and operate with the sections they will be in a vertical position  
120 between the side posts and entirely out of the way of the cattles' horns so that the cattle have easy access to the water. And when the sections are open they are supplied with hay from the outside and when closed bring  
125 the racks into position in the car, and are out of the way for opening the side doors. It will also be observed that by means of the protecting cover *a'* the animals cannot get any dirt into the trough *w*, and by means of the  
130 form of the inner slatting adjacent the lower troughs and the upper protection above them, that the animals cannot get any dirt into said lower troughs and when the intermediate piv-



otal troughs are dumped and in position out of use the cattle cannot get dirt into them, and thus by such construction and arrangement of parts each deck is supplied with feeding and watering appliances for sheep or hogs and the lower deck for both sheep or hogs or cattle and all supplied with water and feed and each trough and rack protected from dirt and the like, and when the car is not in use transporting stock the lower compartment is free from all obstructions such as would be in the way for using the car for transporting common freight or merchandise, and for convenience for freight purposes a door, as illustrated in Fig. 1, may be used in either end of the car, either on hinges or slides. In use the storage box 4 may be used for storing hay for sheep or feed for hogs, to be consumed during transportation thus supplying the top of the car with all necessary feed deposited there before starting the car, and as it becomes necessary the feed is taken out and distributed, if hay, in racks *a* and if feed, through the bars of said rack on the floor *F*. Hay is supplied from the outside to sheep on the lower deck by raising doors 8 and placing it in the receptacles *E* where it may be consumed from the entrance to the trough *C'* and feed to hogs on the lower deck may be either placed in troughs *C'* or thrown onto the floor.

In supplying the upper compartment with water, the water is let in, from some outer source, to compartments *v* of tanks *T* and in supplying the lower compartment of the car water is let in compartment *v'* of the tanks and in either case distributed as before described.

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

1. In a stock car, the combination of the watering trough *w*, its supporting benches *t'*, securing straps *t*, the double feeding racks *a*, and the guard *a'*, substantially as described.

2. In a stock car, the combination with the side posts 2, of the water supply pipes *w'* provided with the down distributing pipes 14, the side sections *D* pivotally secured to said pipes *w'* at their lower portions by means of their arms *d*, *d'*, and provided with the outer longitudinal bars *D'* securing them together in sets, the hay racks *o* secured to and arranged to operate with said side sec-

tions and provided with the canvas ends *f* thereby inclosing them into distinct separate receptacles, of the pivoted watering troughs *C*, arranged below said sections, and water pipes, the links *d'* connecting the depending arms *d* of the side sections with said troughs whereby the troughs are automatically turned into or out of position for use by the movement of said side sections, and the shafts 7, crank arms 6, links 5, and levers *L* for operating said sections, substantially as described.

3. In a stock car, the combination of the troughs *C'*, the pivoted troughs *C*, the pivotal side sections *D*, the connecting mechanism for operating the side sections, the pipes *P*, *P'*, *P''*, *w'* and 10, the valve *P''*, interposed in said pipes and provided with the valve gate *c'* having the crank *e* connected to said side section through the medium of a link whereby said gate is automatically opened to permit the flow of water to the pivoted troughs *C* when they are turned into position for use by the movement of said side sections, and close said gate thereby causing the water to flow to the lower fixed troughs *C'* when the side sections are operated to turn said pivotal troughs out of position for use, substantially as described.

4. In the stock car described, the combination with the side posts 2, the pivoted watering troughs *C* and the hay receptacles *E* arranged below said troughs, of the doors 8 of said hay receptacles adapted to serve as a cover for said receptacles, and by reason of their inclined position when closed as a water shed for shedding the surplus water emptied from troughs above them, substantially as described.

5. In a stock car, the combination of a reservoir at the top of the car provided with separate compartments, a watering trough, a pipe connecting one of said compartments with said trough, an outlet pipe from the other compartment of said reservoir, and a connecting pipe connecting said outlet pipe with said trough, below the same, and a valve for controlling the water, substantially as described.

JOHN M. BURTON.

Witnesses:

WM. J. HUTCHINS,  
R. B. BAKER.