

J. M. BURTON.
STOCK CAR.

No. 442,952.

Patented Dec. 16, 1890.

Fig. 1

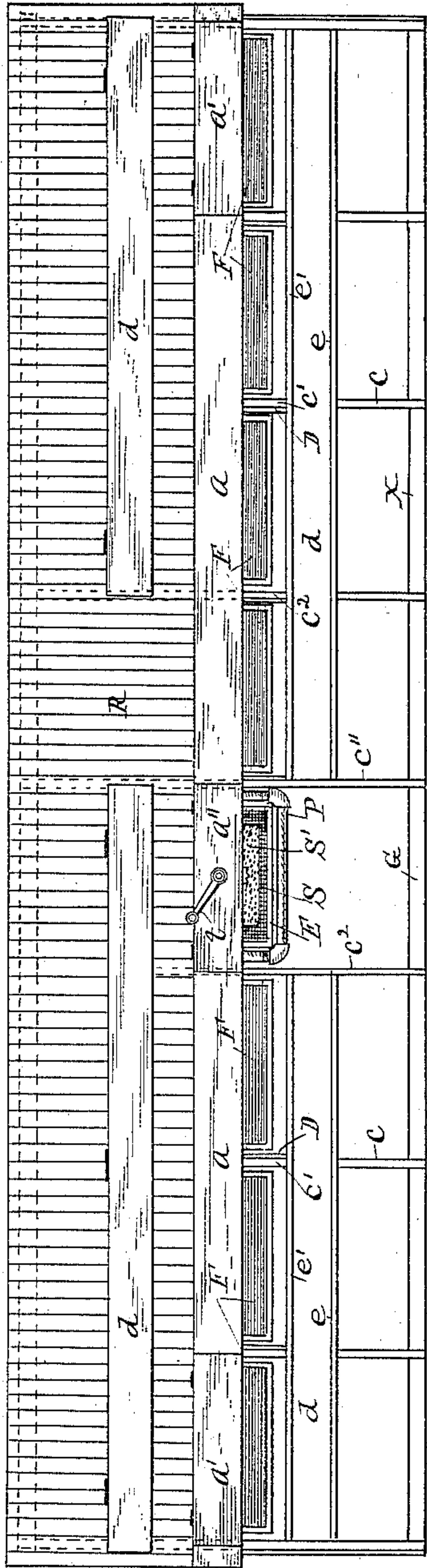


Fig. 2.

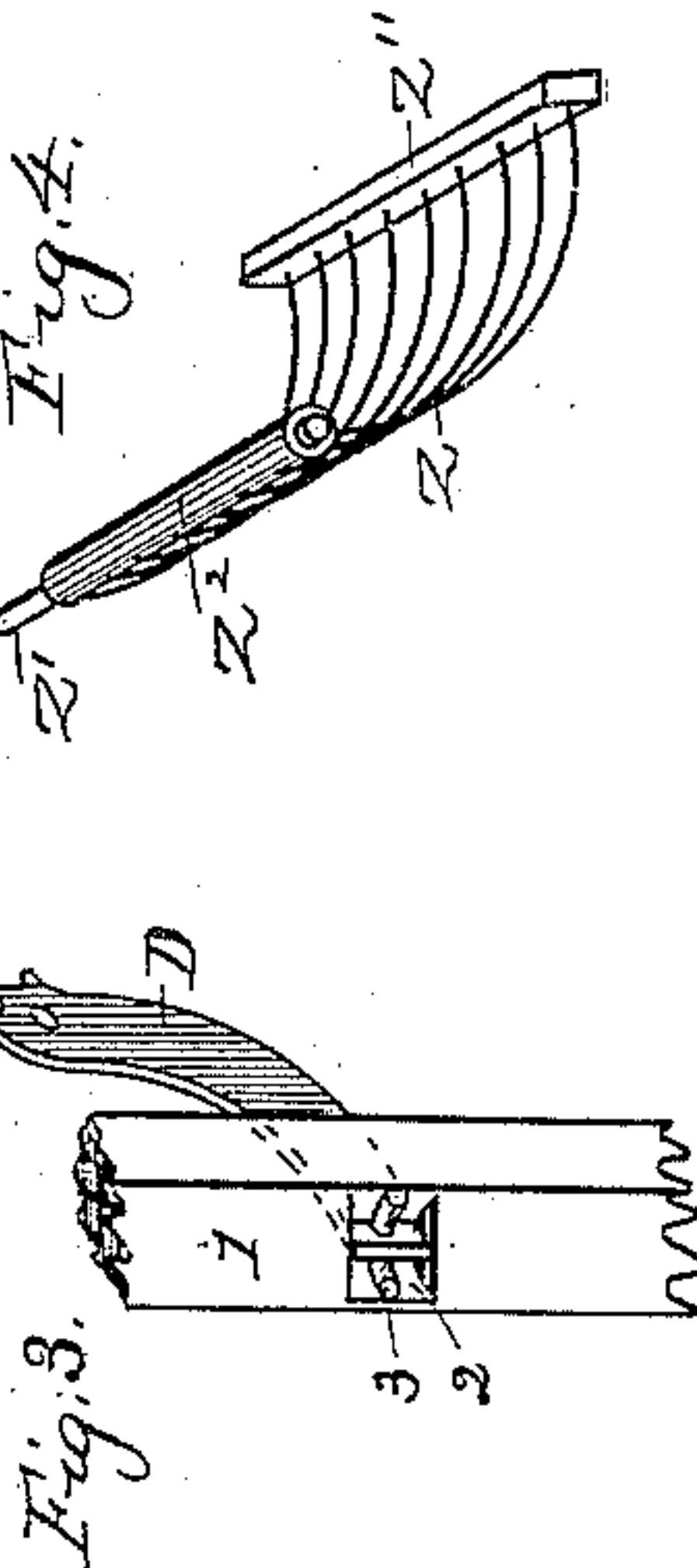
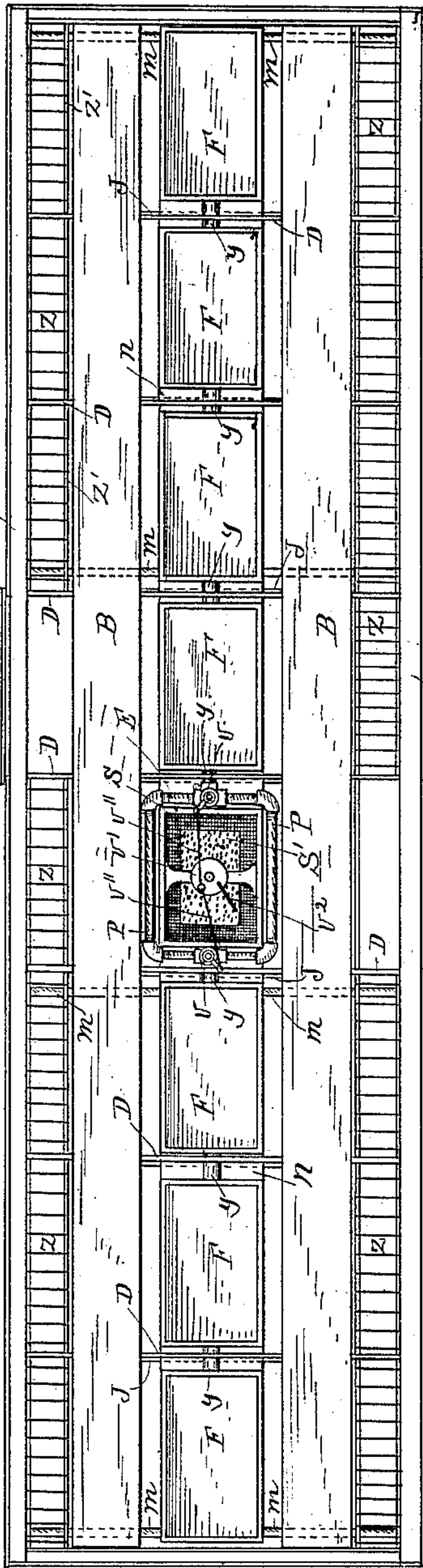


Fig. 4.



Witnesses.

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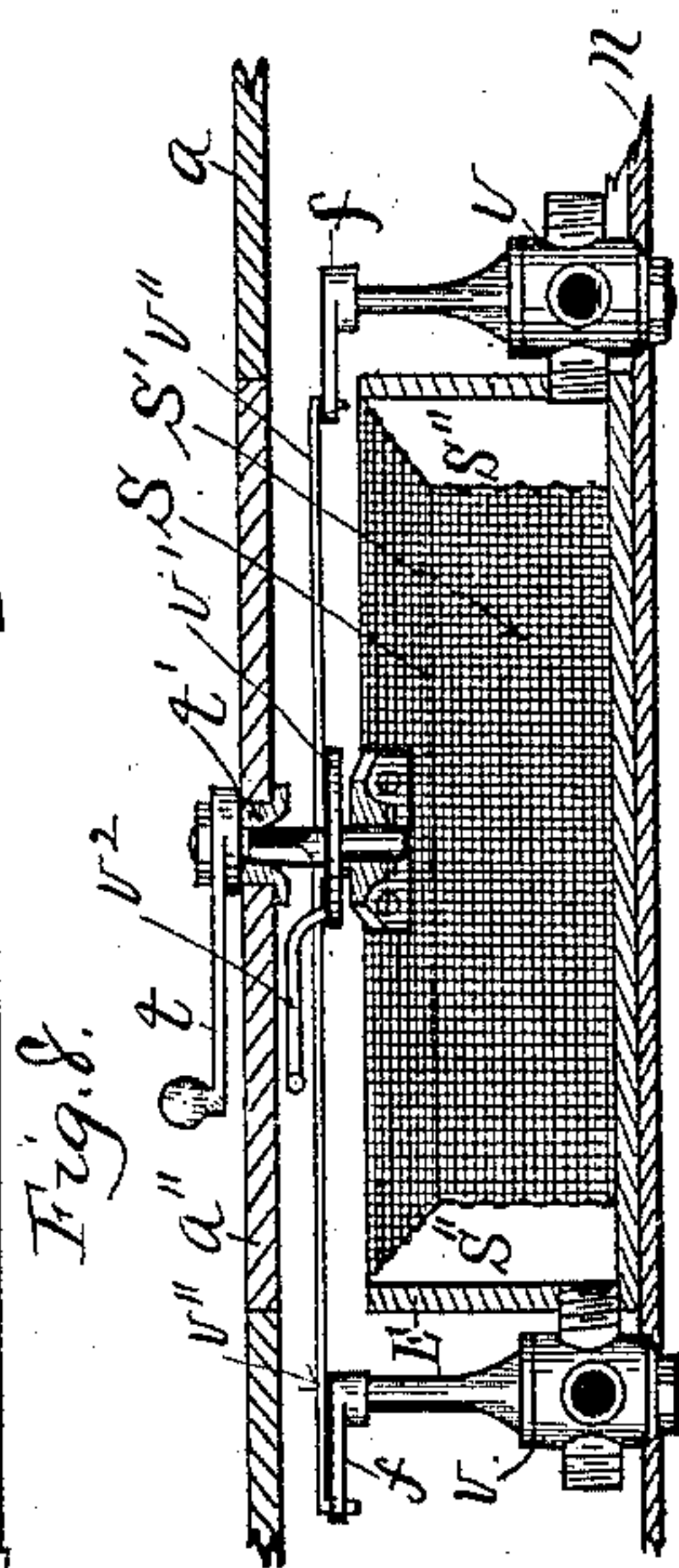
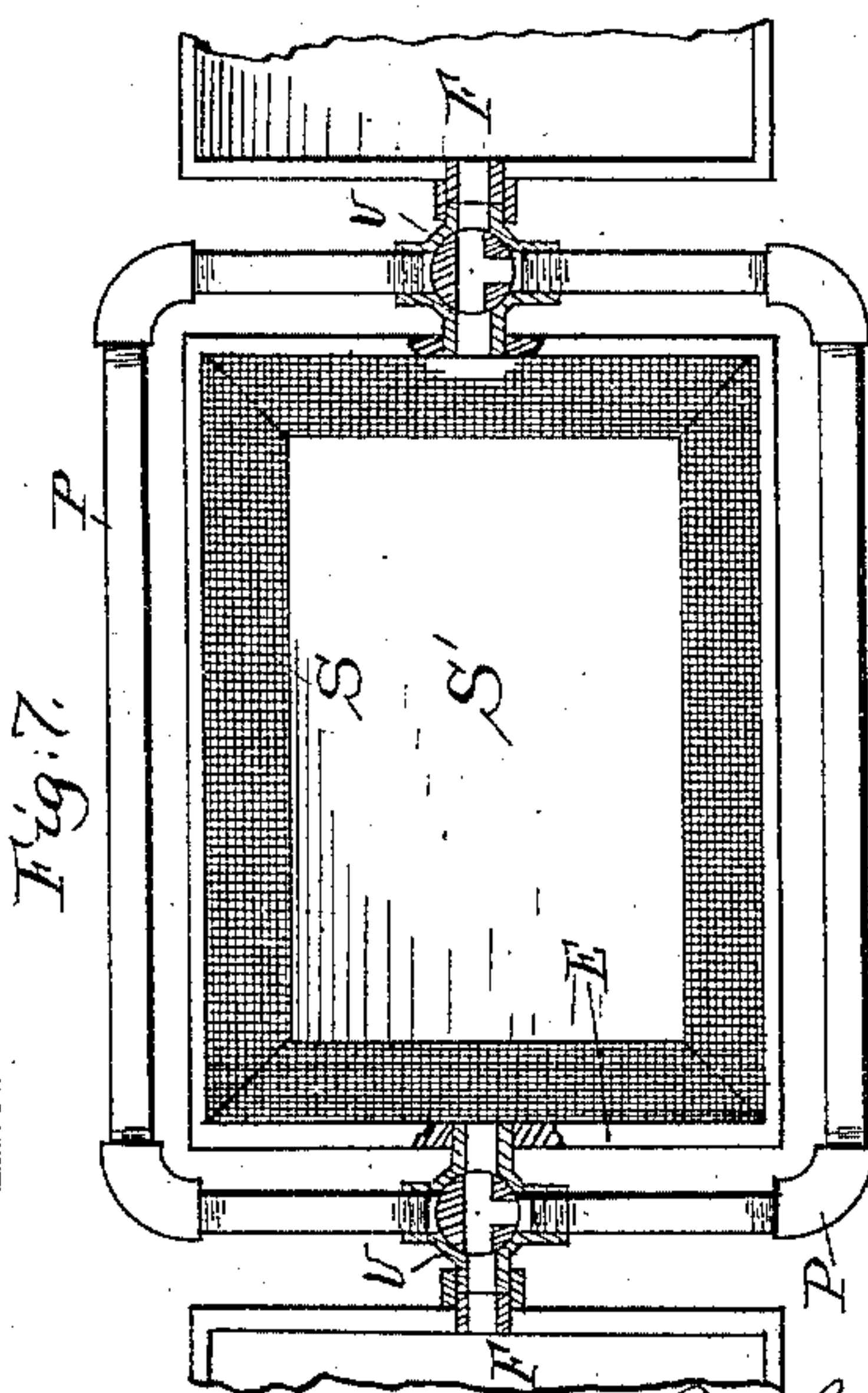
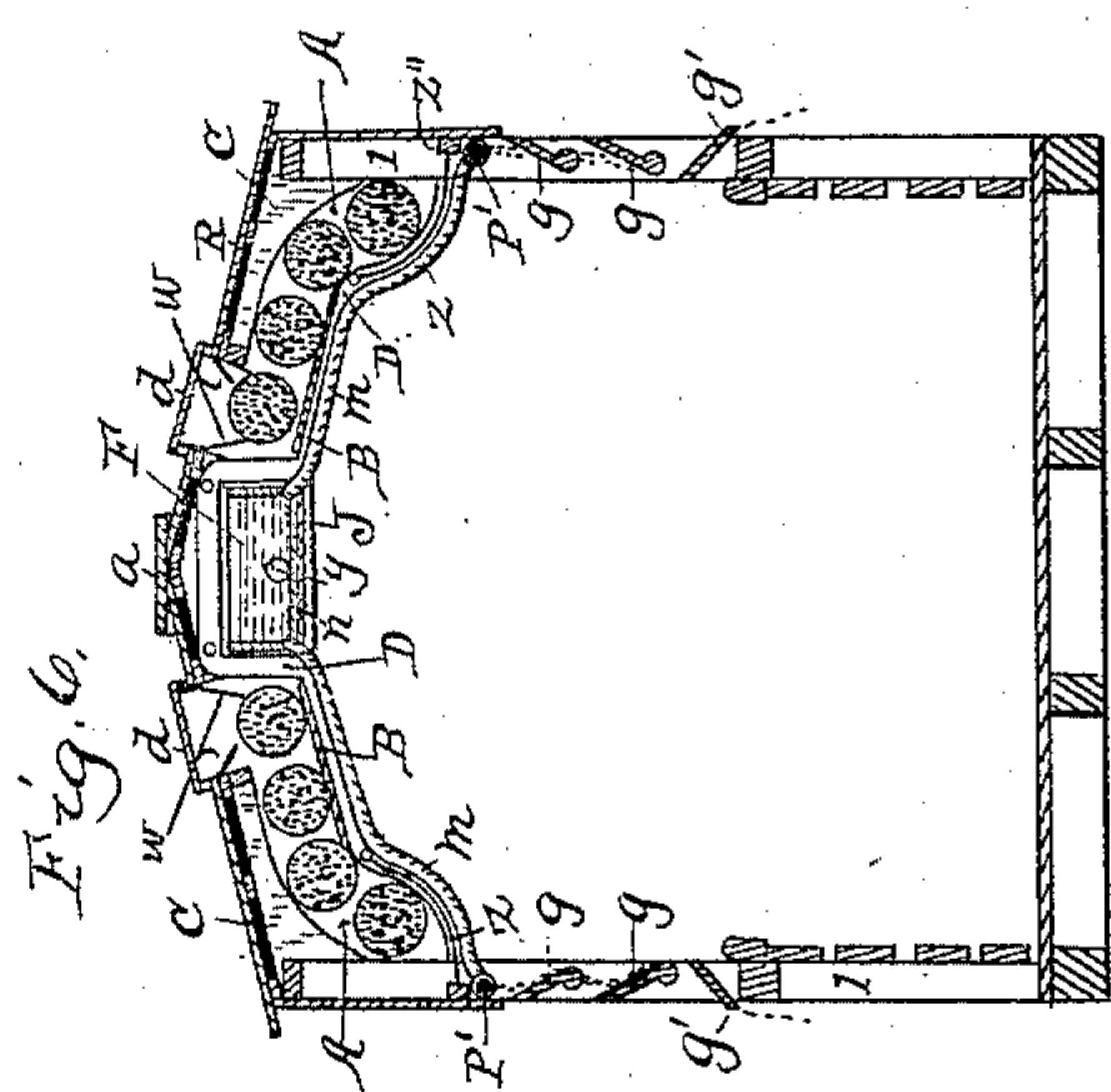
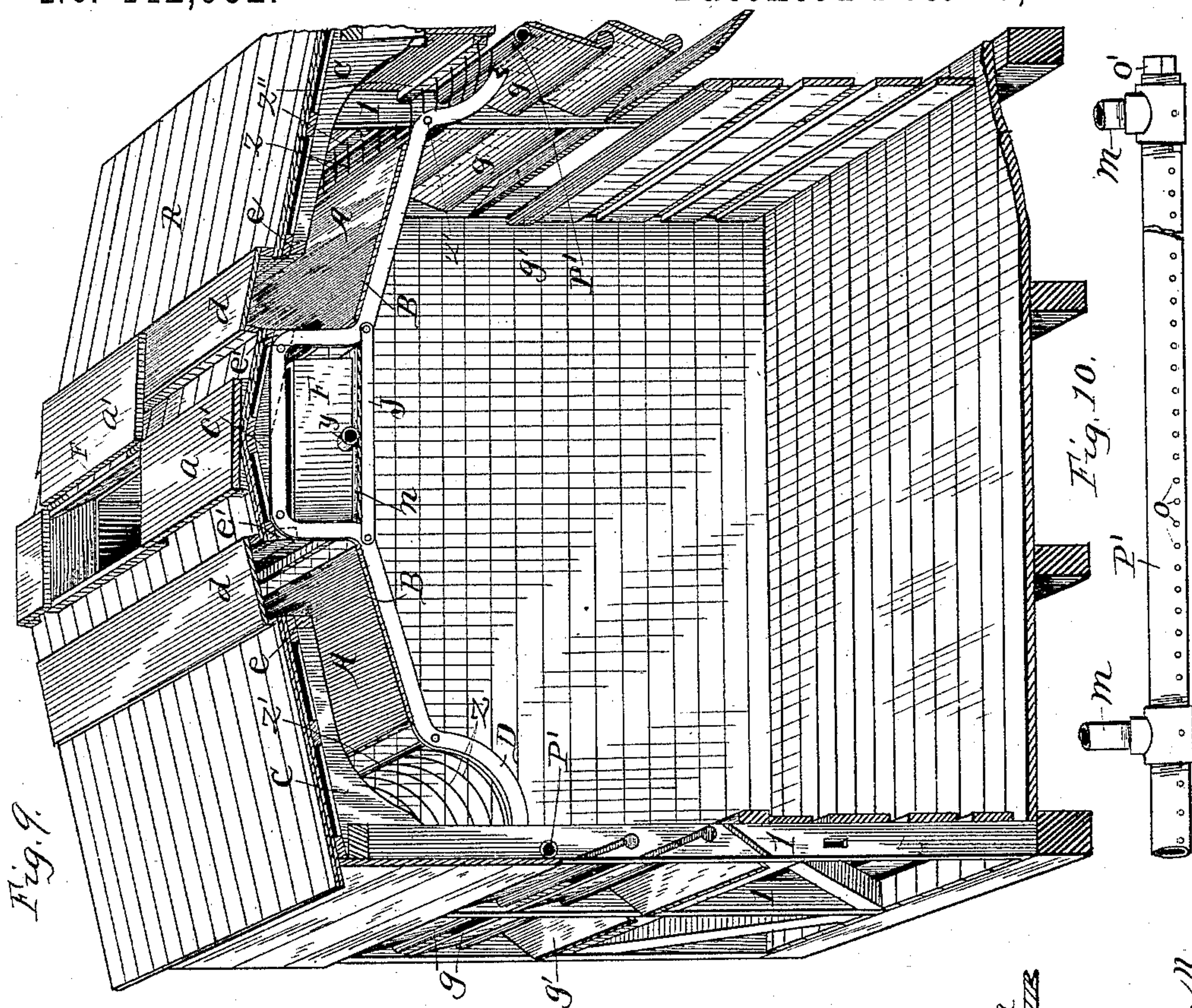
(No Model.)

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UNITED STATES PATENT OFFICE.

JOHN M. BURTON, OF WICHITA, KANSAS.

STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 442,952, dated December 16, 1890.

Application filed November 22, 1889. Serial No. 331,196. (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 top plan view of the car with one-half of the roof thereof removed to show the roof-frame. Fig. 2 is a similar view with the entire roof and frame thereof removed. Fig. 3 is a detailed perspective view of a portion of one of the side posts of the car and of a carling, showing the manner in which the carling is secured in the post. Fig. 4 is a detailed perspective view of a section of the feeding-racks of the car. Fig. 5 is a perspective view of a bale of hay. Fig. 6 is a vertical cross-sectional view of the car. Fig. 7 is a top plan view of the salt-tank, portions of the two adjacent water-tanks, and the connecting-pipes, the valves in said pipes being shown in horizontal section. Fig. 8 is a vertical longitudinal sectional view of said salt-tank and of its supporting-floor and the run-board of the car above it, showing a side view of its valves and their operating mechanism. Fig. 9 is a perspective elevation of one end portion of the car, and Fig. 10 is a detailed view of a portion of the perforated drip-pipes of the car.

This invention relates to certain improvements in that class of stock-cars wherein stock is watered and fed aboard the car during transportation, and wherein a quantity of hay is stored in the car in a manner exposing but a portion to the stock and adapted to automatically be presented to the stock from the storage as rapidly as it shall be consumed until the entire quantity stored shall be consumed, and wherein a quantity of water is stored in the car, which is adapted to slowly drip from small perforations upon and across surfaces presented to the stock in the car, from which surfaces the stock may lap the dripping water, and thus continue until the supply be exhausted, and also wherein the watering system of the car has an inter-

posed salt tank or receptacle, by means of which the water throughout the system may be impregnated with salt.

My invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the claims.

Referring to the drawings, the car is represented as provided with the ordinary sills and plates and side posts 1 and inclosed below the belt-rails and adjacent the hay-receptacles, in the usual manner.

D represents the metallic carlings, bent at their end portions to conform to the curved shape of the hay-racks, arched in their center to provide for a center support for the car-roof and for tank-space within the arch, and inclined each way from their arch toward their curved end portions, and are arranged at each end in mortises in the side posts 1 a distance down from the car-plates, and thus secured by means of a key 3 through holes in their end portions in recesses 2 of said posts, (see Fig. 3,) or by other means suitable to properly secure them, and thus serve as a means to assist in tying the upper portions of the car-sides together. At the base of said arches are secured the cross-tie rods or bars J, (see Fig. 9,) which prevent said arches spreading when subjected to such weight as may be required to support and further serve as supports for a floor *n*, upon which the water-supply tanks are arranged, which will presently be explained.

B and B are the floors of the hay-storage chambers A and A—one at either side from said center arches and arranged extending the entire length of the car—secured to the inclined portion of carlings D. (See Figs. 2 and 9.) Said carlings are further provided with perforations at the junction of their inclined and end curved portions, near the lower edge of floors B B, through which the rods Z' are arranged, as shown in Figs. 2 and 9.

Z represents the hay-racks, made in sections corresponding in length to the distance apart of the side posts 1, and are provided at their lower portions with the rails Z'', which are secured to the car-sides between the posts 1, and provided at their upper portion with tubular rails Z², (see Fig. 3,) which are sleeved over rods Z'; or they may be otherwise secured to

said rods to support them, as shown in Figs. 2 and 9, wherein they present a curved feeding rack within the car at each side, except at the side doorways.

5 R represents the car-roof, which is of the ordinary construction, and is provided with the center run-board *a* and with the longitudinal doors *d* at either side of the run-board, which open into the hay-storage chambers A
10 A, and are equal in length to the length of their respective chambers and hay-racks below them.

The frame-work of the car-roof consists of a center carling *C'* and a like carling at
15 each end of the car, of the usual construction, of two carlings *C''* between said center and end carlings consisting of sections extending inward from the side of the car toward the center of the short center cross-
20 pieces *c'*, which are secured to the upper part of the arches of carlings *D*, (see Fig. 9,) of the longitudinal rails *e* and *e'*, which form the frames of doors *d*, and of the side-bracketed arms *c*, which are secured to the side posts 1
25 and the car-plates at their outer end and to the rails *e* at their inner end.

F represents water-supply tanks arranged within the arches of carlings *D* upon the floor *n*, a tank at each section of the car,
30 excepting one at or near the center of the car, connected together, so that water may freely flow from one to the other throughout the system of tanks, (see Fig. 2,) the pipes *y* serving as such connecting media. E represents a similar tank arranged at or near the
35 car-center interposed in said water-tank system, and is provided with similar connecting-pipes *y*, connecting it with the adjacent water-tanks, which pipes are respectively provided
40 with a cock *V* and with side conducting-pipes *P*, connecting each side of each cock and leading about the sides of the tank, as shown. The shell of said cocks is provided with four ports, one leading to each adjacent tank
45 and to the side pipes *P*, and the plugs of said cocks are respectively provided with one opening leading across from one port to the opposite port and with one side opening leading to the center of the former opening, as
50 shown in Fig. 7. When said plugs are turned to be in position as shown in said figure, water may flow from the water-tanks either way through tank E and also about through one side pipe *P*; but when said plugs are turned
55 so their solid side opposite the side opening will be over the ports leading into tank E, then water in flowing throughout the water-tank system will not flow through tank E, but about its sides through pipes *P*. The upper
60 portion of each cock-plug terminates in a stem, and each such stem is provided with a crank *f*, (see Fig. 8,) by means of which the plugs are turned.

Across the center of tank E is arranged a
65 cross plate or bar, upon which is centrally and rotatably arranged a crank-disk *V'*, which is connected to the cock-cranks through the

medium of the rods *V''V''*. (See Figs. 2 and 8.) *V'* is a handle of said disk, by means of which the disk may be turned to likewise
70 turn the cock-plugs, which handle is beneath the car-roof and accessible through the door *a''* of the run-board, (see Fig. 1;) also said disk is provided with an upward-extending square stud *t'*, and the said door *a''* with a
75 rotatable socket-piece to fit said stud and with an outside crank *t* at the top of the car, (see Figs. 1 and 8,) whereby the cocks may be turned without opening the said door, and when the door is opened said outer handle
80 and socket will disengage from stud *t'* and engage it again when the door is closed.

S' represents the salt tank or receptacle within tank E, the side walls of which are of wire screening *S* or some equivalent material,
85 hopper-shaped at the top to meet the top edge of tank E, and arranged leaving a free space or chamber *S''* (see Fig. 8) within tank E about the salt-receptacle.

P' represents perforated pipes arranged in
90 a horizontal manner about the sides of the car, except at the side doorways, a little below the hay-racks *Z*, (see Figs. 6, 9, and 10,) and communicate with and receive their supply of water from tanks F through the medium
95 of the side lead pipes *m*. (See Figs. 2, 6, and 10.) The perforations *o* of said pipes *P'* are intended to be quite small, and therefore the water will not flow, but slowly drip from them, as indicated in Figs. 6 and 9. Below said
100 drip-pipes, arranged between posts 1, are the drip-surfaces *g g*, (see Figs. 6 and 9,) which are preferably inclined, as shown, and upon and across which the water from pipes *P'*
105 drips, and which are of such form and arrangement that stock in the car may lap the water as it drips across their surface. It is the intention of this invention to supply the car with a sufficient quantity of water to thus
110 drip during the entire transportation of the stock, thus giving the stock constant access to the dripping water, and thus at all times keep their tongues and mouths moist and the car cool. However, should the distance of
115 transportation be too great the car may be stopped at any watering-station and resupplied with water. Below the said drip-surfaces *g g* are arranged reverse inclined discharge-water sheds *g'*, arranged to catch the
120 escaped water and conduct it from the car. (See Figs. 6 and 9.)

As a means of supplying the supply-tanks with water, the car is provided with the end doors *a'*, opening through the car-roof at the
125 run-board, and with the center door *a''*, as before described. When it is desired to supply the car with fresh water, the cocks *v v* are turned to shut off tank E, the end doors *a'* are opened, and water run in until the tanks
130 F are full. When it is desired to impregnate the water with salt, the center door *a''* is opened, (the salt-receptacle having previously been supplied with salt,) the cocks turned to open communication with the tanks E and

F, as represented in Fig. 7, and water is then run in upon the salt, over which it washes, becomes impregnated, and flows on throughout the water system until a full supply is had. The object of thus impregnating the water with salt is, in one instance, to prevent it freezing readily in cold weather, and for this purpose any substance not injurious to stock may be substituted for salt, and in another instance, by thus charging the water with salt the stock will more readily lap it, as the appetite of stock at all times craves salt, and when thus salted their appetite for hay is improved, and the result is that during their transportation they are in constant access to both water and hay and given such improved appetite as to cause them to almost constantly eat and lap water instead of looking and stepping about with fright, as is usual with them, and hence arrive in market in good condition, well filled with hay, and with moist tongues and mouths, when, after a fresh supply of water after being unloaded from the car, they will present a well-kept appearance.

Hay to be supplied to the car is preferably baled in long round bales, as shown in Fig. 5, made in lengths corresponding in length with the storage-chamber and racks into which they are to be placed.

In supplying the car with hay the doors *d* are opened. Such bales of hay are then dropped in through said doors, the first of which will roll down over the floors B into the racks Z, where they will be presented for feeding purposes within the car. The next succeeding bales abut said first bales and each other in respective order until the storage-chambers are filled, as shown in Fig. 6, where none but the first bales will be exposed in the racks; but as the first bales are consumed the next succeeding bales will roll down automatically into the racks, and thus in like manner the entire quantity stored may be consumed, but preserved in good shape until it is required, and it is the intention of this invention to supply the car with a sufficient quantity of hay to give feed to the stock during their entire transportation. Other shapes of bales of hay or loose hay may be used in like manner, as the incline of floors B B is sufficient, together with the motion of the car, to cause hay in other shapes to slide down into the racks when desired as the advanced quantity is consumed, as stated.

As a means of preventing hay from being taken from the storage-chambers A A readily through their entrance-doors *d*, the inner edges of said door-frames are provided with spring-fingers *w* (see Fig. 6) at suitable intervals, which will yield to permit the hay to enter the chambers, but catch and hold the hay against being lifted to remove it through said doors. It is, however, intended that after the car has been supplied with hay the doors *d* shall be locked, and thus prevent intruders from removing the hay.

It may be desired in some instances to hold the supply of water in tanks F for a time before it will be desired to use it, and for such purpose valves or cocks of ordinary construction may be interposed in the lead pipes *m* or in the tanks, which are not necessary to be shown.

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

1. A stock-car provided with carlings extending inward from the side posts to near the center, having their central portions formed into arches for supporting the center of the roof, the sides or bases of the arched portions being connected by bars which serve as supports for centrally-arranged water-tanks, as set forth.

2. A stock-car provided with carlings arched at the center to support the center of the roof and extending in either direction sidewise from the base of said arch, floors of hay-storage chambers supported upon said carlings, bars which connect the bases of the arch, and centrally-arranged water-tanks supported by said bars, as set forth.

3. In combination, the roof of the car, provided with doors *d d* on each side of and near the walking-plank *a*, the centrally-arched, inclined, and curved carlings, the side posts of the car, the inclined floors B, and the hay-racks curved to conform to the curves of the carlings, the said doors *d d* affording means for supplying hay to the chambers A which are formed between the roof and floors B, which chamber forms a continuation of the hay-rack space, as set forth.

4. A stock-car provided with a series of carlings centrally arched for supporting the center portion of the car-roof, inclined either way from said center arch a distance beneath the car-roof toward the car-sides, and curved at each end to conform to the shape of the hay-racks and secured to the side posts of the car at the ends, thus providing supports for the hay-storage chamber and hay-racks, substantially as set forth.

5. A stock-car provided with a water-supply system consisting of a series of connected supply-tanks longitudinally arranged beneath the car-roof, of horizontally-arranged side perforated pipes connected with and arranged to receive a supply of water from said tanks through the medium of said lead pipes, of inclined surfaces presented toward the car interior, upon and across which water from said perforated pipes may drip, and of reversely-inclined water-sheds for discharging the escaped water from the car, substantially as set forth.

6. A stock-car having a system of water-supply tanks consisting of a series of tanks longitudinally arranged beneath the car-roof and connected together by means of pipes and provided with an interposed salt-receptacle, whereby the water throughout the system may become impregnated with salt, and

pipes for delivering the water, substantially as and for the purpose set forth.

7. A stock-car provided with a system of perforated water-pipes and supply tanks in communication with each other, and inclined surfaces below said pipes, upon and across which water from said perforated pipes may drip, substantially as and for the purpose set forth.

8. A stock-car having centrally-arranged water-tanks, doors therefor consisting of hinged portions of the walking-plank, hay-storage chambers on each side of said tank supported by the carlings, having doors in the roof on each side of the walking-plank and having their floors inclined toward the sides of the car, and hay-racks forming continuations of said floors in downward-curved lines to the sides of the car, the carlings being arched over the tanks and connected below said tanks, as set forth.

9. In a stock-car, the combination of the hay-storage chambers A A, the feeding-racks Z, opening into said chambers, the watering system consisting of the connected supply-tanks F, the side lead pipes *m* and perforated horizontal side pipes P', and the inclined drip-surfaces *g g* presented facing the car interior below said perforated pipes, substantially as and for the purpose set forth.

10. A stock-car provided with feeding-racks about its side walls, hay-storage chambers communicating with said racks, a water-supply system having a salt-tank therein, terminating in perforated pipes, and surfaces below said pipes, upon which salt water from said pipes may drip, as and for the purpose set forth.

11. In the stock-car described, in combina-

tion with the side posts 1, the carlings D, centrally arched, curved at each end portion to conform to the shape of the feeding-racks, and inclined either way from their arched portion toward the car-sides, the tie-rods J, spanning said arch at its base, the floors B B, secured to said inclined portions, the floor *n*, secured upon and to said tie-rods, and the racks Z, connected with said carlings adjacent said inclined floors through the medium of the rod Z', substantially as and for the purpose set forth.

12. In the stock-car described, in combination with the connected tanks F, the salt-tank E, provided with the wire-screen receptacle S', the cocks *v v*, and side conducting-pipes P P, interposed in said water-tank system, and the mechanism, substantially as set forth, whereby said cocks may be turned to open or shut off said salt-tank from communication with said water-tanks, in the manner and for the purpose specified.

13. A stock-car provided with water-tanks, an interposed salt-tank, pipes directly connecting the water-tanks and salt-tanks, pipes connecting the water-tanks and passing around the salt-tank, and valves at the junctions of the two sets of pipes, whereby the water may be caused to pass either through or around the salt-tank, as set forth.

14. In combination, in a stock-car, water-tanks, an interposed tank, pipes connecting the series, and a perforated or wire basket in the interposed tank for containing salt, as and for the purpose set forth.

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Witnesses:

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