

(No Model.)

G. GROSSMAN.  
STOCK CAR.

No. 560,790.

Patented May 26, 1896.

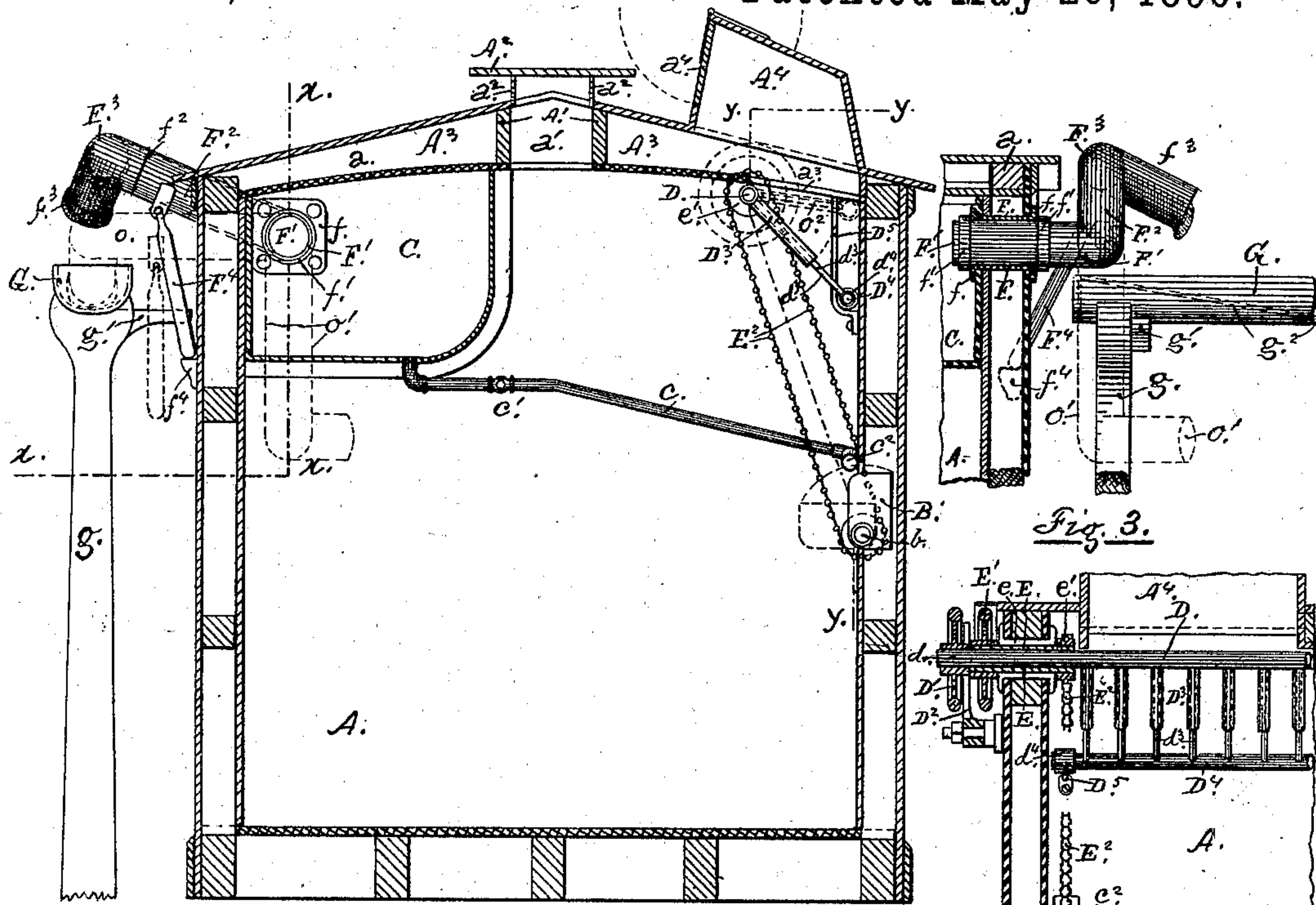


Fig. 1.

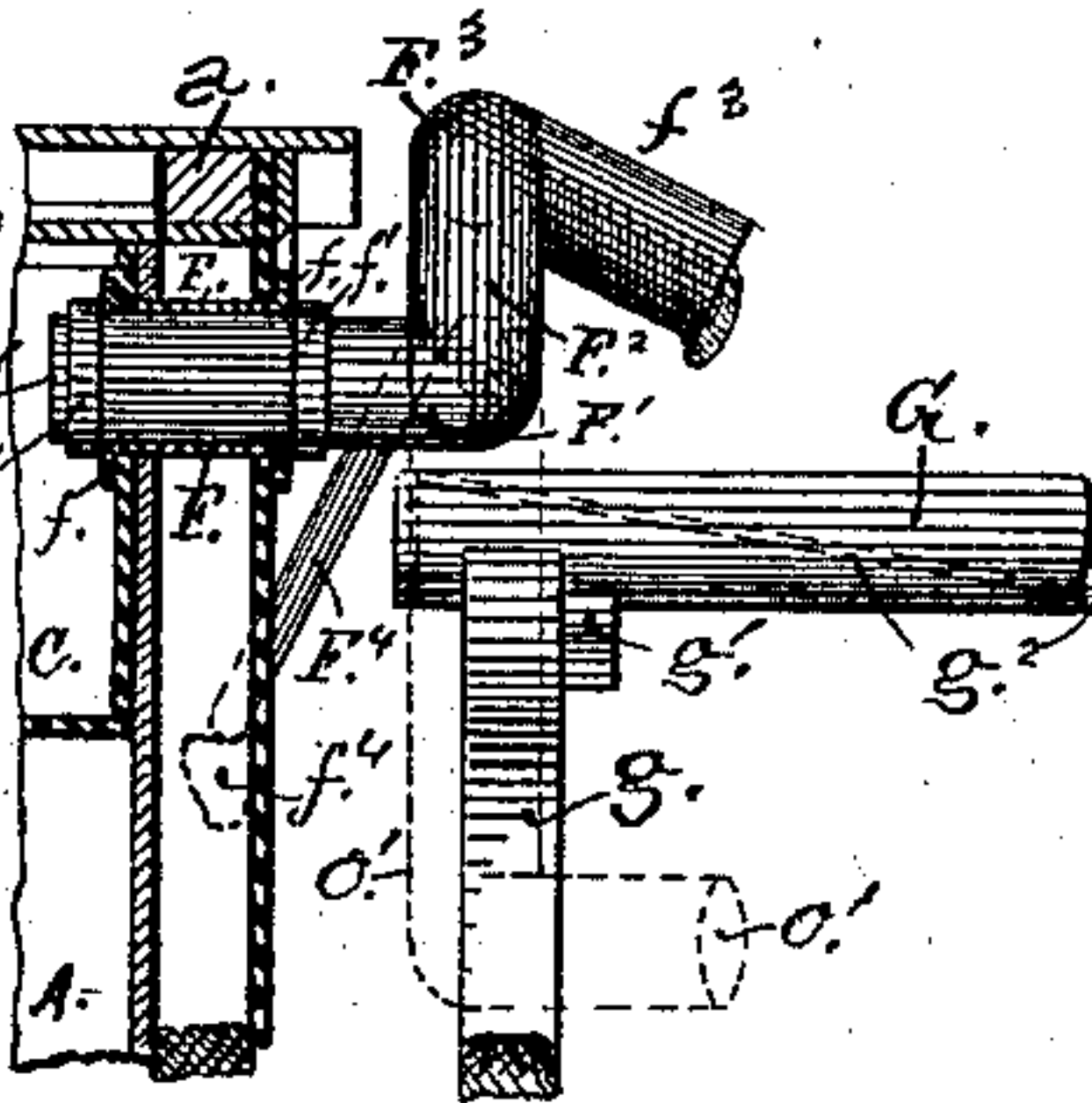


Fig. 3.

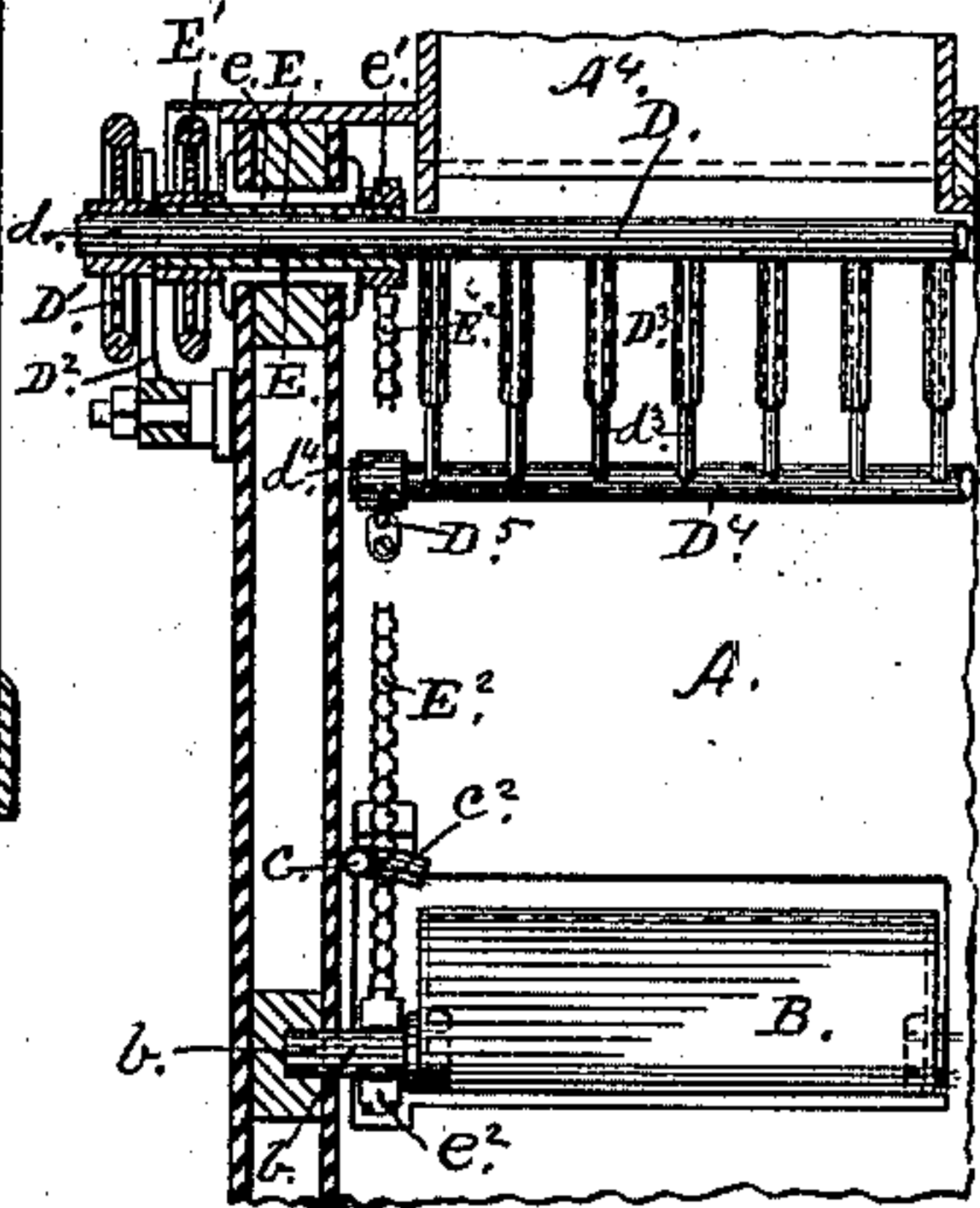


Fig. 4.

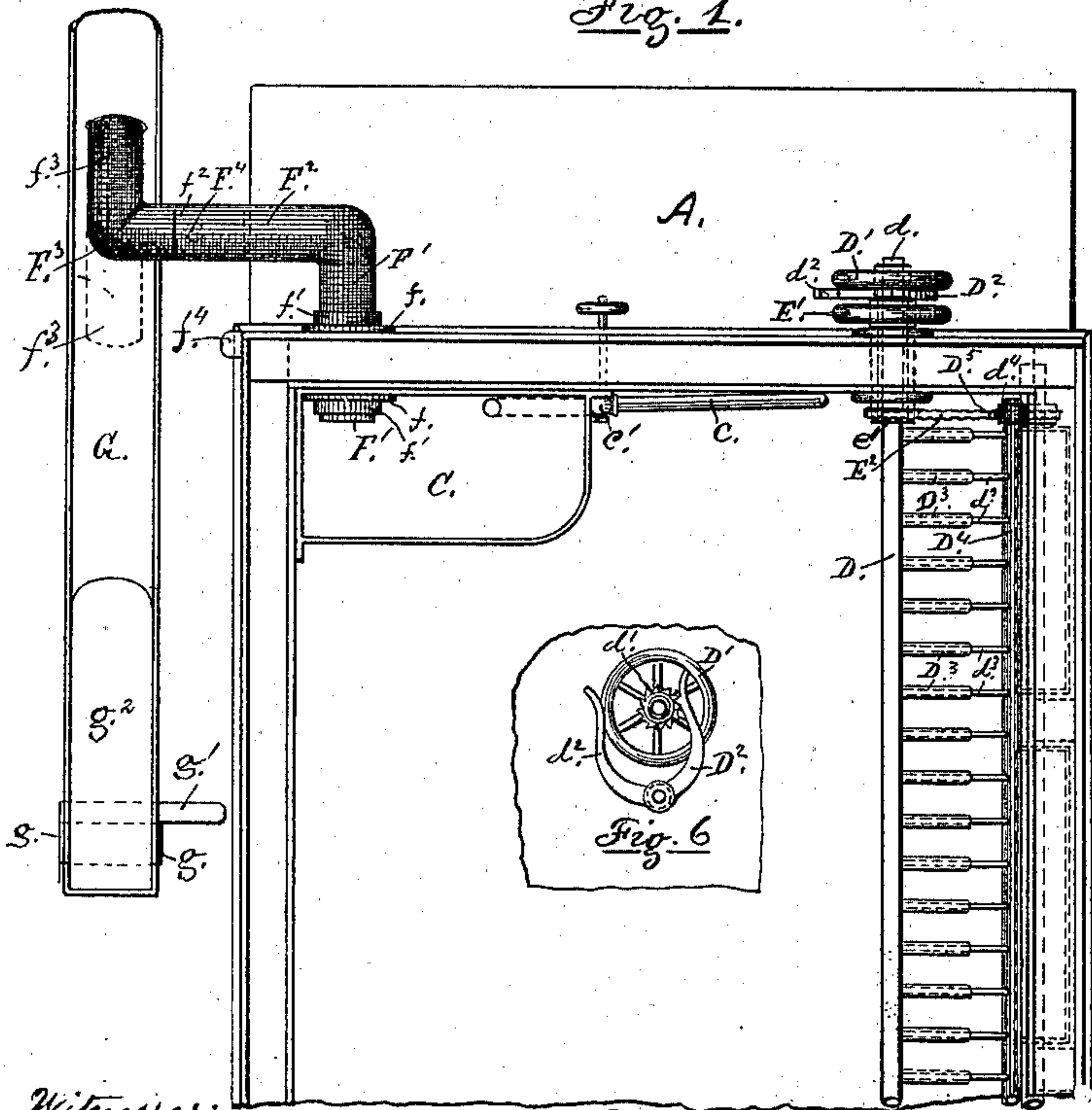


Fig. 2.

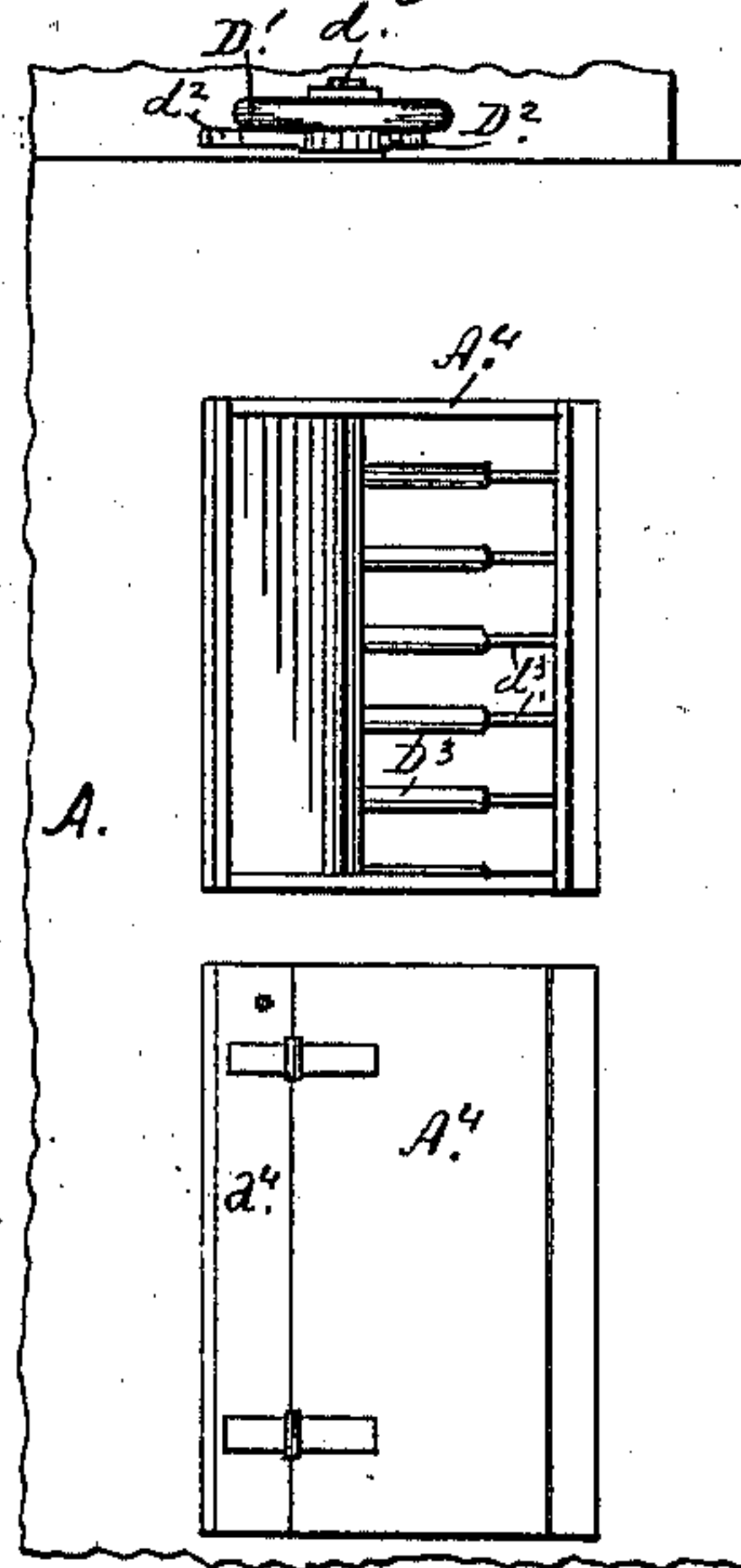


Fig. 5.

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# UNITED STATES PATENT OFFICE.

GEORGE GROSSMAN, OF LANCASTER, PENNSYLVANIA.

## STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 560,790, dated May 26, 1896.

Application filed March 28, 1893. Serial No. 467,928. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE GROSSMAN, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Stock-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in a car which is especially adapted to the transportation of live stock, delivering it in prime condition at destination.

The object of the invention is to enable an attendant from the outside of the car to water and feed the stock in transportation just as conveniently as from the inside, whether the car is running or standing still.

The invention consists, first, in placing diagonally across a roof-angle of the car a telescoping rack to feed the stock, that may be raised to the ceiling to be out of the way or brought lower in position when smaller stock is to be fed, as well as in providing means whereby to automatically supply said rack, and, second, in providing means to induct water into storage tanks in the body of the car while said car is in motion.

The purposes of the invention are attained by the means and devices illustrated in the accompanying drawings, in which similar letters of reference designate like parts throughout the several views, and in which—

Figure 1 is a sectional elevation of the body of a car embodying the elements of my invention; Fig. 2, a top view of Fig. 1 with the roof and rafters removed; Fig. 3, a view from the right of the forward end of the portion to the left of and above the line  $x x x$  in Fig. 1; Fig. 4, a view from the left of the forward end of the portion below and to the right of the line  $y y y$  in Fig. 1; Fig. 5, a top view of the right-hand portion of the roof shown in Fig. 1, with the portion of the forward roof-box above the horizontal portion of the line  $y y$  removed; and Fig. 6, a view from below of the rack hand-wheel, ratchet, and pawl as they appear in Figs. 2 and 5.

In the drawings, A designates the body of

a car such as is referred to in the preamble hereto.

For the purposes of my invention the under edges of the rafters  $a$  are cut out, as shown, and boarded over to form an arched and dust-proof ceiling to the space or chamber in which the stock to be transported is loaded, while its side and end walls are also lined to make said chamber smooth and even on the inside, adding greatly to the comfort and cleanliness of said stock. In the peak of the roof its covering is cut away, as well as the ceiling underneath, and the rafters are joined by longitudinal strips  $A'$  and  $A'$ , which extend from said roof-covering to said ceiling, forming an opening  $a'$  through said roof into the body of the car for ventilation, and the outer edges of said opening underneath the running-board  $A^2$  are connected with its underside by screens  $a^2$  and  $a^2$  to prevent the free ingress of cinders or similar particles thereinto. Chambers  $A^3$  and  $A^3$  are thus formed between said rafters for the storage of hay, fodder, or similar feed, which slips freely down their sloping bottoms formed by said arched ceiling to the sides of the car, where openings  $a^3$  the width of said chambers are made in said bottoms, through which said hay or fodder falls by gravitation into the racks to be hereinafter described. These chambers are provided through the roof of the car with upwardly-projecting boxes or cases  $A^4$ , having doors  $a^4$ , top-hinged in their walls next to the running-board, adapting said cases to have the hay or fodder put through them into said chambers, materially increasing the storage capacity thereof.

B designates a series of troughs mounted on sections of piping, said sections having their extremities secured into and through the sides of said troughs, serving to supply them with water and forming a pipe-shaft  $b$ , journaled in bearings set in a side wall of the car and adapted to support them, being so arranged thereon as to be turned into the position indicated by full lines when not wanted and into that indicated by dotted lines when needed to water the stock, as is best shown in Fig. 1.

C designates a water-storage tank placed and secured in position in the upper portion,



against the end wall of the car, so as to be most out of the way of the stock in process of transportation, and  $c$  a pipe in position to conduct water from said tank through its bottom to the series of troughs, as shown, while  $c'$  designates a valve operated outside of the car to regulate the flow of water through said pipe, and  $c^2$  designates its outlet-nozzle into said troughs, as shown in Figs. 1, 2, and 4.

Underneath the ceiling, along the edges of the openings  $a^3$  into the forage-storage chambers before mentioned, is journaled a tube or pipe  $D$  of approved dimensions, having one end at the center of the car (not shown) and the other end projected through the end wall thereof, where its extremity  $d$  is provided with a hand-wheel  $D'$  to turn said pipe and a ratchet-wheel  $d'$ , the teeth of which a gravity-pawl  $D^2$  is adapted to engage to keep said pipe from turning back, said pawl having a smooth arm  $d^2$  to ride against said ratchet-wheel when the pawl is disengaged, allowing the pipe to turn back and keeping said pawl in position for reengagement. This pipe  $D$  constitutes the top rail of my telescoping rack, which will now be described. Into a side of said pipe, at prescribed intervals, are rigidly secured the upper ends of smaller tubes  $D^3$ , into the axial bores of which, through their lower open ends, and movable freely up and down therein, are fitted still smaller tubes  $d^3$ , having their outer or lower ends at equal intervals rigidly secured into a side of a similar tube or pipe  $D^4$ , which constitutes the lower or bottom rail of my telescoping rack, said pipe having its ends provided with antifriction-rollers  $d^4$ , one of which only is shown, adapted to roll up and down against the side wall of the car, being confined thereto by guide-rods  $D^5$ , secured in place against said side wall, as is shown in Figs. 1, 2, 4, and 5.

On the forward end of the pipe  $D$  where it extends through the end wall of the car is sleeved a tube  $E$ , which also extends through said side wall and serves as a bearing in which this end of said pipe may be freely rotated. This sleeved tube  $E$  is journaled in a bearing  $e$ , fixed in position in and through said end wall, and it has secured to its outer extremity a hand-wheel  $E'$  to rotate said sleeve, while to the inner end thereof is secured a sprocket-wheel  $e'$ , having an endless chain  $E^2$  mounted thereon, as well as on a similar sprocket-wheel  $e^2$ , which is secured to the forward end of the pipe-shaft  $b$ , before mentioned, on which the troughs  $B$ , also before mentioned, are mounted, whereby said troughs may be turned at pleasure into the several positions likewise before mentioned, and from the outside of the car, all of which is best shown in Fig. 4; but see also Figs. 1 and 2.

Near the top of the end wall of the car, therethrough and into the upper portion of the water-storage tank before mentioned, is inserted a tube  $F$ , having a flange  $f$  at each

end thereof. The inner flange is made watertight with the body of the tank and the outer one rests against the outside casing of the car. The concaved face of this tube is finished throughout to serve as a bearing for the rotatable end of the water-injecting device, yet to be described, while its flanges have their outer faces finished to serve as shoulders, against which collar-rings, also yet to be described, will ride to keep said injecting device endwise in place. This injecting device is constituted as follows:  $F'$  designates a tube of approved dimensions, which is rotatably fitted into the tube  $F$ , (best shown in Fig. 3,) while  $f'$  and  $f'$  designate the collar-rings secured thereto to keep said tube endwise in place, also best shown in Fig. 3. (See also Figs. 1 and 2.) The tube  $F'$  extends forward a prescribed distance, where it is formed into an elbow and continued into an arm  $F^2$  of prescribed length, having its end  $f^2$  adapted to have rotatably jointed thereto one arm of an elbow  $F^3$ , and its other arm  $f^3$  adapted to be turned either way, Fig. 2, downwardly sloping, and to be dropped into a trough, yet to be described, while  $F^4$  designates an arm or brace having one end linked to the arm  $F^2$  (best shown in Fig. 1) and its other end adapted to rest on a bracket or projection  $f^4$  from the adjacent side of the car, also best shown in Fig. 1.

$G$  designates one of the troughs, of approved dimensions, which are arranged near water-stations, where they may be conveniently filled, along the sides of the railroad-tracks on which it is intended to run the car.  $g$  designates one of the posts planted along said tracks and adapted to support said troughs in the proper position to meet the requirements of the car whose tanks it is intended to fill.  $g'$  is an arm or finger which projects horizontally inward from the upper end of the post at each end of a series toward an approaching car, and is adapted to brush the brace  $F^4$  from its bracket  $f^4$  to drop the injecting device from the position indicated by full lines in Figs. 1 and 3 to the position within the trough indicated by dotted lines  $o$  in Fig. 1, and  $g^2$  is an inclined plane, sloping from its bottom to the top thereof at each end of the trough, up which plane the scoop-arm  $f^3$  of the injecting device will slide and, in passing over the end of the trough, drop said device to the position indicated by dotted lines  $o'$  in Figs. 1 and 3.

In this application I have shown one method for raising or lowering the rack described. It is evident that other means may be used to perform the same function and not involve any new invention or change in the construction of said rack.

It will here be observed that when the rack is raised to the ceiling of the car, as indicated by dotted lines  $o^2$  in Fig. 1, horses or animals that can reach up may eat hay or fodder therefrom just as freely as when said rack is



in a lower position, for the hay or fodder in the feed-chambers above will remain lying on its rungs.

Having now described my invention and set forth the manner in which it is to be performed, what I do consider new, and desire to secure by Letters Patent, is—

1. In a stock-car having forage-storage chambers above its ceiling, and openings, along the side of the car, through their bottoms, into said chambers, the telescopic rack arranged across a roof-angle of the car and comprising the following instrumentalities: the top-rack-rail shaft-pipe extended along the edge of the bottom openings into the feed-chambers and journaled underneath the bottoms of said chambers, means provided to rotate said pipe, and mechanism provided to keep it from turning back; the upper tubular rack-rungs having one end rigidly secured into a side of said top-rail pipe; the lower tubular rack-rungs having their upper portions movable, telescopically, in the axial bores of said upper rungs, and their lower ends rigidly secured into a side of a bottom-rail pipe; the antifriction-rollers, pivoted onto the ends of said bottom-rail pipe, and adapted to roll up and down against the side wall of the car; and the guide-rods secured against said side wall to keep the bottom rack-rail in place and the rung-tubes telescopically engaged, substantially as described and for the purpose set forth.

2. In a stock-car having a storage water-tank secured to an end wall of the car and a jointing-tube, through said end wall, opening into said tank, the injecting device comprising the following instrumentalities: a

tubular elbow having one arm, rotatably jointed, through said jointing-tube, into said tank; a tubular elbow having one arm rotatably jointed into the forward end of the other arm of said first-mentioned elbow, and the other arm of said second-mentioned elbow adapted to be turned either backward or forward, as shown; and a brace having one end pivoted to the injecting device and the other end adapted to stand on, and to be brushed from, a bracket secured to a side of the car, substantially as described and for the purpose set forth.

3. The combination with a stock-car having a water-storage tank, as described; a water-injecting device, as described, having one end pivoted into said storage tank, and provided with a brace to hold it in the position to be dropped, as shown; of a water-feeder trough mounted on supporting-posts arranged along the railway-track on which the car runs, and inwardly-projected arms, one secured to the top of the supporting-post at each end of said trough, to brush the injector-supporting brace from its bracket and drop the outer arm thereof into said trough, whereby the water in said trough will be scooped up and injected into the water-storage tank, while the car is in motion, all substantially as hereinbefore described and specified.

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

GEORGE GROSSMAN.

Witnesses:

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I. B. LONG.