(No Model.)

J. F. ELDER.

STOCK CAR.

No. 384,832. Patented June 19, 1888.

FIG. 1.

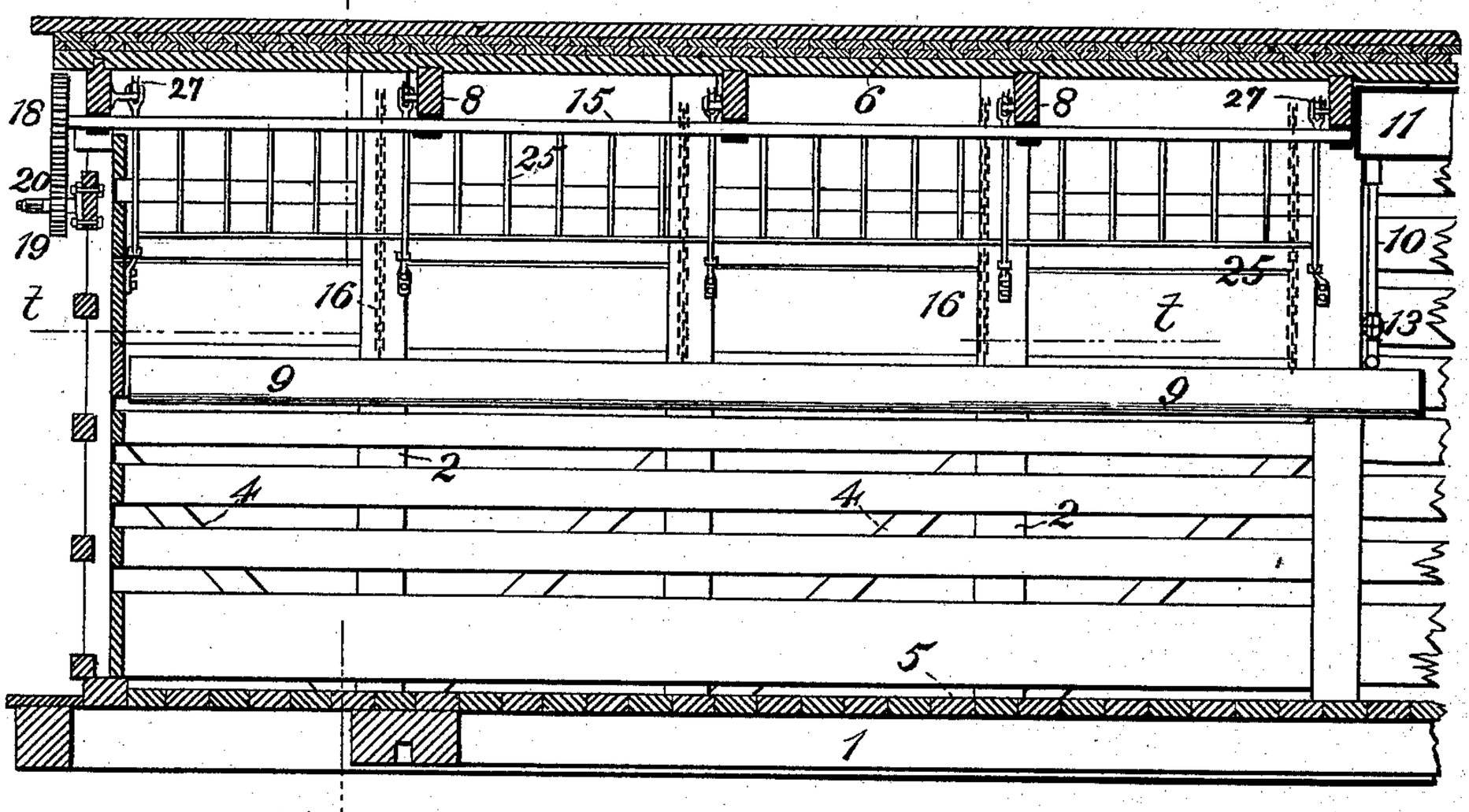


FIG. 3.

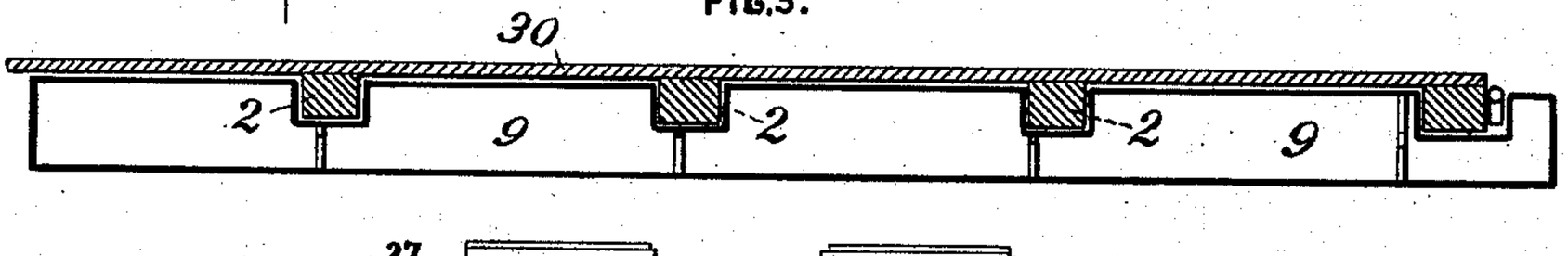
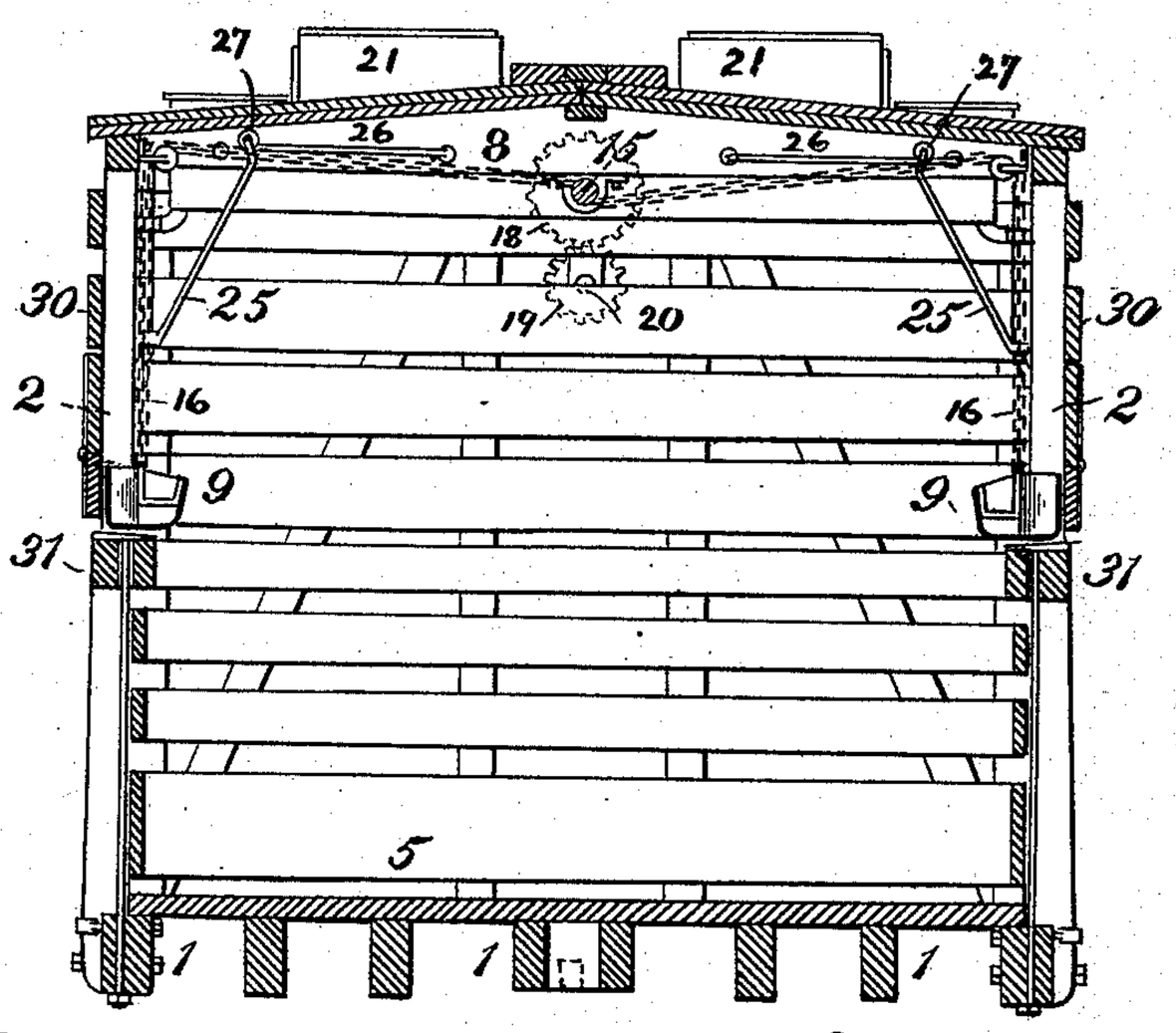


FIG. 2.



WITNESSES:

M. S. Murphy.

F. E. Gaither.

INVENTOR.

James F. Elder,

by J. Snowden Bell,

Att'y.

UNITED STATES PATENT OFFICE.

JAMES F. ELDER, OF PHILADELPHIA, PENNSYLVANIA.

STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 384,832, dated June 19, 1888.

Application filed February 7, 1888. Serial No. 263,207. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. ELDER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Stock-Cars, of which improvement the following is a specification.

The object of my invention is to afford means for feeding and watering live stock while in transit upon railroads, which shall be of such character as to be readily applicable, at comparatively slight cost and without material increase of dead-weight, to cars of the ordinary construction, and to admit of the stowing of freight of other descriptions for return loads without substantial encroachment upon the space within the car available therefor by the devices employed.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a longitudinal central section through a portion of a stock-car embodying my invention; Fig. 2, a transverse section at the line *w w*, and Fig. 3 a horizontal section through the framing of one side of the car at the line *t t* of Fig. 1.

My invention is herein shown as applied in a stock-car of the standard construction at present employed on railroads throughout the United States, the body of the car having, as usual, sills 1, body-posts 2, body-braces 4, floor 5, and roof 6, and being supported upon a pair of trucks in the ordinary manner.

In the practice of my invention I provide the car with a series of vertically-movable feeding and watering troughs, 9, which are arranged longitudinally along and closely adjacent to the sides of the car, and are fitted to be readily raised and lowered as required between their positions of support when in use, at a proper height above the floor 5 to be accessible to the stock, to positions, when not in use, just below the carlings 8, which support the roof, in which latter positions the space which they occupy does not, by reason of its location and small relative degree, effect practically any curtailment of the capacity of the car for the reception of freight of other descriptions than live stock. The troughs 9 are supplied with water by pipes 10, leading from an overhead receptacle, 11, having doors or removable lids fitting over openings in its top, and which may be either a tank of such capacity as to contain sufficient water to supply the troughs one or more times, or be simply a conduit for transmitting water from a station water crane or column to the supply-pipes 10 and troughs 9. The supply-pipes 10 are provided with proper regulating cocks or valves 13, and their lower or discharge sections are coupled to the body of the pipe with the capacity of axial movement thereon, so that they may swing clear of the troughs, when desired, to admit of the elevation of the latter and prevent the projection of the discharge sections into the space to be occupied by return loads of freight.

The troughs, when in position for use, may rest upon the side girths of the car or be suspended from an upper support, and are raised and lowered as required by any suitable mechanism, a convenient form of which consists, as shown in the drawings, of horizontal shafts 15, journaled in bearings below the roof-carlings 8, and coupled by chains or other flexible connections, 16, passing around sheaves or guide-pulleys 17 to the troughs 9.

The shafts 15 may be rotated by hand-wheels or cranks applied to their ends, or may, where increased lifting-power is desired, carry gears 18, meshing with pinions 19 on shafts 20, similarly rotated by the operator.

The troughs 9 may be guided in their vertical movements by sockets or projections secured to one of their sides and fitting guide bars or rods fixed to the car-frame.

Feed for the stock can be carried in feed-boxes 21 on the roof of the car, and supplied to the troughs at required intervals, either through doors in the roof or in the sides of the car, to provide convenient access to which side doors narrow longitudinal running boards or platforms may be fixed upon the outside of the car.

For the further purpose of enabling a supply of hay to be placed within reach of the stock when desired, a sliding frame, 25, composed of a series of rods or bars located sufficiently close together to serve as a hay-rack when lowered into position, is suspended above and in line with each trough upon rails or supporting-bars 26, secured to the carlings 8,

and is adapted to be raised and lowered by the movement of the trough, so as to either stand at an inward incline to the side or end of the car when the trough is lowered and be adapted to receive and support a supply of hay, or to rest adjacent to and substantially parallel with the rails 26 when the trough is raised to its highest position. To this end the vertical bars of the frames 25 nearest the rails 26 are prolonged above the same and bent or curved at or near their ends, which may be either provided with rollers 27, which traverse longitudinally on the rails, or be connected by longitudinal rods adapted to slide thereon, while the lower sides of the frames can be connected at suitable intervals to the troughs 9, so as to partake of the upward and downward movements thereof, the upper sides of the frames being free to move inwardly and outwardly as guided and supported on the rails 26.

In lieu of connecting the frames to the troughs, as above described, their lower sides may be simply fitted with sockets which slide on vertical rods connected to the sides of the car, so as to fall by their own gravity into position for use when the troughs are lowered, and to be pushed up by the latter when raised into a substantially horizontal position below and adjacent to their supporting-rails.

In order to reduce, as far as practicable, the amount of projection of the troughs 9 into the interior of the car without reducing their capacity to any material extent, the side rails or boarding, 30, of the car above the girths 31 are located on the outside of the body-posts 2, so that a clear and unobstructed space may be presented between the body-posts above the girths 31, on which the troughs 9 rest when lowered into position for use. The troughs fit as closely as may be against the inside of the side rails and are recessed opposite each of the body-posts, so as to inclose the same on three sides, thus enabling the troughs to fill the spaces between the body-posts, so that they may be correspondingly reduced in width on the inside of the same to afford increased room within the car without appreciable diminution of their capacity. The body-posts, or posts especially provided for the purpose, may act as guides to the troughs in their vertical movements, and, if deemed necessary, the troughs may be provided with sockets or projections fitting corresponding guide-rods or recesses on the body-posts, to prevent the troughs from swaying inwardly in rocking movements of the car.

My improvement presents the advantage of ready adaptability to standard constructions at a comparatively inconsiderable expense, and affords ample and convenient facilities for the proper supply of food and water to the stock without delay or interruption of their transportation. The stowage of the troughs and racks in small compass and in a portion of the car which is not available to any extent for the reception of freight admits of the utilization of the car for return loads of other freight, which is in most instances highly desirable, and in many cases effects a substantial gain in the substitution of profitable employment for the actual loss of merely hauling the dead-weight of the car.

I am aware that feed and water troughs adapted to be raised and lowered within a car, as well as movable hay-rack frames suspended therein, were known prior to my invention, and such devices, broadly, I therefore disclaim.

I claim as my invention and desire to secure by Letters Patent—

The combination, with a railroad-car, of side rails or boarding secured to the outside of its body-posts above its girths, and a vertically-movable trough fitted to traverse adjacent to said side rails and having its side adjoining the same recessed to embrace the posts, so that the trough may project into and be raised and lowered within the spaces between the same, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JAMES F. ELDER.

Witnesses:

J. SNOWDEN BELL,

R. H. WHITTLESEY.