AMERICAN LIVE-STOCK & MEAT TRANSP. CO. *v.* STREET STABLE-CAR LINE.

(Circuit Court, N. D. Illinois. July 7, 1891.)

1. PATENTS FOR INVENTIONS—INFRINGEMENT—CATTLE-CARS—WATER-TROUGHS.
   Letters patent No. 161,807, April 6, 1875, to John R. McPherson, (reissue No. 7,028, April 4, 1876,) for an improvement in stock-cars, consisting of the combination with a cattle-car of longitudinal hinged troughs, located within the cattle space of the car, to be emptied outward, in the act of elevating them, by means of water-sheds, so as to carry the water free from the floor of the car, and the combination with the hinged troughs of apparatus for depressing and elevating them by a positive force against the pressure of the cattle, are void for want of novelty, except as to the use of the water-sheds, and are not infringed by the use of troughs not located within the cattle space of the car, and which spill their contents clear of the floor of the car without the aid of water-sheds.
2. SAME.
   Letters patent No. 168,061, September 21, 1875, to Steventon and McGrath, consisting, in a stock-car, of a feed and water trough composed of separate sections, each section fitting between two wall-posts, and supported upon a continuous shaft, whereby all the troughs may be simultaneously turned into position for feeding or watering, or turned up out of the way, are void for want of novelty, except as to the support of the troughs on a continuous shaft capable of turning all the troughs simultaneously.
3. SAME.
   Letters patent No. 168,063, September 21, 1875, to John R. McPherson, consisting of a series of troughs between the walls of a cattle-car, mounted upon a rock shaft, which is also a pipe for conducting water into all the troughs simultaneously, and by which by a positive force all the troughs can be simultaneously turned into position, are not infringed by the use of similar troughs, which are supplied with water through a fixed pipe, with branches running separately to each trough.

In Equity.

Mr. Clayton, *Mr. Dyrenforth*, and *Dupee, Judah & Willard*, for complainant.

McClellan & Cummins and *L. L. Bond*, for defendant.

GRESHAM, J. This suit is brought for infringement of three letters patent properly assigned to the complainant, all for improvement in stock-cars. The first (reissue No. 7,028) was granted to John R. McPherson, April 4, 1876, on an application filed March 14th of the same year; the original patent, No. 161,807, having been granted to the same person, April 6, 1875. The second, No. 168,043, was granted to John R. McPherson, September 21, 1875, on an application filed May 21st of the same year; and the third, No. 168,061, was granted to Albert N. Steventon and Thomas F. McGrath, assignors to John R. McPherson, September 21, 1875, on an application filed April 25th of the same year. The answer sets up prior use, anticipation by a large number of patents, want of novelty, and non-infringement. The invention, which it is claimed the reissued patent covers, relates to means for feeding and watering live-stock during long journeys, without stopping or unloading the cars. "Capacious and strong water-troughs," say the specifications, "preferably of boiler iron, are arranged on either side, extending from door-ways in the sides at the respective ends of the cars, and longitudinal openings, adapted to accommodate Texan and other long-horned cat-

tle, and to admit a free supply of air while open, are provided immediately above the troughs. The troughs are attached by hinges, so as to be adapted to be lowered and elevated at will, and water-sheds or chutes are provided within the wall openings, to co-operate with the troughs, for discharging the waste water outside of the car, and clear of the floor, when the troughs are emptied, which is accomplished by elevating them. The elevated troughs serve to close the wall openings, measurably, from wind and weather, and still give ample ventilation; to discharge all remaining water or other substance, after the cattle are through drinking, to the outside of the car, and thus prevent freezing in cold weather; to form a pad or shield to prevent the cattle from being injured on the rump by contact with the sides of the cars. The ends of the troughs are beveled, so as not to project at the doors, to prevent the animals striking them in entering. * * * Cogged sectors are attached to the troughs concentric with their hinges, and supported outside by journal bearings. Short parallel shafts are supported adjacently in opposite bearings, and carry pinions which mesh with cogged sectors. Hand-cranks at their outer ends provide for rotating the shafts, and by turning these in their proper directions the troughs are lowered by the force of the gearing, or elevated with facility, the requisite power being thus readily applied. Light longitudinal windlass shafts, at or near the tops of the car, are connected at both ends, and intermediately to the rack covers by cords or chains. These windlass shafts have pulleys at their outer ends, above the trough-handling mechanism. Corresponding pulleys are provided on the short shafts, to which the hand-cranks are attached, and these pulleys are connected by transmitting bands, so that the motion of the cranks by which the troughs are lowered shall raise the rack covers, and expose the racks, the reverse motion elevating the troughs and closing the cribs; or the trough and rack cover may be elevated at the same time." The troughs are hinged to the posts or car uprights, and whether down in position for use, or turned up and out of use, they are thus wholly within the car or the space occupied by the animals. By the mechanism described, an operator, on a short platform at the end of the car, is able to elevate and lower the troughs against the pressure of the animals. The second and tenth claims of the reissue, the only ones in controversy, read:

"(2) Combined with a cattle-car, longitudinal hinged troughs, to be emptied outward from the car in the act of elevating them, substantially as set forth." "(10) The combination, with the hinged troughs, T, of apparatus for depressing them by a positive force, substantially as set forth."

The Robinson patent of 1862 shows metal troughs hinged to the inside of the car on either side of the door, with sections opposite the doors, which are in the middle of the car, these door or sectional pieces being secured for the time being in the ends of the hinged troughs at either side of the doors, thus making the troughs continuous. The door sections are removable to allow ingress or egress. The troughs, when not in use, are turned up by mechanism adapted to that purpose, and, like those of the reissue, are wholly within the car space; but, not having the

water-shed of the reissue, they dump or spill their contents upon the floor of the car. When released from their upturned position, the troughs turn down on their hinges by gravity, or are forced down by hand. The Kendall patent of 1869 shows troughs hinged to the face of the car posts or uprights, and "swung up for use by the chains, O, which are attached to the troughs, and extend to a winding shaft or roller, P, that is conveniently operated to wind up said chains from the outside of the car, the top of the car, where the brakeman can operate it." The car uprights, just below the hinged attachment, are cut away or hollowed out, thus forming a place or recess into which the troughs drop by gravity entirely out of the way, when released from their elevated position in the car space, and in doing so spill their contents on the floor.

The complainant's principal expert witness testified that the new thing covered by the tenth claim consisted of positively acting mechanism for forcibly tilting the troughs in either direction, at the will of the attendant, against the pressure of the animals. The claim is for "apparatus for depressing them [troughs] by a positive force."

Kendall lifts his troughs into position for use by positive force against the pressure of the animals, and McPherson depresses or turns down his troughs from their upturned position in which they act as pads, by the same force and gravity, against the same pressure. McPherson was not the first to use positive force to extend the troughs into position for use. The troughs which constitute an element of the combination covered by the tenth claim are troughs hinged or attached so as to be within the cattle space at all times for the purposes described. He extends the pivoted shaft of his troughs through the end of the car, to which he secures sector gearing and its co-operating mechanism; and, in view of the prior art, the tenth claim, if valid, must be limited to that particular means for the application of positive force. The McCarty patent of 1873 shows longitudinal troughs, hinged at one of their edges to the inside of the car walls, combined with chains and windlasses for raising their unhinged edges. These troughs are raised by positive force, and lowered into position for use by gravity. They are emptied in the act of elevating them, but being hinged to the inside of the car, and having no water-shed like that of the reissue, the water drips from them within the car and on the floor. It will be observed that these troughs, which are pivoted wholly within the car-frame, and in their extended and upturned position are wholly within the cattle space, are swung upward by raising their inner free edges. The Robinson patent shows mechanism located outside the car for elevating the troughs. The troughs of the Kendall patent are elevated into position for use by a shaft operated from without the car, and the McCarty patent shows troughs wound up or elevated by means of a long longitudinal shaft having a handwheel at the outside end of the car.

A somewhat extended description of the defendant's alleged infringing car is necessary. Its side walls are double, the inner wall frame being constructed with studding or frame posts morticed into the car sills, which posts are slatted for about two feet from the floor, or up even with

the bottom of the troughs, and from the troughs to the top of the posts they are unslatted or open. On the outside of the main car body or frame there is a secondary or movable frame or shutter, having the same number of upright posts as the fixed car side, which latter posts are slatted on the outer side from a point opposite the troughs to their tops. The posts or uprights of the movable frame or shutter are hinged at their lower ends to the outside of the car sills. Between the wall posts or uprights of the car body proper, hinged troughs are arranged to turn into and out of position between those uprights and the uprights of the frame or shutter. The troughs are between the eight wall spaces on each side of the car, and on each outside end of the car are water funnels, from the lower ends of which pipes run horizontally through the sides of the car, where they connect with an horizontal conduit pipe running along the inside of the inner or main car-frame, just above the upper slat, to the door-ways, thence around the door-ways, and under the floor of the car, and up on the other side of the door-ways to the same level, and on to the end of the car. At each end of the car there is a connection between the horizontal water-pipe, just described, and the end of the first section of the troughs, by a small elbow pipe, one branch being fixedly attached to the water-pipe, and the other branch running into the trough section, and held to the outside of the corner post of the car by a bent iron loop strap forming a hinge at one end of the trough. The ends of the troughs next to the door-ways have solid bolt pivots, held to the outside of the door-posts of the inner car-frame by similar bent iron loop straps, forming the hinges for the ends of the troughs at both sides of the door-ways. Between the ends of the car and door-ways at one side, and at the long end of the car, are two connections between the fixed horizontal water-pipe and the troughs by short T-shaped pipes, the main stem of which is connected through the inner wall posts with the fixed water-pipe, and the ends of the branches, running into the ends of the two adjacent troughs, form hinges for them at those points. Between the ends of the car and door-ways at the other side, the shorter end of the car, there is one connection between the fixed horizontal water-pipe and the troughs, by a similar connection, forming the hinge for the troughs at that point. At three points in the hinge line of the troughs, the adjacent ends of two troughs are connected by short sections of pipe, which are supported by a bent iron strap or loop, bolted to the outside of the inner wall posts of the car, and forming the hinge at those points. The ends of the adjacent troughs are connected together by shoulder bolts. An horizontal shaft, by which the troughs are operated, runs through the rafters on either side of the car, and about the middle of the roof a hatchway is cut, through which an attendant may turn or operate the shaft by a short hand lever attached to it. On this shaft are six pendent arms, from the lower ends of which rods extend to the upper end of the posts of the movable frame or shutter, which may be pushed away from or drawn up tightly against the side of the car. A little below the top of the car and the movable side or shutter, and between the two, are five toggle-joints, the upper ends of the long arms of which are

pivoted to the inner posts of the car body, and, about midway the length of the long arm, a link-rod is attached at one end, the other end being attached to the inner side of the posts of the movable shutter. From the lower end of the long arm of the toggle-joints, link-rods extend downward, connecting with the troughs at their outer edge. When the movable shutter is pushed out, the troughs are forced into position to receive water, but, when forced inward against the car-frame, the outer edges of the troughs are lowered, and their contents emptied outwardly, and the water-pipe under the door-way is supplied with a valve, so that it will empty when the troughs are folded between the car and the movable shutter. Water runs from tanks on the ends of the car through horizontal pipes, also on the ends of the car, and through the water-pipe on the inside of the car into the troughs, through the connections between them and the water-pipe.

One of the complainant's experts—the best-qualified one—testified that the new thing described in the reissue, and "particularly referred to in the second claim thereof, is a longitudinal hinged water-trough for a stock-car, so arranged that, when turned up out of use, it empties its contents outwardly from the car, in contradistinction from the hinged troughs previously employed, which, when turned up out of use, empty their contents upon the floor of the car." The specifications thus describe how this result is accomplished:

"The troughs are emptied by elevating them, and are provided with flanges, *t*, to overlap those on the water-sheds during this time, to conduct the contents into or onto the water-sheds."

It is only by the use of the water-sheds or chutes that the troughs of the reissue can dump their contents beyond and clear of the car floor. They are hinged to the inside of the car, and are wholly within the cattle space, and without the water-sheds they are no improvement on what is found in the prior art. It is clear that, without the water-sheds, they cannot accomplish what is claimed for them, and that they will spill their contents on the floor of the car as do the Robinson troughs. Unless the water-shed be read into the second claim, it is clearly void for want of patentable novelty. The defendant's troughs are not within the car or cattle space, and they spill their contents clear of the car floor, without the aid of water-sheds, or any equivalent devices. The troughs, which are part of the combination covered by the tenth claim, are not troughs however constructed or operated, but troughs large or wide enough to close the opening in the wall of the car, which allows the horns of the cattle to protrude while drinking and eating; troughs beveled at their ends and with a flange or back to co-operate with the water-shed, supported by a shaft extending through the end of the car, and elevated and depressed by mechanism operated outside. Being large enough to close the wall openings, hinged to the inside of the car posts, and thus wholly within the car, the inventor deemed it necessary to use positive force to depress the troughs into position for use against the pressure of the animals. The defendant's car shows a rod at the roof connected with each alternate trough section by toggle-

joints, the sections being hinged, or otherwise fastened, to the side of the car, so that by pushing the shutter out, through these rods and toggle-joints, the troughs are brought into position for use, while the act of letting the shutter back into position empties them. The prior art shows positive means for elevating and emptying troughs, and, if there was invention in using the same or similar means for depressing them, the defendant's car does not show the combination covered by the tenth claim. McPherson was a mere improver, and his patent is not infringed by a car differing in form or combination, although it performs the same functions. The inventor of the first improvement cannot invoke the doctrine of equivalents to suppress all other improvements which are not mere colorable invasions of the first.

The Steventon & McGrath patent shows "a trough composed of separate sections, fitting between two wall posts, and supported upon a continuous shaft, whereby all the troughs may be simultaneously turned into position for feeding and watering, or turned up out of the way." These sectional troughs rest upon, and are rigidly secured to, the supporting shaft, which is operated by levers attached to its ends. A water-tank is placed at the end of the car, from which water is distributed to the troughs by means of a pipe running along the side of the car, and provided with an outlet over each sectional trough, the water being turned on and off by means of a valve at the end of the pipe. The improvement may be applied to a double-deck car. The sectional troughs turn down outwardly, within the space and between the timbers which form the walls of the car, in order that they may operate as such, and project as little as possible within the car. The first claim reads:

"(1) In a stock-car a feed and water trough composed of separate sections, each section fitting between two wall posts and supported upon a continuous shaft, whereby all the troughs may be simultaneously turned into position for feeding or watering, or turned up out of the way, substantially as described."

The complainant's expert testified that the difference between a trough in sections, and a long trough like the one of the McPherson reissue, is formal, rather than substantial. Steventon & McGrath were not the first to locate troughs between the wall posts of a car; and, if this claim covers anything that is new, it is sectional troughs supported by a continuous shaft capable of turning all of the troughs simultaneously, and, thus construed, the defendant does not infringe. The defendant's fixed non-rotating water-pipe does not correspond with the continuous rock-shaft of the first claim. The defendant's troughs are not turned into position for use, and then up out of the way, by means of a shaft upon which they are mounted and supported; its troughs, which are supported by separate devices, have pivots. The third claim of the Steventon & McGrath patent was practically abandoned at the argument, and no other claim is in controversy.

Claims 1 and 4 of patent 168,043 remain to be considered. This patent and the Steventon and McGrath patent bear the same date. An interference was declared between McPherson and Steventon & McGrath, and, although the former's patent bears a lower number than the latter's,

McPherson conceded that he was not entitled to full priority. He testified that "the patent to Steventon & McGrath, with whom I got an interference in the patent-office, is principally for the use of the sectional troughs carried also by a rock-shaft." The complainant's leading expert testified, however, that his opinions were based on the assumption that McPherson was the first inventor, and he interpreted the McPherson patent without reference to the Steventon & McGrath patent. The invention is thus described in the specifications:

"The troughs are carried by a continuous pipe, by which they are not only supplied with water, but turned in positions for the animals to drink, and afterwards turned down to empty their contents and that of the supply conduits. The turning conduits are connected with and supplied by fixed branch pipes from a top tank at the end of the car. * * * The sectional troughs extend throughout the length of the car at the bottom, and are combined with platforms at the door-ways to facilitate ingress and egress for the stock over the troughs. * * * The feed-troughs, C, of the lower deck, extend the entire length of the car, crossing the door-ways, A, on a level, or nearly so, when turned down with the platform doors, when the latter are also turned down, as shown in figure 5. * * * For this purpose, they are made in sections, and each section is arranged in the same line, and so as to be turned up and down between the vertical timbers of the car walls. They are fixed upon and carried by pipes, E, E^2, supported in bearings in the side posts, and the troughs are turned by these pipes into positions to feed and water the stock. These pipes, while serving to operate the troughs, serve also as the means whereby the troughs are supplied with water. They are about two or three inches in diameter, and the troughs or basins are bolted or otherwise secured thereon, and communicate therewith by small openings or perforations, through which the water rises from the conduits into the troughs or basins. Each section of the trough or basin is provided with a perforated shield, *d*, to prevent the corn from passing into the conduits. * * * To obtain a uniform supply of water to the upper and lower conduits, that portion, G, of the branch pipes between the reservoir and the upper conduit is of greater diameter than that portion, G^2, between the troughs, thus securing a uniform circulation through all the conduits, and an equal supply in the troughs or basins."

The patent does not show that the troughs are rocked or turned by the pipe, E, otherwise than as the Steventon & McGrath troughs are rocked. In his testimony McPherson thus defined his invention:

"My invention practically consisted of a series of troughs located between the wall posts, mounted upon a rock-shaft, which was a pipe also, for conducting the water into all of the troughs simultaneously through an opening between said pipe and said series of troughs, and in which, by means of the positive force, all the troughs could be turned into position simultaneously, and receive food or water, or turned down or outwardly to prevent fouling by the animals. The patent of Steventon & McGrath, with whom I got an interference in the patent-office, is principally the use of the sectional troughs carried also by a rock-shaft. It is not a water-pipe, but receives the water above the troughs, which is in practice a better plan, because, under this plan, the freezing of the water in the pipes in the coldest weather is impossible."

I think it fairly appears from the two patents, and the other evidence in the record, that McPherson simply substituted for the Steventon & McGrath rotatable shaft a hollow shaft capable of acting as a water conduit;

and he concedes practical superiority to the Steventon & McGrath method of supplying the troughs with water. The first claim reads:

"(1) A feed and water trough for stock-cars, combined with the pipe or conduit which supplies its water, and arranged to be turned into position for feeding the stock, and out of such position for emptying the contents of such trough, by the same pipe or conduit, essentially as herein set forth."

If this claim covers anything that is patentable, it must be found in the method or means of getting the water into the hollow shaft, and conducting it therefrom into the troughs, and, thus construed, it is not infringed. The fourth claim reads:

"(4) The combination, in a stock-car having rotatable feed and water troughs turned into and out of position by the conduits, E, by which they are supplied with water, of fixed pipes, G, G^2, connecting with said conduits, and the elevated reservoir, F, whereby the movable trough conduits form extensions or continuations of supply-pipes fixed upon the end of the car."

The fourth claim is for the combination of troughs, rotated in and out of position by the supply pipe, with fixed pipes, G, G^2, at the end of the car leading from the elevated reservoir, so that the rotatable trough-conduits form extensions of the fixed supply-pipes. If the manner of connecting the fixed pipes having unlike diameters, with the tank and the rotatable troughs, involves invention,—and in view of the prior art I do not say it does,—the defendant's car does not infringe, as these features are not found in it. Both the first and fourth claims of this patent are for troughs rocked into and out of position by the same pipe or conduit that supplies them with water, and the defendant's car contains no such pipe. On the contrary, its troughs are supplied with water through a fixed pipe, with branches running separately to the troughs. The bill is dismissed for want of equity.

POPE MANUF'G CO. OF CONNECTICUT *v.* CLARK.

(*Circuit Court, D. Maryland.* March 21, 1891.)

1. PATENTS FOR INVENTIONS—INFRINGEMENT—VELOCIPEDE PEDALS.
Claims 1 and 2 of patent No. 329,851, November 3, 1885, to Albert H. Overman for improved pedals for velocipedes, *held* to be valid and to have been infringed.

2. SAME—NOVELTY—HOLLOW WHEEL-RIMS.
Claims 8 and 9 of patent No. 301,245, July 1, 1884, to Emmit G. Latta for a hollow wheel-rim, made of a single strip of sheet-metal, *held* to be void for want of patentable novelty.

(*Syllabus by the Court.*)

In Equity. For infringement of patents relating to velocipedes or bicycles.

William A. Redding and *Edmund Wetmore,* for complainant.

Thomas R. Clendinen, for respondent.