

(No Model.)

J. N. KAUFHOLZ.
RAILWAY TRANSFER TABLE.

No. 351,449.

Patented Oct. 26, 1886.

Fig. 1.

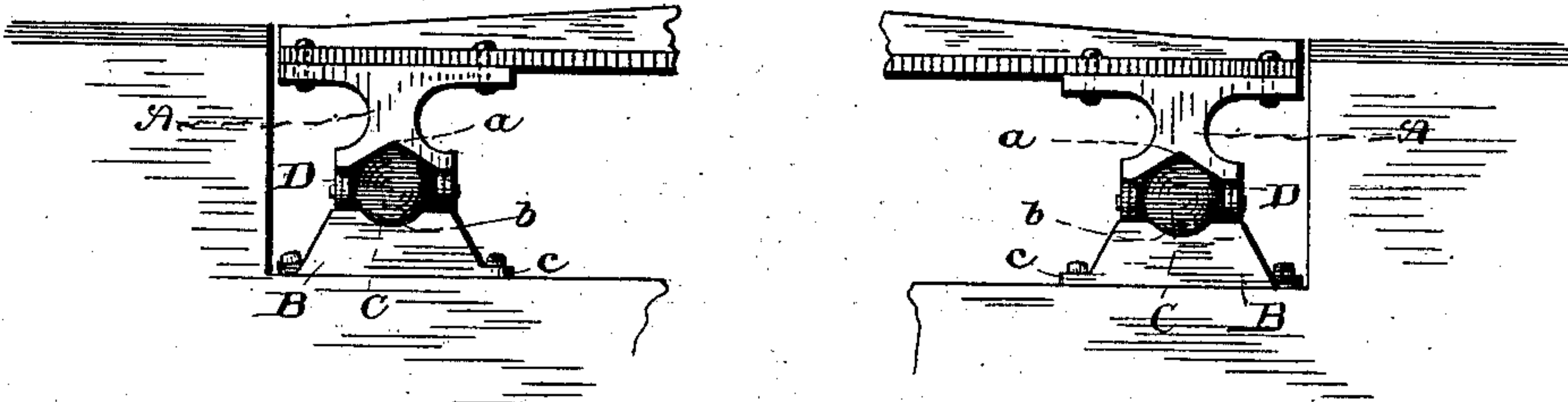


Fig. 2.

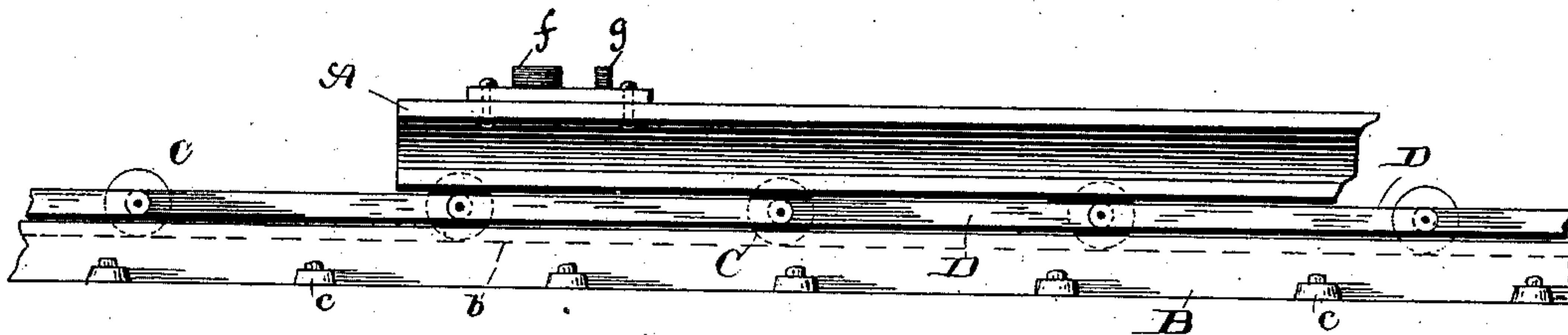
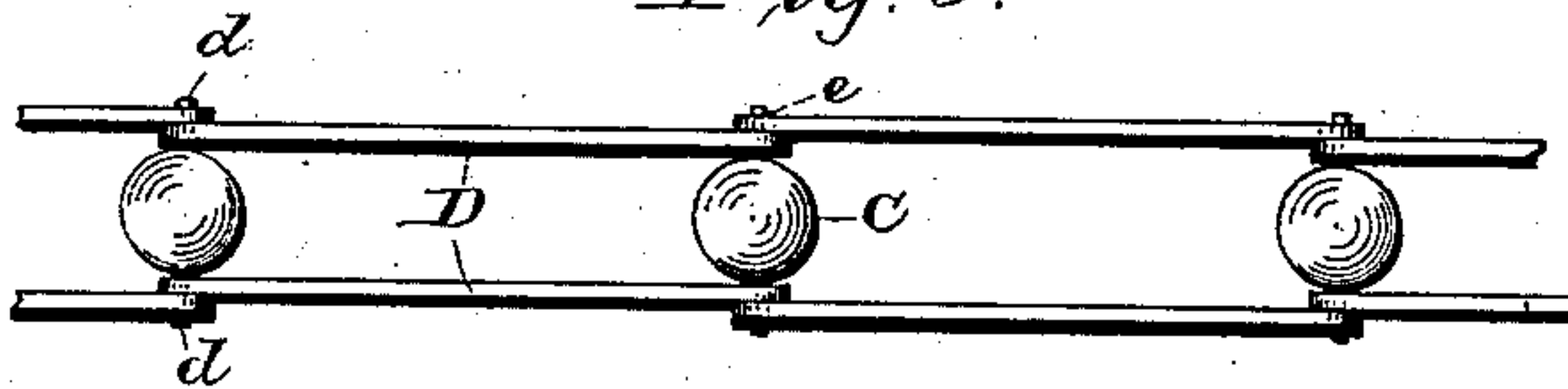


Fig. 3.



WITNESSES

N. S. Amstutz
Wm. D. Osborne

J. N. Kaufholz INVENTOR
By Thos. B. Hall
Attorney

UNITED STATES PATENT OFFICE.

JOHN N. KAUFHOLZ, OF CLEVELAND, OHIO.

RAILWAY TRANSFER-TABLE.

SPECIFICATION forming part of Letters Patent No. 351,449, dated October 26, 1886.

Application filed April 9, 1885. Serial No. 161,754. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. KAUFHOLZ, a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Railway Transfer-Tables; and I do hereby declare the following to be a description of the same and of the manner of constructing and using the invention in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, forming a part of the specification, the principle of the invention being herein explained, and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

In the drawings, Figure 1 is an end elevation of the invention, and Fig. 2 is a side elevation of the same, while Fig. 3 is a detail plan view of the coupled balls.

The transfer-table has the bottom of each of the two side pieces, A, formed with a longitudinal groove, *a*, extending throughout its entire length. A corresponding groove, *b*, is formed longitudinally in the top of each of the two channeled rails B. These rails are provided at suitable intervals along their lengths with flanges *c*, by which they are to be secured in position by suitable fastenings. Fitted within each of the channeled courses formed by said upper and lower grooves is a series of balls, C, each of which has the two axle-arms *d*, respectively projecting horizontally at right angles from the central portion of its outer and inner sides. Loosely fitted on each of these axle-arms is a side rod, D, extending horizontally parallel with the track, and permitting the axle-arms to revolve freely in the perforated bearings *e* formed in the side rods. Each side rod is of length adapted to couple any two consecutive balls together at the desired relative distance. These side rods maintain the balls at a constant relative distance from one another and insure the practical operativeness of the device. The transfer-table can be easily run along over these two series of coupled balls as the latter are rolled along in the channeled rails B by the movement of the table, the power necessary thus to move the ta-

ble being slight in comparison with the work accomplished, it being apparent that the table has a movement with the balls as the latter carry the table with them, while at the same time the table has an additional movement in the same direction, by which it is carried along faster than the balls. This construction also does away with wheels projecting above the floor, is economical in construction, durable, and simple. In common with some other forms of transfer-tables, it does away with the objectionable pit.

While I prefer using balls, as shown, I may substitute therefor rollers or other form of rolling devices.

The two side pieces, A, are connected together solely by the rails on which the car to be transferred runs. The drawings represent one end portion of the transfer-table, having track-rail *f* and its accompanying guard-rail *g*, the opposite extremities of each of said two rails being respectively secured to the corresponding side pieces, A. The opposite end portion of the table is constructed in exact counterpart with the end portion shown and above described. If desired, the guard-rails may be omitted, thereby leaving the track-rails *f* as the only connecting means between the two side pieces, traveling devices, or "carrying bars," as the parts A may be called.

Other forms of embodying and using the principle of my invention may be employed in substitution for the specific form herein shown. It will therefore be understood that omissions, substitutions, and changes may be made as regards the forms and parts herein set forth, provided the principles of construction embraced in the following claims are retained and employed.

I therefore particularly point out and distinctly claim as my invention—

1. The combination, with two parallel and independent series of rollers, of a transfer-table resting directly on the latter, each said series consisting of a number of rollers positively coupled together at intervals, substantially as set forth.

2. The combination, with two independent parallel series of rollers, of a transfer-table resting near its two opposite sides directly on

the latter, each roller series consisting of a number of rollers, roller-axles, and side rods connecting latter together, substantially as set forth.

5 3. The combination, with a transfer-table having a longitudinal groove and a longitudinally-grooved rail, of a series of rolling devices fitted in said double-grooved course, each rolling device having an axle, and a rod coupling the axle of one rolling device with the axle of the adjacent rolling device, substantially as set forth.

4. The combination, with a transfer-table having longitudinal grooves and longitudinally-grooved rails, of rollers fitted in said grooved ways and respectively provided with axle-arms, and side rods connecting the axle-arms of one roller with the axle-arms of the next succeeding roller, substantially as set forth.

5. The combination, with a transfer-table having a longitudinal groove and a longitudinally-grooved rail, of a series of coupled balls fitted in the above double-grooved course, each ball provided with two axle-arms respectively projecting horizontally from the central portion of its outer and inner sides, and a series of overlapping side rods fitted on said axle-arms, said axle-arms having free revolution in perforated bearings formed in the ends of each said side rod, substantially as set forth.

6. In a street-car-transferring apparatus, track-rails and guard-rails secured at their respective ends to supporting traveling devices, said rails and guards forming the sole lateral connections between such traveling devices, substantially as set forth.

7. In a street-car-transferring apparatus, track-rails secured at their respective ends on top of carrying-bars, and serving as lateral connections for such carrying-bars, two series of wheels supported, respectively, on tracks, each series arranged for a carrying-bar to ride thereon, substantially as set forth.

8. In a street-car-transferring apparatus, track-rails, and preferably guard-rails, secured at their respective ends on top of carrying-bars, and serving as the lateral connections for the carrying-bars, series of wheels supported, respectively, on tracks, and each series arranged to carry a carrying-bar, substantially as set forth.

9. In street-car-transferring apparatus, series of wheels operating, respectively, on tracks located, respectively, at either side of the apparatus, the axles of each set of wheels provided with connecting-bars, carrying-bars arranged to ride, respectively, on the respective series of wheels, said carrying-bars arranged to support track-rails suitable for receiving thereon street-car trucks, substantially as set forth.

10. The combination, with a transfer-table, of two series of rollers, each series consisting of a number of rollers positively coupled to-

gether at intervals, said table resting free on the rolling-faces of said rollers, substantially as set forth.

11. The combination, with a transfer-table, of two series of rollers, said two series independent of each other, and each series consisting of a number of rollers positively coupled together, with intervening spaces, said table resting directly and free on the rolling-faces of said rollers, substantially as set forth.

12. The combination, with two side pieces of a transfer-table and rails constituting the sole lateral connection of said side pieces together, of two parallel and independent series of rollers, on which rollers said two side pieces directly rest, each series consisting of a number of rollers positively coupled together at intervals, substantially as set forth.

13. The combination, with two side pieces of a transfer-table and rails constituting the sole lateral connection of said side pieces together, of two series of rollers, on the rolling-faces of which said side pieces rest free, substantially as set forth.

14. The combination, with two side pieces of a transfer-table and rails constituting the sole lateral connection of said side pieces together, of two parallel and independent series of rollers, each series of which consists of a number of rollers positively coupled together at intervals, said two side pieces resting directly on the rollers, and the transfer-table having its sole vertical support by the bearing of said two side pieces on said two series of rollers, substantially as set forth.

15. The combination of two side pieces of a transfer-table and rails constituting the sole lateral connection of said side pieces together, of two series of rollers, each series consisting of a number of rollers positively coupled together at intervals, said two side pieces respectively resting free on the rolling-faces of said rollers, said transfer-table having its sole vertical bearing or support on said two side pieces, substantially as set forth.

16. The combination, with two side pieces of a transfer-table and rails constituting the sole lateral connection between said side pieces, of rollers on which the latter rest free, said table having its sole vertical bearing or support on said two side pieces, and having a clear space between the two, substantially as set forth.

17. The combination, with two side pieces of a transfer-table, of track-rails constituting the sole lateral connection between said side pieces, and said side pieces constituting the sole vertical bearing or support of said table, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 25th day of March, A. D. 1885.

JOHN N. KAUFHOLZ.

Witnesses:

H. M. FISK,

THOS. B. HALL.