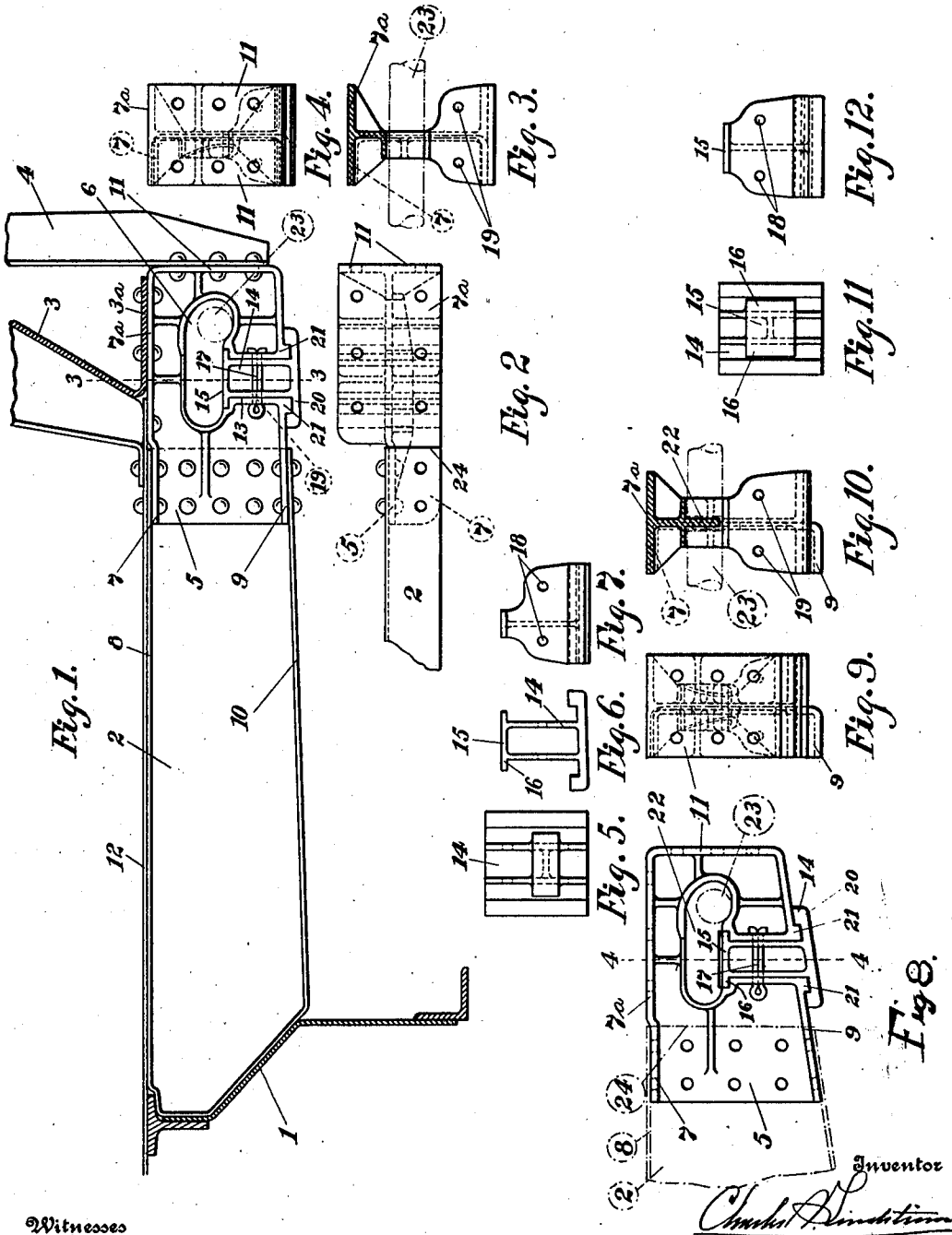


C. A. LINDSTRÖM.
CROSS BEARER FOR DUMP CARS.
APPLICATION FILED NOV. 7, 1910.

993,082.

Patented May 23, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

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CROSS-BEARER FOR DUMP-CARS.

993,082.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. LINDSTRÖM, a citizen of the United States, residing at No. 138 Stratford avenue, Pittsburg, E. E., in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Cross-Bearers for Dump-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which like characters refer to like parts, and in which—

Figure 1 is a sectional elevation of so much of a car construction as is necessary to illustrate my invention. Fig. 2 is a plan view of a portion of the same; Fig. 3 is a sectional view on the line 3—3, Fig. 1; Fig. 4 is an end elevation of the casting forming a part of the structure. Figs. 5, 6, and 7 are plan, side elevation and end elevation views respectively of the part designated by the reference character 14 in Fig. 1; Fig. 8 is a side elevation of a modified form of the structure; Fig. 9 is an end elevation of the structure shown in Fig. 8, Fig. 10 is a sectional view on line 4—4, Fig. 8, and Figs. 11 and 12 are plan and end elevations respectively of the part designated by the reference character 14 in Fig. 8.

The invention is especially adapted to that class of cars known as "general service" cars in which the bottom of the car is made up of a number of drop doors, and in which said doors are closed through the medium of a movable shaft, connected to said doors in any suitable manner, and adapted to support said doors in closed position.

As pointed out in my prior United States Patent No. 903,488, issued November 10th, 1908, in the type of car above mentioned, the use of a casting as a connection between a car underframe beam and the side of the car is especially desirable, in that it enables the formation of a suitable guide slot for the bodily movable shaft and reinforced connecting flange all in one piece or casting.

Stated specifically my invention consists in making a suitable guide slot for a bodily movable shaft, in such a manner that a portion of the lower bearing surface of the slot can be easily removed. When it is desired to remove the shaft for the purpose of re-

pair or replacement, the removable portion of the slot may be withdrawn, and the shaft dropped downwardly through the opening made by the withdrawal of said removable portion. Removal and replacement of the shaft in this manner results in great advantages over other methods now in use, in which it is necessary to remove the chains, chain sheaves and rollers or other door engaging means, before the shaft can be withdrawn endwise through the slots in the castings. With the use of my invention the shaft with all its accessories may be dropped bodily after the withdrawal of the removable portions of the slot castings.

With the foregoing advantages in view, the following detailed description will be more fully appreciated.

Referring now in detail to the drawings, 1 represents a section of half of the center sill structure, 2 an underframe beam or transom, 3 the car side and 4 a car side stake.

5 is a casting forming the connecting medium between the car side 3 and stake 4 and the beam or transom 2. Casting 5 is here shown as provided with a slot 6 designed to receive and guide the movement of the shaft 23, shown in my United States Patent No. 791,348, issued May 30th, 1905, and entitled "Car door mechanism". In this patent this slot was formed in members which were riveted to the sides of the beams or transoms so as to register approximately with slots in said beams. In the present case the beam or cross bearer 2, is cut off at a point 24, some distance from the side stake, so that the slot 6 in the casting 5 is unobstructed. Casting 5 is provided with a flange 7, to which is riveted or secured the upper flange of the beam or transom 2. Casting 5 is likewise provided with a flange 9, to which is riveted or secured the lower flange 10 of the beam or transom 2. Oppositely extending flanges 11 are also provided in the casting 5, which are adapted to be riveted to the stake 4 as shown in Fig. 1, and the car side sheet is brought down, bent inwardly at an incline and then outwardly, and riveted to flange 7. Flange 7 of casting 5 is shown depressed and at a lower level than the portion of the flange designated 7^a, to form a seat for the flange 8, so

that the upper surface of flange 8 is brought in the same plane with the upper surface of the forward portion of the flanges 7^a, forming a flat seat for the end portion of the tie plate 12. The flanges 7^a also form a seat for the outwardly bent portion of the side plate 3^a to which it is secured.

In the lower portion of the casting 5, an opening 13 is provided, of greater length in the direction of the length of the slot than the diameter of the door operating shaft. In this opening is inserted and secured in an easily removable manner, a block or filling piece 14, the top surface 15 of said block or filling piece being in the same plane as the lower horizontal flat portion of the slot 6. The block or filling piece member 14 is provided with projections 16 which rest in recesses formed to receive them in casting 5, and so prevent said member from dropping out of its position. This member is further secured in normal position by cotter pins 17 which pass through perforations 18 and 19, in the flanges of said member and casting 5 respectively. The bottom end of the block or filling piece 14, is provided with flanges 20, formed in such a manner as to engage with projections 21, on the lower flange of casting 5, so as to compensate for any reduction in strength of casting 5, due to the opening formed therein.

It will be readily seen that in order to remove the door operating shaft from the guide slots 6, all that it is necessary to do, is to remove the cotter pins 17, and slide the filling piece sidewise out of the opening 13, when the shaft may be lowered below the plane of the lower edge of the member 5, and removed from the car.

Cars of the class referred to are generally constructed in such a way that each door gear serves to operate simultaneously the dump doors in one half of one side of the floor of the car, so that the ends of the door operating shafts are in close proximity to each other at the middle of the car. To prevent the end of one of such shafts from coming in contact with the end of the other shaft, and so interfering with each other, a modification of casting 5 is shown in Figs. 8, 9 and 10, of the drawings. In this modification, the slot for guiding the ends of the shaft is made of a width double that shown in Figs. 1 to 4 inclusive, and a wall or partition 22 is formed integral with the member 5, in the center of the width of slot, so as to prevent the ends of the shaft shown in dotted lines in Fig. 10, which are guided by the slots, from coming in contact with each other. The opening 13 in the lower side of the slot 6, as also the filling piece 14, shown in Figs. 8, 9 and 10, are formed in the same manner as that shown in Figs. 1 to 4 inclusive. A space between the lower edge of the partition wall 22, and the top of

the filling piece 14, is provided, to facilitate removal of the latter, by not allowing them to come in contact with each other.

Within the scope of my invention as defined in the claims, the construction of the parts may be modified in many ways by the skilled mechanic, it is also obvious that my invention is susceptible of application, in car underframes in which the slots in the cross bearers extend nearly to the center line of the car, since

What I claim is:—

1. A connection between a car underframe beam and wall consisting of a flanged member secured to said beam, having a shaft guide slot formed therein, an opening in the lower side of said guide slot, and a removable filling piece in said opening.
2. A connection between a car underframe and wall consisting of an independently formed member with a shaft guide slot formed therein, an opening in the lower side of said slot and a removable filling piece in said opening.
3. A connection between a car underframe beam and wall consisting of a flanged ribbed member secured to said beam and to said wall, having a shaft guide slot formed therein, an opening in the lower side of said slot and a removable filling piece in said opening.
4. A connection between a car cross-bearer and wall stake consisting of an independently formed member with a shaft guide slot formed therein, an opening in the lower side of said slot and a removable filling piece in said opening.
5. A connection between a car underframe beam and a car wall structure consisting of a member secured to said beam and provided with a horizontal flange secured to the car wall, a vertical flange secured to the car stake, a shaft guide slot formed in said member, an opening in the lower side of said slot and a removable filling piece in said opening.
6. In a car construction, an underframe beam, a car wall, a car stake, a flanged reinforced casting connecting said beam, car wall and stake, a shaft guide slot formed in said casting, an opening in the lower side of said slot and a removable filling piece in said opening.
7. In a car construction, a cross-bearer having its end stopped short of the side wall, a flanged reinforced casting riveted to the end of the cross-bearer and to the wall and stake of the car, a shaft supporting and guiding slot formed in said casting, an opening in the lower side of said slot and a removable filling piece in said opening.
8. In a car construction, an underframe beam, a casting secured thereto and having oppositely extending vertical and horizontal flanges, a car stake secured to said vertical

flanges, a car wall secured to said horizontal flanges, a shaft supporting and guiding slot formed in said casting, an opening in the lower side of said slot and a removable filling piece in said opening.

9. In a car, the underframe and a car wall stake, in combination with an independently formed member connected to said underframe and stake, a shaft guide slot formed therein, an opening in the lower side of said slot and a removable filling piece in said opening.

10. In a car underframe, a member having formed therein a horizontal guide slot for a shaft, a portion of the lower side of said slot being removable.

11. In a car underframe, a member having a horizontal guide slot for a shaft formed therein, an opening in the lower side of said

slot and a removable filling piece in said opening.

12. In a car underframe, a member having a horizontal guide slot for a shaft formed therein, an opening in the lower side of said slot, and a removable filling piece secured in said opening.

13. In a car underframe, a connection between the center sill and side, a horizontal wall, having a shaft guide slot formed therein, an opening in the lower side of said slot and a removable filling piece in said opening.

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

CHARLES A. LINDSTRÖM.

Witnesses:

FRANK E. MILLER,
LELA M. GRUNDER.