H. S. HART.

DUMP CAR.

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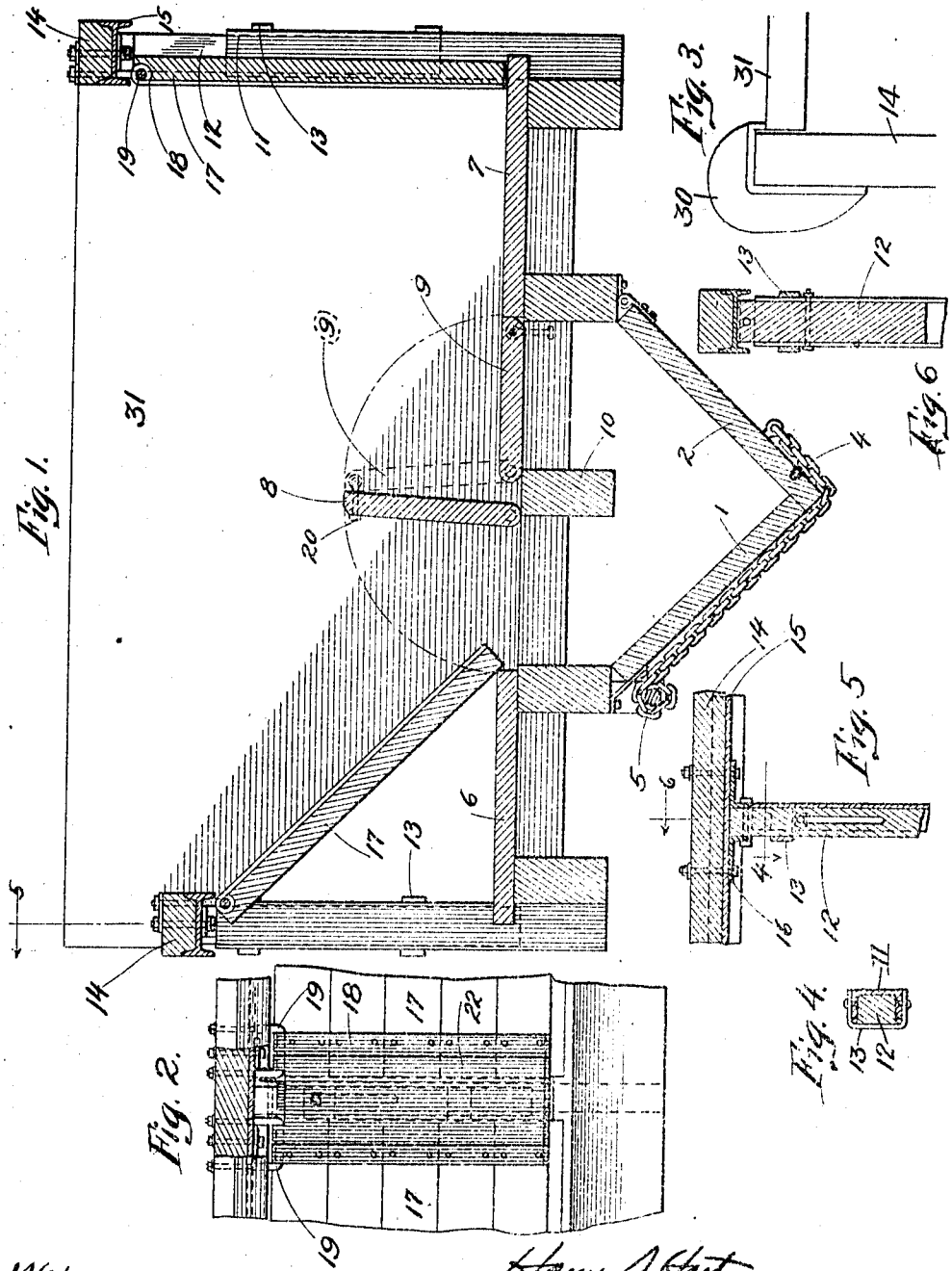
956,851. Patented May 3, 1910.



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UNITED STATES PATENT OFFICE.

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DUMP-CAR.

956,851. Specification of Letters Patent. Patented May 3, 1910.

Application filed December 10, 1909. Serial No. 532,357.

To all whom it may concern:

Be it known that I, HARRY S. HART, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification.

The object of my invention is to provide a car of the type known as the "Hart convertible car" with movable sides so formed that they may be either adjusted to a vertical position or to an inwardly and downwardly inclining position. Hart convertible cars are illustrated in Patents Nos. 689,583 granted to Harry S. Hart, December 24, 1901, and 827,632, Harry S. Hart and others, July 31, 1906. Cars of the type to which my invention is applied are provided with a central longitudinal hopper, flat floor sections extending outwardly from the hopper to the sides of the car and vertical sides and adjustable ends. Means are provided for covering the central hopper in order to transform the car into an ordinary gondola car, and to so adjust the parts as to uncover the central hopper, to incline the ends inwardly toward the central hopper, and in some instances to provide upward prolongations of the sides of the central hopper. The nature of my improvement in these cars will be apparent from the following description and claims, taken in connection with the accompanying drawings.

This application is drawn to subject-matter shown originally and described in my copending application Serial No. 519,865, filed September 27, 1909, and is limited to subject-matter eliminated from said application, and presented in this application as a division of said copending application.

In the drawings—Figure 1 is a cross sectional view of a car embodying my invention. Fig. 2 is a detail view of the structure adjacent one of the side stakes looking from the inside of the car. Fig. 3 is a plan view of the corner structure. Fig. 4 is a cross section, taken through one of the telescoping side stakes. Fig. 5 is a detail view of the structure at the top of one of the side stakes, the parts being shown in section on line 5 of Fig. 1. Fig. 6 is a sectional view through the side stake shown in Fig. 5 and taken at right angles thereto.

In cars of the type to which my invention is applied the sides are formed of doors hinged at their upper edges. It is my present purpose to so arrange the structure that these doors may be moved inwardly on their hinges to slope in the direction of the walls of the hopper bottom to form prolongations thereof.

Referring to Fig. 1, the central longitudinal hopper is formed of a stationary wall 1 and a wall 2 hinged to the underframe of the car. A chain 4 attached to the hinged wall 2 in connection with a winding shaft 5 affords means for opening and closing the hinged wall or door 2. Horizontal floor sections 6 and 7 extend outwardly from the central longitudinal hopper to the sides of the car. Door or floor sections 8 and 9 are hinged to the central longitudinal sill 10 and may be adjusted either to cover the central longitudinal hopper as shown in full lines at the right of Fig. 1, or may be moved upwardly to leave the hopper unobstructed, as indicated in the case of the door 8 at the left of Fig. 1, the door 9 being shown in a corresponding position in dotted lines.

The side stakes are so formed that they may be extended or shortened, a telescoping structure being shown in the present instance. The main body of the side stake comprises a channel iron 11 fixed at its lower end to the underframe of the car and having its web transverse to the length of the car. A telescoping section 12, which may be made of wood, is fitted to the inside of the channel 11 and is adapted to slide up and down therein. Straps 13 extend across the open side of the channel 11 and serve to guide the stake section 13 and to hold it in place. Mounted upon the upper ends of the stake sections 12 are side rails which extend throughout the length of the car. Each of these side rails consists of a timber 14 to the lower side of which is fitted an I-beam 15. The side rails are secured to the side stake sections 12 by means of angle irons 16 bolted, respectively, to the side stakes and to the side rails.

Between the side stakes, doors 17 are hinged to the side rails, the hinge straps 18 upon the doors engaging U-shaped hinge members 19 which depend from the side rails. The doors 17 are of such size as to fill the spaces between the side stakes and between the side rails and floor of the car.

At the right of Fig. 1, I have shown the doors 17 in a vertical position, the side rails

being elevated and the side stakes in their elongated position. In this position of the parts the side rails are held elevated by the doors which extend downwardly in a vertical direction from them, and the doors are held from opening outwardly by any convenient locking mechanism, such as that ordinarily employed in cars of this type and illustrated in Patent 827,632 referred to. When the sides occupy the vertical position shown at the right of Fig. 1, the central doors 8 and 9 will be moved downwardly to cover the central hopper as illustrated in the case of the door 9 at the right-hand of that view. When so adjusted the car is adapted for use as an ordinary gondola car.

When it is desired to use the car as a center dump car, the doors 8 and 9 may be moved to their upwardly projecting position as shown in the case of the door 8 and in dotted lines in the case of the door 9, and fastened in that position by means of a swinging bolt 20 or other convenient means. The doors 17 will then be moved inwardly, thus permitting the side rails 14 to drop to their lower position, this movement being permitted by the telescoping of the side stakes. As in cars of this type, the adjustment for central dump will be completed by adjusting the ends to slope inwardly toward the central hopper. This feature, however, I have not illustrated as it forms no part of my present invention.

Unless some provision be adopted, spaces would be left between the doors 17 when adjusted to the position shown at the left of Fig. 1, such spaces being of the width of the side stakes which separate the doors 17. I have therefore shown aprons 22 hung upon the loops 19 which support the doors 17, these aprons being of somewhat greater width than the side stakes and lapping over the adjoining edges of the doors 17. This structure is clearly illustrated in Fig. 2. The upper ends of the aprons 22 are provided with eyelets, these eyelets engaging the loops 19. When the doors 17 are moved inwardly, to the position shown at the left of Fig. 2, the aprons 22 will be carried with them, thus affording a closure between the spaces between the doors 17. When the doors 17 are adjusted vertically as shown at the right of Fig. 1, the aprons 22 will hang flat against the doors, and when the lower edges of the doors are moved outwardly, the aprons will be left behind and lying against the inner faces of the side stakes.

The lowering of the sides which is caused by the adjustment shown at the left of Fig. 1 possesses the advantage of rendering the car easier to load by means of a steam shovel or otherwise. The side rail 14 may in each of its adjusted positions be connected to the end wall 31 of the car by any convenient means, such as a corner clamp 30 bolted to the side rail and end wall or to one of these parts. A structure of this character is illustrated in Fig. 3.

While I have described a specific mode of carrying out my invention, it will be apparent that the application of the principle is not dependent upon the use of the particular construction herein shown and described.

I claim:

1. In a car of the class described comprising a hopper portion and vertically adjustable swinging car sides.

2. In a car of the class described comprising a hopper portion, vertically adjustable swinging car sides, and a movable floor over the hopper portion.

3. In a car of the class described, a central longitudinal hopper, side frames, vertically moving side sections hinged at their upper edges to said side frames, and movable floor sections adjustable to lie horizontally over said central hopper or to leave the same open and unobstructed.

4. In a car of the class described, a central longitudinal hopper, side frames, vertically movable side sections hinged at their upper edges to said side frames, and movable floor sections hinged longitudinally over the central part of said hopper.

5. In a car of the class described, a central longitudinal hopper, side frames, vertically movable side sections hinged at their upper edges to said side frames, movable floor sections hinged longitudinally over the central part of said hopper, and means for holding said movable floor sections in raised position to leave said hopper unobstructed.

6. In a car of the class described, side stakes comprising lower stationary parts and upper vertically movable parts, and side sections hinged at their upper edges and connected to the movable parts of said side stakes.

7. In a car of the class described, side walls comprising upper vertically movable rails, and side sections hinged to said rails.

8. In a car of the class described, vertically adjustable side stakes and side sections hinged at their upper edges and connected to said side stakes.

9. In a car of the class described, vertically adjustable side stakes, side rails connecting the upper ends of said stakes, and side sections hinged to said side rails.

10. In a car of the class described, sides adjustable in height and adjustable to a vertical or to an inwardly sloping position.

11. In a car of the class described, sides adjustable in height, and adjustable to a vertical or to an inwardly sloping position, said sides also opening outwardly.

12. In a car of the class described, a central longitudinal hopper, horizontal floor sections extending outwardly from said hopper, side walls adjustable in height, and ad-

justable to a vertical position or to an inwardly sloping position.

13. In a car of the class described, a central longitudinal hopper, side walls adjustable in height, and adjustable to a vertical position or to an inwardly sloping position.

14. In a car of the class described, a central longitudinal hopper, vertically adjustable side stakes, side rails secured to said side stakes, and side sections hinged to said side rails.

In testimony whereof, I have subscribed my name.

HARRY S. HART.

Witnesses:
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