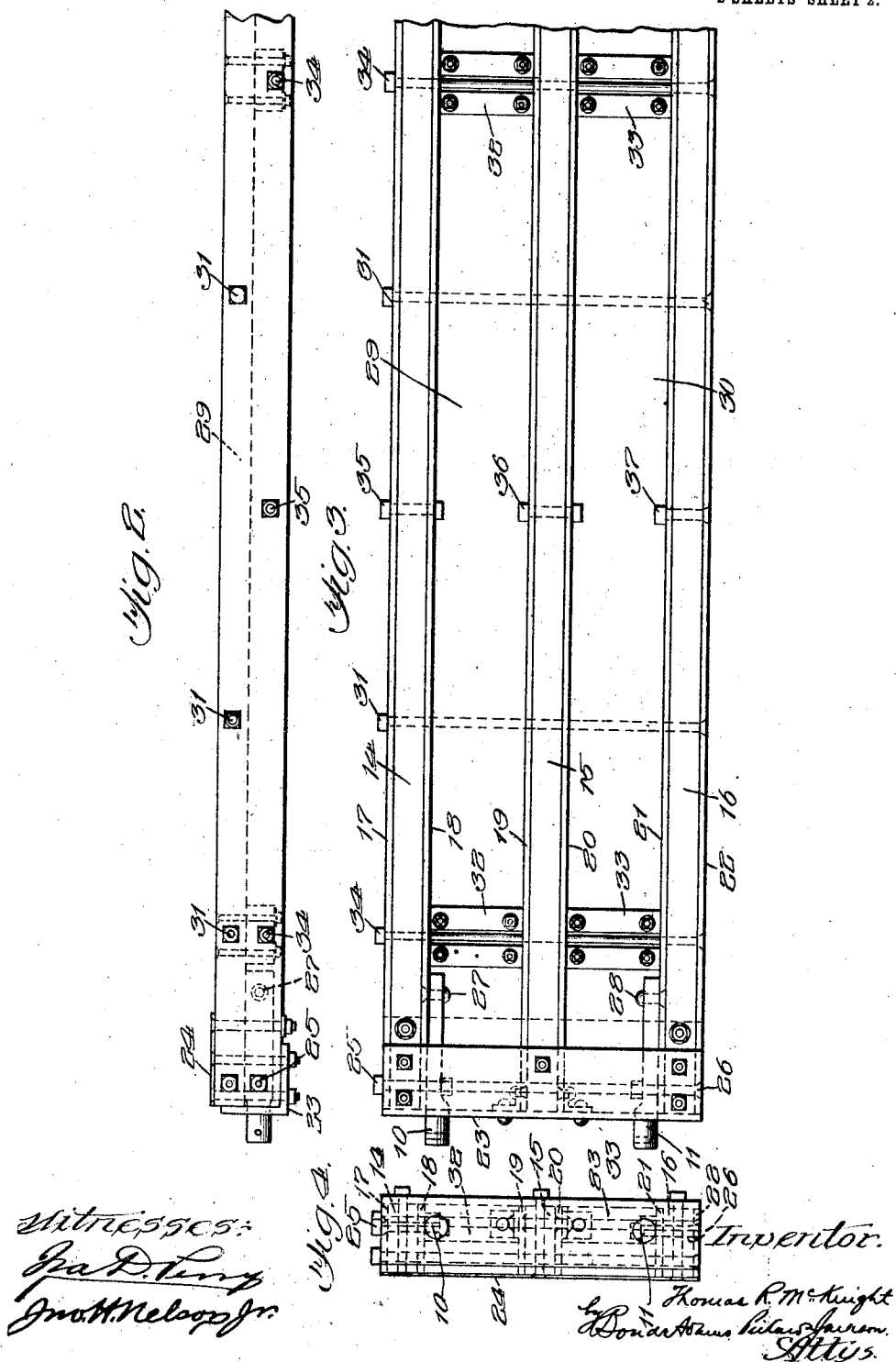


DUMP CAR.

Patented Mar. 11, 1913.

2 SHEETS—SHEET 2.

1,055,773.



UNITED STATES PATENT OFFICE.

THOMAS R. McKNIGHT, OF AURORA, ILLINOIS, ASSIGNOR TO WESTERN WHEELED
SCRAPER COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

DUMP-CAR.

1,055,773.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS R. McKNIGHT, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification, reference being had to the accompanying drawings.

10 My invention relates to dump cars and particularly to cars in which the bed is mounted to rock laterally to dump the load at either side of the car and is provided with side-gates arranged to be moved or
15 held up out of the way so as to permit the load to be dumped.

My present invention relates more especially to the construction of the side-gates, and has for its object to provide a side-gate
20 of improved construction which will make it practicable to use such gates on cars of large capacity. In dump cars of this type as at present constructed the bed is comparatively shallow, and in order to secure
25 a bed of large capacity it is necessary to make the bed of considerable length, and as it is objectionable to employ trusses or braces which project laterally beyond the sides of the car it has been a serious problem
30 to construct side-gates of great length without using laterally-projecting braces or trusses and still secure the necessary rigidity. When it is considered that such side-gates may be from twenty-five to thirty
35 feet or more long and only about two feet high the difficulties in the way of properly constructing such a side-gate will be appreciated.

I accomplish the object of my invention
40 as illustrated in the drawings and as hereinafter described.

What I regard as new is set forth in the claims.

In the accompanying drawings,—Figure
45 1 is an end view of a common type of dump-car, showing my improved side-gate in end elevation; Fig. 2 is a plan view of about one-half of the side-gate; Fig. 3 is a side elevation of about one-half of the gate.
50 showing the outer side thereof; and Fig. 4 is an end view.

Referring to the drawings,—5 indicates the body of the car, which is pivotally mounted on the truck 6 in any suitable way
55 so as to rock laterally.

7 indicates side-gates, which, in the construction shown, are carried by straps 8—9 pivoted to trunnions 10—11 at the ends of the side-gate.

12 indicates straps connected to the straps 60 8 and to straps 13 for holding the side-gates up when the body is tilted at either side of the car. The manner in which the side-gates are supported may, however, be varied, as that forms no part of my present
65 invention.

14—15—16 indicates parallel beams or timbers which extend longitudinally and form the upper, intermediate and lower portions of the frame of the gate, as shown
70 in Figs. 3 and 4.

17—18 indicate metal plates fitted to the upper and lower surfaces of the beam 14, said plates being of proper width to cover
75 said surfaces. In like manner the upper and lower surfaces of the beam 15 are provided with plates 19—20, and the surfaces of the beam 16 are provided with plates 21—22. The ends of the plates 17 to 22 are
80 fixedly secured to end-plates 23, which, as shown in Fig. 2, are in the form of angle-plates which overlie the ends of the beam 14—15—16 and the plates 17 to 22 and the sides thereof adjacent to the ends. The
85 parts are all bolted together firmly so as to be secure. I also provide bearing plates 24 on the inner faces of the gate near the ends, as shown in Fig. 2. The trunnions 10—11 project through the angle-plates 23 and are
90 fixedly secured to the upper and lower beams 14—16 by bolts 25—26, respectively, and are further secured by rivets 27—28, as shown in Fig. 3.

29—30 indicate spacing-blocks which fit
95 respectively between the plates 18—19 and 20 and 21; as shown in Fig. 2.

31 indicates a series of vertical bolts which extend through the several beams 14—15—16 and their respective plates and also through the spacing-blocks 29—30, and
100 serve to bind the several parts of the gate rigidly together. The spacing-blocks 29—30 are preferably of about half the thickness of the gate, as shown by dotted lines in Fig. 2, and for further bracing the several beams
105 I provide channeled filler-blocks 32—33 at suitable intervals, as shown in Fig. 3, said blocks being bolted, or otherwise firmly secured to the spacing-blocks 29—30.

34 indicates vertical bolts, which pass
110

through the beams 14—15—16 and their respective plates and lie in the channels of the filler-blocks 32—33, as shown in Fig. 3, for further securing the parts together and strengthening the gate. Also I preferably employ additional bolts 35—36—37 for securing the several plates 17 to 22 to their respective beams, as shown in Figs. 2 and 3.

As will be observed, by the construction above described I provide a gate which is substantially of uniform width and which is nevertheless thoroughly braced and supported from end to end without the use of trusses or bracing means projecting out beyond the gate so as to interfere with the use of the car in narrow places.

That which I claim as my invention, and desire to secure by Letters Patent, is,—

1. A side-gate for dump-cars, comprising a plurality of longitudinally-extending beams spaced apart, spacing-blocks fitted between said beams, end-plates securing the several beams together, vertical bolts connecting the several beams and spacing-blocks, and trunnions projecting beyond the end-plates.

2. A side-gate for dump-cars, comprising a plurality of longitudinally-extending beams spaced apart, plates secured to the upper and lower faces of said beams, spacing-blocks fitted between said beams, end-plates securing the several beams together, and vertical bolts connecting the several beams and spacing-blocks.

3. A side-gate for dump-cars, comprising a plurality of longitudinally-extending beams spaced apart, spacing-blocks fitted between said beams, end-plates securing the several beams together, vertical bolts connecting the several beams and spacing-blocks, and channeled filler-blocks fitted between the several beams and connected to the spacing-blocks, said bolts being fitted in the channels of said filler-blocks.

4. A side gate for dump-cars, comprising a plurality of longitudinally-extending beams spaced apart, spacing-blocks fitted between said beams, angle-plates connecting the end portions of said beams, vertical bolts connecting the several beams and spacing-blocks, and trunnions projecting beyond said angle-plates.

5. A side door for dump cars comprising a series of wooden beam-like bars assembled one upon the other in a pile, a thin metal reinforcing plate interposed between the said bar and its adjacent bar or bars and extending from side face to side face of the door, and means clamping the whole into a solid structure.

6. A reinforced side door for dump cars comprising a plurality of wooden bars assembled in a pile alternating with plates of steel, each said plate being arranged between the adjacent faces of the wooden bars

and extending substantially from face to face of said door, and bolts passing through bars and plates and binding them all into a solid structure.

7. A side board for dump cars comprising a series of wooden bars extending longitudinally of said board in combination with an alternate series of steel plates of equal horizontal dimensions, arranged co-extensive with said bars, and means clamping said bars and plates into a solid structure.

8. A laminated side door for dump cars comprising alternate layers of wooden and metal bars arranged in a vertical pile one upon another, each said plate extending from face to face of said door, and bolts passing through said doors binding them all into a rigid structure.

9. In a laminated side door for dump cars the combination of a series of wooden bars extending the length of said door with a series of metal plates of equal width and length with said bars arranged therebetween, and means for clamping said bars and plates into a solid unitary structure.

10. In a wooden side board for dump cars, a plurality of thin metal reinforcing plates extending horizontally through said board and spaced vertically, each said plate extending from face to face of said door, and clamping bolts passing vertically through said board and said plates, binding them all into a solid unitary structure.

11. A side door, for dump cars, adapted to be pivotally supported at its end comprising an alternately arranged series of wooden and metal bars, each said metal bar extending from the inner to the outer face of said door, bolts binding all of said bars together and reinforcing guard plates secured upon one face of said door by bolts spaced apart longitudinally of the door.

12. A dump car door comprising a plurality of superimposed separate members consisting of alternate wooden bars and steel plates, each said plate extending from face to face of said door, and clamping means binding them all into a unitary structure.

13. A dump car door comprising a plurality of superimposed wooden members, stiffening steel plates interposed between said members, each said plate extending from the inner to the outer surface of said door, and means clamping said members and plates into a rigid unitary structure.

14. A dump car door comprising a plurality of superimposed wooden members, steel plates interposed between said members and each said plate being of a width substantially equal with the thickness of said members, and clamping bolts extending through said members and plates.

15. A dump car door comprising a plurality of superimposed wooden members, stiffening steel plates interposed between

said members, each said plate extending substantially from the inner to the outer face of said door, clamping bolts passing through said wooden members and plates, and a plurality of spaced, reinforcing, metal, stiffening plates secured to one face of said door and overlapping a plurality of said wooden members and secured to each of said overlapped members by means of two bolts spaced apart longitudinally of the door.

16. A dump car side board comprising a plurality of wooden beams and steel stiffening plates interposed therebetween, each said plate extending from face to face of the door, said beams and plates being provided with a plurality of registering bolt holes, and bolts in said holes clamping the whole into a solid unitary structure.

THOMAS R. McKNIGHT.

Witnesses:

H. D. HAMPER,
H. A. KILLIAN.