(No Model.)

G. VAN WAGENEN & J. GRAVES.

SUGAR WAGON.

No. 428,790. Patented May 27, 1890.

Fig. 1.

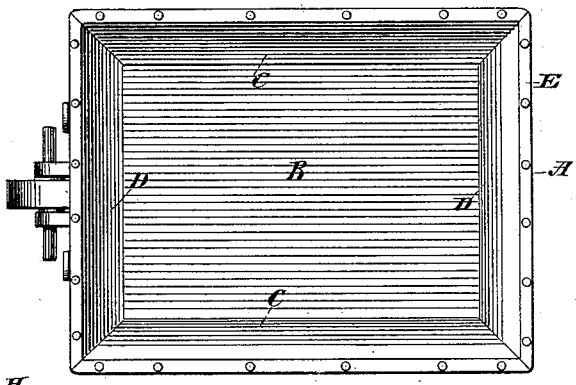


Fig. 5.

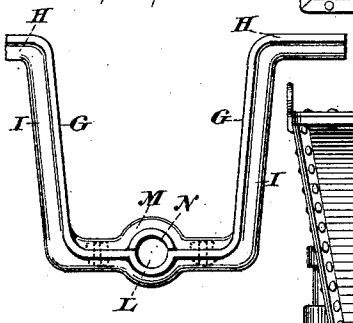


Fig. 2.

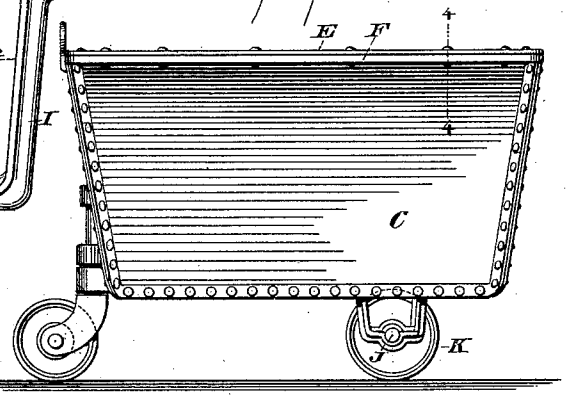


Fig. 6.

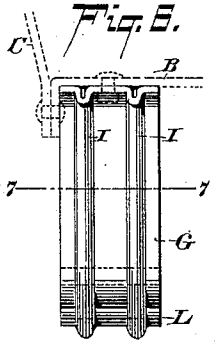


Fig. 7.

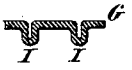


Fig. 4.

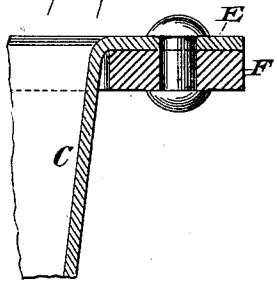
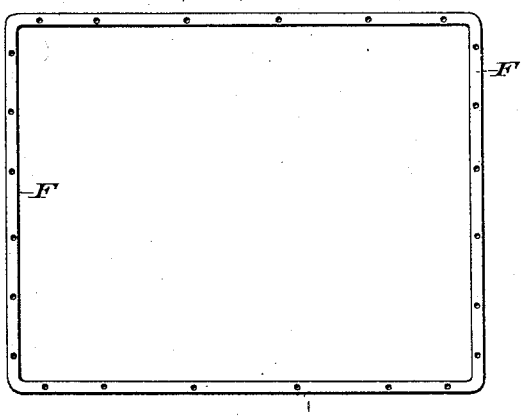


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE VAN WAGENEN, OF NEW YORK, AND JOHN GRAVES, OF BROOKLYN, ASSIGNORS TO THE GEO. VAN WAGENEN COMPANY, OF BROOKLYN, NEW YORK.

SUGAR-WAGON.

SPECIFICATION forming part of Letters Patent No. 428,790, dated May 27, 1890.

Application filed March 17, 1890. Serial No. 344,083. (No model.)

To all whom it may concern:

Be it known that we, GEORGE VAN WAGENEN, a resident of New York, in the county and State of New York, and JOHN GRAVES, of Brooklyn, Kings county, New York, both being citizens of the United States, have jointly invented certain new and useful Improvements in Sugar-Wagons, of which the following is a specification.

The invention relates to improvements in sugar-wagons, and particularly to the class of wagons shown and described in Letters Patent of the United States No. 391,842, granted to John Graves on the 30th of October, 1888.

The present invention consists, particularly, in means for strengthening the upper edge of the wagon and to the brackets by which the wheels may be attached below the body of the wagon. In the said Patent No. 391,842 the upper edge of the body of the wagon is provided with an outwardly-turned flange, which at the corners of the wagon receives angle-plates for the purpose of strengthening the wagon and increasing its durability. The angle-plates at the corners of the wagon, however, leave that portion of the body of the wagon between said plates unsupported against outward pressure; and it is the purpose of the present invention to remedy this feature of the construction and strengthen the upper edge of the wagon along its entire edge, in order that it may successfully resist any pressure which might have a tendency to spread the sides or ends of the wagon apart at their middle portions. It has been an object of the manufacturer of the wagons shown in the said Patent No. 391,842 to secure great strength in the wagon, and at the same time to construct them wholly of sheet metal, and in view of this it has been a subject of serious thought to so apply the wheels that sheet metal may be used in the supporting-brackets therefor without detriment to the durability and utility of the wagon; and with this end in view the supporting-brackets for the wheels have been constructed of sheet metal, in the manner hereinafter more fully pointed out in the description of the second part of the invention made the subject of this application.

The invention will be fully understood from the description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a wagon constructed in accordance with the invention; Fig. 2, a side elevation of the same; Fig. 3, a detached plan view of the rectangular frame which fits upon the upper edge of the wagon and is riveted to the under side of the flange which emborders said upper edge; Fig. 4, an enlarged detached sectional view through the body of the wagon on the dotted line 4 4 of Fig. 2; Fig. 5, an enlarged detached side elevation of the bracket for supporting the body of the wagon upon the axle. Fig. 6 is a like view of the edge of said bracket, and Fig. 7 is a transverse section on the dotted line 7 7 of Fig. 6.

In the drawings, A denotes the body of the wagon, composed of the bottom B, sides C C, and ends D D, the whole constructed of sheet metal, the meeting edges of said parts being secured by rivets, as illustrated in Fig. 2 and fully shown and described in the aforesaid Letters Patent No. 391,842. Upon the upper edge of the wagon-body is the outwardly-turned flange E, which entirely emborders the said body, and is formed by turning the upper edges of the sides C and ends D outward. Upon the under side of the flange E is secured by rivets the rectangular frame F, preferably of sheet metal, said frame extending entirely around the wagon-body, and being so applied that whatever outward strain there may be exerted against the sides or ends of the wagon will come against the edge of said frame F in the line of its width.

It will be noted that there is an advantage in applying the frame F so that its edges instead of its face will come against the exterior sides of the wagon-body, since in the former case, which is that illustrated in the drawings, the maximum strength with the minimum weight of metal is secured. The rectangular frame F may be made of sheet metal, and when secured in position, as illustrated in Figs. 2 and 4, it receives the strain in the line of its width, and hence affords the maximum resistance. A thin strip of metal bound

around the wagon-body with its face against the sides and ends thereof would not probably afford a very great degree of strength unless of undue thickness; but where a frame is secured around the wagon-body with its edges against the sides and ends thereof, the greatest possible strength from a thin piece of metal is secured and the weight of the wagon is not materally increased. By means of the frame F the upper edge of a sheet-metal wagon-body is rendered strong and durable, and is made capable of resisting any usual amount of lateral strain that may be brought against it.

It will not be necessary to make the frame F entirely in one piece unless desired, since, as is well known, it may be made in sections and the sections then united at their overlapping ends, the result still being a rectangular frame of the same characteristics as that presented in Fig. 3.

The second part of our invention relates to the bracket for supporting the body of the wagon upon the wheels, and this bracket is more clearly represented in Figs. 2, 5, and 6, in which it will be seen that the bracket (lettered G) is formed from sheet metal in an outline substantially rectangular on three sides, with the horizontal extensions H extending outward from the vertical sides of the bracket and forming the ends by which the bracket may be riveted to the lower side of the wagon-body. The ends H and the three sides of the bracket are formed in one piece from sheet metal and are traversed by the ribs I, which materially increase the strength of the bracket and permit the use of thin metal in the construction of the same. Between the ribs I the metal of the bracket has plain surfaces, which permit the firm contact of the upper surfaces of the ends H with the lower surface of the wagon-body, the rivets securing the bracket in place passing between said ribs I. At the center of the lower horizontal side of the bracket G the sheet metal is provided with the concave groove L to receive the lower side of the axle J of the wheels K. A cap M, having a concave groove N, is provided to rest upon the lower horizontal side of the bracket G and to fit upon the axle J, as shown in Figs. 2 and 5, the concave grooves L N serving to form the journal for the ends of the axle J. The bracket G is made wholly from sheet metal, and, having been constructed in the manner described, is strong and durable, although made of thin material, and does not add materially to the weight of the wagon. The cap M is also constructed of sheet metal, corresponding in width and form with that of the lower horizontal side of the bracket G.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The wagon-body composed of the bottom, the sides C, and ends D, said sides and ends having at their upper edge the outwardly-turned flange E, combined with the frame F, extending around said body with its edge facing the same, the frame and flange being secured together, substantially as set forth.

2. The wagon-body of sheet metal, combined with the sheet-metal brackets G, caps M, axle J, and wheels K, said brackets being formed in a single piece with the ends H, separated ribs I I, and groove L, and the caps having the groove N, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 13th day of March, A. D. 1890.

GEORGE VAN WAGENEN.
JOHN GRAVES.

Witnesses:
E. D. MILLER,
CHAS. C. GILL.