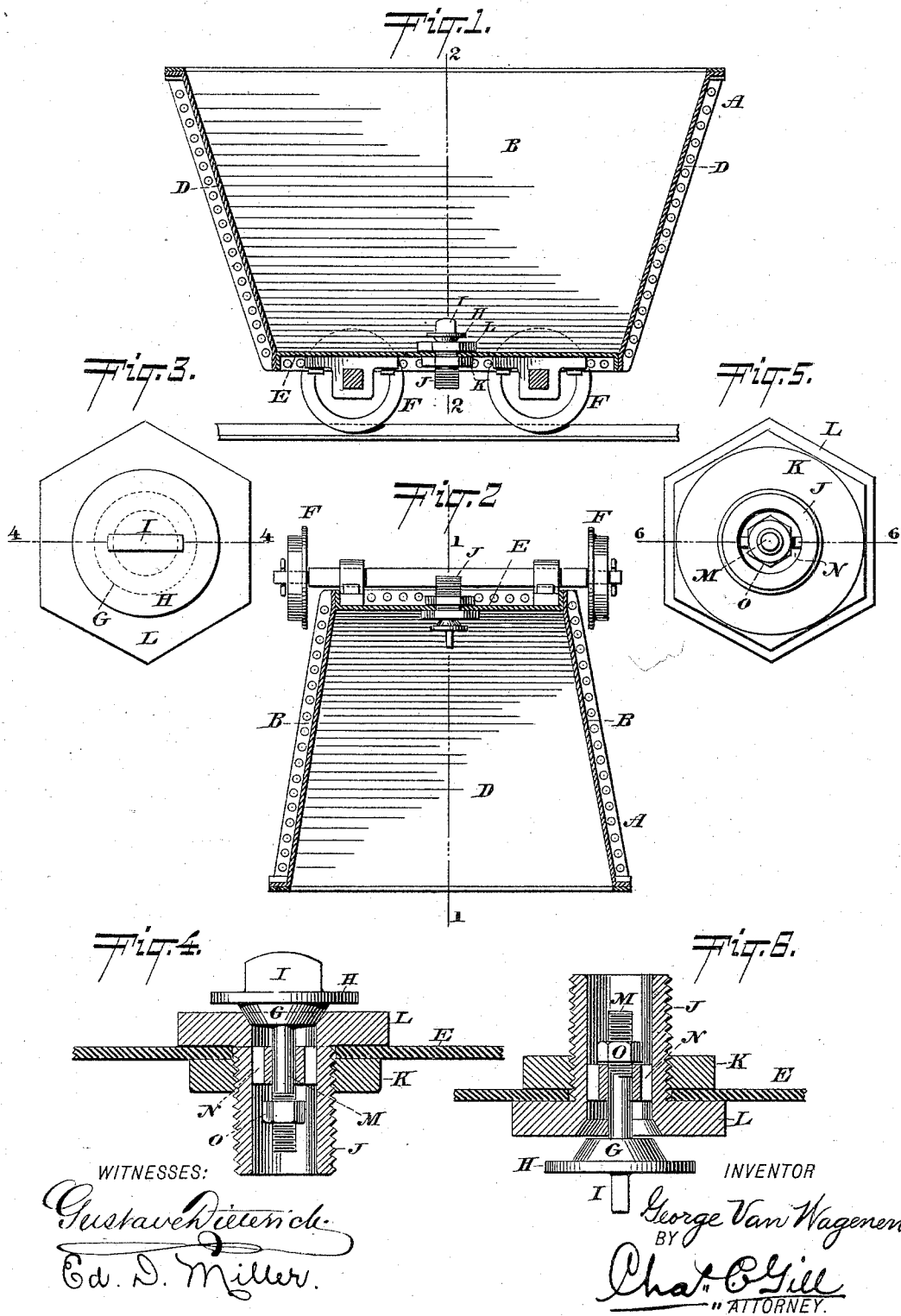


(No Model.)

G. VAN WAGENEN.
SUGAR WAGON.

No. 493,799.

Patented Mar. 21, 1893.



UNITED STATES PATENT OFFICE.

GEORGE VAN WAGENEN, OF NEW YORK, N. Y.

SUGAR-WAGON.

SPECIFICATION forming part of Letters Patent No. 493,799, dated March 21, 1893.

Application filed July 5, 1892. Serial No. 438,900. (No model.)

To all whom it may concern:

Be it known that I, GEORGE VAN WAGENEN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Sugar-Wagons and other Receptacles, of which the following is a specification.

The invention relates to improvements in sugar wagons and other receptacles, and consists especially in the novel means hereinafter described and claimed whereby the sugar may be aided in its discharge from the wagon or other receptacle.

The invention pertains particularly to the class of sugar wagons referred to in Letters Patent of the United States No. 441,264, granted November 25, 1890, to me. It is well known that the sugar while hot is placed in the wagons and then allowed to cool and that in view thereof the sugar forms itself into a compact mass adhering very firmly to the walls of the wagon. The removal of the sugar is often attended with difficulty in view of the solidity with which it compacts and partly crystallizes while cooling.

It is the object of my invention to overcome this difficulty and provide means by which the sugar may be successfully detached from the walls of the wagon and readily discharged.

The method of handling the sugar wagons is illustrated in the said Letters Patent No. 441,264, from which it will be understood that the removal of the sugar from the wagons is effected when the latter are in reversed position, at which time the sugar if not compacted to an undue degree, will fall therefrom and be thus discharged. If, however, the sugar has become crystallized or solidly compacted in the wagon, it will not fall therefrom of its own weight, and additional means must be provided to aid it in its discharge. In accordance with the present invention I facilitate the discharge of the sugar from the wagon by the application of compressed air, steam or water under pressure, and in carrying my invention into effect I provide in the bottom of the wagon or other receptacle a valve of novel construction through which the air, steam or water is injected, and which, owing to the peculiarities of its construction, diverts the

force of the air, steam or water laterally so that it may extend over a large area between the bottom of the wagon and the body of sugar. The steam, air or water will not be applied to the wagon until the latter is in an inverted position ready to discharge its load of sugar.

The invention will be more readily understood from the detailed description herein-after presented reference being had to the accompanying drawings in which

Figure 1 is a central vertical longitudinal section of a sugar wagon provided in its bottom with the valve constructed in accordance with the invention, said section being on the dotted line 1—1 of Fig. 2, which is a central vertical transverse section of same illustrating the wagon in its inverted position and the valve in its open position, the section of Fig. 2 being on the dotted line 2—2 of Fig. 1. Fig. 3 is a full size top view of the said valve. Fig. 4 is a central vertical section of same on the dotted line 4—4 of Fig. 3. Fig. 5 is a full size bottom view of said valve, and Fig. 6 is a central vertical section of same on the dotted line 6—6 of Fig. 5. Fig. 4 shows the valve in its closed position, and Fig. 6 illustrates the same in its inverted and open position.

In the accompanying drawings A designates the wagon which may be of the form shown in the drawings and described in said Patent No. 441,264, or of any other suitable construction. The wagon illustrated in the drawings is made of sheet steel and is composed of the tapered sides B, B, tapered ends D, D, and bottom E, the whole being riveted together and provided with suitable wheels F by which the same may be moved from place to place.

While I prefer the form of wagon illustrated in the drawings, it is to be understood that the invention is not confined to any special form of wagon or receptacle for the sugar.

In the bottom E of the wagon is provided the valve G having the lateral deflecting plate H and vertical lug I as illustrated more clearly in Fig. 4. The valve G is seated upon the upper inclined edges of the externally threaded nozzle J which passes downward through an aperture in the bottom of the wagon, and is there secured by the nuts K, L.

The valve G is provided with the central stem M passing downward through an aperture in the bridge N extending transversely across the interior of the nozzle J. The lower
 5 end of the stem M of the valve is threaded and provided with the nut O, which prevents the escape of the valve from the nozzle J and regulates, also, the movement of said valve from its seat. The nozzle J will be secured
 10 firmly to the bottom E of the wagon at a central point by means of the nuts K, L, and in use the lower exposed threaded end of said nozzle will be utilized as a means for coupling the pipe leading from the source of compressed air, steam or water under pressure.
 15 This pipe connection with the source of pressure will be flexible so that as the wagons are brought to the place at which they are to be dumped or discharged of their contents, the
 20 said pipe may at such time be applied to the nozzle J and be detached therefrom after the discharge of the sugar has been effected.

In the operation of using the wagon with its valve, the wagon will be filled and moved
 25 on its wheels to the point at which it is desired to discharge the sugar, whereupon the wagon will be inverted and the pipe leading from the source of pressure coupled to the nozzle J of the valve and the pressure applied.
 30 The effect of the application of the pressure will be to force the valve open, as shown in Figs. 2 and 6, at which time the air, steam or water will enter the wagon through the valve and be diverted laterally along the bottom of the wagon by means of the horizontal deflecting plate H, with the effect of loosening the mass of sugar from the walls of the wagon, and facilitating its discharge. The plate H constitutes a part of the valve and is of great
 35 importance since by its use the pressure may be extended over the entire surface of the bottom of the wagon and against the body of sugar, thus forcing out the entire mass; while in the absence of said plate, the force of the
 40 compressed air, steam or water might simply blow a passage through the middle of the

body of sugar, without detaching the load from the walls of the wagon. After the sugar has been loosened from the wagon the latter will be returned to its normal position, 50 illustrated in Fig. 1, the pipe connection with the source of pressure being detached preparatory to its application to the next wagon brought to the dumping or discharge point.

If at any time the valve G should not return freely to its seat upon the wagon being 55 turned to its proper position to receive sugar, the operator may by turning the valve through the medium of the vertical lug I grind the same down against the seat sufficiently to dis- 60 lodge whatever sugar may have settled thereon and insure the free and full movement of the valve.

What I claim as my invention, and desire to secure by Letters Patent, is— 65

1. In a receptacle for receiving sugar, the nozzle secured to the bottom thereof for connection with a source of pressure, the valve G seated upon the inclined upper edges of said nozzle and capable of being raised from 70 its inclined seat under the action of said pressure, the horizontal deflecting plate H carried by said valve, and the vertical lug I carried on said plate, the whole being arranged substantially as and for the purposes 75 set forth.

2. The receptacle for receiving sugar, combined with the valve G located therein below the upper level of the sugar, the deflecting plate H carried by said valve, the externally 80 threaded nozzle J receiving the said valve, and the nut K securing the valve in position; the whole being arranged substantially as and for the purposes set forth.

Signed at New York, in the county of New 85 York and State of New York, this 30th day of June, A. D. 1892.

GEORGE VAN WAGENEN.

Witnesses:

CHAS. C. GILL,
 ED. D. MILLER.