

(No Model.)

2 Sheets—Sheet 1.

J. GRAVES.  
SUGAR WAGON.

No. 533,192.

Patented Jan. 29, 1895.

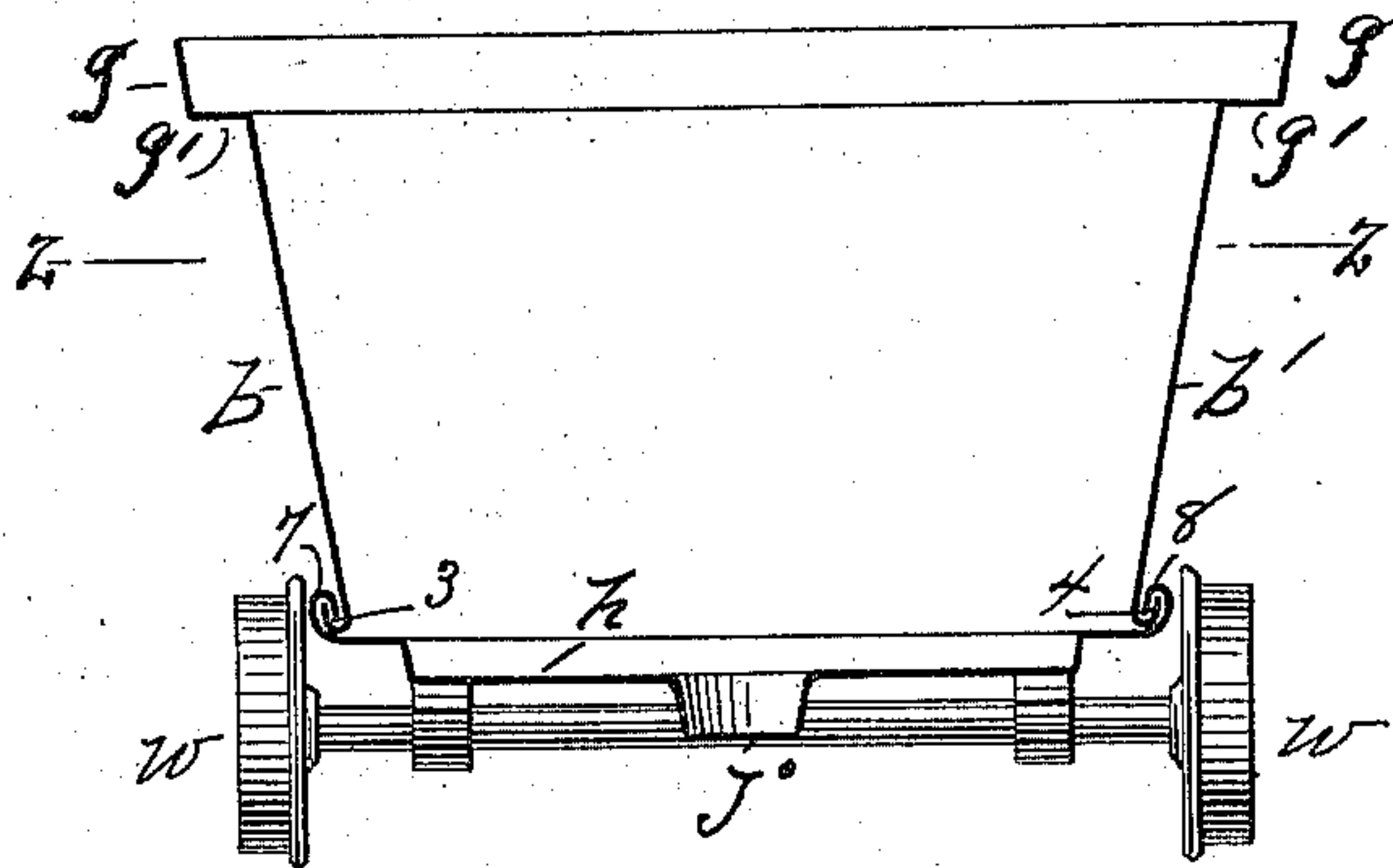


Fig. 1.

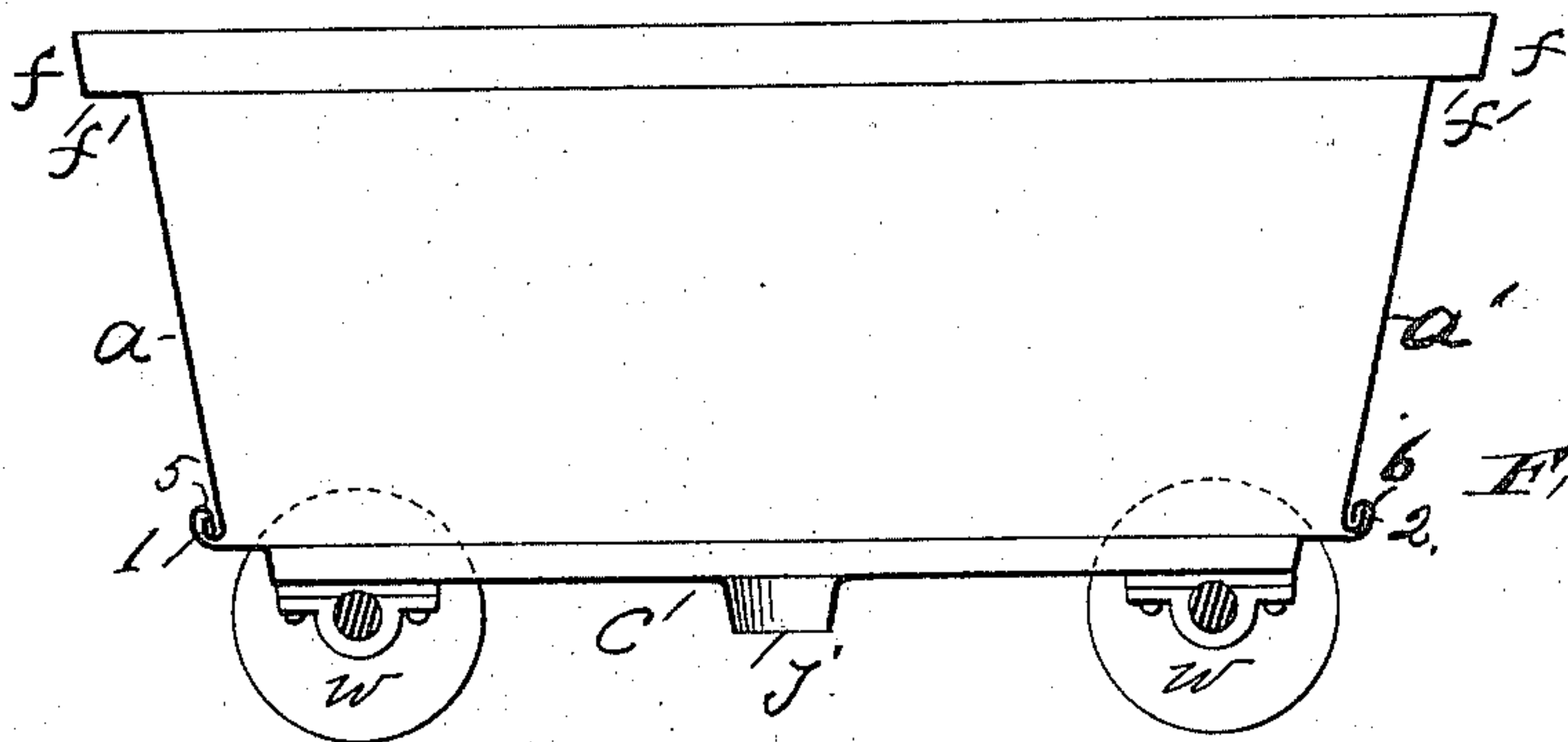


Fig. 2.

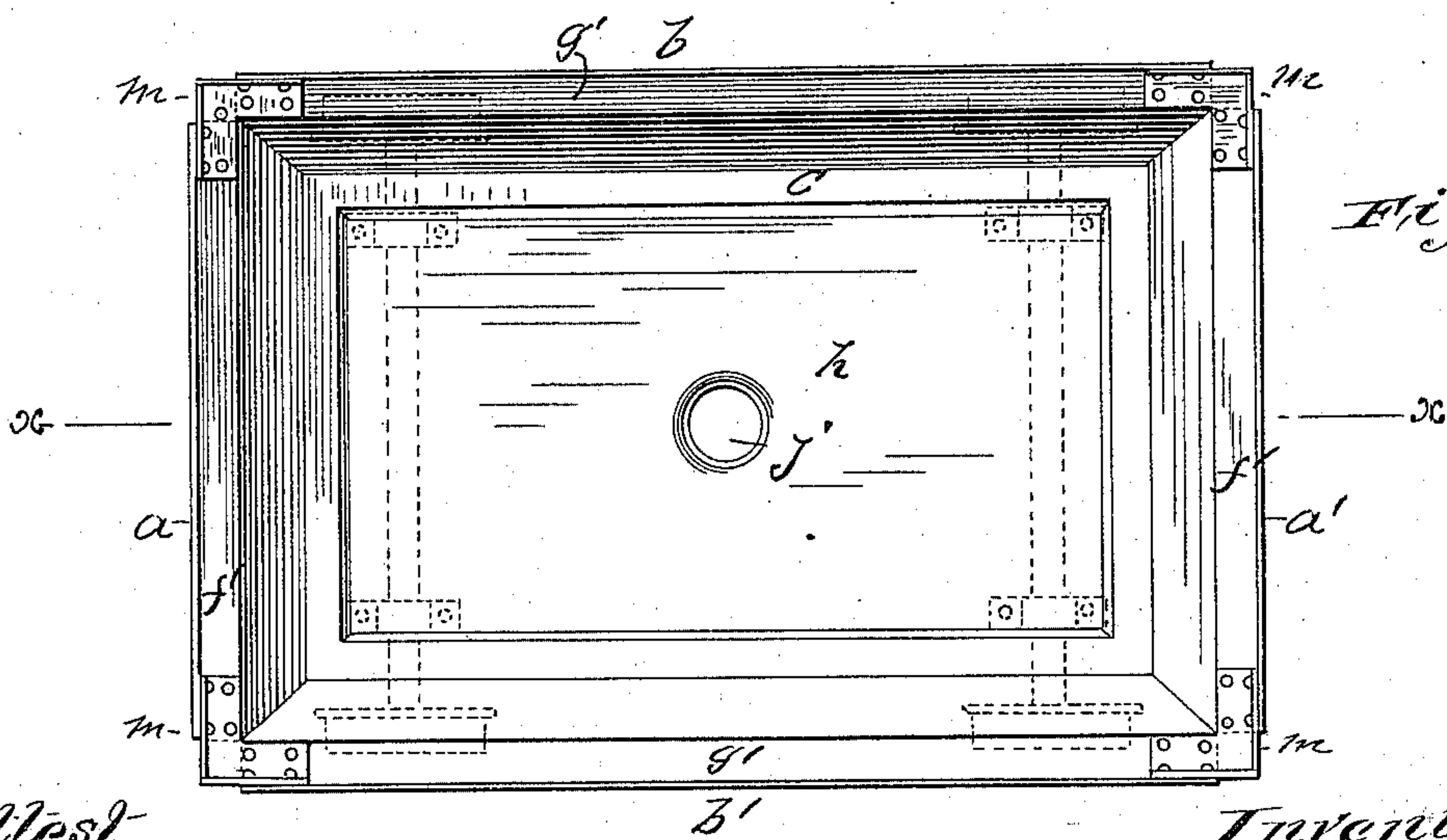


Fig. 3.

Attest.  
C. W. Benjamin  
P. A. Fry

Inventor,  
John Graves  
by D. Walter Brown  
his atty.

(No Model.)

2 Sheets—Sheet 2.

J. GRAVES.  
SUGAR WAGON.

No. 533,192.

Patented Jan. 29, 1895.

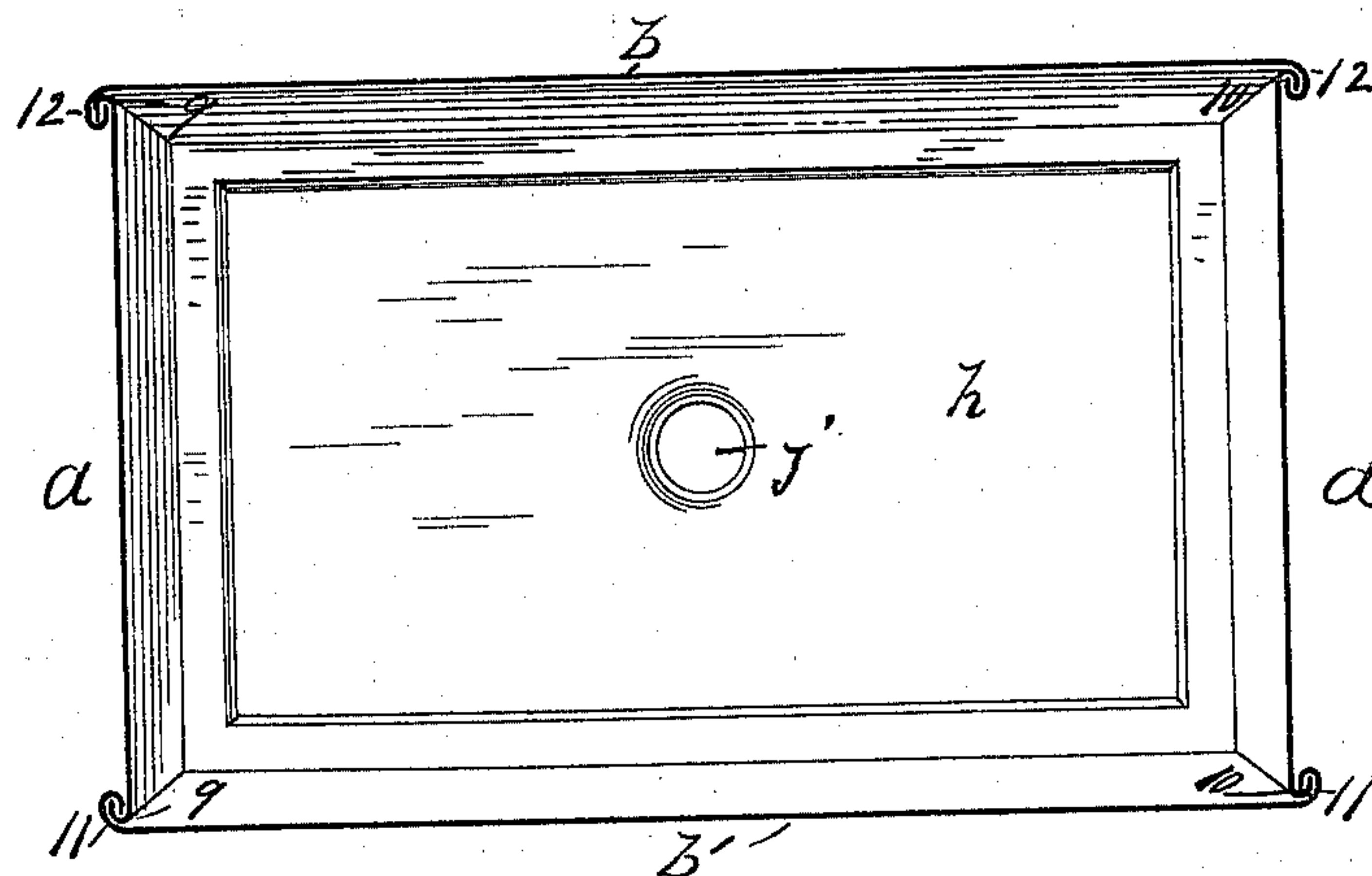


Fig. 4.

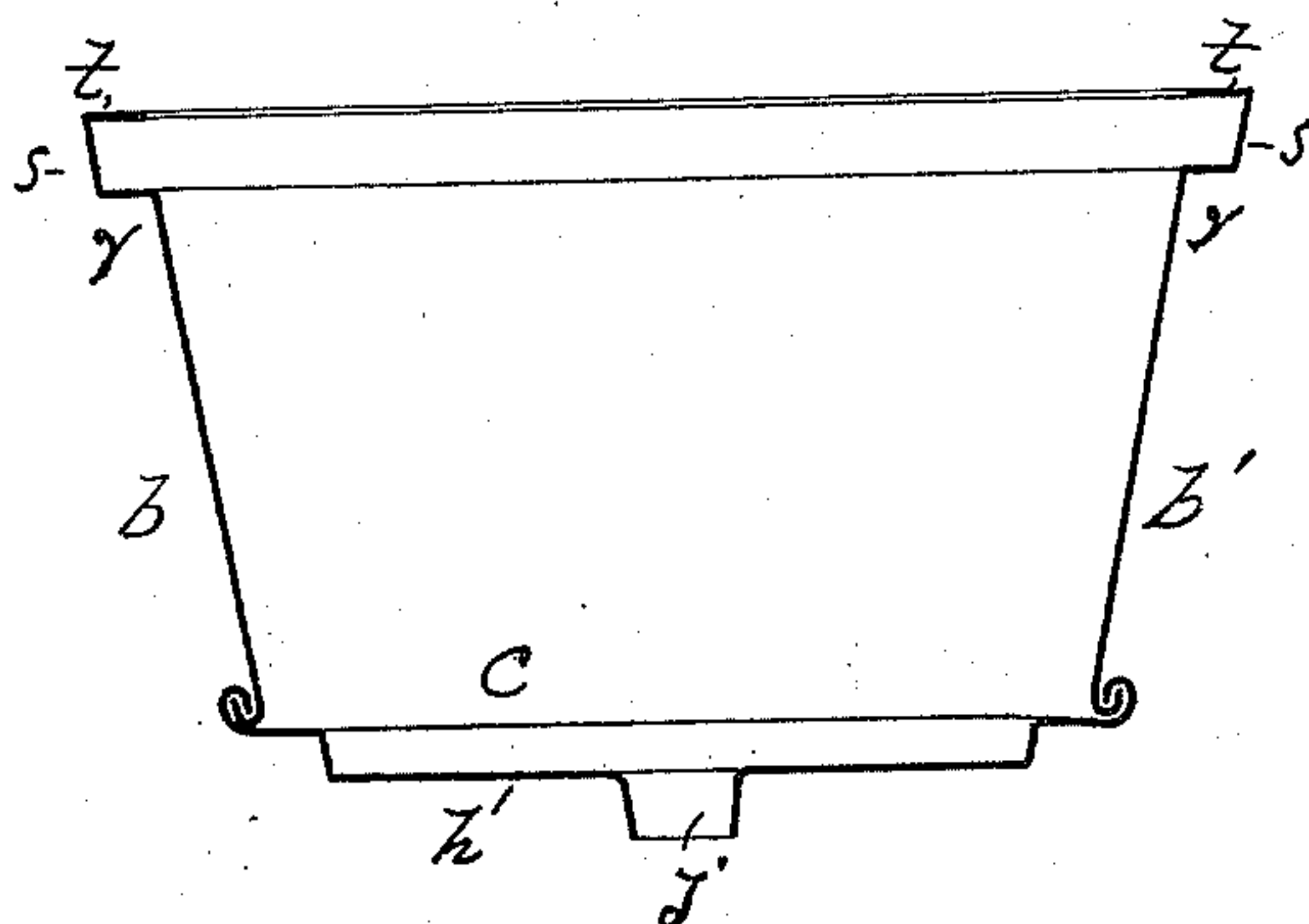


Fig. 6.

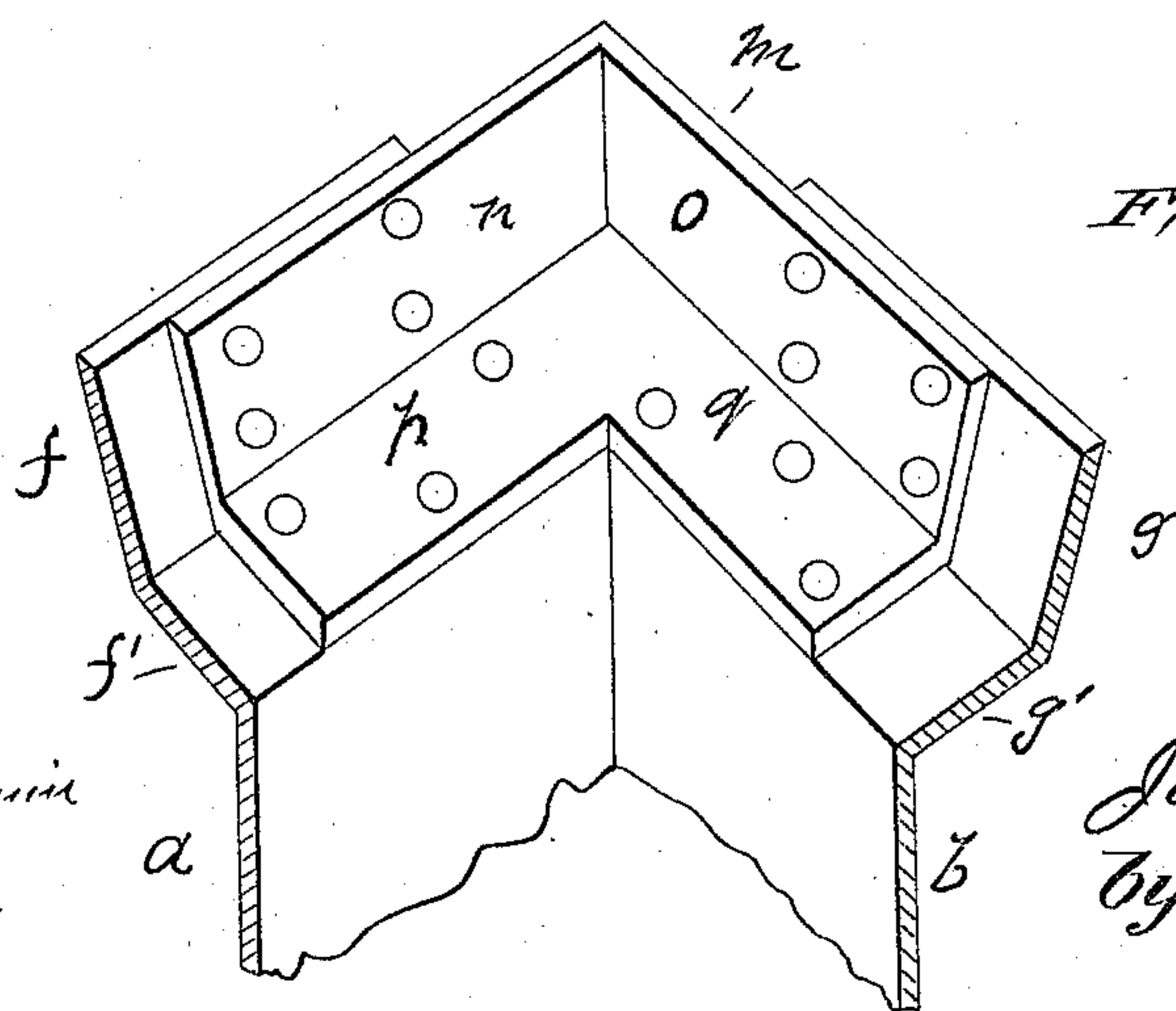


Fig. 5.

Attest  
C. W. Benjamin  
P. A. Fray

Inventor  
John Graves  
by Walter Brown  
his atty



# UNITED STATES PATENT OFFICE.

JOHN GRAVES, OF BROOKLYN, NEW YORK, ASSIGNOR TO KATHARINE  
AGNES GRAVES, OF SAME PLACE.

## SUGAR-WAGON.

SPECIFICATION forming part of Letters Patent No. 533,192, dated January 29, 1895.

Application filed September 27, 1894. Serial No. 524,303. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN GRAVES, a citizen of the United States, and a resident of Brooklyn, in the county of Kings, State of New York, have invented a certain new and useful Improvement in Sugar-Wagons, of which the following is a specification.

My invention relates to improvements in sugar wagons, especially such as are made of sheet metal; and it is the purpose of the invention, first, to provide a new lock for joining the edges of the several plates of which the sides and bottom of the wagon are composed, and which lock combines great strength with simplicity and ease of manufacture; second, to stiffen the sides and ends of the wagon, by an appropriate corrugation or series of flanges at the top edge; third, to provide appropriate miter-pieces for closing the upper corners; and, fourth, to shape the bottom of the wagon so as to stiffen the same, and permit of the sugar deposit being removed by compressed air without bulging the bottom.

Referring to the drawings which accompany the specification to aid the description, the same letters and figures indicating like parts on all the views, Figure 1 is a vertical cross section of my sugar wagon, on the line X X of Fig. 3. Fig. 2 is a longitudinal section of the same. Fig. 3 is a plan view of the wagon from above. Fig. 4 is a horizontal section. Fig. 5 is a detail of a miter-piece for the corners. Fig. 6 is a vertical cross section of a wagon showing a slight modification in the upper flanges.

The body of the wagon is composed of plates of sheet metal, preferably steel, *a, a'* being the ends, *b, b'* the sides, and *c* the bottom. Now by means well known in the art of sheet metal working, as bending-machines, or dies, the lower edges of the plates *a, a', b, b'* are each bent into the shape of hooks 1, 2, 3, 4, respectively, (Figs. 1 and 2.) By similar means the four edges of the bottom *c* are bent first up then down and in, to form the interlocking hooks, 5, 6, 7, 8, of which hooks 5, 6, respectively interlock with the end hooks 1, 2, and hooks 7, 8, respectively interlock with the side hooks 3, 4. Similarly the vertical edges of the ends *a, a'* are provided with the hooks 9, 9, 10, 10, and the vertical edges of the sides *b, b'*,

with interlocking hooks 11, 11, 12, 12 respectively. The top edges of the pieces *a, a', b, b'* are each provided (by bending or stamping) with the double flanges or corrugation *f, f', g, g'*, for the purpose of stiffening the said sides and ends of the wagon. The bottom *c* is dished by dies, so as to have the depressed inner portion *h*, provided with the blow hole *j*. The effect of thus dishing the bottom *c* is to very greatly stiffen the same, and to resist the bulging of the bottom and consequent distortion of the shape of the body, when compressed air is blown, in the usual manner, into the wagon to remove the crust of sugar which collects therein. The ends *a, a'*, sides *b, b'*, and bottom *c* having been provided with hooks, and flanged and dished as described, the hooks 11, 11, 12, 12, of the sides *b, b'* are interlocked respectively with the hooks 9, 9, 10, 10 of the ends *a, a'* and closed up by pressure, thereby locking the sides and ends together most firmly. Next the hooks 5, 6, 7, 8 of the bottom *c* are interlocked with the corresponding hooks 1, 2, 3, 4, of the ends *a, a'* and sides *b, b'*, and closed by pressure, thereby firmly uniting the bottom *c* to the said sides and ends. Evidently the upper corners, at the flanges *f, g* will be open, and to close the same, I have devised the miter-pieces *m*, (Fig. 5,) which are provided with the flanges *n, o*, to fit respectively against the flanges *f, g*, and with the flanges *p, q* to fit respectively against the flanges *f', g'*. Said miter-pieces *m* may be adapted to fit either the outside or the inside of the wagon, and I prefer to place them inside, as indicated in Fig. 5.

Wheels *w, w*, will be placed on the wagon body at suitable positions.

In Fig. 6 is shown a slight modification of the upper flanges. In this case the upper edges of both sides and ends are formed with the three bent portions *r, s, t*, as shown. The construction of the wagon otherwise is as hereinbefore described.

Now having described my improvement, I claim as my invention—

A sugar wagon body formed of sheet metal plates which are connected at the edges by the mutually interlocking hooks 1 and 5, 2 and 6, 3 and 7, 4 and 8, 9 and 11, 9 and 12, 10 and 11, 10 and 12,

10 and 12, and said plates having the double flanges *f f' g g'* around the top edge, miter pieces fitted and secured in the corners of said double flanges so as to close the opening there-  
5 in, and the bottom plate being dished and provided with a discharge outlet, substantially as described.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of two witnesses, this 5th day of February, 1894.

JOHN GRAVES.

Witnesses:

BERNARD J. BECKE,  
DAVID W. BROWN.