

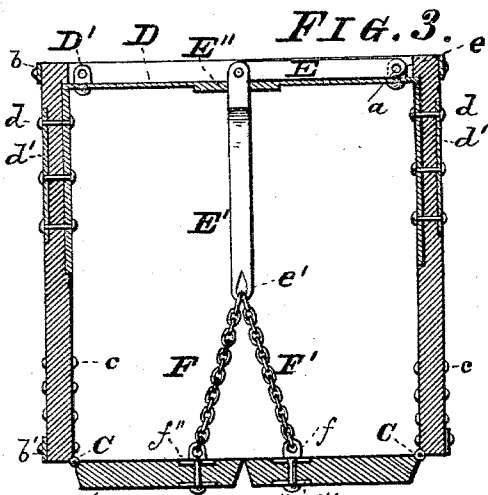
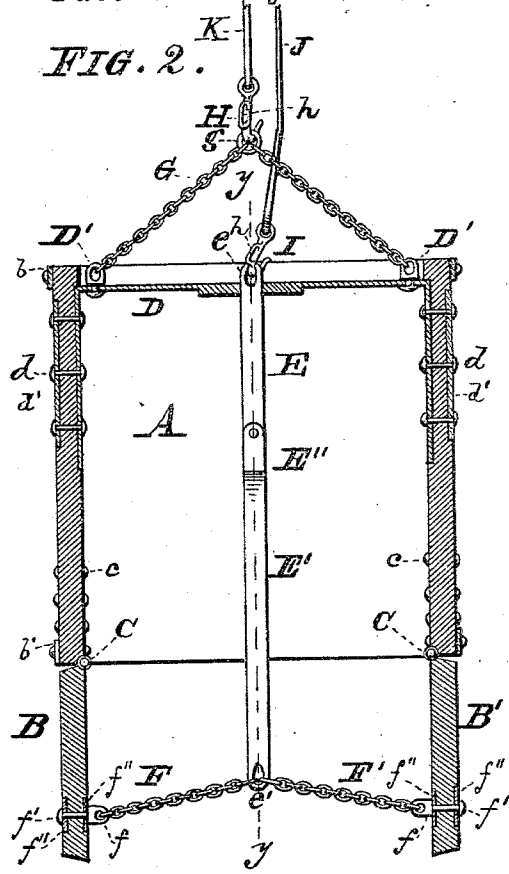
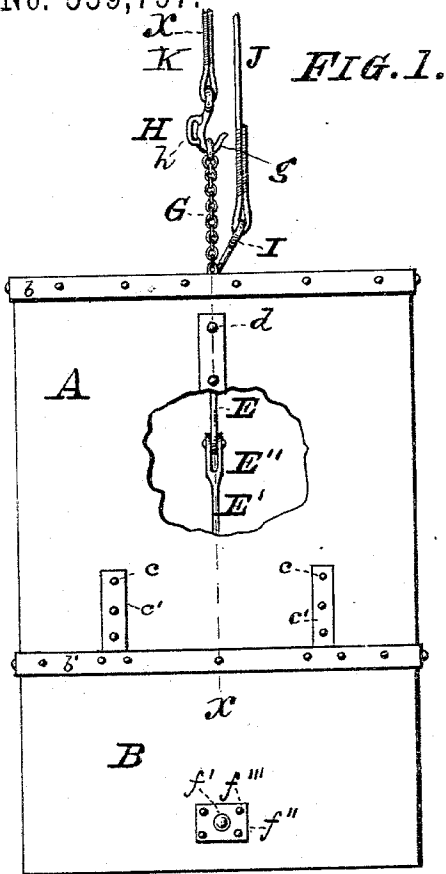
(No Model.)

O. GREENE.

SELF DUMPING SHIPPING AND STORING CASE.

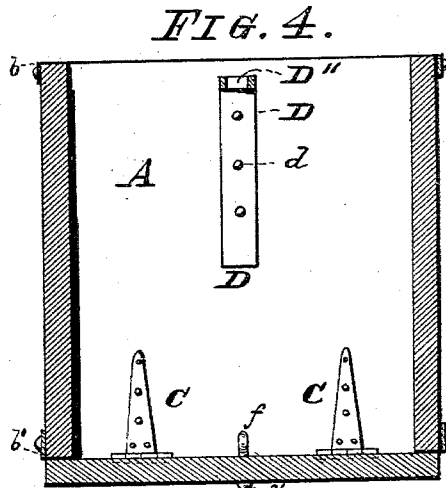
No. 559,797.

Patented May 12, 1896.



B Witnesses: f' f'' B'

Michael J. Stark, Jr.
P. Hoffmann.



B Inventor :

Oliver Greene,
By Michael J. Stark & Sons
Attorneys.

UNITED STATES PATENT OFFICE.

OLIVER GREENE, OF BUFFALO, NEW YORK.

SELF-DUMPING SHIPPING AND STORING CASE.

SPECIFICATION forming part of Letters Patent No. 559,797, dated May 12, 1896.

Application filed January 16, 1896. Serial No. 575,710. (No model.)

To all whom it may concern:

Be it known that I, OLIVER GREENE, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Self-Dumping Shipping and Storing Cases; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to improvements in self-dumping shipping and storing boxes and cases; and its object is the production of an efficient, durable, and serviceable shipping and storing case.

It consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, which serve to illustrate my said invention more fully and form a part of the present specification, Figure 1 is a side elevation of my improved self-dumping shipping box or case. Fig. 2 is a longitudinal sectional elevation in line $x x$ of Fig. 1. Fig. 3 is a similar view, the leaves of the bottom being closed and locked by the lifting-bar. Fig. 4 is a sectional elevation in line $y y$ of Fig. 2.

Like parts are designated by corresponding letters of reference in all the figures.

A in the drawings represents a rectangular shell constructed of wood or metal and open at its top and bottom, the latter being arranged to be closed by two bottom leaves B B', hinged to the lower part of the interior of the shell by means of substantial and strong strap-hinges C, riveted to the sides of the shell by rivets c , and when the shell is made of wood I place on the outside thereof washers or plates c' , Fig. 1, through which said rivets c pass, and thereby enable them to have a secure hold in the wooden sides. Near the upper edges of this shell and centrally across the latter I place a U-shaped cross-bar D, the parallel members of which are also riveted to the inner sides of the shell by rivets d , plates d' being placed on the outside of the

sides, through which said rivets pass to securely hold the U-shaped cross-bar D in position. This cross-bar has centrally a slotted aperture D', Fig. 4, through which passes a lifting-bar composed of two sections E E', connected together by a double eye E'' on the lower section of said lifting-bar.

On the outer end of the upper section E there is an aperture e , wherewith engages a hook I on the lifting-cable J, while at the end of the lower section E' there is a similar aperture e' , wherewith engages a short chain F F', the outer ends of which connect with eyes f , fastened to the inner sides of the two bottom leaves B B' by rivets f' , passing through reinforcing-plates f'' on the inner and outer sides of said bottom leaves, which reinforcing-plates themselves may be secured together by rivets or screws f''' , Fig. 1.

To the cross-bar D and near the sides of the shell A are secured eyes D', which are connected by a chain G, having in its center a ring g , wherewith engages a hook H on the end of the dumping-cable K, the ends of the chain G being provided with hooks engaging the eyes D', or the eyes D' may be formed into hooks, if desired, so long as this chain may be readily attached and detached from the shell A. It will now be observed that when the parts described are in the position shown in Fig. 3—that is to say, the bottom leaves closed, the lifting-bar E E' and chains F F' pulled up so that the double eye E'' on the section E' is above the upper surface of the cross-bar D, and the section E of the said lifting-bar turned down so as to lie flat upon the cross-bar, and a pin a' passed through the end opening e and the eye D'—the lifting-bar E is locked in position and thereby the bottom leaves B B' prevented from dropping. In this case the boxes or buckets may be filled with stone, ore, coal, sand, grain, or any other substance or material and then placed on board cars or vessels and remain therein during transportation, when, after the cargo reaches its place of destination, the pins a are pulled, the lifting-bar E lifted and engaged with the lifting-cable, and chain G hooked to the eyes D', and the dumping-cable attached to the ring g by its hook H, when the boxes or buckets are, one after the other, lifted out of the car or vessel by the lifting-

cable and swung into position on shore by a crane located there, after which, by a slight lifting of the dumping-cable K, the box or bucket A is lifted, and the lifting-bar E remaining stationary will cause the bottom leaves B B' to drop and the contents of the box to empty or dump. The bucket is now either placed aside or immediately returned to the vessel or car in which it has arrived and the next one lifted out in the manner already described. This operation is continued until all the boxes or buckets have been removed and emptied.

It will be further observed that for grain, ore, coal, sand, or other substances I provide as many boxes or buckets as are required to carry the entire cargo, said boxes or buckets being preferably cubical in form, and will therefore pack closely together, and they may be stacked one on top of the other, because there is nothing projecting from the upper edges of the said boxes or buckets to prevent them from being so stacked. It is therefore evident that the shifting of cargoes in vessels during heavy weather is an impossibility and that the loading and unloading of such a vessel can be performed in very much less time than is now required to perform the same with cargoes in bulk. It is also obvious that by this method of shipping grain, ore, stone, sand, coal and other substances and materials there is a considerable saving in labor in handling the same, since one man on board of the vessel or car to attach the cables and one on shore to disengage the same, in addition to the attendants to the hoisting-gear on shore, are all that are necessary to load and unload a vessel or car.

The boxes or buckets may be cheaply made of wood and of a predetermined size, whereby the quantity of a cargo is immediately ascertained when the number of boxes or buckets are known. These boxes or buckets may also be made in sheet metal without change or modification. The boxes or buckets being smooth in their inside—i. e., there being no projecting parts—their contents will readily drop as soon as the lifting-bar is freed and the shell lifted by the dumping-cable.

To strengthen the wooden boxes, they may be securely bound with bands *b b'* around their upper and lower edges, and they may be further strengthened by additional straps, if found necessary.

I desire to call attention to the fact that, for instance, in discharging a cargo of sand, coal, ore, or stone from a vessel as now practiced an elevator-bucket is lowered into the hold. It is there filled by many laborers and then hoisted to discharge its contents, after which it is returned to the hold to be again filled. It therefore requires much longer time to fill the bucket every time it is returned empty, while the bucket, weighing considerable, has to be continually lifted twice for each trip, thus resulting in a considerable loss

of time and power to load or unload a vessel or car, all of which is avoided by the use of my improved shipping boxes or buckets.

In order to enable the hooks on the ends of the two cables to be readily handled, they are provided with handles *h*, as clearly indicated in the drawings.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States—

1. In a self-dumping shipping case or bucket, a bucket having hinged bottom leaves as described, a cross-bar at the upper end of said bucket, means for lifting the bucket, a lifting-bar composed of upper and lower sections pivoted together and both adapted to pass through a slotted aperture in the center of said cross-bar, and means for connecting the lower section of the lifting-bar to the bottom leaves, the upper section of the lifting-bar being so arranged that it may be folded down upon the cross-bar and retained by a catch in such folded position when the bottom leaves of the bucket are closed thus holding the lower section of the lifting-bar raised and keeping the bucket closed, as described.

2. In a self-dumping bucket, the device for keeping the hinged bottom leaves closed consisting of a bucket having bottom leaves as described, a lifting-bar composed of two pivoted sections both adapted to pass through a slotted aperture in the center of a cross-bar located at the upper end of the bucket, and means for connecting the lower section of the lifting-bar with the bottom leaves of the said bucket the upper section of the said lifting-bar being so arranged that it may be folded down upon the cross-bar and retained by a catch in such folded position when the bottom leaves of the bottom are closed, thus holding the lower section of the lifting-bar raised and keeping the bucket closed, as described.

3. In a self-dumping shipping-case, the combination, with the bucket, of hinged bottom leaves at its lower end, a U-shaped cross-bar below the upper inner edge of the said bucket and having eyes near its outer ends and its parallel members secured to the inner sides of the bucket, a lifting-bar composed of two sections pivoted together and both adapted to pass through a slotted aperture in the center of said cross-bar, the upper section of the said lifting-bar being so arranged as to be folded down upon said cross-bar and retained in such folded position, the lower section of said lifting-bar being connected to the bottom leaves by a chain and the upper section connected to a lifting-cable, as described.

In testimony that I claim the foregoing as my invention I have hereto set my hand in the presence of two subscribing witnesses.

OLIVER GREENE.

Witnesses:

MICHAEL J. STARK,
CENTIE S. STARK.