

J. A. Preston.

Scow.

N^o 69,245.

Patented Sept. 24, 1867.

Fig. 1.

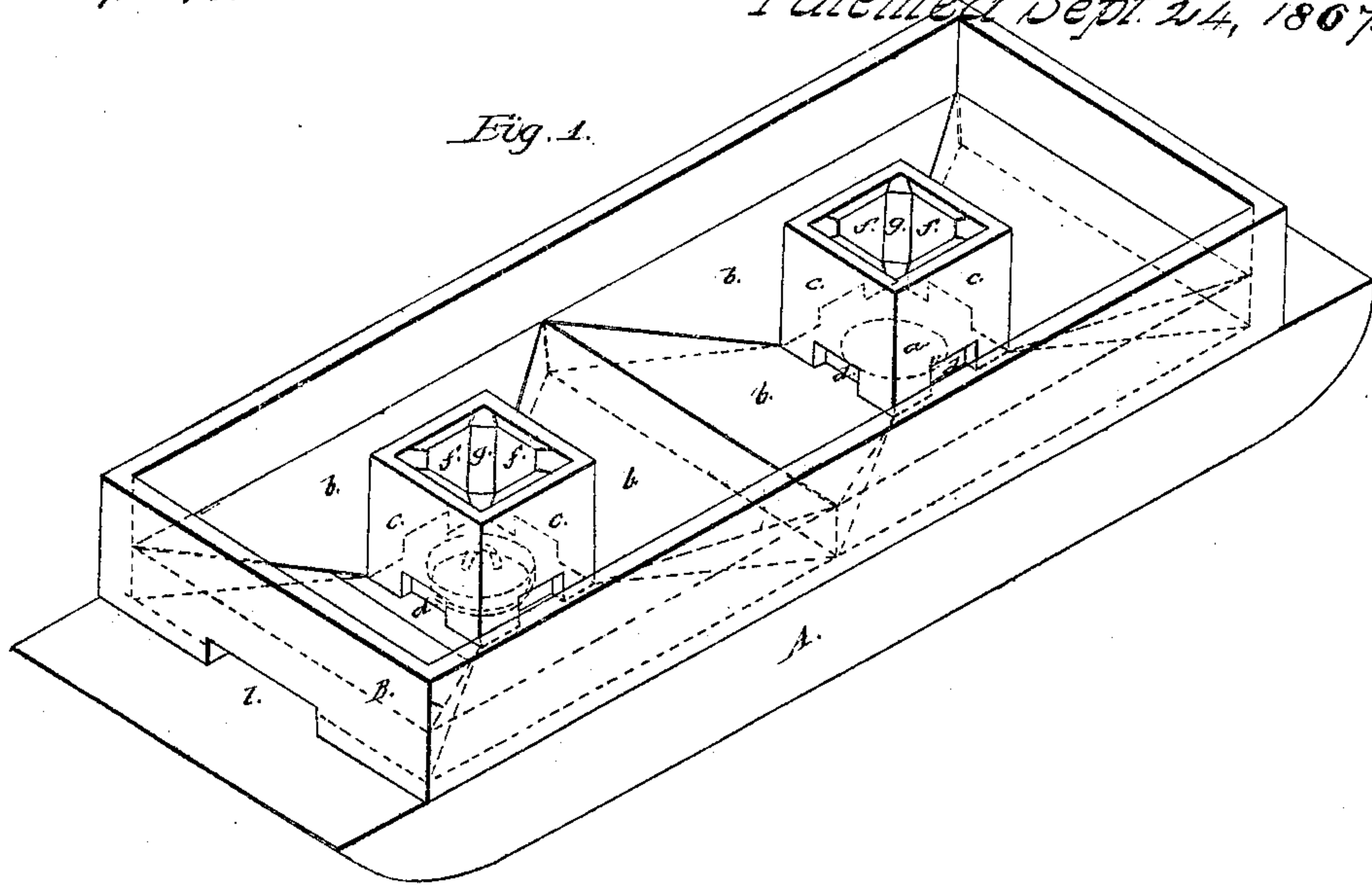
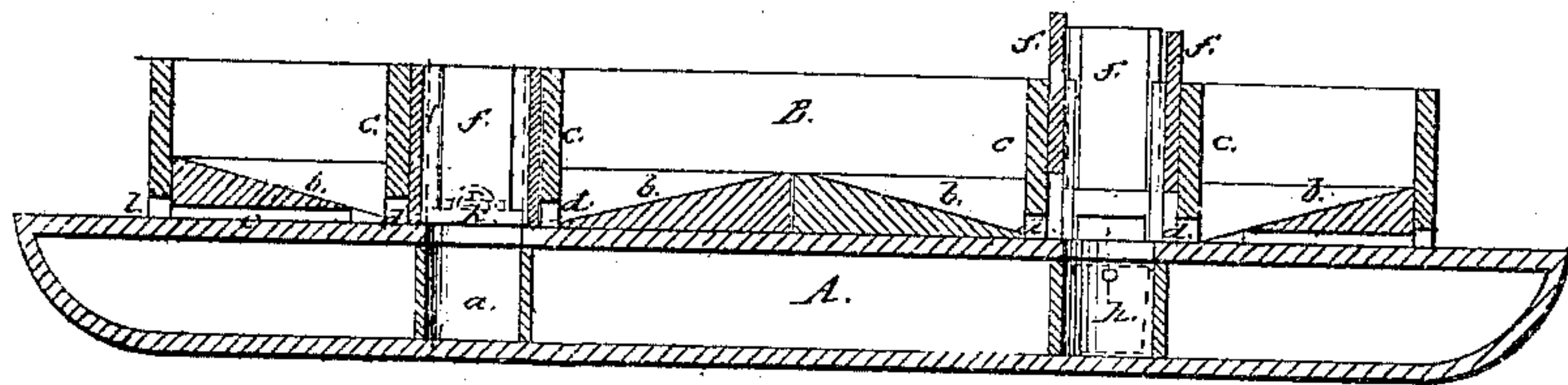


Fig. 2.



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by his attorney

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United States Patent Office.

JULIUS A. PRESTON, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 69,245, dated September 24, 1867.

IMPROVED COAL-BARGE.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that I, JULIUS A. PRESTON, of New Haven, in the county of New Haven, and State of Connecticut, have invented certain new and useful improvements in Barges for the Transportation of Coal and other substances; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a barge constructed in accordance with my invention, and

Figure 2 is a longitudinal vertical section of the same.

The object of my invention is principally to render the labor and expense which ordinarily attend the transfer or handling of the cargo of a coal-barge or other boat used for analogous purposes. In ordinary barges the receptacle for the coal, ore, or other substance is located in the hold of the vessel, and when the same is to be unloaded it must be by means of buckets, which are lowered into the hold, filled by hand, and then drawn up and emptied. This operation is necessarily tedious and costly, for the laborers employed to fill the buckets work slowly, and the cost of their hire is one of the most considerable items of expense which attends the shipment and handling of such cargoes, and which adds so much to the prime cost of the coal or ore.

Another object I have in view is to construct the barge and receptacle for the coal or other article carried by such barge so that the cargo shall be placed out of the reach of the water which usually enters the hold of the barge, either by leakage or by reason of the wash of the sea, and so that any water which may chance to enter the receptacle where the cargo is stored will be at once drained off, leaving the cargo dry.

To this end my invention consists, first, in forming the bottom of the receptacle or compartment where the cargo is stored, so that it shall incline or converge towards a central well or opening, provided with valves or gates which are opened and shut by suitable means. When it is desired to remove the coal from the barge, these gates are opened, and the coal, by reason of the inclined or sloping bottom of the compartment, then runs by its own gravity through the gates and falls into one or more buckets previously placed in the well. As soon as these buckets are filled the gates or valves leading to the well are closed, and the buckets are hoisted out, emptied, and returned to their place to be again filled. It will thus be seen that the buckets are filled automatically and at a great saving of labor and expense.

My invention also consists in placing the compartment or receptacle for the cargo above the body or hull of the barge, the latter being securely decked over so as to in effect constitute a water-tight compartment, which supports and buoys the receptacle for the cargo, and prevents the cargo from being injured by the water, which in ordinary barges is apt to enter the hold of the vessel, as above explained. In order to drain off any water which, when there is a high sea, may be washed into the receptacle for the cargo, channels or gutters are formed leading from the lowest point of the sloping bottom of the receptacle to the outside of the vessel, through which the water passes off and is discharged. This method of constructing the barges adapts them especially for use on large rivers or bays, or in the coasting trade, where, at times, water is rough, and the waves are such as to render the employment of ordinary barges impracticable; and it also admits of a greater load being transported than can be done by an ordinary barge of the same dimensions.

To enable those skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect by reference to the accompanying drawings.

A represents the body or hull of the barge, and B the compartment where the cargo is stored. For the reasons above given, the compartment B is placed above the body of the barge, which, as shown in the drawings, is decked over so as to be completely water-tight if need be. The sides of the receptacle B are formed in any suitable manner, and extend up to any desired height. The receptacle, as shown in the drawings, is divided into two parts, each provided with a well or opening *a* in its centre. This well extends down into the hold of the vessel, below the level of the floor or bottom of the coal-receptacle, and is continued up above the bottom *b* by means of a box or frame *c*, the top of which is about on a level with the top of the receptacle. A series of openings, *d*, is formed in the side of this frame, at or near the bottom of the receptacle, which are opened and closed by means of valves or gates *f*, which slide up and down between ways *g*, formed in the interior of the box. The bottom or floor of the receptacle is constructed so as to converge or slope toward these openings *d*, forming, as it were, a hopper, which, when the gates *f* are open, feeds the coal to the bucket placed in the

well. The highest part of the floor is nearest the sides of the receptacle, and it thence slopes downwards to the openings *d*. Now, supposing the receptacle *B* to be filled with coal, and the gates *f* open, the coal will by its own gravity run through the openings *d* and fill the bucket *h*, placed in the well, as shown in red lines in fig. 2. As soon as the bucket is filled the gates *f* are closed, and the bucket hoisted out by suitable means and replaced by another. The whole operation of filling the buckets is thus rendered automatic. The arrangement of the well *a* and of the floor of the coal-receptacle may be greatly varied without departing from the principles of my invention. There may be as many wells as desired, depending upon the size and capacity of the barge, or the well may extend continuously from one end to the other of the receptacle, the floor upon each side sloping towards it in such manner that when the gates or valves *f* are open the coal shall be forced forward by its own gravity through the ports *d*. The wells, when not in use, can be closed by covers *K*, as shown in figs. 1 and 2. In order to drain off the water which may at times enter the receptacle, I form channels *l* in the barge, which lead from the lowest point of the floor to the exterior of the vessel, as seen clearly in fig. 2. Thus the water in the compartment flowing downward over the sloping bottom reaches at last the channels *l*, through which it passes until it is discharged from the vessel. The location of these channels can of course be varied as circumstances may require.

Having now described my invention, and the manner in which it is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a coal-barge or other similar vessel with a freight-receptacle or compartment having an inclined or sloping bottom, as described, of a well, and suitable means for opening and closing the same, substantially as and for the purposes herein set forth.
2. The combination, in a compartment as described, of the well or opening, with its surrounding frame and valves or gates for regulating the flow of the coal or other freight into the said well, substantially as herein shown and specified.
3. The combination, with the freight-compartment or receptacle and its inclined bottom, of one or more channels for drawing off the water from said compartment, substantially as herein set forth.
4. A barge for transporting coal and other freight, in which the compartment for receiving such freight is combined with the body or hull of the barge, substantially as herein shown and for the purposes set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

JULIUS A. PRESTON.

Witnesses:

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