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R. D. WHITE, P. S. HILDRETH & A. LIEBMANN.

MOVABLE COAL OR ORE HANDLING AND STORAGE DEVICE.

(Application filed Nov. 3, 1899.)

(No Model.)

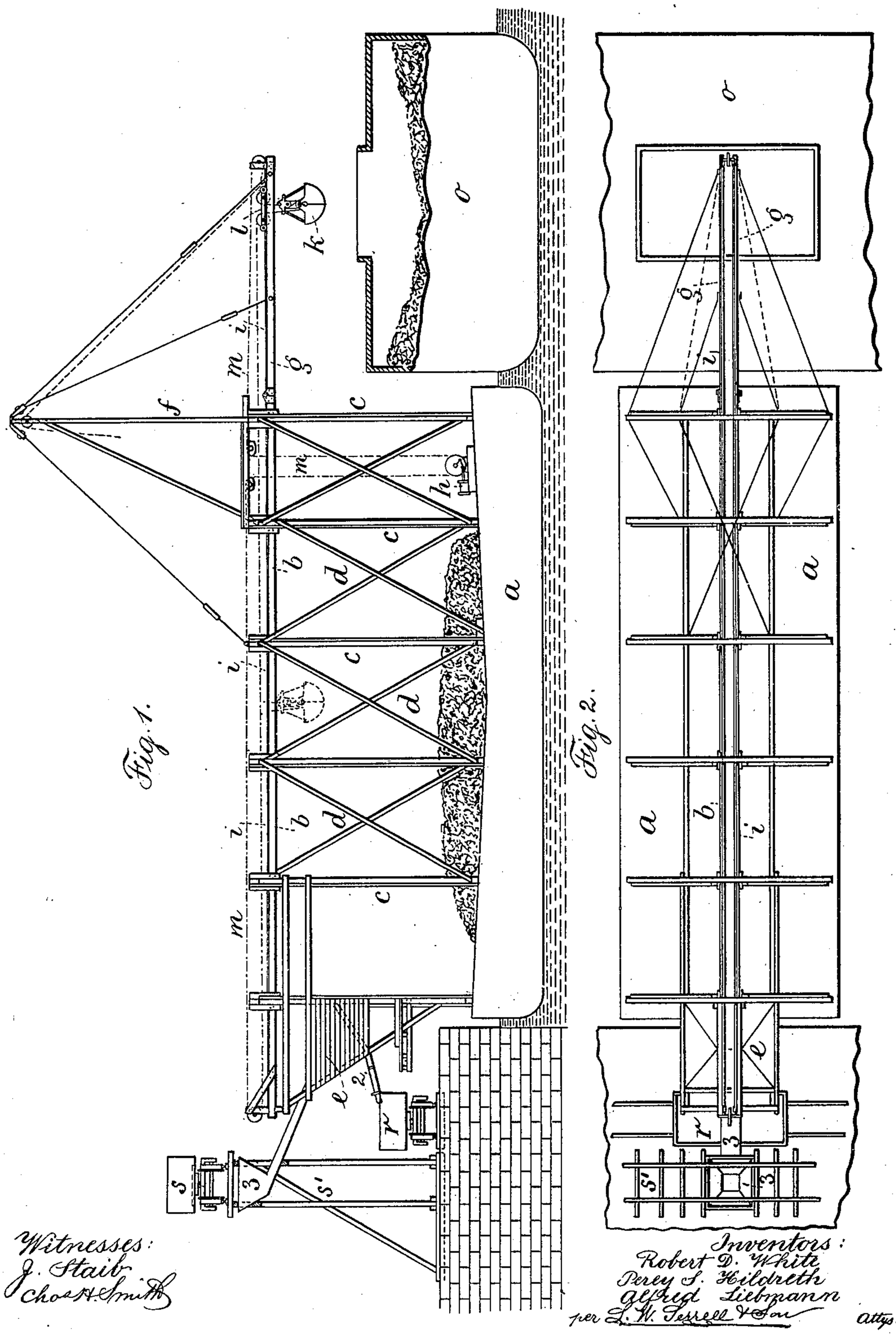

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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MOVABLE COAL OR ORE HANDLING AND STORAGE DEVICE.

SPECIFICATION forming part of Letters Patent No. 659,502, dated October 9, 1900.

Application filed November 3, 1899. Serial No. 735,675. (No model.)

To all whom it may concern:

Be it known that we, ROBERT D. WHITE, PERCY S. HILDRETH, and ALFRED LIEBMANN, citizens of the United States, residing at the city of New York, in the county and State of New York, have invented a new and useful Improvement in Movable Coal or Ore Handling and Storage Devices, of which the following is a specification.

This invention relates to a device for receiving, storing, transporting, and delivering coal, ore, or similar merchandise to or from vessels or between a supply on land to a vessel, or vice versa.

Difficulties have frequently been encountered in the handling of coal, ore, and similar material, especially in places where the water has not been deep enough to permit large vessels to be tied up to a wharf or dock or to get close enough thereto, with the usual means employed for either loading or unloading the vessel; and the object of our invention is to overcome these difficulties.

In carrying out our invention we employ a barge or float upon which is erected a permanent trestle or framework, the same supporting and carrying an overhead track and conveyer. A pocket is made at one end of the float in the trestle or framework, and a mast and boom are made use of at the other end, and a suitable engine or power device is located upon the barge for operating the conveyer, which conveyer may be a scoop or bucket and chains or an endless traveling conveyer of buckets. The mast assists in supporting the boom, and the boom extends out from the barge or float over an adjacent vessel. With this device coal, ore, or similar material may be received into the pocket and therefrom removed by the conveyer and carried along over the barge and the boom and delivered into an adjoining vessel, or the material may be delivered upon the barge and the barge towed a distance into deep water and then the material handled a second time from the barge by the conveyer into an adjoining vessel, or, vice versa, material may be removed from a canal-boat or other vessel by the conveyer and carried along over the barge and delivered into the pocket at the end of the trestle, from which the material may run by gravity into cars upon a railway, or the material may be removed from the canal-boat or other vessel and be placed upon the barge and the barge conveyed to a distant point and the material then removed from the barge and delivered into the pocket and from the pocket run by gravity into cars upon a railway-track, the operations being at all times under the control of and operated by the power mechanism placed directly upon the barge or float.

In the drawings, Figure 1 is an elevation illustrating our improvement, and Fig. 2 is a plan view of the same.

The barge or float *a* is provided with uprights *c*, braces *d*, and a conveyer-platform *b*, which parts form a permanent trestle or framework upon the barge. We provide a pocket *e* at one end of the trestle or framework and a mast *f* and boom *g*, with suitable supporting-ropes, at the other end of the trestle or framework. We provide an engine or similar power device *h*, fixed upon the barge or float, a track *i*, carried by the trestle or framework, and upon this track is a traveler or carriage *l*, supporting the conveyer-bucket *k*, which is connected to and operated by the engine from the ropes *m*. Instead of the traveler *l*, the bucket *k*, and the ropes *m* we may employ an endless-chain conveyer of buckets.

The canal-boat *o* or other vessel is shown at one end of the barge or float *a*, and at the other end of the barge, upon a brick foundation representing the land or a pier, we have shown a car *r* on a track on the level and a car *s* on the trestle *s'*, elevated above the conveyer-platform *b*. We have also represented a chute 2 from the pocket *e* to the car *r* and a chute 3 from the upper end of the trestle *s'*, beneath the car *s*, to the pocket *e*. We have also indicated material upon the barge and material in the canal-boat *o* or other vessel, and in the operation of the device the coal, ore, or other similar material can be removed from the vessel *o* by the conveyer and delivered upon the barge or float *a* and the same be removed to a distant point into deeper water, where the material is removed from the barge and delivered over the boom into an adjoining vessel, which, for the illustra-

tion, may draw too much water to be brought to the point where the barge received its supply of material.

The material from the vessel *o* may be removed and conveyed along over the barge and delivered into the pocket *e*, adjoining a dock, from which it runs into the car *r* to be removed to the point of destination. Material may also be delivered at tide-water by cars *s* on the trestle *s'* and the material run by a chute 3 into the pocket *e* of the barge, from which it is taken by the conveyer and either delivered on the barge, to be thereafter delivered to a vessel or some distant point to which the barge is removed, or the material may be taken from the pocket and conveyed across the barge and delivered into an adjacent vessel at its other end.

Our invention forms an efficient and complete device for receiving, storing, transporting, and delivering coal, ore, or similar merchandise between a barge and vessel either adjacent or at a distant point or between a vessel and wharf, or vice versa, and especially for unloading a vessel in shallow water and loading another vessel in deep water.

We claim as our invention—

1. The combination with a barge or float, of a permanent trestle or framework upon and connected to the same, a platform and track carried by the said framework or trestle, a boom or arm extending out at one end beyond the float or barge, a conveyer supported by the platform and overhead track, a means for operating the said conveyer, and a loading and unloading device connected to the trestle at the end opposite to the boom and projecting beyond the barge, substantially as set forth.

2. The combination with a barge or float, of a permanent trestle or framework upon and connected to the same, a platform and track carried by the said framework or trestle, a boom or arm extending out at one end beyond the float or barge and a pocket formed in the framework or trestle at the other end of the barge or float, and a conveyer supported by the platform and overhead track and a means for operating the said conveyer, substantially as set forth.

3. The combination with the barge or float, of a permanent trestle or framework upon and connected to the float, a platform and overhead track supported by the trestle or framework, a mast and a projecting boom at one end of the said trestle and float, and a pocket made in the trestle at the other end of the float, an engine upon the float, a traveler upon the track, ropes extending lengthwise of the platform and track and pulleys therefor, a conveyer-bucket connected to the said ropes and operating in connection with the traveler, substantially as and for the purposes set forth.

Signed by us this 19th day of October, 1899.

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