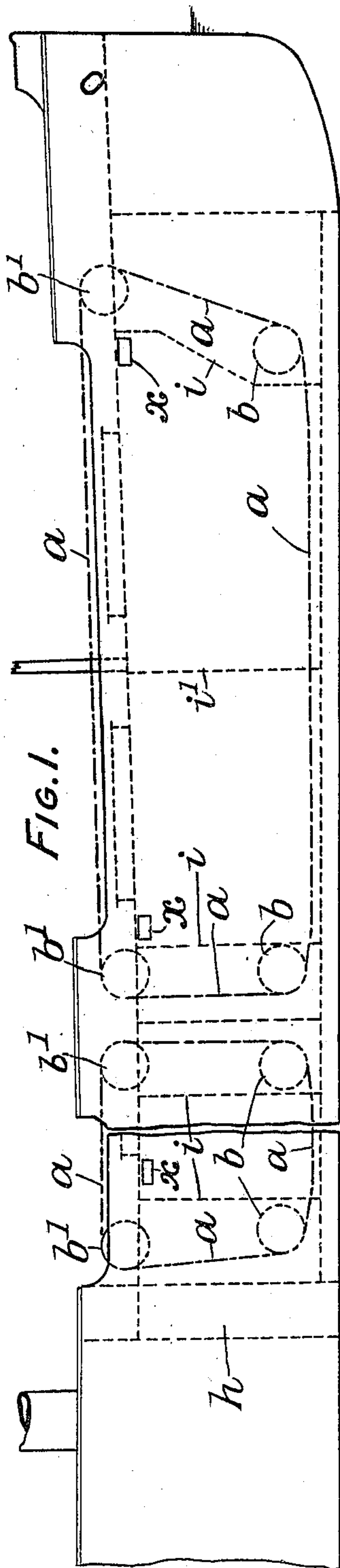


P. B. CLARKE.
VESSEL FOR CARRYING BULK CARGO.
APPLICATION FILED JUNE 10, 1910.

Patented Nov. 15, 1910.

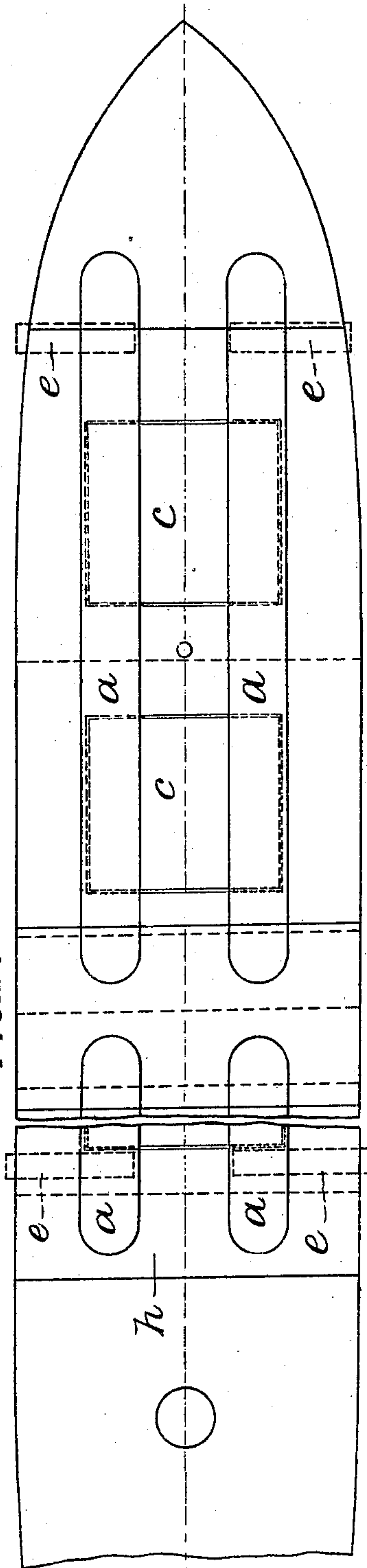
2 SHEETS—SHEET 1.

975,750.

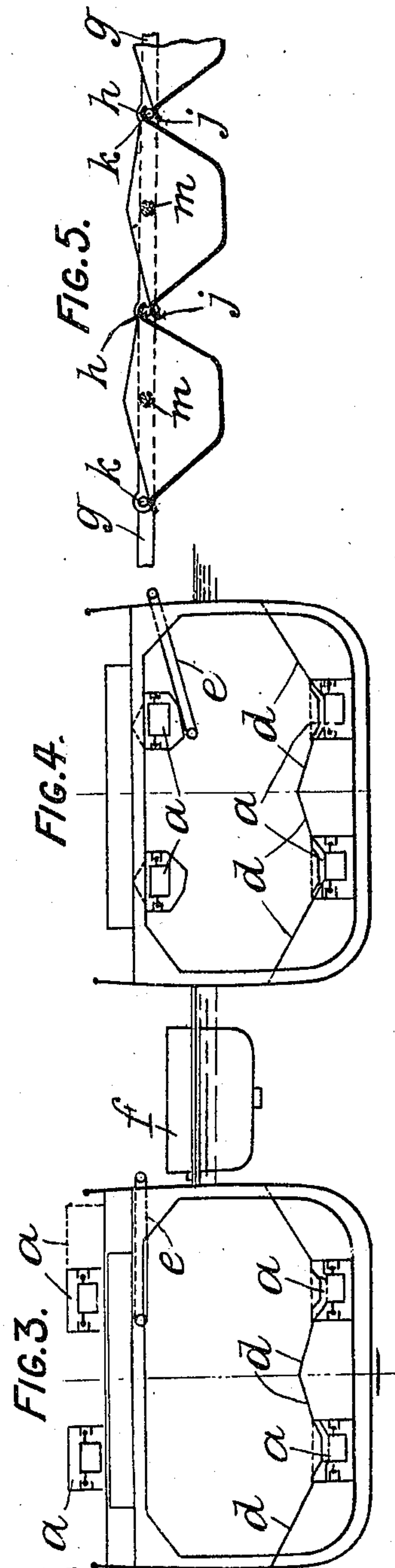


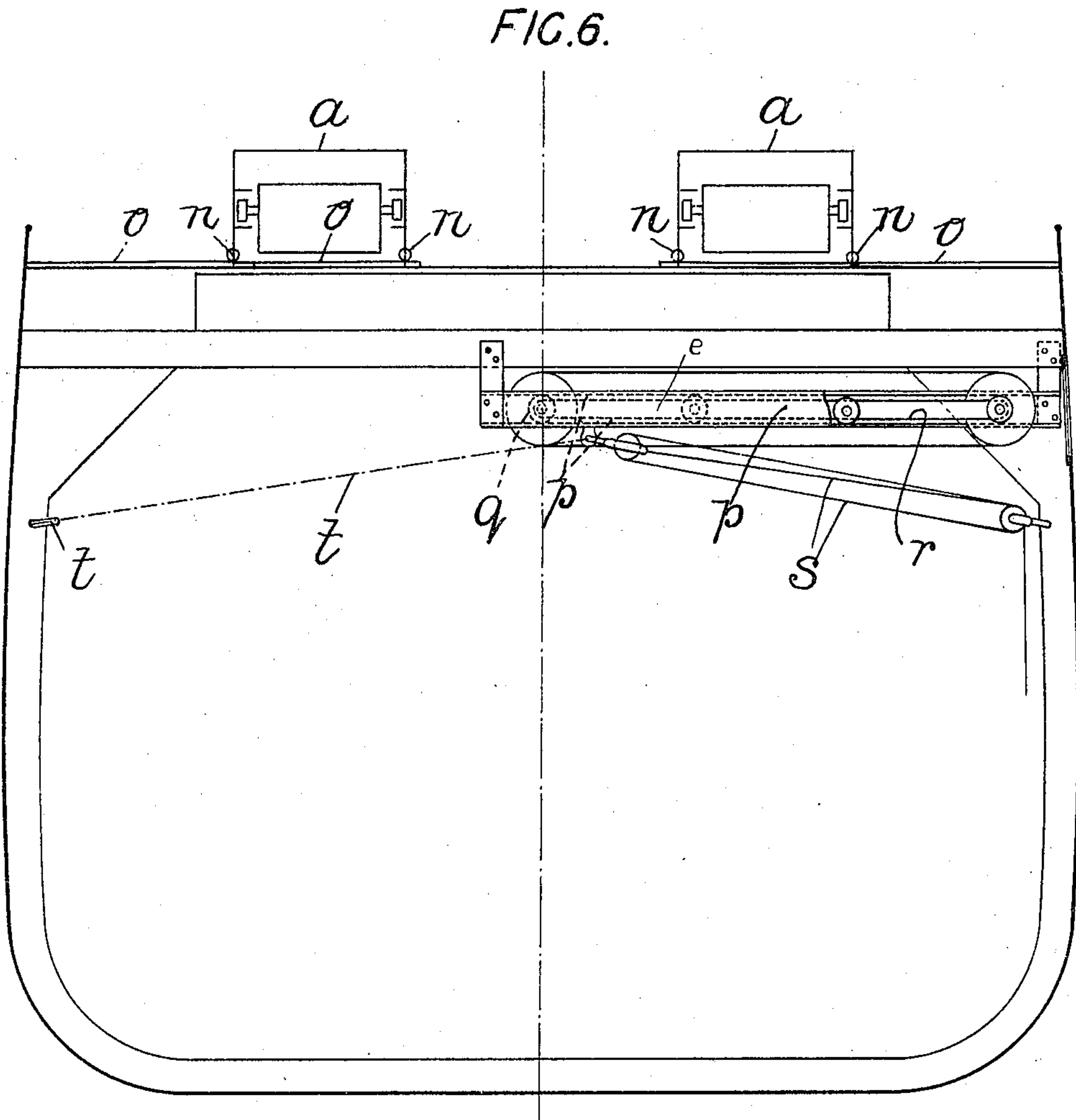
WITNESSES
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FIG. 2.



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WITNESSES :

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975,750.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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To all whom it may concern:

Be it known that I, PEETE BASIL CLARKE, a citizen of the United States of America, residing at Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in and Connected with Vessels for Carrying Bulk Cargo, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention has reference to vessels for carrying bulk cargo, mainly coal, and more particularly to sea-going vessels fitted with means such as conveyers for dealing with the cargo; and it has primarily for its object to provide a means or construction by which such cargo can be discharged rapidly and cheaply.

In the drawings, Figures 1 and 2, respectively, are longitudinal elevation and plan of a sea-going vessel according to this invention; and Fig. 3 is a cross section of same. Fig. 4 is a cross section of a ship, illustrating a modification hereinafter referred to. Fig. 5 is a detail hereinafter described. Fig. 6 is a view similar to Fig. 3, drawn on an enlarged scale.

A self-discharging bulk cargo sea-going vessel of the character herein concerned, has, according to this invention, its longitudinally disposed discharging conveyers arranged with their lower portions in the bottom of the vessel, and their upper portions in line with, or immediately beneath, the deck of the vessel; and in connection with the upper part of the conveyers, there are transversely disposed conveyers (*e*), so arranged that the material discharged from the longitudinal conveyer is delivered onto the transverse conveyer, and carried laterally overboard.

Referring to Figs. 1 to 3, *a* are the conveyers which are of the bucket type, and are arranged one on each side of the vessel, and extend along the bottom of the holds, up and down at each end, more or less vertically, and over the hatches *c*. The lower run of the conveyer passes over wheels *b* at the end of the holds, and over wheels *b*¹ at the upper part.

In the drawings, separate sets of conveyers *a* are shown as being used in connection with the holds constituting the forward half, and the stern half of the ship; while the propelling machinery of the vessel is at the stern aft of the bulkhead *h*. The later-

ally disposed conveyers *e* are arranged in connection with the longitudinal conveyers *a*, to convey the material supplied into them by the conveyers *a*, overboard.

The bottom of the vessel has sloping platforms *d* each side of the lower part of the conveyers, on which the cargo rests; and they serve to feed the cargo into the conveyers, which will be supported on rollers, wheels, or the like, and adapted to run between rails in any suitable known way. Between the wheels *b*, *b*¹, and the holds through which the conveyers pass, there are bulkheads *i* at each end; and a transverse bulkhead *i*¹.

In the modified upper part of the arrangement illustrated in Fig. 4, the conveyer is disposed beneath the hatches, and is attached to the under part of the deck beams of the vessel. The conveyers convey the coal or other material as they move, from the lower part of the ship up around the wheels *b* and *b*¹ at the ends, and along at the upper part, where the buckets meet with tipping mechanism, and empty their contents onto the lateral conveyers *e*, which extend from a point beneath the upper run of the longitudinal conveyers *a*, through ports in the side of the ship. By these lateral conveyers, the material is conveyed overboard, and discharged into a barge or other vessel, as *f* in Fig. 3, or other place of deposit.

The laterally disposed conveyers *e* are adapted to be moved inward and outward on supports or guides *p*; and, preferably, they are so arranged and constructed as to be capable of being so moved athwartships by means of the pulley block tackle *s*, as to project through the ports *x* in the side of the vessel. By this arrangement, the cargo may be discharged at one side, or both sides at once, as may be desired. The laterally disposed conveyers are provided with side frames *r*—one of which is shown in Fig. 6—and rollers *q* which move in the guides *p*. The pulley block tackle *s* is provided for moving the conveyers *e* inwardly to within the hold of the vessel.

The upper part of the conveyer is, according to one arrangement, supported by wheels *n* (Fig. 6), on transverse rails, or runners *o*, and adapted to be moved bodily sidewise or athwartships on same, and toward the sides of the vessel, as shown in dotted lines in Fig. 3, when cargo is being lowered into the ship through the hatches.

When the conveyer is of the known bucket

type, as in Fig. 5, the buckets are pivotally mounted at each side at *m* to the links *g* and have at one end a projecting lip *h*, which overlaps the lip *j* of the adjacent bucket, and
5 comes above a spindle or shaft *k*, which transversely connects the side links *g* of the conveyer *a*, and upon which the supporting pulleys or wheels are mounted; while the other bent over lip *j* of the bucket comes un-
10 der this spindle or shaft *k*.

The conveyers are operated through gearing by motive power engines or electric motors.

What is claimed is:—

15 A bulk cargo sea-going vessel provided

with longitudinally disposed endless conveyers having upper parts capable of being moved laterally of their length and disposed close to the deck of the vessel, and lower portions disposed longitudinally in the bot- 20 tom of the vessel, and means for transferring the conveyed cargo to the side of the vessel.

In testimony whereof I affix my signature in presence of two witnesses.

PEETE BASIL CLARKE.

Witnesses:

SOMERVILLE GOODALL,

WILLIAM FRANCIS PARRY.