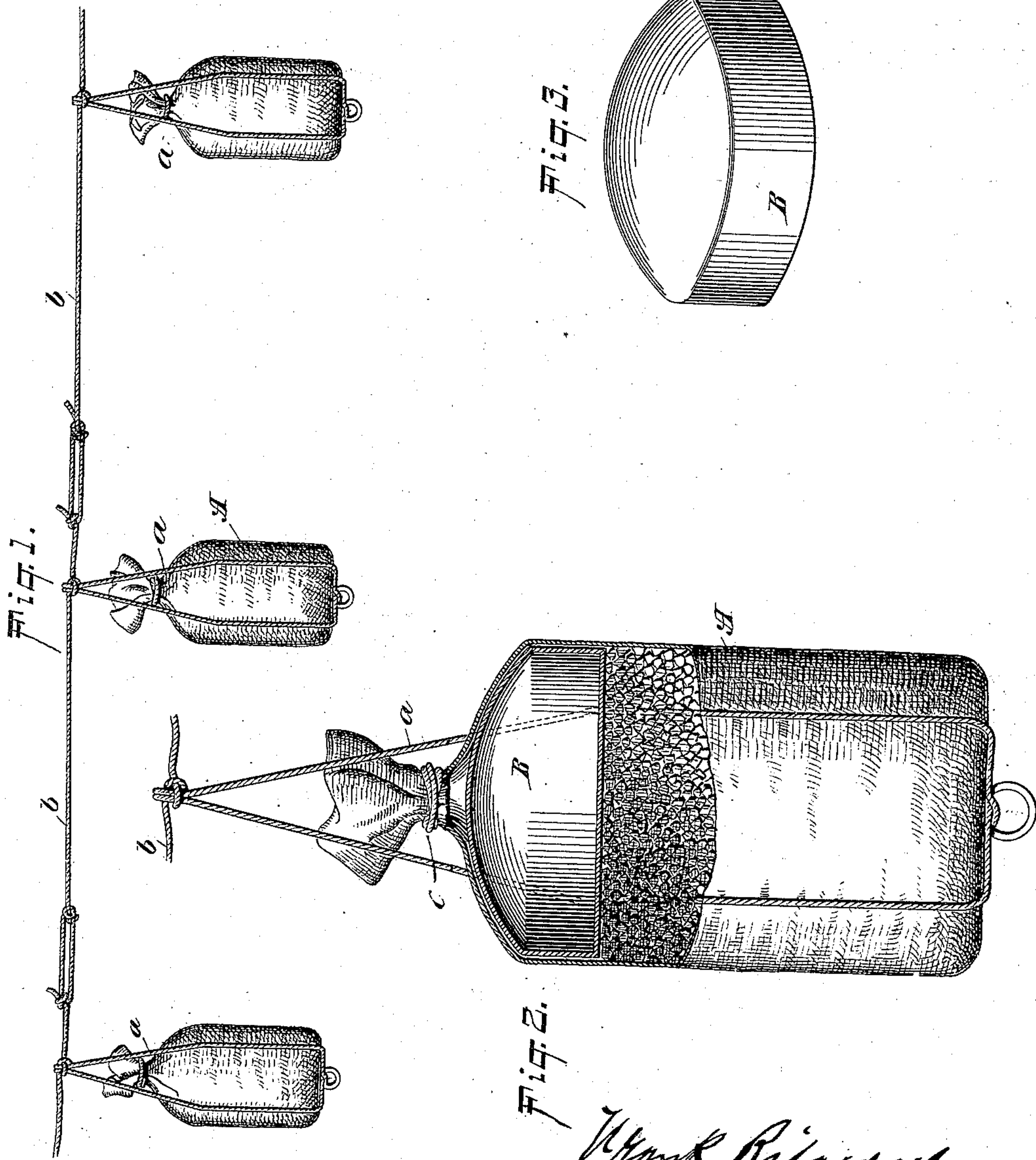


(No Model.)

F. RIDGWAY.
DEVICE FOR TRANSFERRING COAL FROM ONE SHIP TO ANOTHER.
No. 547,453.

Patented Oct. 8, 1895.



WITNESSES:

William Gaebel.
George Cook.

Fig. 2.

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FRANK RIDGWAY, OF NEW YORK, N. Y., ASSIGNOR TO MARY HELEN
RIDGWAY, OF SAME PLACE.

DEVICE FOR TRANSFERRING COAL FROM ONE SHIP TO ANOTHER.

SPECIFICATION forming part of Letters Patent No. 547,453, dated October 8, 1895.

Application filed March 27, 1894. Serial No. 505,279. (No model.)

To all whom it may concern:

Be it known that I, FRANK RIDGWAY, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Devices for Transferring Coal, &c., from One Ship to Another While at Sea, of which the following is a specification.

My invention relates to an improvement in devices for conveying or transferring coal, merchandise, or other materials from one ship to another while at sea, whereby the danger to life and property incident to the methods now and heretofore in use may be avoided. Heretofore in transferring coal, merchandise, mail, &c., from one ship to another while at sea it has been usual to accomplish the same by either sending out small boats from one to the other or by means of a connecting-cable, secured at its ends to the two ships. These means, however, have not always been found to be practicable, owing to the dangerous condition of the water; and with the object in view of overcoming the dangers and difficulties incident thereto my invention consists in certain novel features of construction and arrangement of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of several of the bags or conveyers secured together. Fig. 2 is a view of one of the bags, partly in section and partly in elevation. Fig. 3 is a view of one of the floats.

Referring to the drawings, A represents a bag or receptacle, made of canvas or other strong flexible material and of any desired size and form. To this bag are tightly secured the ropes *a*, by means of which they may be lowered and raised, and to which is also secured the connecting rope or line *b*, by means of which latter the several bags are secured together in a series. In the top of the bag fits the float B, preferably of the shape shown and constructed of metal or other material and water tight, the size of the same depending upon the size of the bag or the weight of its contents, it being of sufficient dimensions to displace a volume of water of

slightly greater weight than that of the contents of the bag.

In practice the bag will first be filled with the material to be transferred, sufficient room being left at the top for the reception of the float B. After the latter has been inserted the top or open end of the bag is then tightly closed and so held by the rope *c* or other suitable fastening means. The bag is then lowered into the sea by means of the rope *b*, the free end of the latter being retained for attachment to the succeeding bag, which being filled and closed as in the first instance is also lowered, and so on in the same manner until the whole number of filled bags constituting that lot or series is afloat, the end of the line *b* being then thrown overboard. The delivering-vessel having passed on, the receiving-vessel approaches slowly, and selecting that bag last thrown over, and which may be recognized by a small flag or other signal, (not shown,) raises it on board, detaching the connecting-line *b* to the next succeeding bag as the first is raised on deck, which method is repeated until all are hoisted on board. These bags are then emptied of their contents, the floats replaced, and returned in a similar manner to the delivering-vessel, where they are refilled and the operation repeated.

It will be obvious that my improved device may also be used for the transportation of goods, merchandise, materials, refuse, or dredging spoils, instead of the lighters now commonly employed. It will also be obvious that many changes in the construction and arrangement of the several parts of the device may be made without departing from the spirit of my invention—as, for instance, the bag A may be made of waterproof material to exclude the water from its contents. Again, the float B may be made of rubber or other flexible material and when necessary inflated, a cock or valve (not shown) being provided for the ingress and egress of the air, thereby allowing of the storage of the bag within a very small compass.

As various other changes will suggest themselves to those skilled in the art, I would have it understood that I do not limit myself to

the exact construction and arrangement hereinbefore described, the gist of the invention lying in the utilization of the displacement of the articles conveyed and supplying
5 what differences may exist between their specific gravities and that of the water displaced by them by means of a detachable float.

Having fully described my invention, what
10 I claim as new, and desire to secure by Letters Patent, is—

1. A device of the character described, consisting of a bag or receptacle made of textile material, and adapted to hold or contain the
15 merchandise, and a removable float fitting within said bag and on top of said merchandise, substantially as described.

2. A device of the character described, consisting of a flexible bag adapted to contain the

merchandise, a removable metal float adapted
20 to fit within said bag, and rest on top of said merchandise, and means for securing the bags together in series, substantially as described.

3. A device of the character described, consisting of a flexible bag adapted to contain the merchandise, a removable metal float adapted
25 to fit within said bag, and on top of said merchandise, and ropes secured to the outside of said bag, for connecting the latter in
30 series, substantially as described.

Signed at New York, in the county of New York and State of New York, this 19th day of March, A. D. 1894.

FRANK RIDGWAY.

Witnesses:

FRANK P. SLADE,
EDW. S. GALINGER.