No. 656,509. Patented Aug. 21, 1900.

F. H. BULLIS.

MARINE DUMPING VESSEL.

(Application filed Apr. 3, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

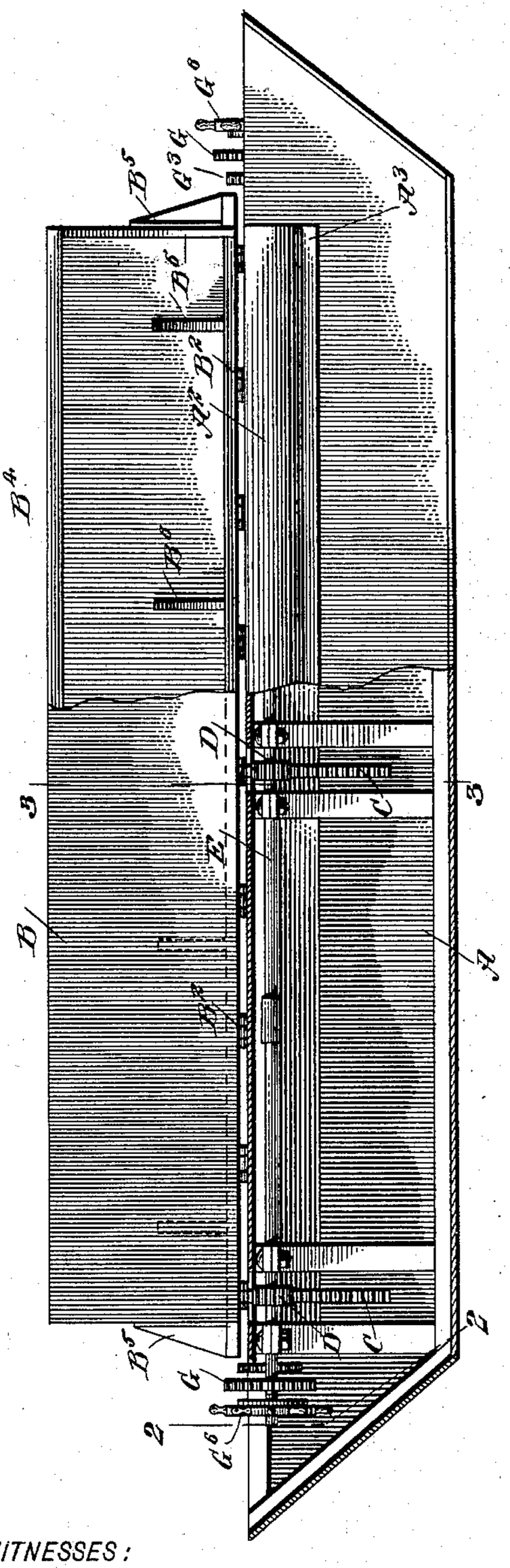
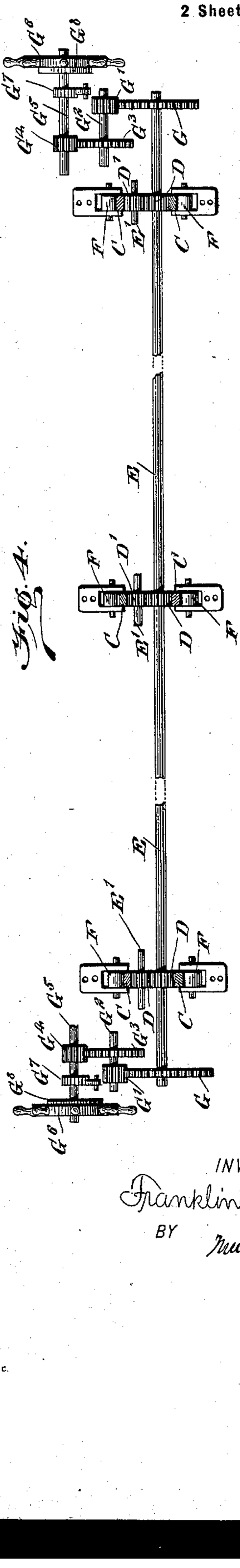


Fig. 4.



WITNESSES:

H. G. Dieterich

Rud. J. Koster

INVENTOR

Franklin H. Bullis

BY Munn & Co

ATTORNEYS

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Fig. 2.

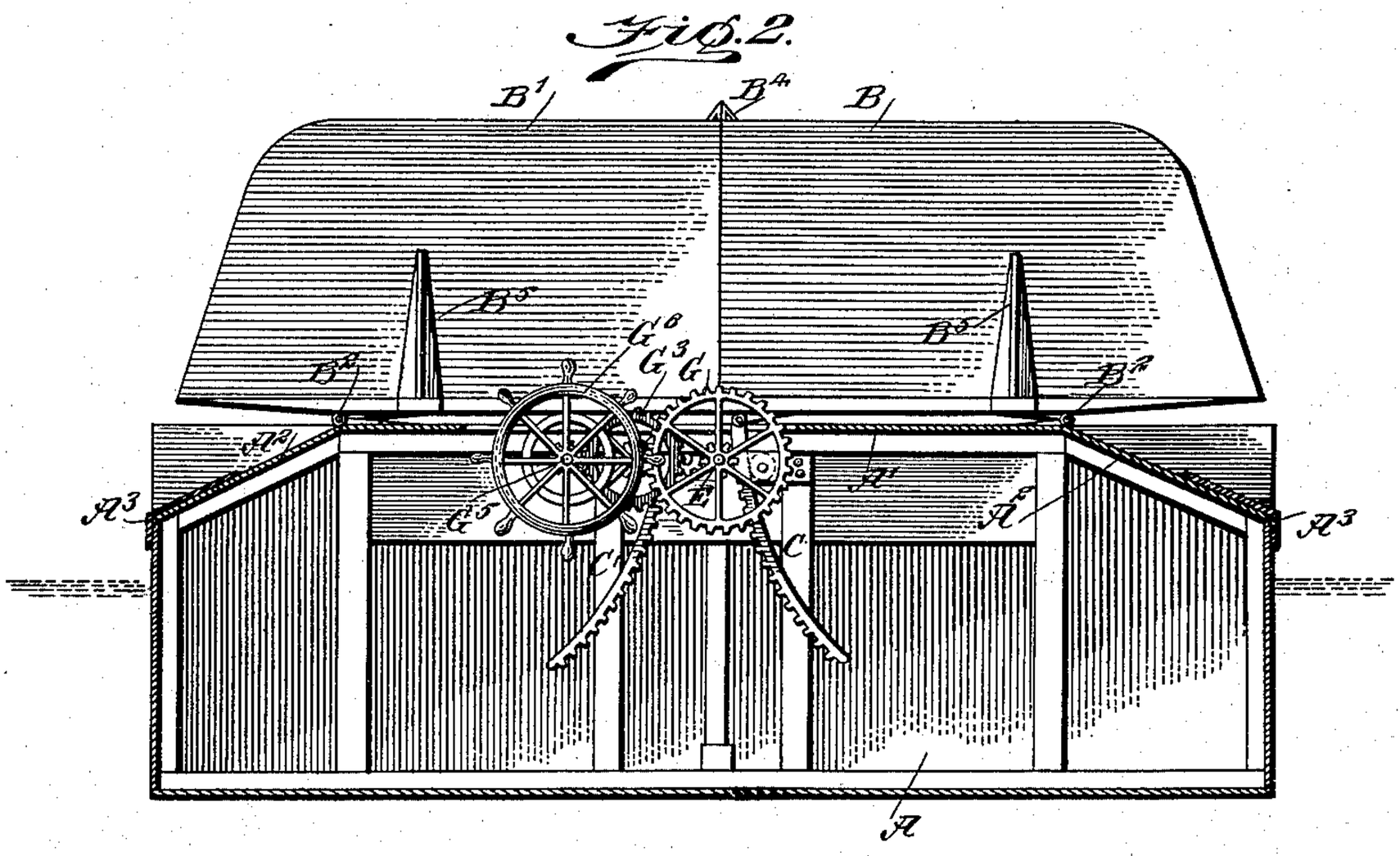
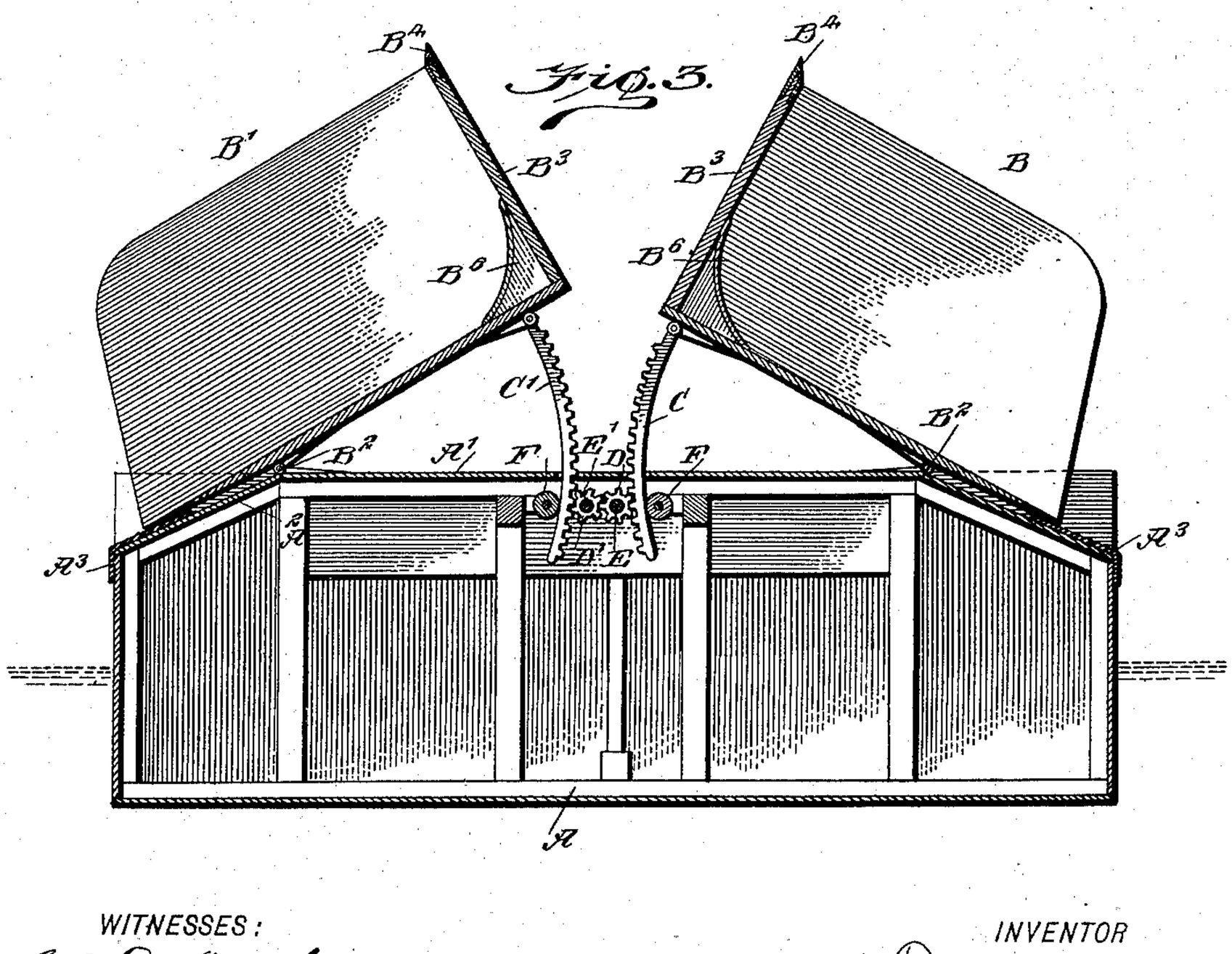


Fig. 3.



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H. G. Dieterich
Rud. J. Hoster

INVENTOR
Franklin H. Bullis
BY
Munn & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANKLIN H. BULLIS, OF NEW YORK, N. Y.

MARINE DUMPING VESSEL.

SPECIFICATION forming part of Letters Patent No. 656,509, dated August 21, 1900.

Application filed April 3, 1900. Serial No. 11,335. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN H. BULLIS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Marine Dumping Vessel, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved marine dumping vessel which is simple and durable in construction, easily applicable to any kind of boat or scow, readily repaired without going to dry-dock, and arranged to dump the load from the top of the vessel instead of from the bottom thereof, and to insure a perfect discharge of all the mud, city refuse, or other matter forming the load, whether the matter is long or short or wet or dry, the arrangement permitting a single operator to manipulate the device and discharge the load with the greatest ease.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement with parts in elevation. Fig. 2 is an enlarged transverse section of the same on the line 2 2 in Fig. 1. Fig. 3 is a similar view of the same on the line 3 3 in Fig. 1; and Fig. 4 is a plan view of the actuating device for the pivoted receptacles, parts being shown in section.

The improved marine dumping vessel consists of a hull A and two longitudinally-extending receptacles B B′, arranged on the deck A′ of the hull and pivoted thereto at B^2 to allow of swinging the receptacles in a transverse direction, for the purpose hereinafter more fully described. The receptacles B B′ have their outer sides open for discharging the contents of the receptacles over the sides of the hull A at the time the receptacles are swung into an uppermost inclined position, as indicated in Fig. 3. Normally the receptacles B B′ rest on the deck of the vessel, the backs of the receptacles abutting and the upper edges B^4 of the backs being beveled inward and downward to form a peak, so that when the receptacles are loaded with mud, city refuse, or other matter then the latter is not liable to cling to and accumulate on said backs, but readily slides down into the receptacles. The hinges B^2 are arranged at the beginning of the beveled portions of the deck, said beveled portions extending outwardly and downwardly to allow the receptacles to swing into an inclined position, the projecting bottom portions near the free or open side passing upon said beveled portions, as is plainly indicated in Fig. 3. A lining of sheet metal A^3 extends along the corner of the beveled portions of the sides of the hull, so as to protect the same from the contents of the receptacle when said contents are discharged and pass over the side of the hull into the water.

As indicated in Figs. 2 and 3, the hinges B^2 are located about one-third the width of the bottom, counting from the outer side of the receptacle, so that the outer edge of the receptacle extends within the plane of the side of the hull when in a normal horizontal position or when swung into an inclined position. Thus the receptacles are not liable to be injured on the top or by passing vessels and at the same time permit a rapid and perfect discharge of the contents of the receptacles when the latter are swung into an inclined position, as previously mentioned. The receptacles are suitably strengthened at the ends by braces B^5, and braces B^6 are located at the inside of the receptacles, between the bottoms and the backs, for the same purpose.

In order to impart the desired transverse swinging motion to the receptacles, the following device is provided: The receptacles are provided on their bottoms, near the inner ends, with pivoted segmental racks C C′, in mesh with pinions D D′, respectively, of which the pinions D are secured on a longitudinally-extending shaft E, journaled on suitable bearings on the framework of the hull A, as indicated at the left in Fig. 1. The other pinions D′ are journaled on short shafts E′, likewise journaled in suitable bearings on the framework of the hull, and the pinions D′ are arranged to mesh with the pin-

ions D, so that when the shaft E is rotated a simultaneous rotary motion is given to all the pinions D D′ to cause the same to impart a traveling motion to the segmental racks C C′ to swing the receptacles B B′ into a dumping position, as shown in Fig. 3, or back into a normal receiving position, as indicated in Figs. 1 and 2. Suitable friction-rollers F engage the backs of the segmental racks C C′, so as to hold the same in proper mesh with the pinions D and D′, as will be readily understood by reference to Figs. 3 and 4.

In order to impart the desired rotary motion to the shaft E from either end of the hull A, I provide said shaft at each end with an actuating mechanism, preferably manually controlled and arranged as follows: On each end of the shaft E is secured a gear-wheel G, in mesh with a pinion G′, secured on a shaft G^2, journaled in suitable bearings on the framework of the hull A, and on said shaft G^2 is secured a gear-wheel G^3, in mesh with a pinion G^4, secured on a driving-shaft G^5, journaled on the hull A and carrying a hand-wheel G^6, adapted to be taken hold of by the operator to turn said shaft G^5 and rotate the shaft E by the gearing above described. Thus when the hand-wheel G^6 is turned in one direction the receptacles B B′ are swung into an inclined dumping position, as indicated in Fig. 3, and when the hand-wheel G^6 is turned in an opposite direction the said receptacles are swung downward back into a normal horizontal receiving position. A suitable pawl-and-ratchet mechanism G^7 is connected with the shaft G^5 to lock the same in position when the receptacles are swung into a dumping position. On the hand-wheel G^6 is arranged a suitable brake mechanism G^8, adapted to be used in lowering the receptacles after they have discharged their contents.

I do not limit myself to the particular construction of the actuating mechanism described, as it is evident the same can be varied, and instead of a manually-controlled mechanism a suitable power-machine may be employed for turning the shaft E for the purpose set forth.

From the foregoing it is evident that the receptacles and the mechanism for raising and lowering the same can be readily mounted on any kind of a hull, it being understood that the essential arrangement of my improvement consists in having the receptacles located on the deck of the hull and mounted to swing transversely from a normal horizontal receiving position into an inclined dumping position. The inclination given to the receptacles when in a dumping position is such that all the contents readily slide out of the receptacles and over the sides of the hull into the sea, so that no manual labor whatever is required in ridding the receptacles of their contents. By arranging the receptacles and their operating mechanism on the top of the hull it is evident that the same can be repaired at any time without requiring docking of the hull, it being understood that such docking is only necessary when the hull itself requires calking or repairing. By the arrangement described the hull itself is not liable to be filled with refuse when loading or unloading, and consequently the vessel can be kept clean.

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

1. A dumping vessel, provided on its deck with two receptacles having their backs abutting, and mounted to swing transversely in opposite directions from a loading to a dumping position, and vice versa, means for simultaneously imparting a swinging motion to said receptacles, segmental racks carried by said receptacles at their inner ends, sets of pinions engaging said racks, the pinions of one set being in mesh with the pinions of the other set, a shaft carrying a set of said pinions, and a power-transmitter for rotating said shaft, substantially as shown and described.

2. A dumping vessel, provided on its deck with two receptacles having their backs abutting, and mounted to swing transversely in opposite directions from a loading to a dumping position, and vice versa, the upper edges of the backs being beveled inward and downward, to prevent accumulation of matter when filling the receptacles, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANKLIN H. BULLIS.

Witnesses:
V. L. HAINES,
JOHN F. BERRY.