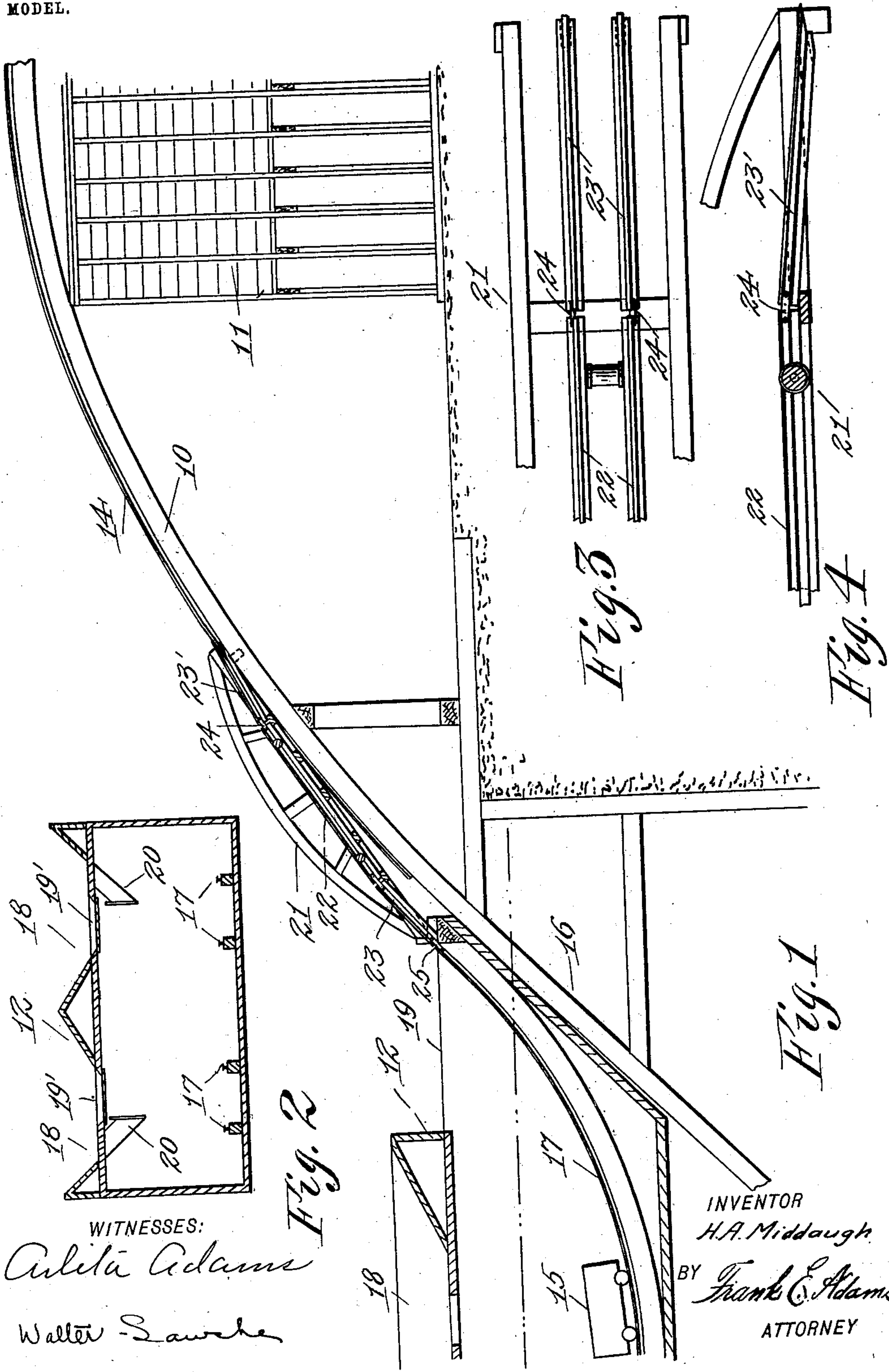


No. 747,560.

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H. A. MIDDAGH.
MEANS FOR DISCHARGING CARGOES.
APPLICATION FILED OCT. 13, 1903.

NO MODEL.



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HORACE ADELBERT MIDDAUGH, OF SEATTLE, WASHINGTON.

MEANS FOR DISCHARGING CARGOES.

SPECIFICATION forming part of Letters Patent No. 747,560, dated December 22, 1903.

Application filed October 13, 1903. Serial No. 176,881. (No model.)

To all whom it may concern:

Be it known that I, HORACE ADELBERT MIDDAUGH, a citizen of the United States of America, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Means for Discharging Cargoes, of which the following is a specification.

My invention relates to improvements in means for discharging cargoes of gravel, coal, &c., from barges by means of cars and inclined tracks, and has for its objects to provide simple, efficient, and inexpensive apparatus of this nature which is especially adapted for use on tidal waters.

The above-mentioned and other desirable objects are attained by the constructions, combinations, and arrangements of parts as disclosed on the drawings set forth in this specification, and succinctly pointed out in the appended claims.

With reference to the drawings filed herewith and bearing like reference characters for corresponding parts throughout, Figure 1 is a view in side elevation of the apparatus, with portions of the barge and bunkers broken away and the barge and bridge shown in vertical longitudinal section. Fig. 2 is a transverse section of the barge. Fig. 3 is a plan view of one end portion of the bridge, and Fig. 4 is a longitudinal section of said portion.

In the drawings, 10 indicates a bowed approach, which is installed on the shore of the body of water and leads upwardly from approximately high-water line on a vertical arc of considerable radius to and over the bunkers 11, in which the cargo brought to the approach in a barge 12 is stored. Upon this approach is a railway-track 14, upon which a car 15, used to convey the cargo to the bunkers, travels, and at the lower end of the approach is a fender 16, which extends well down into the water from the end of the approach and is arranged with the outer face at an angle of approximately forty-five degrees from the perpendicular.

In the barge 12 suitable railway-tracks 17 for the car 15 are arranged beneath the cargo-receptacle 18 and lead up the hatchway 19 at the end of the barge, and the receptacle 18 is formed hopper shape and provided with dis-

charge-openings 19', arranged directly over the tracks, and other like openings at the side of the tracks, which open to suitable chutes 20, arranged for discharge directly over the tracks, and at the openings 19' and discharge ends of the chutes 20 suitable sliding gates are provided for controlling the discharge of the cargo from the receptacle to the car.

The tracks 17 in the barge are to connect with track 14 by means of a bridge 21, which includes a portable span of any suitable construction which rests at one end upon the barge and at the opposite end against the approach, and upon this span is arranged a section of railway-track 22, somewhat shorter at each end than the span, and to each of the extremities of the rails of this track-section short sections of railway-track, as 23 and 23', are hinged thereto by means of links 24 and suitable bolts passed through the links and webs of the rails of said sections. The outer ends of the rails of track-section 23 are also hinged to the upper ends of the rails of tracks 17 of the barge by means of links 25 and suitable bolts, and the outer extremities of the end section 23' are grooved to fit over the rails of track 14, and thereby prevent lateral displacement.

The car 15 is hauled by means of a cable and suitable machinery (not shown) for taking up and playing out the cable, and it is manifest that a plurality of parallel railway-tracks may be arranged on the approach and bridge, so that cars may be operated on both railway-tracks of the barge simultaneously.

By hinging the short track-sections to the ends of the fixed track-section of the bridge sharp angular depressions in the railway-track are avoided as the barge rises or falls with the waves or the tide, and consequently the task of unloading may continue uninterruptedly, and by bowing the approach a smooth joint is maintained at all times between the upper end section 23' and the track on the approach irrespective of the elevation at which the barge floats.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is—

1. In an apparatus of the nature indicated; the combination of a barge having a railway-

track, an upwardly-extending approach having a railway-track, a fender at the lower end of said approach, and a bridge comprising a span resting on said barge and against said approach and having a section of railway-track, and track-sections hinged to the extremities of said section on the bridge.

2. In an apparatus of the nature indicated; the combination of a barge having a hopper-shaped receptacle with gated openings in the bottom, and a railway-track beneath said openings, an upwardly-extending approach having a railway-track, a fender at the lower end of said approach, and a bridge comprising a span resting upon said barge against said approach and having a section of railway-track, and track-sections hinged to the extremities of said section on the bridge.

3. In an apparatus of the nature indicated;

the combination of a barge having a hopper-shaped receptacle with gated openings in the bottom and a railway-track beneath said openings an upwardly-extending bowed approach having a railway-track, a fender at the lower end of said approach, and a bridge comprising a span resting upon said barge and against said approach and having a section of railway-track, track-sections at the ends of said section of the bridge, and links connecting said end sections to the track-sections on said span.

Signed at Seattle, Washington, this 29th day of September, 1903.

HORACE ADELBERT MIDDAGH.

Witnesses:

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