

M. S. IVERSON.
 APPARATUS FOR COALING SHIPS.
 APPLICATION FILED NOV. 26, 1907.

1,038,588.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.

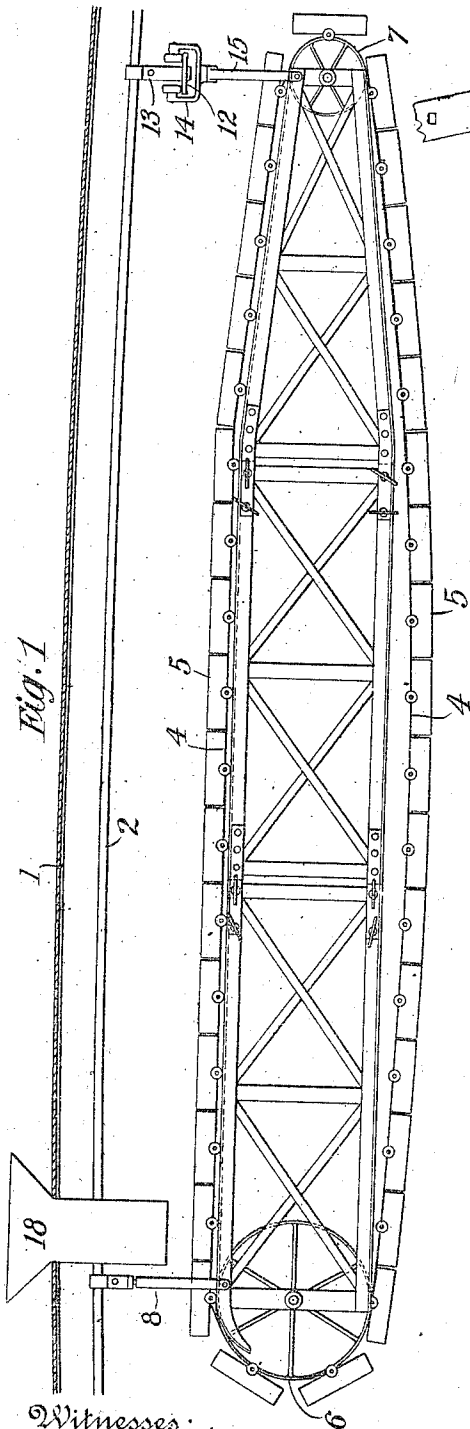


Fig. 1

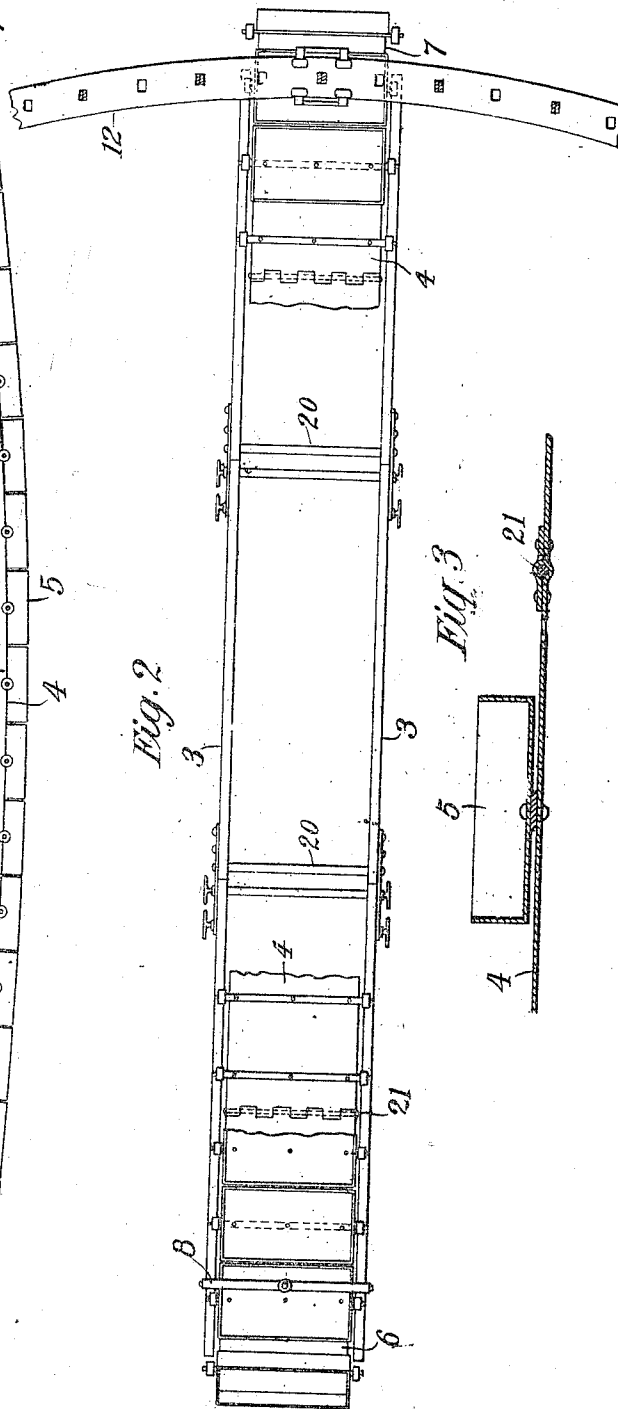
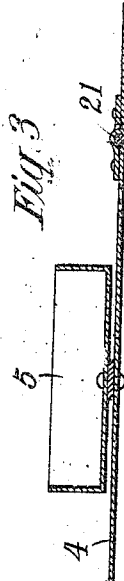


Fig. 2

Fig. 3



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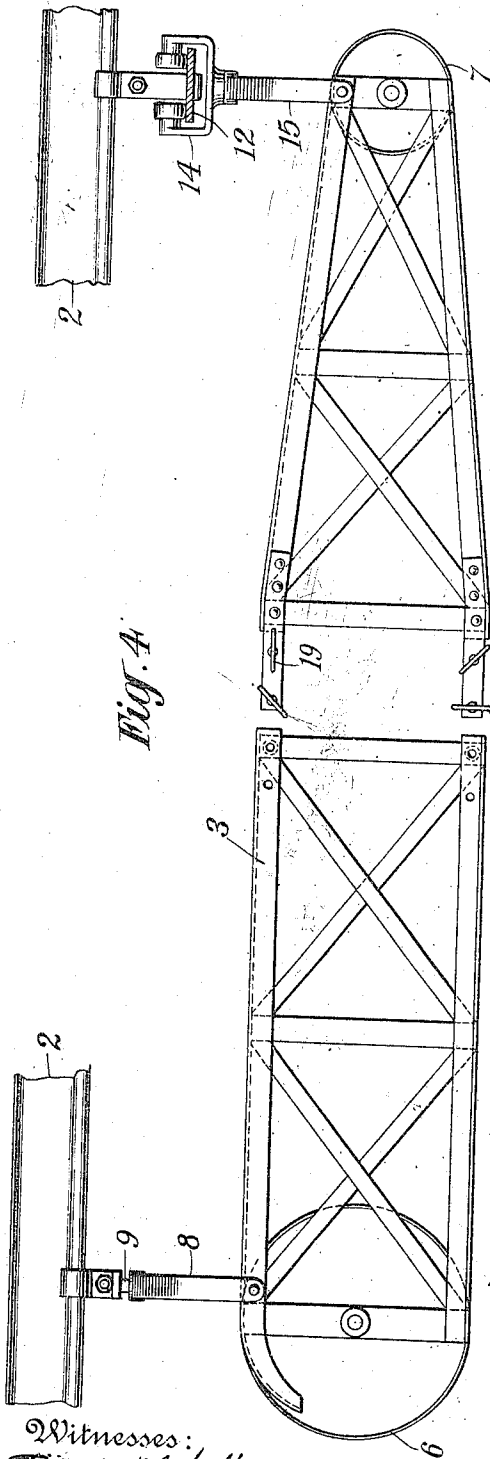


Fig. 4

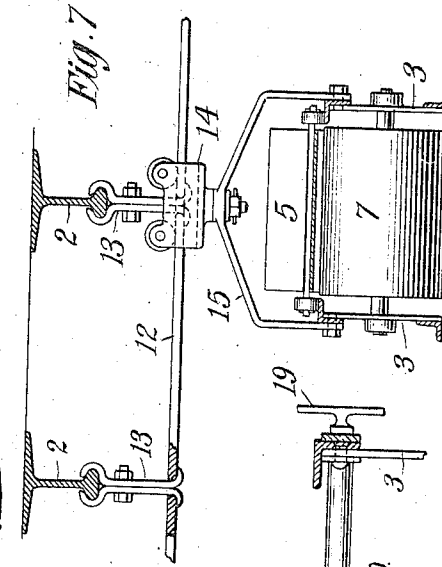


Fig. 7

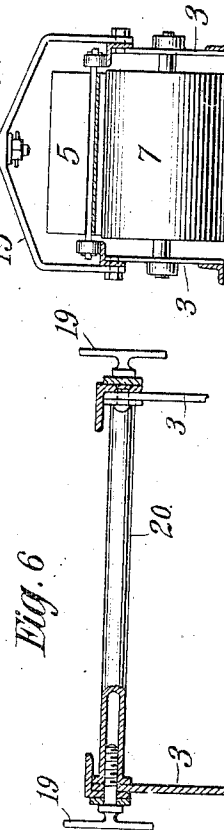


Fig. 6

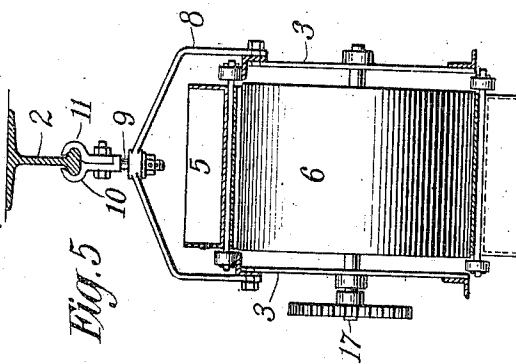


Fig. 5

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UNITED STATES PATENT OFFICE.

MICHAEL S. IVERSON, OF NEW YORK, N. Y.

APPARATUS FOR COALING SHIPS.

1,038,588.

Specification of Letters Patent.

Patented Sept. 17, 1912.

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To all whom it may concern:

Be it known that I, MICHAEL S. IVERSON, a citizen of the United States, residing at New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Apparatus for Coaling Ships, of which the following is a specification, reference being had to the drawings accompanying and forming part of the same.

My invention relates to apparatus for coaling ships, and has for its chief object to provide an apparatus by which the coaling can be effected in the most expeditious manner, at the same time distributing the coal properly in the bunkers.

The invention will be more readily understood from a more or less detailed explanation of an embodiment thereof and for this purpose I have selected for illustration and description herein the form which exhibits what I consider the best mode of applying the invention. This form is shown in the annexed drawings, in which—

Figure 1 is a side view of the conveyer employed to distribute the coal, showing the conveyer suspended in operative position under the ship's deck. Fig. 2 is a plan view of the conveyer. Fig. 3 is a detail sectional view showing the construction of the conveyer belt to permit lengthening and shortening of the same. Fig. 4 is a detail side view of the conveyer, showing its sectional construction to permit lengthening and shortening. Fig. 5 is an elevational view of the pivoted end of the conveyer, partly in section. Fig. 6 is a detail view, partly in cross section, showing the arrangement for securing the conveyer sections together. Fig. 7 is an elevational view of the swinging or traveling end of the conveyer.

Referring now to the drawings, 1 indicates a ship's deck, and 2, 2, are the supporting beams thereof, in present instance in the form of flanged T-irons.

The conveyer for carrying the coal to the different parts of the bunkers, comprises a frame consisting of a pair of parallel side members 3, 3, and belt 4, provided with suitable buckets 5 and running over wheels or rollers 6, 7 journaled at opposite ends of the frame. The frame side-members are preferably of the truss type of construction, as shown. At one end of the frame is a supporting hanger 8, suspended at its center from a pivot 9 which is provided with

clamping jaws 10, 11, adapted to fit over the lower flanges of a deck beam, as shown in Fig. 5, to support the said end of the conveyer frame. At the other end of the conveyer is an arc-shaped track 12, concentric with the pivot 9 and suspended from the deck beams by means of clamps 13, shown more clearly in Fig. 7. On this track runs a carriage 14, from which is suspended a hanger 15 carrying the adjacent end of the conveyer frame.

The wheels on which the belt 4 runs are journaled in the ends of the frame, and the shaft of wheel 6 is provided with a gear 17, to be driven by suitable mechanism, not shown, for driving the belt.

The belt itself may be leather, canvas, or other suitable flexible material, or may be of the ordinary link-belt construction. The buckets may of any suitable type, preferably the box like form shown at 5, secured to the belt by rivets.

Extending through the deck above the pivoted end of the conveyer is a chute or hopper 18, discharging upon the conveyer, as shown in Fig. 1.

From the foregoing the operation of coaling the ship will be readily understood. The apparatus is assembled as shown in Fig. 1, the conveyer being preferably made as long as the capacity of the bunker will permit, by introducing or removing sections as hereinafter described. The coal is deposited in the chute, and being delivered thereby on the conveyer, is carried to the other end thereof and discharged. As the coal piles up in the bunker the conveyer is swung on its arc-shaped track until the desired amount of coal has been deposited around the sides of the bunker. To fill the remaining portions of the bunker the conveyer must be shortened, and for this purpose it is constructed as follows: The side frames 3, 3 are made in sections, as many as necessary to produce the maximum length desired, as shown in Figs. 1 and 4, the ends of each section being constructed to fit or overlap the ends of the adjoining sections. The overlapping portions of the sections are provided with registering apertures through which pass hand screws 19, screwing into the cross braces 20 of the sections, thus locking the assembled sections securely together, as will be readily understood. The belt 4 is also made in sections, corresponding in length to the sections of the frame, so that

the removal of a belt section will leave the belt the proper length to fit the shortened frame. The belt sections are provided at their ends with intermeshing loops, which
5 are keyed together by pintles, as 21, Fig. 3, thus giving the joints the desired flexibility.

The conveyer being shortened by the removal of a belt section and a frame section, and the track being moved toward the conveyer pivot to the position suited to the new
10 length of the conveyer, the coaling proceeds as before, followed by further shortening of the conveyer, if required; this procedure being kept up until the bunker is filled. It
15 will be noted however that only track of one curvature is shown so that when the conveyer is shortened the said track serves merely as a support. Finally the conveyer is removed after which additional coal may
20 be discharged into the bunker directly from the chute if any space is left below the conveyer pivot. It will be further observed that the clamping jaws 10, 11 and the clamps 13 allow the conveyer to be moved
25 bodily along the supporting beams 2.

The apparatus can be used in any ship, suitable modifications in the supporting devices being made where required. Likewise, the chute 18 may be removable and simply
30 dropped into a suitable opening in the deck when required for use.

What I claim is:

1. In an apparatus for coaling ships, the combination of a conveyer, means for pivotally
35 suspending the same at one end below a ship's deck to permit the conveyer to swing horizontally thereunder, an arc-shaped track suspended from the deck at the other end of the conveyer and concentric with the pivotal support of the conveyer, a carriage running on said track and supporting the adjacent end of the conveyer, and means permitting adjustment of said track above the conveyer, as set forth.

45 2. In an apparatus for coaling ships, the combination of a conveyer, a T-iron attached to the underside of the deck of said

ship, means connected to said T-iron and supporting the conveyer for allowing the conveyer to be moved longitudinally as a whole, and means for allowing one end to be moved laterally.

3. In an apparatus for coaling ships, the combination of a T-iron attached to the underside of the deck of said ship, a conveyer, means for pivotally supporting said conveyer at one end to the T-iron, means at the other end for allowing a movement of the conveyer in a horizontal direction around the pivoted end as a center, and means for
60 allowing the conveyer to be moved bodily along said T-iron.

4. In an apparatus for coaling ships, the combination of a conveyer composed of removable sections, permitting the conveyer
65 to be shortened or lengthened at will, means for pivotally suspending the conveyer below the ship's deck, an arc-shaped track, concentric with the said pivotal suspending means, means for suspending the track from the deck and permitting adjustment of the track toward and from the said pivotal suspending means and a carriage running on said track and supporting one end of the conveyer.

5. In an apparatus for coaling ships, the combination of a conveyer composed of removable sections, permitting the conveyer to be shortened or lengthened at will, a pivoted hanger for supporting one end of the conveyer from a ship's deck, an arc-shaped track at the other end of the conveyer, concentric with the hanger pivot, means for suspending the track from the deck, to permit adjustment of the track toward and
85 from the hanger pivot, a carriage running on the track and a hanger depending from the carriage and supporting the adjacent end of the conveyer.

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Witnesses:

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