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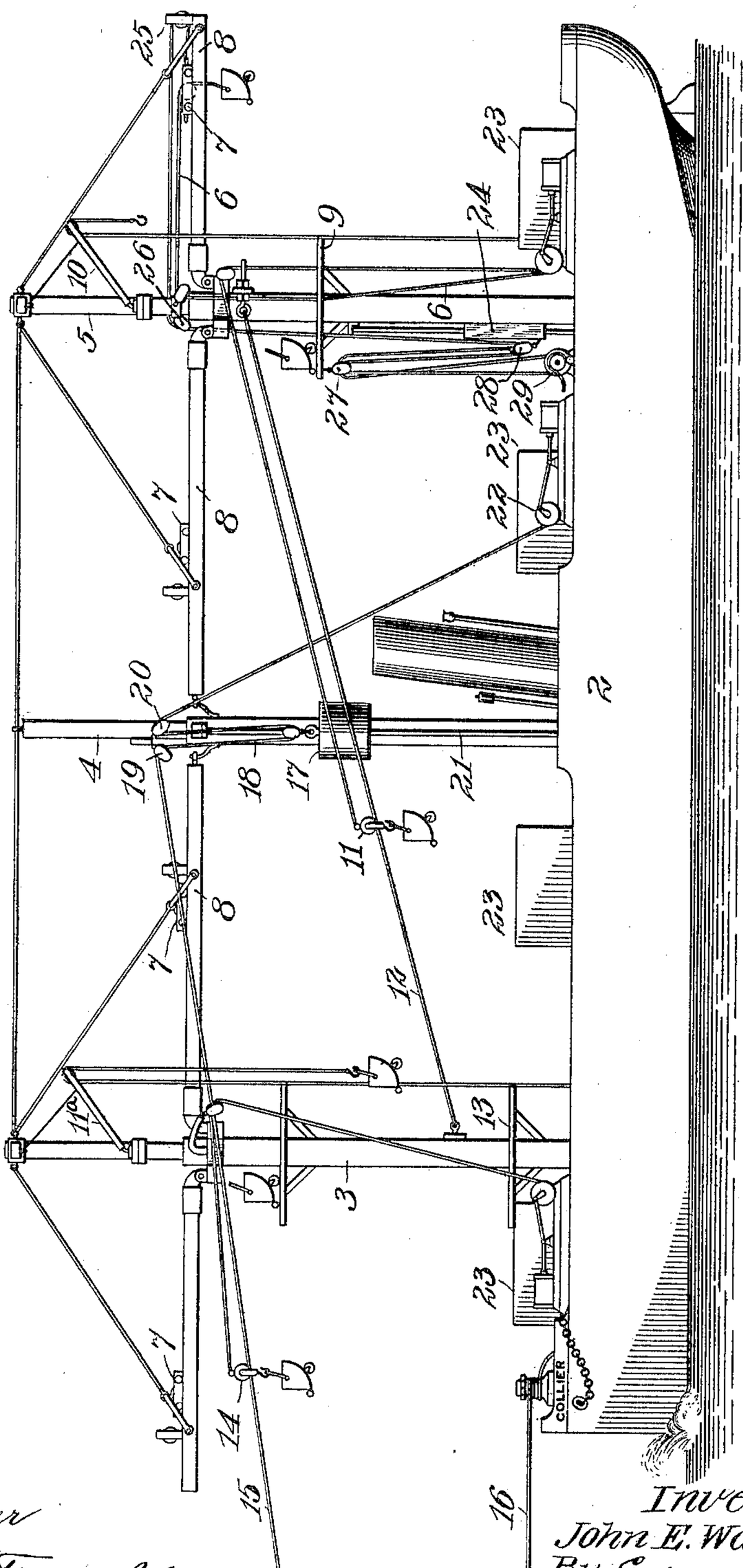
J. E. WALSH.

APPARATUS FOR COALING VESSELS AT SEA.

(Application filed Dec. 13, 1899.)

(No Model.)



Witnesses:
C. L. Belcher
Edwin B. A. Tower, Jr.

Inventor
John E. Walsh
By Edson Bros.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN E. WALSH, OF NEW YORK, N. Y.

APPARATUS FOR COALING VESSELS AT SEA.

SPECIFICATION forming part of Letters Patent No. 668,071, dated February 12, 1901.

Application filed December 13, 1899. Serial No. 740,208. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. WALSH, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Coaling Ships at Sea; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in apparatus for coaling vessels at sea, and has special reference to an improvement upon the apparatus for this purpose shown in my Patents Nos. 623,267 and 623,268, granted April 18, 1899, though it may obviously be made an adjunct of apparatus for this purpose whose general construction widely varies from that shown in said patents.

The object of the invention is to provide for always keeping the cables taut between the collier and the vessel being coaled; and with that end in view the invention consists in the construction, combination, and arrangement of parts hereinafter fully described, and set forth in the claims.

In the accompanying drawing, which forms a part of this specification, the invention is illustrated in its application to a collier.

The collier is represented at 2 as provided with foremast 3, mainmast 4, and mizzenmast 5. The collier may, however, be otherwise rigged and still permit the adaptation of my improvement thereto.

The apparatus upon which my present invention is an improvement is set forth in the patents above referred to, and only such description thereof will be given herein as is necessary to fully set forth the improvement.

My coaling apparatus is intended for supplying vessels with coal regardless of the condition of the sea or weather. To this end I provide for raising the coal from the collier in buckets or bags to a height above danger from the waves and transmit it at such elevation to the ship being coaled. The apparatus for hoisting coal from the collier may be of any approved design and is shown herein consisting of a rope or cable 6, passing over a pulley on a truck 7, adapted to travel upon a track 8, said rope or cable passing from the truck 7 over suitable sheaves or pulleys to a hoisting-engine. The bucket or bag carried by the cable 6 is lifted to a platform, as 9, whence it may be taken by means of a derrick 10 and transferred to a trolley, as 11, adapted to travel on an inclined track or cable 12 to a platform 13, in this instance upon the foremast. From this platform it may be elevated by means of a derrick at 11^a to a trolley at 14 upon the transmitting cable or trolley-track 15, extending from the collier to the vessel being coaled, over which said trolley is adapted to run by gravity. All of this is substantially set forth in my Patent No. 623,268, above referred to. Said transmitting-cable may be connected to any part of the vessel being coaled, so that the bucket or bag may be landed in at any one of its bunkers. The two vessels are also preferably connected by a hawser, a part of which is shown at 16.

In coaling on my present plan the collier is towed by the vessel being coaled, and to prevent the breaking of the transmitting-cable, because of the relative movement of the vessels due to wave action, it is essential that said cable be provided with a suitable compensating device. Such compensating device preferably consists of a weight. A weight for this purpose is shown at 17. It may be attached to the cable in any suitable way, but is preferably connected to a loop, as shown at 18, this loop being formed by a portion of the cable being brought down between the blocks 19 and 20. The weight 17 is preferably attached to a suitable guide—such, for instance, as the rod 21—secured to the side of the mainmast. This weight is of sufficient mass to keep a normal tension on the transmitting-cable 15, thereby maintaining it sufficiently taut to sustain the weight of the trolley 14 and its load. It is obvious that any movement of either vessel which would tend to slacken or put strain upon the cable 15 will simply lower or raise the weight 17, and thereby prevent breaking the same. To provide against the cable 15 becoming inoperative because of the vessels drifting too close together, thereby lowering the weight 17 onto the deck, a take-up for said cable is provided. This take-up, which may consist of a

winch operated by hand or by steam, is indicated at 22, and to it the free end of the cable is connected. Also should hawser 16 break or be paid out and the vessels drift apart, thereby raising the weight to its full limit, the take-up may be reversed and more cable paid out. It is intended that this take-up shall regulate the length of the cable and always maintain the compensating means in operable condition. This is the essential feature of my present improvement and one of great importance in coaling vessels at sea.

While I have shown the apparatus applied to a three-masted vessel, it is obvious that it may be adapted to one with a single mast or one with any number of masts. It is intended, however, that the collier should have sufficient masts to sustain in an adequate manner a line of tracks 8 from stem to stern, so that the coal may be hoisted from any hatch thereof directly to a point above the reach of the waves. I also provide against the waves or seas that may wash over the collier running into the hatches by raising about the latter suitable walls, as indicated at 23. These may be secured to the deck in any suitable manner.

While I have described the invention as utilized for handling coal, it is obvious that it may be employed for handling freight of any sort. It is obvious also that it may be employed for transmitting coal or freight from any suitable holder, pocket, or wharf to a vessel at some distance therefrom, so that in exposed coaling-stations, where it would be dangerous or impossible to bring the vessel close to the wharf because of high seas, the coaling may still be effected. In such an instance the transmitting cable or trolley-track 15, with its take-up and compensating means, may be mounted either upon the wharf or upon the vessel being coaled. A similar guide to that provided for the weight 17 may be likewise provided for the weight 24, used in connection with the regulating device for the trolley 7. But one of these regulating devices is shown in full, it being understood that each of the trolleys 7 is equipped in the same manner as that shown in connection with the trolley 7 at the extreme right. This regulating device is nearly identical with that illustrated and described in my Patent No. 501,122, of July 11, 1893, and consists of a rope attached to the forward end of the trolley 7 and passing thence over sheave 25 and sheave 26 to the blocks 27 and 28, the latter of which is connected to the weight 24. A loop of this rope is made to pass around the brake-drum 29, whereby the movement of the trolley 7 is controlled, the load upon the trolley tending to run it toward the mast, while the weight 24 tends to run it away from the mast.

The location of and the manner of applying the compensating means and the take-up may be varied from that shown and described without departing from my invention.

I claim as my invention—

1. The combination with a collier and a vessel to be coaled, of a transmitting cable or track extending from one vessel to the other and having a loop therein, a weight suspended in said loop and a take-up device attached to the end of the cable beyond the loop whereby the weight may always be maintained in a state of suspension and an even tension kept upon the said cable.

2. The combination with a collier and a vessel to be coaled, of a transmitting cable or track connected to one of them and passing over adjacent points of support upon the other and having a loop therein between said points of support, a weight attached to said loop and carried upon the vessel therewith, and a take-up apparatus upon the vessel with said loop to which the end of the cable beyond said loop is connected whereby the weight may be maintained in a state of suspension and an even tension thereby kept upon the cable.

3. The combination with a collier and a vessel to be coaled, of a transmitting cable or track connected to the latter and extended obliquely upward to a point of support on the collier and having a loop therein beyond said point of support, a weight suspended in said loop upon the collier for keeping an even tension upon said cable and a take-up device attached to the end of the cable beyond the loop, whereby the weight may be maintained in a state of suspension.

Signed at New York, in the county of New York and State of New York, this 9th day of December, A. D. 1899.

JOHN E. WALSH.

Witnesses:
D. H. DECKER,
E. L. LAWLER.