No. 676,926. Patented June 25, 1901.

M. A. & A. L. STUMP.

APPARATUS FOR CLEANING HULLS OF VESSELS.

(Application filed Dec. 10, 1900.)

(No Model.)

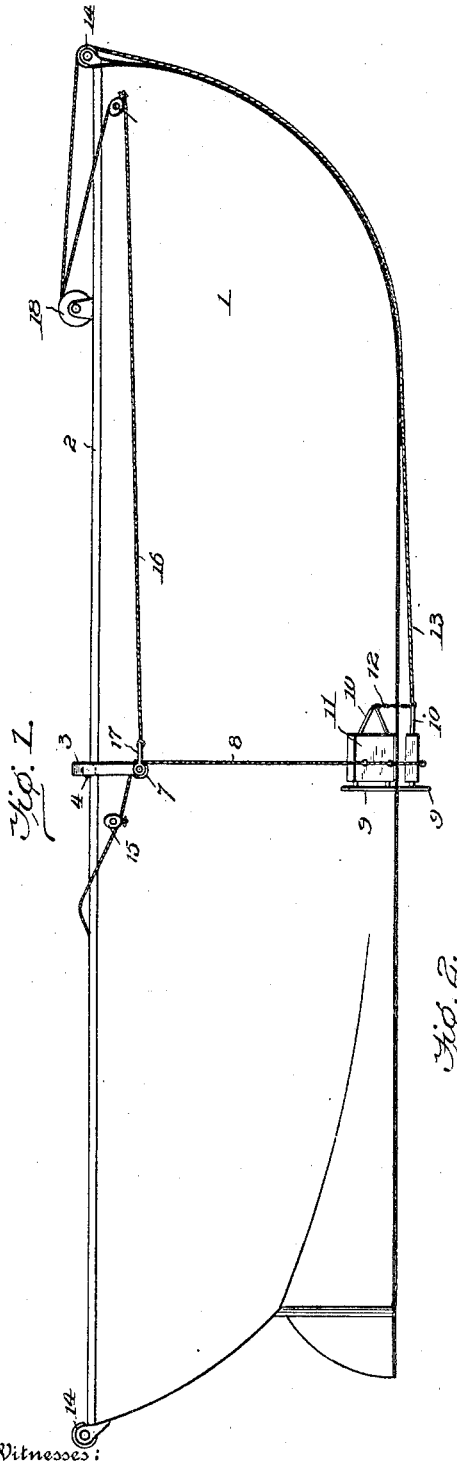

Fig. 1.

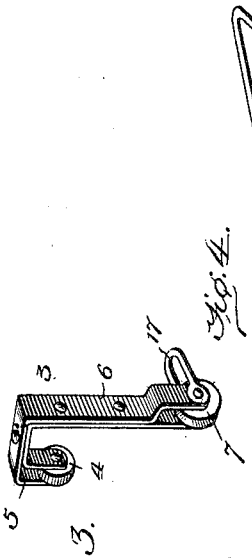

Fig. 3.

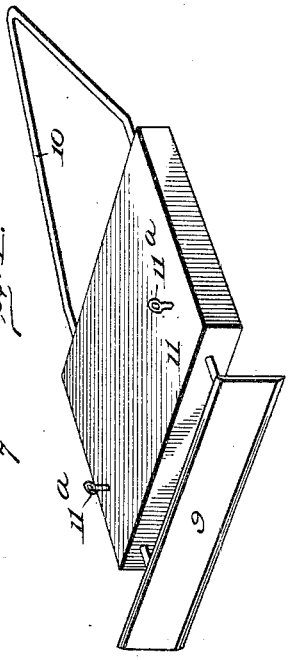

Fig. 4.

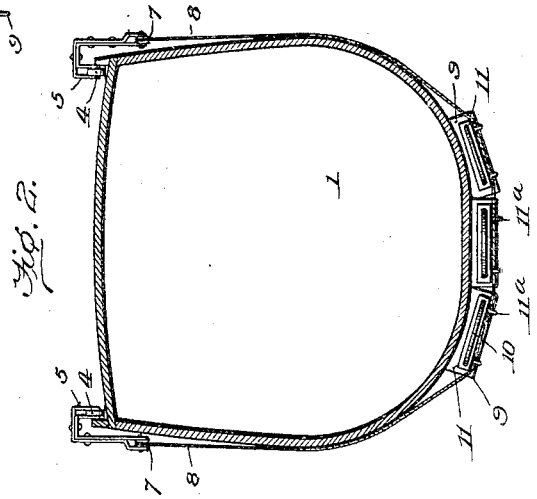

Fig. 2.

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UNITED STATES PATENT OFFICE.

MAJOR A. STUMP AND ASA L. STUMP, OF NORMANTOWN, WEST VIRGINIA.

APPARATUS FOR CLEANING HULLS OF VESSELS.

SPECIFICATION forming part of Letters Patent No. 676,926, dated June 25, 1901.

Application filed December 10, 1900. Serial No. 39,431. (No model.)

To all whom it may concern:

Be it known that we, MAJOR A. STUMP and ASA L. STUMP, citizens of the United States, residing at Normantown, in the county of Gilmer and State of West Virginia, have invented new and useful Improvements in Apparatus for Cleaning Hulls of Vessels, of which the following is a specification.

This invention relates to new and useful improvements in apparatus for scraping and cleaning the bottoms of vessels, and its primary object is to provide means for thoroughly scraping or abrading the bottoms of vessels while afloat and permit the removal of barnacles and such other substances as usually attach themselves thereto.

A further object is to provide means whereby the scrapers may be operated from the deck of the vessel.

With these and other objects in view the invention consists in providing carriers having pulleys thereon, upon which is mounted a cable adapted to extend under the hull of the vessel. Scrapers of novel construction are mounted upon this cable and are secured to a rope or other flexible device, whereby the scrapers and the carriers supporting the same may be moved longitudinally of the hull of the vessel.

The invention also consists in certain novel features of construction and combination of parts, which will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of our invention, and in which—

Figure 1 is a side elevation showing the apparatus in position upon the hull of a vessel. Fig. 2 is an end view of the apparatus in position. Fig. 3 is a detail view of a carrier. Fig. 4 is a similar view of one of the scrapers.

Referring to the figures of the drawings by numerals of reference, 1 is a hull of a vessel having a track or rail 2 secured at the edges of the deck. A carrier 3 is mounted upon the rail 2 at each side of the deck, and said carrier comprises a roller 4, adapted to contact with the deck at the inner side of the rail 2 and which is journaled within a downwardly-extending arm 5, arranged parallel to but shorter than a second arm 6, which is adapted to lie at the side of the hull and within the end of which is journaled a pulley 7.

Mounted upon the pulley 7 of each hanger is a cable or similar flexible device 8, which is adapted to extend under the hull 1 and upon which are mounted scrapers of peculiar construction. Each of these scrapers comprises a head 9, from which extends a loop 10, the ends of which are secured in any suitable manner to the scraper at points adjacent to the ends thereof. Each side of the loop 10 extends through a float in the form of a block 11, and eyebolts 11^a extend through the float and are adapted to inclose or encircle the cable 8, before referred to. One or more of these scrapers are mounted upon the cable 8, and the free ends of their loops are connected, preferably, by means of a chain 12, to the center of which is secured the end of a cable 13, which is mounted upon a pulley 14, journaled at a point adjacent to one end of the deck. Pulleys 15 are also mounted upon the deck at the sides thereof, and the cable 8 is mounted thereon.

A rope 16 is connected to an ear 17, extending from each carrier 3, and these ropes are secured to a capstan or windlass 18, whereby the carriers may be drawn from one end to the other of the hull.

When it is desired to scrape the bottom of a vessel, the cable 8 is placed upon the pulleys in the carriers 3, and said carriers are arranged at one side of the vessel. One of them is then slid upon the rail 2 until it arrives at the opposite side of the boat, and the cable 8 is then lowered until the same is free to swing beneath the hull. This cable is then drawn tight, and the cable 13, which is connected to the scrapers, is placed in position upon its pulley 14. Motion is then imparted to the carriers from the capstan through the ropes 16, and as these carriers move along the sides of the vessel the scrapers are drawn along therewith by means of their cable 13. When the apparatus reaches one end of the boat, the cable 13 is lowered and placed upon the pulley 14 arranged at the opposite end of the boat. Ropes 16 are then secured to a capstan located at the end of the vessel farthest removed from the apparatus, and the operation hereinbefore described is repeated.

It is obvious that before the motion is reversed the cable 8 must be loosened so as to permit the scrapers to swing upon their pivots.

It will be seen that the device is extremely simple in construction and easily operated and that it can be readily applied to the hull of a vessel.

The floats 11 upon the scrapers serve to hold the same clamped against the hull at all times.

Any desired number of scrapers may be employed, according to the area it is desired to cover at one operation.

In the foregoing description we have embodied the preferred form of our invention; but we do not wish to be understood as limiting ourselves thereto, as we are aware that modifications may be made therein without departing from the principles or sacrificing any of the advantages of this invention, and we therefore reserve to ourselves the right to make such changes as fairly fall within the scope thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with carriers; of rollers journaled at one end thereof and adapted to bear upon the deck of a vessel, guide-rails to said rollers, pulleys journaled within the carriers, a cable mounted thereon and adapted to extend under the hull of the vessel, a scraper, a loop extending therefrom, a float secured to the scraper, eyebolts to the float encircling the cable, and means whereby the scraper is operated from the deck of the vessel to which the apparatus is attached.

2. The combination with carriers; of rollers thereto adapted to ride upon the deck of a vessel, guide-rails to said rollers, a depending arm to each carrier, a pulley journaled within each arm, a cable mounted upon the pulleys, a scraper, a loop extending therefrom, a float secured to the scraper, eyebolts to the float encircling the cable, flexible means for operating the scrapers from the deck of the vessel to which the apparatus is attached, and means upon said vessel for imparting motion to the carriers.

3. In an apparatus of the character described, carriers, rollers journaled therein and adapted to ride upon the deck of a vessel, guide-rails to said rollers, a depending arm to each carrier, a pulley journaled therein, a cable mounted upon the pulleys of the carriers, scrapers, loops extending therefrom, a float secured to each loop, eyebolts to the floats encircling the cable, a flexible connection between the scrapers, flexible means for operating the scrapers from the deck of the vessel to which the apparatus is attached, ears to the carriers, operating means, and a flexible connection between said means and the ears, whereby motion is imparted to the carriers, the cable and the scrapers mounted thereon.

In testimony whereof we affix our signatures in presence of two witnesses.

MAJOR A. STUMP.
ASA L. STUMP.

Witnesses:
J. N. SHACKELFORD,
A. S. KELLEY.