June 29, 1926. 1,590,650

C. SCHACK

ANCHORING DEVICE FOR DECK COATING MATERIAL

Filed July 25, 1925

Fig. 1.

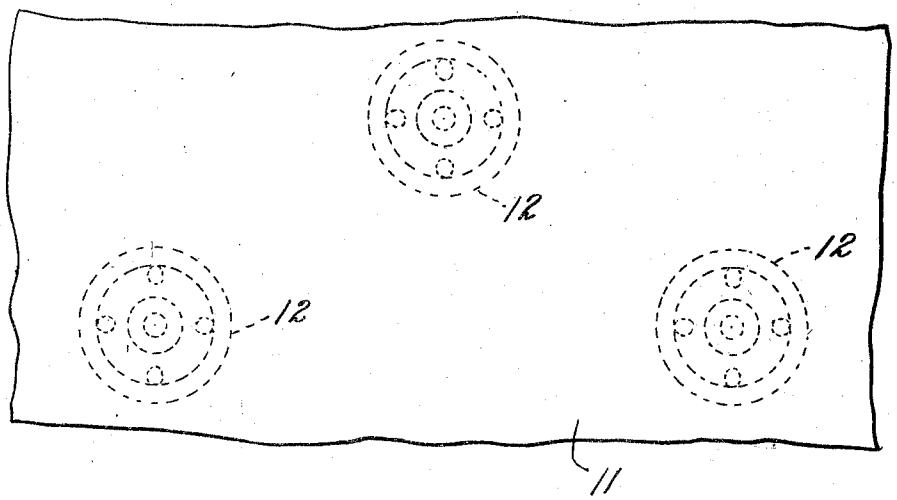


Fig. 2.

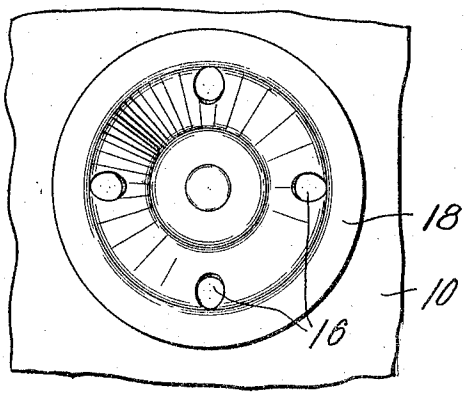
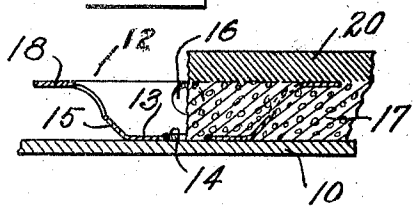


Fig. 3.



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Patented June 29, 1926. 1,590,650

UNITED STATES PATENT OFFICE.

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ANCHORING DEVICE FOR DECK-COATING MATERIAL.

Application filed July 25, 1925. Serial No. 46,188.

This invention relates generally to an anchoring device for holding a layer of coating material in place on a ship's deck.

It is the practice to provide the exposed surfaces of steel ship decks with a covering layer of material designed to be applied in a plastic condition and which subsequently hardens into an impervious protecting layer for the metal surface. Flooring material of this general nature, particularly if rich in the more active ingredients of the composition, possesses more or less tendency to expand and buckle and thereby become separated from the surface on which it is laid. This tendency is increased by the warping and straining of the decks that take place when the vessel is laboring in a relatively rough sea. Because of the restrictions imposed by underwriters' requirements, it is not possible to make use of corrosive adhesive materials for attaching the composition to the deck, so that the use of mechanical anchoring or attaching means is necessary. It is the object of the present invention to provide an anchoring device of a simple nature, which can be quickly and securely attached to the deck, and which furnishes an extremely effective means for holding the material in place.

Anchoring devices for this general purpose have heretofore been used which consisted of a strap of metal fastened to the metal deck at a middle point of the strap and having the ends of the strap raised from the deck to provide overhanging anchoring members. It has also been the practice to place two of such straps in crossed relation to provide four anchoring end members.

The anchoring device construction referred to is open to the objection that four welding points or spots are required to weld the device to the deck so that the attaching of the strap members to the deck entailed a relatively large expense. A still greater objection resides in the construction in that the strap ends were easily flattened out or pressed into contact with the deck by the heavy shoes of workmen or the dropping of objects upon them while still in their exposed condition. The reverse of this condition also took place, that is, the buckling of the deck coat tended to draw or straighten out the straps and nullify their anchoring effect.

The invention herein described provides an anchoring device wholly free from the objections referred to. The invention consists of a saucer-shaped metal plate having a single welding perforation in its base and a plurality of perforations in its flaring sides. The horizontally flanged portion of the device by its formation will effectively resist flattening out or lifting action and securely anchor the engaged coating in position in situations where the strap type anchoring devices would yield.

Another feature of the invention resides in the provision of a protective coating having a base layer whose depth is equal to the depth of the anchoring device and which is held in place thereby, and a finishing layer applied to the upper surface of the base layer.

Other features of the invention will be hereinafter referred to.

In the drawings, in which a preferred embodiment of the invention has been selected for illustration,

Figure 1 is a plan view of a portion of a ship's deck having a coating held thereon by means of anchoring devices embodying the invention.

Figure 2 is a plan view on an enlarged scale of one of the anchoring devices of Figure 1 shown in position without a covering layer thereon.

Figure 3 is a view in cross-section of one of the anchoring devices showing a part of the same covered with the coating layer.

Referring to the drawings for a more detailed description of the invention, a section of the steel deck of a ship is shown at 10 and in Figure 1 a coating 11 of suitable cement or other composition is held in place on the deck 10 by means of the anchoring devices 12. It will be seen that the anchoring devices 12 are spaced apart by such distances as will insure the holding of the coating layer in place.

The anchoring device is formed by a stamping or other operation and consists of a saucer-shaped member having a flat base portion 13 provided with a perforation 14 therein at the edge of which a welding tool may be used to spotweld or otherwise attach the saucer-shaped member in permanent position on the surface of the ship's deck.

The anchoring device has inclined upwardly and outwardly flaring side walls 15 which have an annular or ring-shaped formation and are provided with spaced apart

openings 16 therein through which the flooring composition 17 may pass to provide a holding or locking engagement of the anchoring device therewith. The anchoring devices are provided at their upper extremities with substantially horizontal outwardly extending flange members 18 which are spaced above the surface of the deck 10 and thereby provide an overhanging arrangement which acts to effectively anchor the engaged composition material 17 in place against the surface of the deck.

By reason of the annular or ring-like construction of the flaring wall 15 and the flange member 18 of the device 12 an exceedingly resistant anchoring device is provided which will effectually withstand blows and pressure which would flatten out and destroy the usefulness of devices of the strap type such as have been heretofore used. The annular shape of the device also prevents the uplifting of the flange members 18 by a tendency to buckle which may be present in a layer of the flooring material 17 under certain conditions.

The provision of a single centrally disposed opening 14 facilitates the welding of the device in position and provides for the rapid carrying out of this operation because of the single point or spot of welding which may be employed.

In Figure 3 of the drawing there is shown a section of a completed deck covering with the anchoring device 12 in place therein. It will be seen that the composition layer 17 hereinbefore referred to may be in the nature of a base or foundation layer whose depth is the same as the depth of the anchoring device 12. In other words, the upper surface of the circumscribing flange member 18 is flush with the upper surface of the main or base layer 17 of the deck covering material.

Superposed on the base or foundation layer 17 of the deck covering is placed a finishing layer 20 which may be formed of material having a finer grain and a suitable attractive color so as to present a satisfactory and pleasing general appearance.

What I claim is:—

1. An anchoring device for a composition coating for ships' decks comprising a saucer-shaped member formed of metal and provided with a perforation in a central portion of the base through which the member may be welded to the deck, the peripheral edge portion of the saucer-shaped member having an annular and horizontal disposition whereby to exert a locking action on engaged material, and the inclined walls of the saucer-shaped member being provided with perforations to receive connecting bonds of the composition coating.

2. A coating and coating anchoring means for ships' decks comprising a saucer-shaped member formed of metal and provided with a centrally disposed opening having its edge portion welded to the deck surface, the peripheral edge portion of the saucer-shaped member having an annular and horizontal disposition, a layer of coating material covering the deck and having its surface flush with the upper surface of the peripheral edge portion of the saucer-shaped member, the inclined walls of the member being provided with perforations to receive bonds of the coating material connecting a body of the material within the member with the mass of material outside the member and beneath the horizontal edge portion thereof, and a finish layer of coating material covering the first layer and the anchoring members.

Signed at New York, in the county and State of New York, this 14th day of October, 1924.

CHARLES SCHACK.