

UNITED STATES PATENT OFFICE.

GEORGE D. COLEMAN, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO COLEMAN SHIP COPPERING COMPANY, A CORPORATION OF MAINE.

ANTIFOULING COATING.

SPECIFICATION forming part of Letters Patent No. 741,228, dated October 13, 1903.

Application filed January 31, 1902. Serial No. 92,065. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE D. COLEMAN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Antifouling Coatings; 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.

The present invention relates to an improved antifouling coating for ships' bottoms or structures submerged in or exposed to the action of water, and particularly sea-water.

The object of my invention is to improve antifouling coatings for the above-described class of structures, and particularly to produce a coating for the bottoms of wooden vessels which shall have strong adhesive qualities, resistance to wear, and deterioration from barnacles, toredoes, or marine animal life which attach themselves to ships' bottoms unless they are so protected.

To the above end the present invention consists in the antifouling coating hereinafter described and claimed.

My antifouling coating consists of a layer of quick-drying paint, which is applied to the surface to be covered, in which is embedded particles of finely-divided metallic copper, preferably such as would be obtained by sifting with an eighty-mesh sieve, which are projected upon the moist surface of the paint previously applied, preferably by means of a blower, and then rubbed or hammered into it to embed them in and to envelop them by the paint and to bring the paint to the surface around the particles of copper. Then still more finely divided metallic copper, such as would be obtained by sifting with a one-hundred-and-twenty-mesh sieve, are projected, preferably by means of a blower, against the paint brought to the surface by the previous rubbing, and finally by rubbing, or burnishing, or hammering the particles of the last layer of copper into the interstices between the larger particles of copper of the first layer, thereby taking up the paint which fills these

interstices and presenting to the surface a layer of particles of copper in which the particles are so close together and so efficiently cover the same that when polished it has the appearance of a continuous sheet of copper.

I prefer to employ and in its most perfect embodiment my invention requires the employment of a paint or cement which consists of a mixture of cement or paint substance consisting of red lead or litharge and linseed-oil mixed together to the consistency of putty and baked at a low temperature and then pulverized and mixed with varnish, preferably made of forty gallons of linseed-oil to one hundred pounds of Zanzibar or kauri gums. This paint has the peculiar properties of having in itself all the ingredients necessary to secure its rapid drying, and it is dense, tough, highly adhesive, and efficient in withstanding the action of water, as it is impervious to moisture. So while in its broader aspects my invention is not limited to any particular form of paint, in its narrower aspects it is limited to the employment of this paint.

My invention contemplates any convenient method of applying this coating—such, for example, as the method above described, which forms the subject-matter of another application executed by me of even date herewith.

Although the term "red lead" has been used in the claims, it is to be understood that the invention is not limited thereto, since other equivalent substances, such as litharge, may be substituted therefor without departure from the invention.

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

1. The antifouling coating for ships' bottoms or structures submerged in or exposed to the action of water, and particularly sea-water, which consists of a layer of quick-drying paint, a layer of particles of finely-divided metallic copper embedded in and enveloped by the paint and a layer of still more finely divided metallic copper which is pressed into the paint in the interstices between the

larger particles of copper and presents a substantially continuous surface of bare particles of copper, substantially as described.

2. The antifouling coating for ships' bottoms or structures submerged in or exposed to the action of water, and particularly seawater, which consists of a layer of paint, formed of a mixture of cement or paint substance, made of linseed-oil and red lead baked
10 at a low temperature, with varnish, a layer of finely-divided metallic copper embedded in and enveloped by the paint and a layer of

still more finely divided metallic copper embedded in the paint in the interstices between the larger particles of copper and presenting a smooth surface closely studded with bare particles of copper, substantially as described. 15

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE D. COLEMAN.

Witnesses:

HORACE VAN EVEREN,

BENJAMIN PHILLIPS.