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OUTER COVER OF RIGID AIRSHIPS AND METHOD OF MANUFACTURING THE SAME

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My invention relates to airships of the lighter than air type and has special reference to rigid airships. With ships of this kind the gas bags are inserted inside of the rigid hull structure and an outer cover of textle is stretched over the hull.

Experiments have shown that there is a possibility of the outer cover being loaded with static electricity. When certain conditions are prevailing it may happen that the difference in electric tension or voltage between the outer face of the outer cover and the metal hull becomes so great that a discharge results creating electric sparks. This is of special danger with airships which are inflated with inflammable gas such as hydrogen for example.

For the purpose of having a smooth outer surface of the airships and reducing the air resistance to a minimum the outside of the outer cover is provided with one or several layers of lacquer, varnish or the like. The less these layers are conductive for electricity the greater is the possibility of a high electric charge being created between the outer surface of the outer cover and the metal hull structure.

According to my invention I increase the electric conductivity of the outer cover in its cross direction to an extraordinary degree by mixing to the lacquer before it is applied to the cover graphite. This admixture of graphite ought to be made before the varnish is applied to the textile cover preferably by admixing colloidal graphite solved in acetone. Experiments proved that about two percent admixture of graphite are sufficient to increase the cross conductivity a thousand times.

Of course, the varnish or lacquer may have the usual admixture of aluminum powder, besides, for the purpose of giving the airship a silver-white reflecting outer surface which means a desirable protection against heat rays entering the gas-inflated inner space of the ship. As normally a plurality of layers of varnish is applied to the outer cover it is advisable to provide the admixture of aluminum powder to the last of such layers.

It is astonishing that the admixture of graphite does not cause a remarkable increase in weight. It saves even partially the inner coat of paint in the upper part of the outer cover which is usual for the purpose of protection against light rays.

I do not want to be limited to the details described as several variations are possible without deviation from the scope of my invention.

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