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ALUMINUM ALLOY

William Guertler, Berlin, Germany, assignor to
Deutsche Gold- und Silber-Scheideanstalt vor-
mals Roessler, Frankfurt-on-the-Main, Ger-
many, a corporation of Germany

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Object of my present invention is a process for increasing the resistance against corrosion of aluminum and aluminum alloys.

Since a great number of years the particular industries have made great efforts to produce alloys especially for the purpose of armament and aeroplane construction which are resistant against the attack of air, moisture, atmosphere and sea water and their combined action.

There exist already a great number of alloys which show a decided improvement in the desired direction. But the resistance of these alloys against corrosion is not high enough whilst, also, the properties of the known alloys as regards mechanical strength and other technological properties were not at all satisfactory so that the respective industry was compelled to reduce its requirements in this direction as long as the corrosion resistance was increased.

I have found that aluminum-thorium-alloys show, when subjected to corrosion trials, results which appear far superior to the best alloys hitherto known.

Objects of my invention are aluminum alloys which are especially suitable for the use of such construction parts which are exposed to the influence of the atmosphere and to water such as is found in nature for instance sea water, especially in conjunction with air. Alloys according to my invention contain small amounts of thorium. The amounts which are required in order to improve the resistance of the aluminum or the aluminum alloys respectively against cor-

rosion may vary from .1 to 6 percent. I have found that alloys are particularly advantageous which have a thorium content of about .8 to 2.5 percent.

In addition to thorium the alloys may, according to my invention, contain other components which increase the resistance of the aluminum or influence its other properties in a favorable sense. Such components are for instance metallic sodium, manganese, magnesium, copper, zinc, silicium, nickel or the like which may be alloyed with the aluminum-thorium composition either singly or in combination of two or more metals.

Alloys of aluminum of the most varied kind containing, in addition, thorium according to my invention, have proved especially valuable for the construction of aeroplanes, sea planes and the like devices, further for naval construction, above all for those parts which are above the water-line, since by the addition of thorium the alloys according to my invention possess an excellent resistance against the atmosphere, moisture and, especially, sea-water, or their combined action.

What I claim is:

1. A corrosion resisting alloy consisting of an alloy containing .1 to 6% of thorium and the remainder aluminum.

2. A corrosion resisting alloy consisting of an alloy containing .8 to 2.5% of thorium and the remainder aluminum.

WILLIAM GUERTLER.