

# UNITED STATES PATENT OFFICE

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ALLOY

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5 Claims. (Cl. 75-151)

This invention relates to an alloy, and more particularly to an alloy bearing.

An object of the invention is to provide an alloy which is resistant to corrosion, and especially to corrosion caused by oxidation products of lubricating oils.

Cadmium-silver bearings have been proposed for use under relatively high speed, pressure and/or temperature. Such alloys have a high melting point and mechanical strength, do not weaken and disintegrate as easily as other bearings, such as babbitt, and have a long working life. These bearings are usually composed of at least 95% cadmium and up to 5% silver, and if desired, a small amount of a hardening metal, such as copper or nickel. However, they possess the serious disadvantage that they are corroded in use by oxidation products of a lubricating oil with which they come in contact, which greatly reduces their life and efficiency.

I have discovered that an alloy consisting predominantly of cadmium and containing small amounts of silver and tin is not corroded by lubricating oils, and that the life and efficiency of the same are greater than other cadmium-silver alloys. If desired, the alloy may also contain a hardening metal, such as copper or nickel.

A representative alloy of the type mentioned may have the following composition:

	Per cent
Cadmium -----	at least 95
Silver -----	0.5 to 4.8
Tin -----	0.1 to 3
Copper or nickel -----	0.25 to 1

An alloy of the following composition gives very good results:

	Per cent
Cadmium -----	at least 95
Silver -----	1.75 to 2.5
Tin -----	0.1 to 3
Copper or nickel -----	0.25 to 0.5

Alloys of the above general composition have a melting point higher than ordinary babbitt bearings, are harder and tougher, retain their mechanical strength over a long period of use, and are not appreciably corroded by lubricating oils over a long period of time.

The invention has been described with respect to bearings, but it is understood that it is not to be so limited, and covers broadly all alloys of the described composition for various uses. I am not to be limited to any details of the description, but only by the appended claims wherein I have endeavored to claim the inherent novelty.

I claim:

1. A bearing alloy containing 0.5 to 4.9% silver, 0.1 to 3% tin, and the balance substantially cadmium, said alloy being characterized by substantial non-corrosiveness against lubricating oils.
2. A bearing alloy containing 1.75 to 2.5% silver, 0.1 to 3% tin, and the balance substantially cadmium, said alloy being characterized by substantial non-corrosiveness against lubricating oils.
3. A bearing alloy containing 0.5 to 3.9% silver, 0.1 to 3% tin, 0.25 to 1% of a hardening metal, and the balance substantially cadmium, said alloy being characterized by substantial non-corrosiveness against lubricating oils.
4. A bearing alloy containing 0.5 to 3.9% silver, 0.1 to 3% tin, 0.25 to 1% copper, and the balance substantially cadmium, said alloy being characterized by substantial non-corrosiveness against lubricating oils.
5. A bearing alloy containing 1.75 to 2.5% silver, 0.1 to 3% tin, 0.25 to 0.5% copper, and the balance substantially cadmium, said alloy being characterized by substantial non-corrosiveness against lubricating oils.

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