

[54] **COPPER BASE ALLOY CONTAINING
TITANIUM AND ANTIMONY**

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[22] Filed: **Sept. 25, 1972**

[21] Appl. No.: **292,186**

[52] U.S. Cl. **75/164, 75/153**

[51] Int. Cl. **C22c 9/00**

[58] Field of Search **75/153, 154, 156,
75/164**

[56] **References Cited**

UNITED STATES PATENTS

2,030,921	2/1936	Hessenbruch.....	75/164
2,069,906	2/1937	Vaders.....	75/153 X
2,086,604	7/1937	Comstock.....	75/164 X
2,797,300	6/1957	Hawthorne.....	75/164 X

FOREIGN PATENTS OR APPLICATIONS

1,254,869	11/1967	Germany.....	75/164
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[57] **ABSTRACT**

Disclosed are alloy compositions consisting essentially of copper and small amounts of titanium and antimony within stated ranges. These compositions have high electrical conductivity, high strength and high ductility as compared with copper alloys containing either titanium or antimony. The disclosed ranges of alloy compositions provide a class of copper-base alloys having a unique flexibility with regard to electrical, mechanical and physical properties. By varying the relative and total amounts of titanium and antimony, copper-base alloys having predictable and differing properties may be obtained. Method for the heat treatment and fabrication of the alloys are also disclosed.

5 Claims, 2 Drawing Figures