

UNITED STATES PATENT OFFICE.

CHARLES F. HITCHCOCK, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO
THE HITCHCOCK METAL COMPANY, OF SAME PLACE.

METALLIC ALLOY.

SPECIFICATION forming part of Letters Patent No. 591,604, dated October 12, 1897.

Application filed January 23, 1897. Serial No. 620,451. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES F. HITCHCOCK, a citizen of the United States, residing at the city of San Francisco, county of San Francisco, State of California, have invented a certain new and useful Improvement in Metallic Alloys, of which the following is a full, clear, and exact description.

My invention relates to an improved alloy from which different articles may be manufactured, and the alloy is particularly well adapted for making such articles as are now ordinarily made of soft brass.

The alloy consists of zinc, antimony, tin, copper, and aluminium mixed together in the following proportions: zinc, .854; antimony, .06; tin, .08; copper, .002; aluminium, .004. While I have found these proportions to be best adapted for an alloy to be used in the manufacture of articles now ordinarily made of soft brass, yet the proportions may be somewhat changed and still a reasonably good alloy produced. The limits within which the different metals may be used are: zinc, ninety to fifty-eight per cent.; antimony, five to fifteen per cent.; tin, five to fifteen per cent.; copper, one-tenth of one to one per cent.; aluminium, one-fourth of one to one per cent.

Experience has demonstrated that an alloy

thus made is free from shrinkage. It flows very readily and makes a bright, clean, and smooth casting.

The alloy can be cast in metal molds, thus dispensing with the use of sand molds now necessarily used in making brass casting.

In making the alloy good results are attained by melting the different metals in the order of their hardness—that is to say, by melting the copper first, then melting the antimony and adding it to the copper, and so on until all of the ingredients have been melted and added. The alloy should be about 1,200° Fahrenheit when poured.

I claim as my invention—

1. A metallic alloy consisting of the following metals mixed together in the following proportions: zinc .854 parts, antimony .06 parts, tin .08 parts, copper .002 parts, aluminium .004 parts.

2. A metallic alloy consisting of from ninety to fifty-eight per cent. of zinc, five to fifteen per cent. of antimony, five to fifteen per cent. of tin, one-tenth of one to one per cent. of copper, and one-fourth of one to one per cent. of aluminium, substantially as set forth.

CHARLES F. HITCHCOCK.

In presence of—

E. S. KNIGHT,
STANLEY STONER.