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ALLOY

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7 Claims. (Cl. 75-1)

This invention relates to alloys and is con-
cerned more particularly with a novel alloy
which is especially useful for brazing purposes.
The new alloy has excellent physical properties,
by virtue of which it can be employed to produce
strong joints, and when used for brazing stain-
less steel, it exhibits excellent resistance to cor-
rosion resulting from certain types of chloride
attack. Also, in certain forms, the alloy flows
well at relatively low temperatures, a feature
which enables the user to make strong joints
with great facility.

The new alloy contains silver, copper, zinc,
cadmium, and nickel, and the ranges of these
ingredients are substantially as follows:

	Per cent
Silver	30-60
Copper	12-35
Zinc	5-20
Cadmium	5-20
Nickel	1-5

Examples of specific compositions of the alloy
which have been found to be satisfactory include
the following, the analyses and the melting and
flow points being approximate:

Example No. 1

Per cent

Silver	31.50	
Copper	31.00	Melting point 1180° F.
Zinc	16.50	Flow point 1425° F.
Cadmium	19.00	
Nickel	2.00	

Example No. 2

Silver	40.00	
Copper	21.00	Melting point 1180° F.
Zinc	18.00	Flow point 1370° F.
Cadmium	19.00	
Nickel	3.00	

Example No. 3

Silver	50.00	
Copper	15.50	Melting point 1195° F.
Zinc	15.50	Flow point 1270° F.
Cadmium	16.00	
Nickel	3.00	

Example No. 4

Silver	60.00	
Copper	25.00	Melting point 1315° F.
Zinc	8.00	Flow point 1515° F.
Cadmium	6.00	
Nickel	1.00	

The presence of the nickel within the range
mentioned appears to be accountable for the in-
creased corrosion resistance of the new alloy,
and the optimum resistance to corrosion is ob-
tained when the nickel is present in an amount
of about 3%. The presence of the nickel in-
creases the melting point, but, as shown by the
foregoing examples, the proportions of the other
ingredients of the alloy may be so selected as to
give it a flow point as low as 1270°, which is
sufficiently low for most purposes.

I claim:—

1. An alloy which consists of silver from about
30% to about 60%, copper from about 12% to
about 35%, zinc from about 5% to about 20%,
cadmium from about 5% to about 20%, and
nickel from about 1% to about 3%.

2. An alloy which consists of silver from about
30% to about 40%, copper from about 12% to
about 35% zinc from about 5% to about 20%,
cadmium from about 5% to about 20%, and
nickel from about 1% to about 3%.

3. An alloy which consists of silver from about
40% to about 50%, copper from about 12% to
about 35%, zinc from about 5% to about 20%,
cadmium from about 5% to about 20%, and
nickel from about 1% to about 3%.

4. An alloy which consists of silver from about
50% to about 60%, copper from about 12% to
about 35%, zinc from about 5% to about 20%,
cadmium from about 5% to about 20%, and
nickel from about 1% to about 3%.

5. An alloy which consists of about 31.5% sil-
ver, about 31% copper, about 16.5% zinc, about
19% cadmium, and about 2% nickel.

6. An alloy which consists of about 40% sil-
ver, about 21% copper, about 18% zinc, about
19% cadmium, and about 2% nickel.

7. An alloy which consists of about 50% sil-
ver, about 15.5% copper, about 15.5% zinc, about
16% cadmium, and about 3% nickel.

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CERTIFICATE OF CORRECTION.

Patent No. 2,015,345.

September 24, 1935.

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It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: First column, line 42, of Example No. 2, for "3.00" read 2.00; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of November, A. D. 1935.

(Seal)

Leslie Frazer
Acting Commissioner of Patents.