UNITED STATES PATENT OFFICE.

FOSTER MILLIKEN, OF LAWRENCE, NEW YORK.

ALLOY.

1,277,989. Specification of Letters Patent. Patented Sept. 3, 1918.

No Drawing. Application filed February 9, 1916. Serial No. 77,135.

To all whom it may concern:

Be it known that I, FOSTER MILLIKEN, a citizen of the United States, and a resident of Lawrence, in the county of Nassau and State of New York, have invented a new and Improved Alloy, of which the following is a full, clear, and exact description.

My invention relates to an alloy of a number of different metals, and, when cast, is black or very dark in color. An object of the invention is to produce an alloy which is non-corrosive, which is capable of being polished, and which will not require cleaning.

A further object of the invention is to provide an alloy which will be valueless as scrap, it being impossible in this combination of metals to remove the base metals forming the constituents of the alloy. This renders this particular alloy valueless to scrap dealers, consequently, valueless to thieves who thrive on bronze and brass goods, which this alloy is intended to be a substitute for.

The alloy contains the following metals in substantially the following proportions:

Copper	60–70%
Nickel	6– 9%
Iron	4– 6%
Zinc	12–16%
Lead	2– 3%

Trace of phosphorus.

The alloy is immune to corrosion. Tests performed with the alloy, by subjecting it to a solution of sulfuric acid consisting of 50% of sulfuric acid, maximum strength, and 50% of water, did not affect the alloy. It was subjected to a heavy brine solution, as well as to a light brine solution, with no effect whatever upon the alloy. Weather tests upon the alloy show that there is no corrosive action on the material. Valves made from the alloy have been subjected to a pressure of 300 pounds per square inch without any sign of the material leaving.

Tests performed on the alloy on a Standard Reihle machine have given the following results:

Elastic limit	from 24000 to 28750
Tensile strength	28000 to 33000
Elongation in 2''	1.02 to 1.11
Reduction in area	.03 to .22

The foregoing shows that this material has a high tensile strength and is suitable for many uses where strength is of prime importance.

This alloy can be used for all purposes where brass and bronze are now used; and it has the advantage that when finished with a dull finish, it does not need repolishing. This alloy when finished with a high polish is similar in appearance to nickel plating, but has the advantage, namely, that nickel plating, with constant cleaning, will wear off, while in this alloy, the polish being in the metal itself, the finish can never wear off.

This alloy is valueless as scrap metal because it is impossible to remelt or recover the constituents thereof. And if this metal should find its way with other scrap used, say in an open-hearth steel furnace or in a cast-iron foundry cupola or in any melt to make bronze or brass, the alloy would act like so much poison to the other metals. Consequently, the alloy would not only be worthless as scrap, but scrap dealers would fight shy of it. Therefore, there could be no temptation for thieves to steal articles made of this alloy.

I claim:

1. An alloy containing copper, nickel, iron, zinc and lead in proportions substantially as specified, and a trace of phosphorus.

2. An alloy containing copper, nickel, zinc, lead, traces of phosphorus, and from 4 to 6% of iron, said alloy being characterized by its immunity to corrosion when subjected to sulfuric acid.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FOSTER MILLIKEN.

Witnesses:
JOHN COLEMAN,
WILLIAM EPPEL.