United States Patent Office.

JOHN S. BARDEN, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 94,935, *dated September* 21, 1869.

IMPROVED ALLOY FOR TUBING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN S. BARDEN, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in "Tubing;" and I do hereby declare that the following specification is a full, clear, and exact description thereof.

Tubing which has heretofore been manufactured, whether from iron, brass, copper, lead, or bronze-metal, has been subject to many objections: iron, from its liability to rust; brass, copper, and bronze-metal, from their corrosive tendency, whereby any fluid passing through them is charged with impurity; and lead, not only from its poisonous qualities, but from the difficulty and expense of soldering the joints.

I propose to manufacture tubing from metal of a peculiar character, which shall at once overcome all these objections.

I make use of a metal for this purpose which is composed of tin and zinc in combination. The proportions which I consider to be the best are two parts zinc and one of tin, with antimony sufficient to render the metal of proper hardness. The proportions, however, may be varied with quite satisfactory results.

The advantages which result from the manufacture of tubing from this material are, that, unlike iron, it will not rust; it is less expensive than brass, copper, or bronze-metal, and, at the same time, does not, like both of the former, corrupt the liquid passing through it. It is superior to lead, for the reason that it does not impregnate the water with poisonous matter, and, at the same time, is of sufficient hardness to hold a thread, which enables the sections to be joined like iron pipes.

What I claim as my invention, and desire to secure by Letters Patent, is—

Tubing made from metal composed of the elements and possessing the characteristics substantially as described.

JOHN S. BARDEN.

Witnesses:

W. B. VINCENT,

JOHN D. W. TAYLOR.