

UNITED STATES PATENT OFFICE.

JAMES B. WILLIAMS, OF GLASTENBURY, CONNECTICUT.

IMPROVEMENT IN EVAPORATING-PANS.

Specification forming part of Letters Patent No. 116,524, dated June 27, 1871.

To all whom it may concern:

Be it known that I, JAMES B. WILLIAMS, of Glästenbury, county of Hartford and State of Connecticut, have invented or discovered a new and useful Improvement in the Manufacture of Evaporating-Pans for Saccharine Juices or Liquids, in which are compartments made either by partitions, corrugations, or crimps.

Heretofore evaporating-pans have been made of copper or of plain sheet-iron, or of sheet-iron coated with zinc. The copper is very expensive, and pans made of it tend to poison or injure the quality of the sugar, as is well known. When zinc-surfaced iron is used the zinc becomes decomposed by the acids of the juices, and forms a deleterious compound or acetate of zinc.

In my invention I employ any appropriate sheet metal, preferably sheet-iron because of its cheapness and fitness in other respects, taking large sheets, (such as have heretofore been used in some branches of the arts, uncoated or zinc-coated,) and to one or both sides of which, as may be desired, a coating of tin has been applied. From such tin-coated sheet metal I construct my pans.

The advantages arising from the use of tin on the surface of large iron or other sheets used in the construction or manufacture of evaporating-pans are as follows: The tin protects the metal

from corrosion by the action of the acid, which is almost invariably contained to some extent in such liquids, and which, with iron forms oxide of iron, and with other metals forms other oxides or acetates. Tin forms a most perfect and solid coating, which protects the surface of the evaporator from oxidizing, and thus makes it much more durable. It also renders the surface of evaporating-pans coated with it very smooth, and thus more easily cleansed than either the pans made of plain metals or of metals coated with zinc.

The compounds of copper or zinc, so deleterious to the health, will, when those metals are used, be imparted to the sugar, and this is entirely avoided by my invention; for tin, on the other hand, is recognized by chemists as the most free of any known metals from any such deleterious element or quality.

I claim—

An evaporating-pan for concentrating saccharine juices or liquids, in which are compartments made either by partitions, corrugations, or crimps, and in which the metal of which the pan is made is coated on its inner side with tin.

Witnesses: JAMES B. WILLIAMS.

E. W. BLISS,
JEREMY W. BLISS.