

UNITED STATES PATENT OFFICE.

WILLIAM E. BROCKWAY, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM L. BROCKWAY, OF SAME PLACE.

IMPROVEMENT IN RESTORING TINNED SHEET-IRON.

Specification forming part of Letters Patent No. **141,109**, dated July 22, 1873; application filed July 5, 1873.

To all whom it may concern:

Be it known that I, WILLIAM E. BROCKWAY, of the city, county, and State of New York, have invented a new and useful Improvement in Process for Restoring and Utilizing Waste Material, of which the following is a specification:

The vast number of tin cans used for preserving various kinds of vegetables, fruits, condensed milk, and other articles, are considered worthless when emptied of their contents, and are thrown away by the million; but the iron which is tinned and used for these cans is of the first quality, or much tougher than ordinary sheet-iron, and much better adapted for many purposes when restored, especially for binding trunks, and for many similar purposes where pieces of large superficial measurement are not required. My object is to utilize these cans now thrown to waste; and my invention consists in the process of restoring the iron to its original state, but in small sheets, and thereby utilizing it, as will be hereinafter described.

The process consists in subjecting the cans (after collecting a sufficient number) to a temperature of about 1,000° in a suitable oven constructed for the purpose, and thereby not only divesting the iron of all tin, but annealing the iron.

The iron, before it is tinned, is invariably of good quality, usually rolled from "Swede," "Russia," or "Norway" bars; and in rolling it thin enough for tin of ordinary gage the iron is rendered hard, and its pliability is in some measure destroyed.

Tin melts at about 450°, but will not entirely leave the iron until subjected to a higher temperature. I subject the iron to a temperature of about 1,000°, or bring it to a cherry-red. This cleans off the tin and anneals the iron, rendering the latter very pliable, and adapts it for many purposes where toughness and pliability are essential. When the iron is taken from the oven the pieces are passed between rollers, which press upon it just sufficient to straighten it and prepare it for market.

In heating the iron particular care must be taken as regards the temperature to which it is exposed, as a slight overheating will oxidize and injure it. In submitting the tin to this temperature it is oxidized to such an extent as to be practically valueless. In preparing the iron for market it may be remarked that its marketable value depends upon its perfect freedom from tin.

I am aware that no great novelty can be claimed for the process; but by it I am enabled to utilize waste material, and furnish an article for the market of superior toughness and pliability.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The above-described process for restoring and utilizing waste material, substantially as set forth.

WILLIAM E. BROCKWAY.

Witnesses:

T. B. MOSHER,

ALEX. F. ROBERTS.