

UNITED STATES PATENT OFFICE.

WESLEY F. HERBERT, OF SALEM, OHIO, ASSIGNOR OF ONE-HALF TO EUBIUS
E. HANNA, OF SAME PLACE.

PROCESS OF TOUGHENING, CHILLING, AND CLEANING TIN-PLATE.

SPECIFICATION forming part of Letters Patent No. 567,830, dated September 15, 1896.

Application filed June 4, 1896. Serial No. 594,341. (No specimens.)

To all whom it may concern:

Be it known that I, WESLEY F. HERBERT, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Toughening, Chilling, and Cleaning Tin Plates; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to use the same.

Heretofore the grease and foreign substances adhering to the tin plates as they are passed through the tinning-pot to receive the coat of tin has been removed by mechanical devices known as "branning" and "dusting" machines, which are not thoroughly effective in removing the grease and foreign substances adhering to and to a certain extent commingling with the tin, nor have the processes heretofore known had any effect upon the tin except to partially remove all foreign substances.

The object of my invention is to thoroughly remove the grease and foreign substances from the tin plates and at the same time to chill and toughen the coat of tin immediately after it has been placed upon the sheets of steel or other metal foundations.

To carry out my invention, the steel sheets or other metal sheets forming the body or center portions of the finished tin plates are passed through what is known as "tinning-pots." Said pots may be of the kind and style in common use, inasmuch as the placing of the tin upon the plates forms no particular part of the present invention, and hence no particular kind of tinning-pot is necessary to carry out the objects and purposes of my invention. Immediately after the sheets are passed through the tinning-pot and while hot they are submerged in a proper tank containing the following ingredients, which are compounded in about the following proportions: To each gallon of water is to be added about two ounces of carbonate of ammonia and four grains of permanganate of

potash, which process chills, toughens, and chemically removes all grease and other foreign substances which adhere to the plates as they are passed through the tinning-pot. In use the tin plates are submerged only for a short time in the vat containing the above-named ingredients, and may be removed as soon as the plate has been entirely submerged.

The advantage of my process is that it quickly and effectually removes all the grease and other foreign substances from the finished tinned plate without the necessity of passing the plates through a machine that mechanically removes the foreign substances from the plate.

Another advantage of my invention is that it removes the liability of injury to the sheets.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein-described process of removing the grease from tinned plates, which consists in submerging said plates in a bath of carbonate of ammonia and permanganate of potash in about the proportions named.

2. The herein-described process of toughening, chilling and cleaning the coat of tin on plates immediately after it has been placed upon the body metal, which consists in submerging said tinned plates in a bath of carbonate of ammonia, and permanganate of potash in about the proportions named.

3. The herein-described process of cleaning, chilling and toughening the coat of tin on metal plates, which consists in submerging said tinned plates, while hot, in a chemical bath consisting of about one gallon of water, two ounces of carbonate of ammonia, and four grains of permanganate of potash.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WESLEY F. HERBERT.

Witnesses:

CLYDE RUTH,
E. E. HANNA.