UNITED STATES PATENT OFFICE.

FRIEDRICH MUELLER, OF VIENNA, AUSTRIA, ASSIGNOR OF ONE-HALF TO FREDERICK MUELLER, OF CHICAGO, ILLINOIS.

PROCESS OF MAKING TIN-PLATE.

1,231,285. Specification of Letters Patent. Patented June 26, 1917.

No Drawing. Application filed June 18, 1914. Serial No. 845,851.

To all whom it may concern:

Be it known that I, Dr. FRIEDRICH MUELLER, a subject of the Empire of Austria, residing at Vienna, Austria, Hauptstrasse 62, have invented a new and useful Improvement in the Process of Making Tin-Plate, Tinned on One Side Only, of which the following is the specification.

It is a fact that the coating of black plate with tin on both sides is a waste of tin in all cases, where the outside of tin containers, boxes or cans made from such tin plate is either covered with decorated paper or lithographic print (oil paint), because in such cases the inside surface only needs the coat of tin in order to be protected against rusting.

To some extent it is possible to tin black plate on one side only by oxidizing the side not to be tinned; said oxidizing can be effected either by producing a layer of oxid of iron by means of the galvanic current, or by rusting the surface by means of applying liquid acids. This layer of oxid of iron however does not resist the action of the chlorid of zinc which floats on the surface of the tin in the tinning pots, because chlorid of zinc dissolves oxid of iron (scale).

The present invention remedies this drawback by coating the surfaces not to be tinned with a dense coat of sulfids of copper which is insoluble in liquid acids, and which seems best suited for this purpose.

Example: Black plate is pickled in acids in the usual way; grease and scale may not be removed from the side to be left free from tin. The side to be tinned is covered with a thin coat of oil, vaseline, wax or other fatty or resinous substances. Then the plate may be dipped in a slightly acidulated solution of a copper salt, and the resulting deposit of copper treated with sulfureted hydrogen which results in the formation of a coat of sulfid of copper.

I claim:

The process of tinning black plate on one side only which consists in coating one side of the previously annealed and pickled black plate with fat, in dipping the thus prepared black plate in an acidulated solution of a copper salt which precipitates a dense deposit of copper upon the free surface of the black plate, in changing this aforesaid deposit of copper into sulfid of copper, previous to passing the plate through the tinning pot and tinning the plates afterward.

Vienna, Austria, 3/6, 1914.

DR. FRIEDRICH MUELLER.

Witnesses:
JOS. A. MORMER,
G. NESTUTZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."