

UNITED STATES PATENT OFFICE.

WILLIAM G. BRANGHAM AND JOHN H. ROGERS, OF NILES, OHIO,
ASSIGNORS TO AMERICAN TIN PLATE COMPANY, OF PITTS-
BURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

MANUFACTURE OF TIN OR TERNE PLATES.

SPECIFICATION forming part of Letters Patent No. 790,950, dated May 30, 1905.

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To all whom it may concern:

Be it known that we, WILLIAM G. BRANGHAM and JOHN H. ROGERS, of Niles, Trumbull county, Ohio, have invented a new and useful
5 Improvement in the Manufacture of Tin or Terne Plates, of which the following is a full, clear, and exact description.

Heretofore in the manufacture of tin or terne plates it has been customary after the
10 plates have been rolled, sheared, and opened to pickle them in sulfuric acid and then to anneal them, after which they are cold-rolled, again annealed and pickled, and finally coated. We have discovered that the manufacture can
15 be improved if instead of pickling and annealing the plates before cold-rolling they are cold-rolled with the surface which they have received during hot-rolling and are thereafter annealed, pickled, and coated. When
20 the plates have been cold-rolled after pickling and annealing, the pressure of the cold rolls acting upon the softened surface of the sheet which has been pickled and annealed and from which the oxid has been removed closes
25 the pores and renders the surface dense and smooth. We have found that in the manufacture of heavy-coated terne-plates, for which our invention is particularly adapted, there is apt to be an imperfect adhesion of the coat-
30 ing to such smooth surface even after it has been etched by the pickling which follows the cold-rolling.

In the practice of our invention we take the plates after they have been hot-rolled, sheared,
35 and opened, as heretofore, and without previous pickling we pass them through the cold rolls and roll them with the surface which they have received in hot-rolling. The plates thus

cold-rolled are then annealed and thereafter pickled. The plate is then ready for the coat-
40 ing, which will adhere to the surface better and will be better distributed than if the plate had been prepared by methods heretofore employed.

Our invention also produces a more ductile
45 plate for the reason that when being annealed it has an oxidized rougher surface than though it had been previously pickled and annealed and cold-rolled. This admits of its being ex-
50 posed to higher temperature and for a longer time, allowing more thorough annealing without danger of sticking or partially welding. Sticking being diminished, surface defects in-
55 cident to sticking are correspondingly abated.

Our invention has other advantages which
will be appreciated by those skilled in the art.

We claim—

1. An improvement in the manufacture of tin or terne plates which consists in taking the
60 plates after hot-rolling, and then without previous pickling, cold-rolling them, and then annealing and pickling and coating them; substantially as described.

2. An improvement in the manufacture of tin and terne plates which consists in taking
65 the plates after hot-rolling and then, without previous pickling and annealing, cold-rolling them, and then annealing and pickling and coating them; substantially as described.

In testimony whereof we have hereunto set
70 our hands.

WILLIAM G. BRANGHAM.
JOHN H. ROGERS.

Witnesses:

BERTHOLD GOLDSMITH,
THOMAS W. BAKEWELL.