

UNITED STATES PATENT OFFICE.

ISAAC E. CRAIG, OF CAMDEN, OHIO.

MANUFACTURE OF SHEET-IRON.

SPECIFICATION forming part of Letters Patent No. 382,352, dated May 8, 1888.

Application filed February 4, 1888. Serial No. 263,064. (No specimens.)

To all whom it may concern:

Be it known that I, ISAAC E. CRAIG, a resident of Camden, in the county of Preble and State of Ohio, have invented a new and useful
5 Improvement in the Manufacture of Polished Sheet-Iron, of which the following is a specification.

My invention relates to the manufacture of that class of sheet-iron and sheets of mild steel
10 which are polished in resemblance of the "Russia sheet-iron;" and the object of my improvement is to reduce the expense of manufacture by reducing the amount of waste metal which is shorn from the edges of the sheets
15 after they have received their final hammering before they are fitted for the market.

To carry my invention into effect, I have the sheets rolled of different widths and lengths—the larger part, about four-fifths of them, of the dimensions of twenty-nine inches by sixty-two, and one-fifth of the dimensions of thirty-one inches by sixty-four, this in case of their being intended to shear up twenty-eight by sixty inches, which is the usual size of which
25 they are manufactured in this country; and when designed to be sheared up of other sizes roll the sheets with the same proportionate excess of width and length over the sheared sheet.

In preparing the package of sixty to eighty sheets, which is the ordinary number for the hammer or for a preparatory baking operation such as is understood in the art, I begin by laying down one or two (I prefer two) of the
35 widersheets. I then stack up on this foundation, equidistant from its edges, about four of the narrower sheets, irrespective of whether charcoal or other foreign matter is to be inter-layered or not, then another wide sheet, and so on in the same proportion until the desired
40 number are piled up; and, although it is not necessary to good results, I deem it advisable in practice to nick or clip the edges and ends of the wider sheets, except the bottom ones, at intervals of six to ten inches, with a pair of hand-shears to about the distance of one and a half inch from the extreme ends and edges, and in piling up the sheets bend the edges of the wider ones, except those at the bottom,
50 slightly downward. This is rendered easy by their edges being cut, as mentioned. The

package is now ready to be heated and hammered, or when the method of manufacture calls for a baking heat before hammering is ready to be so baked. In either case the relative proportion of wide and narrow sheets
55 should be preserved through all the several heats and hammerings which the package may receive; but good results may be obtained from this order of arrangement even if discontinued at any stage after the first heating. When the ordinary operations of heating and hammering are completed, it is found that the extension of the edges of the few wide sheets over and beyond the edges of the narrower ones has almost entirely saved the edges of the narrow ones from injurious oxidation or so-called
60 "burning." The result of this is, that I am enabled to make use of sheets but little in excess of the size to which they are intended to be sheared for much the larger part of the package, and in this way reduce the percentage of loss by shear, which is sometimes as high as twenty per cent., to less than one-half what it has heretofore been.
65 70 75

I have stated the proportion of narrow sheets to wide ones used as four to one, and this I think best, but do not limit myself to these proportions, as beneficial results may be had in using proportions widely different from
80 these; nor do I intend to limit myself to the relative amount of shear provided for in the size of the rough sheets which I have stated, as the allowance necessary depends much on the character and management of the furnace
85 and somewhat on the nature of the fuel.

I recommend that in heating the wrapping of waste sheets about the edges of the package, as now practiced, should be continued.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—
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An improvement in the manufacture of polished sheet-iron, consisting in the introduction into the package made up for either heating
95 or heating and hammering of a number of sheets of larger dimensions than the average alternated with the smaller ones.

ISAAC E. CRAIG.

Witnesses:

W. F. ROSS,
DAVIS BAIRD.