

UNITED STATES PATENT OFFICE.

BENJAMIN TALBOT, OF CHATTANOOGA, TENNESSEE.

ART OF MANUFACTURING SHEET-IRON.

SPECIFICATION forming part of Letters Patent No. 482,396, dated September 13, 1892.

Application filed March 26, 1892. Serial No. 426,497. (No specimens.)

To all whom it may concern:

Be it known that I, BENJAMIN TALBOT, formerly a subject of the Queen of Great Britain, but having declared my intention of becoming a citizen of the United States, and a resident of Chattanooga, Hamilton county, Tennessee, have invented certain new and useful Improvements in the Art of Manufacturing Sheet-Iron, of which the following is a specification.

This invention pertains to improvements in the art of producing sheets of iron from fluid metal, and will be readily understood from the following description.

In executing my improvement in the art I take suitable cast-iron in its molten state and cause it to flow through the space between two horizontal rolls, the rolls being set at such distance apart as called for by the thickness of iron required, the rolls being water-cooled, if found expedient. The rolls revolve toward each other, and the fluid metal is solidified into a sheet by the cooling surface of the rolls as the sheet of metal is drawn through. The sheets thus produced can be subsequently decarburized and softened by any suitable annealing process. For instance, the sheet of metal as it is delivered from the rolls may be run into or through a furnace, which subjects it to an oxidizing heat as long as it is necessary to properly eliminate the carbon, or the sheet may be drawn through a bed of heated oxide of iron in the furnace. Such a method of decarburizing may permit of continuous action. Again, the sheets may be packed into boxes

and decarburized in a similar manner, as malleable-iron castings are annealed. If a very soft and ductile sheet is required, I prefer to use a pure liquid carbide of iron practically free from graphite, silicon, sulphur, phosphorus, or other impurities. Sheets of metal thus made from such material are then annealed, which eliminates all the combined carbon and causes the sheets to be very soft and malleable.

My invention is to be clearly distinguished from the older methods of making sheets from fluid metal previously decarburized, as in my method the decarburization or conversion into steel is effected only after the metal has been formed into sheets.

I claim as my invention—

1. That improvement in the art of manufacturing continuous sheets of metal which consists in pouring molten cast-iron into the space between two rolls revolving toward each other and solidifying the iron by their cooling action and subsequently decarburizing the continuous sheet thus produced.

2. That improvement in the art of manufacturing decarburized sheets of metal which consists in pouring pure molten carbide of iron into the space between two rolls revolving toward each other and solidifying the iron by their cooling action and subsequently decarburizing the sheets of metal thus produced.

BENJAMIN TALBOT.

Witnesses:

O. L. HURLBUT,
H. A. CLUTTON.