

UNITED STATES PATENT OFFICE.

MORITZ SCHITZKOWSKY, OF DUSSELDORF, GERMANY.

METHOD OF BENDING PIPES.

1,041,176.

Specification of Letters Patent.

Patented Oct. 15, 1912.

No Drawing.

Application filed April 3, 1912. Serial No. 688,196.

To all whom it may concern:

Be it known that I, MORITZ SCHITZKOWSKY, working manager, a citizen of the German Empire, residing at Dusseldorf, Germany, have invented certain new and useful Improvements in or Relating to Methods of Bending Pipes, of which the following is a specification.

The process is as follows: At the point where the tube is to be bent, there is introduced a copper bar previously softened, or other metal suitable for the purpose, of a cross-section corresponding to the tube, and of the length corresponding to that of the proposed bend. The tube is then heated at the bending point by an acetylene or gas flame or by means of coke, to a dark red heat and then bent in a suitable way, for instance by a device with a templet and two rolls. After the bending operation, the bend is heated to white heat, whereby the metal bar inclosed therein is melted and collected.

By means of this process, the cross-section of the pipe or tube is not reduced at the bend.

It will be observed that it is an essential feature of my process that the medium is introduced into the tube while in a cold state and in the form of a solid bar having a diameter equal to the inner diameter of the tube and that the melting point of this bar is above the temperature of the red incandescence point of the iron or steel tube but below the welding and melting temperatures of the said materials. A copper bar previously softened fulfils these requirements. This bar also fulfils the further obvious requirement, namely, that it shall present sufficient resistance against pressure so as not to be distorted or compressed in the act of bending the tube while the tube is heated to red incandescence.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. The process herein described of bending a metal tube consisting in inserting a bar of metal in the tube, said bar having a cross section corresponding to the interior of the tube and a length corresponding approximately to that of the proposed bend and further having a melting point above that of the bending temperature of the tube but below the melting point of the tube, then heating the tube and the core bar to bending temperature and bending the tube and core and finally heating the tube and the bar to the melting point of the bar to thereby melt out the bar.

2. The process herein described of bending a metal tube consisting in inserting a bar of metal in the tube, said bar having a cross section corresponding to the interior of the tube and a length corresponding approximately to that of the proposed bend and further having a melting point above that of the bending temperature of the tube but below the melting point of the tube, then heating the tube and the core bar to bending temperature and bending the tube and core and finally heating the tube and the bar to the melting point of the bar to thereby melt out the bar, said bar consisting of softened copper.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

MORITZ SCHITZKOWSKY.

Witnesses:

E. FALIRG,
M. BAERENS.

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