

UNITED STATES PATENT OFFICE.

WILLIAM WALLACE AND THOMAS J. WOOD, OF ANSONIA, CONNECTICUT.

PROCESS OF ANNEALING COPPER WIRE.

SPECIFICATION forming part of Letters Patent No. 312,045, dated February 10, 1885.

Application filed November 26, 1884. (No specimens.)

To all whom it may concern:

Be it known that we, WILLIAM WALLACE and THOMAS J. WOOD, of Ansonia, in the county of New Haven and State of Connecticut, have
5 invented a new Improvement in Processes of Annealing Copper Wire; and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to an improvement in
10 processes of annealing copper wire—that is, wire made from copper and its alloys, and such as used for electrical purposes, and which must necessarily be in its softest possible condition. Under the usual process of anneal-
15 ing, the surface is oxidized to such an extent as to form a considerable scale, which scale must be removed by pickling or otherwise before it is in a merchantable condition. The scale is irregular in its thickness, due to the
20 variation of heat at different points. The removal of the scale, therefore, makes irregularities or reduces the size of the wire, causing a defect where perfect uniformity is desirable, as in electrical work.

25 The object of our invention is to avoid the scale heretofore produced in the annealing process; and it consists in packing the wire in pots with oxide of copper.

In carrying out our process we employ the
30 common annealing-pot, removing the coils of wire from the blocks in the usual manner, place first a layer of oxide of copper at the bottom of the pot, then a coil of wire, cover it with oxide of copper, then another coil, then a covering of oxide of copper, and so on
35 alternately a coil of wire and a filling of oxide of copper. The pot thus filled is placed in

the annealing-furnace, and there subjected to heat for, say, one hour, more or less, according to the size of the wire. At the proper
40 time it is removed from the pots in the usual manner.

While the surface of the wire will be slightly discolored, it does not lose its luster in the process of annealing, and may be put upon
45 the market in that condition. If, however, a clear surface is desirable, the wire may be pickled; but as there is no scale produced in the process of annealing, such pickling or cleaning will not reduce the diameter or change
50 the surface of the wire. The wire, therefore, coming from this annealing process has the same uniform diameter and surface as when it comes from the block.

If the wire annealed under our new process
55 be pickled to give it a clear surface, that surface will be much brighter than in the old process, where the scale is removed by pickling. The wire, therefore, is readily distinguishable from that produced under the old method of
60 annealing.

We claim—

The process herein described for annealing wire made from copper and its alloys, consisting in packing the coils of wire in pots
65 with oxide of copper, and while so packed subjecting it to heat in the annealing-furnace, substantially as described.

WM. WALLACE.
THOMAS J. WOOD.

Witnesses:

W. C. BARCLAY,
W. N. BRIGGS.