UNITED STATES PATENT OFFICE.

CHARLES BOOTH AND ROBERT W. NEY, OF WORCESTER, MASSACHUSETTS.

METHOD OF PREPARING WIRE FOR DRAWING.

SPECIFICATION forming part of Letters Patent No. 332,321, dated December 15, 1885.

Application filed August 29, 1885. Serial No. 175,670. (No specimens.)

To all whom it may concern:

Be it known that we, CHARLES BOOTH and ROBERT W. NEY, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Methods of Preparing Wire for Drawing, of which the following is a specification.

It is well known to those skilled in the art to which our invention relates that it is necessary, in preparing wire or wire rods for drawing, to apply thereto a coating which will firmly adhere to the surface of the wire when the latter is drawn through the die-plates, to act, either alone or in connection with oil or other lubricant, to lessen the friction between the wire and die-plate, since if it be attempted to draw the wire with ordinary lubrication the die-plate or wire, or both, will be injured. For such a coating various substances have been applied to the wire; but the coatings heretofore most commonly applied have required so much time to dry that the wire has become more or less rusted, or the coatings—salt, for example—have of themselves been of such a nature as to rust the wire.

The object of our invention is to apply to the wire a coating of such a character that it will effectively serve the purpose for which it is intended, and which will dry quickly without liability of rusting the wire.

By the practical use of our invention we are enabled to greatly expedite the operation of coating the wire, and the latter after being drawn is so smooth and bright that it can be galvanized without cleaning after drawing.

In practicing our invention we provide a hot bath of a solution of lime, and also a bath of hot flour paste. The wire, after being cleaned and thoroughly washed in the usual manner, is immersed in the vat or bath of hot lime, and is then taken out and is allowed to partially dry for a few moments. The wire is next immersed in a hot bath of flour paste, to which latter bath we preferably add a quantity of common potash, in the proportions of about ten to fifteen pounds of potash to one hundred gallons of the paste; or, instead of adding the potash to the hot flour or paste bath, it may be added to the hot lime-bath in about the proportions stated for the paste-bath; or, if desired, the potash may be added to both of the hot baths. After removal from the paste-bath the wire is allowed to drip for a short time before being taken to the dry-house for the final drying process. This final drying process with our coating only requires three or four hours, instead of from ten to twenty-four hours, as is necessary with the coatings heretofore generally in use. As our coating thus dries so quickly, the wire does not rust at all during the process. Moreover, as our process permits an entire reel of from six hundred to eight hundred pounds of wire to be immersed in the baths at once by machinery, instead of requiring the coils of wire of which the reels are composed to be immersed separately and by hand, as has heretofore been practiced, and as these reels on which the wire comes from the cleaning process need not therefore be broken, it is obvious that much time is saved in handling the wire, and the coating process is thus still further hastened. We have discovered that by adding the potash to the hot lime-bath or to the hot flour or paste bath, or both, as above stated, the wire may be drawn much finer than by the use of any coating heretofore known to us, and that there is no trouble from rust; but we do not wish to be understood as limiting our invention to the use of potash in the hot baths, as a very good result is secured by the practice of our invention without the potash.

Wire which has been coated by our process, as above described, may be practically drawn without oil or other lubricant, as has been demonstrated, as our coating adheres so firmly to the wire that other lubrication may be dispensed with and considerable trouble and expense thus be saved.

Having thus described our invention and the manner in which it may be carried into effect, we claim and desire to secure by Letters Patent—

1. The method hereinbefore described of preparing wire for drawing, the same consisting in immersing the wire in a hot solution or

bath of lime, and then afterward immersing it in a hot flour or paste bath, substantially as set forth.

2. The method hereinbefore described of preparing wire for drawing, the same consisting in immersing the wire in a hot solution or bath of lime, and then afterward immersing it in a hot flour or paste bath, one or both of the said hot baths containing a quantity of potash, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

CHAS. BOOTH.
ROBERT W. NEY.

Witnesses:
EDWARD C. PERRY,
ANNIE L. NEY.