(No Model.)

W. WALLACE.

MODE OF PREPARING SPOOLS OF WIRE FOR THE MARKET.

No. 387,836. Patented Aug. 14, 1888.

Fig. 1

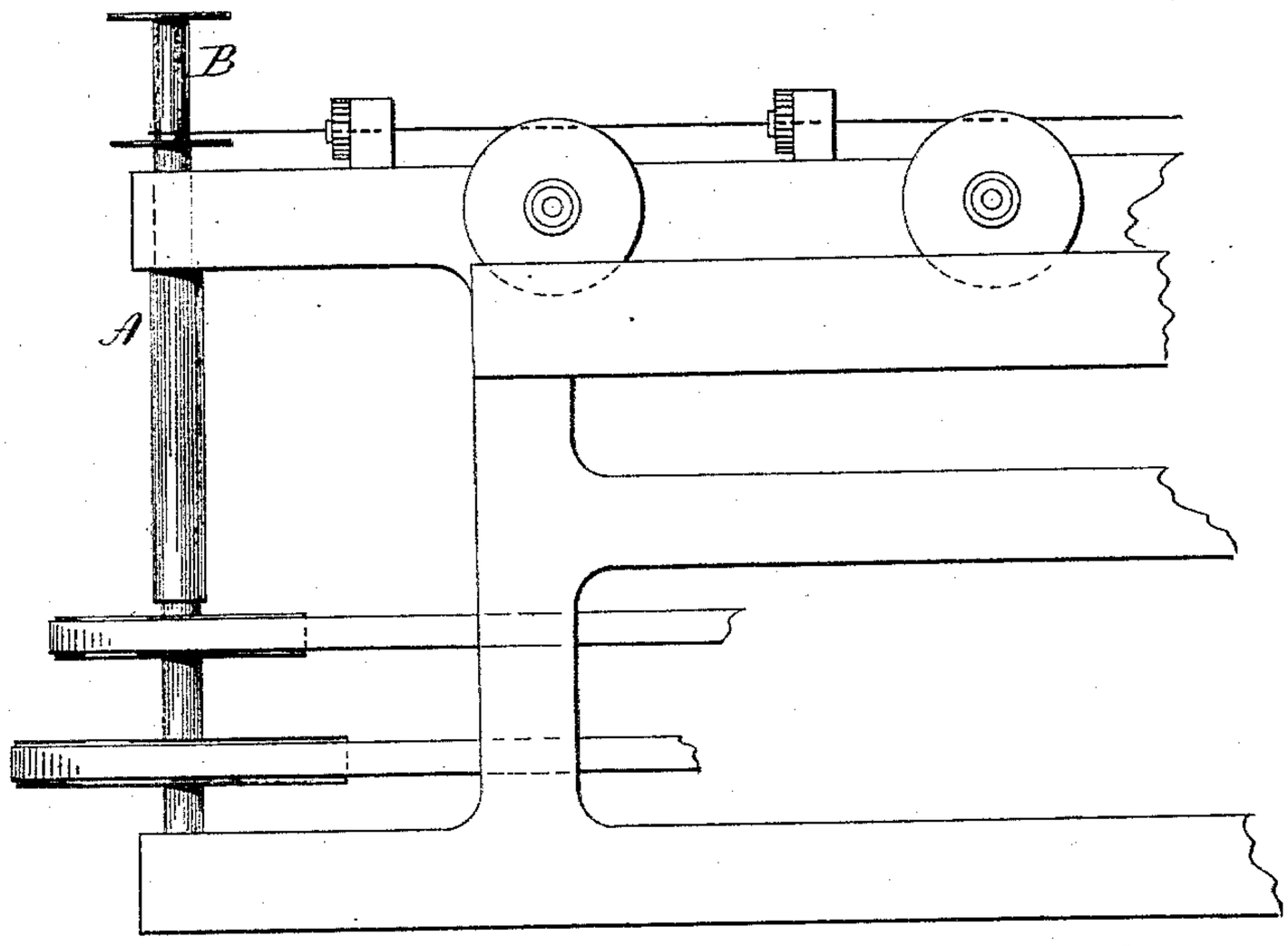
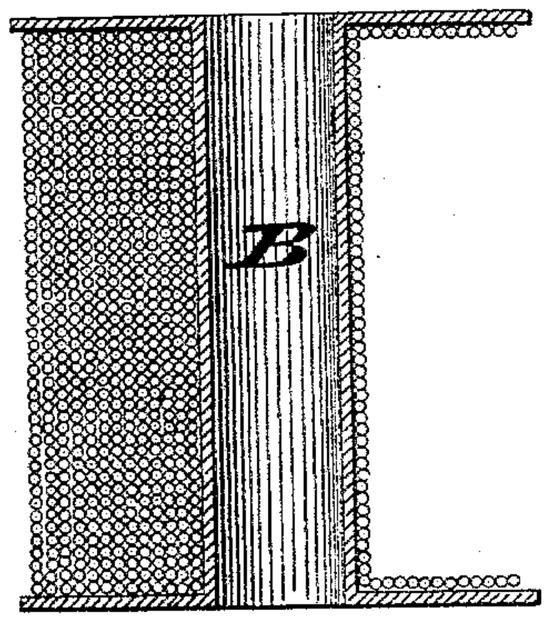


Fig. 2.



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MODE OF PREPARING SPOOLS OF WIRE FOR THE MARKET.

SPECIFICATION forming part of Letters Patent No. 387,836, dated August 14, 1888.

Application filed May 28, 1888. Serial No. 275,274. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WALLACE, of Ansonia, in the county of New Haven and State of Connecticut, have invented a new Mode of Preparing Spools of Wire for the Market; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, so much of a wire-drawing apparatus as necessary to illustrate the method; Fig. 2, a central section through the spool with the wire thereon as it comes from the wire-drawing machine and preparatory to the annealing operation.

This invention relates to an improvement in the manufacture of wire.

In drawing wire the operation unavoidably hardens the wire, and for many purposes this wire must be annealed before it is ready for market or adapted for use—such, for instance, as wire for electrical purposes.

Hitherto in the more general practice of drawing wire the wire is taken from the cylinder on which it is drawn, either by rewinding onto a spool adapted for introduction to the annealing-pot, or the coils taken from the cylinder bodily and placed directly in the annealing-pots, and after the annealing operation the wire is wound on spools for market; but in rewinding the strain upon the wire is very great and unavoidably unequal. The result of this rewinding of the wire, and especially after annealing, is that, owing to the fact that it is very soft, the wire is stretched to a greater or less extent, and which stretching reduces its diameter. This difficulty increases as the size of the wire diminishes. The wire, therefore, thus drawn and annealed will be variable in size throughout its length, and in so rewinding the wire it is frequently broken, but yet the winding is continued until the spool is full. Consequently there must always be an uncertainty as to how many pieces compose the contents of a single spool. It is desirable that the wire shall be perfectly uniform throughout, and that breaks upon the spool should be avoided if possible.

The object of my invention is to avoid the rewinding of the wire at any stage during its process of manufacture, and to furnish it to the market in positively the same condition in which it comes through the drawing-machine, except as to its temper, and thereby insure not only uniformity in the size of the wire, but avoid breakage; and the invention consists in drawing the wire directly upon a metal spool, and then subjecting the wire while still on the spool upon which it was drawn to the annealing operation, and upon which spool the wire is sent to the market or to the consumers.

In drawing wire I prefer the machine for continuous drawing—such as shown and described in United States Patent, No. 319,556, granted to Samuel Henry Byrne, June 9, 1885—but instead of employing a revolving cylinder or block to draw the wire, as represented in that patent, and as in common use in drawing wire in other drawing apparatus, I apply to the shaft A, Fig. 1, upon which the cylinder or block is usually arranged, a removable spool, B, this spool being of a size and shape corresponding to the quantity of wire which is to be wound thereon. The spool is adapted to be set onto the shaft, so as to revolve with it, but yet be readily removable therefrom. The spool is made from metal—say as represented in Fig. 2—and when in the machine revolves the same as the cylinders or blocks heretofore used. The wire is drawn upon the spool running from head to head, so as to lie smoothly on the spool, the drawing continuing until the requisite quantity is upon the spool, then the filled spool is removed, a second spool applied, and so continuing. The spools of wire thus removed from the machine are then subjected to the annealing operation without taking the wire from the spools. The annealing operation may be performed by any of the known methods of annealing—say by placing in annealing-pots—and when properly annealed the spools of wire are removed and cooled. Then the spools with the wire thereon are in condition for market, or to be sent to the consumer.

The spools may be of a very cheap construction, so as to be thrown away after the wire has been used therefrom without material loss, or the spools may be returnable to the manufacturer, to be again filled and sent out as before.

Under this method of preparing spools of wire for the market all rewinding of the wire is avoided, so that the perfect shape of the wire produced by the drawing apparatus is maintained and the wire is as perfect on the spool when it comes to the consumer as when it left the drawing-dies. I have said I prefer the Byrne apparatus as the means for drawing; but it will be understood that the invention is not limited to the particular means for drawing, the method necessitating only some means for drawing the wire directly onto the spool.

I claim—

The herein-described mode of preparing spools of wire for the market, consisting in first drawing the wire directly upon a metal spool, then subjecting that same metal spool with the wire still thereon to the annealing operation and without rewinding the wire, substantially as described.

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