

(No Model.)

C. W. BILDT.
MANUFACTURE OF WIRE RODS.

No. 459,924.

Patented Sept. 22, 1891.

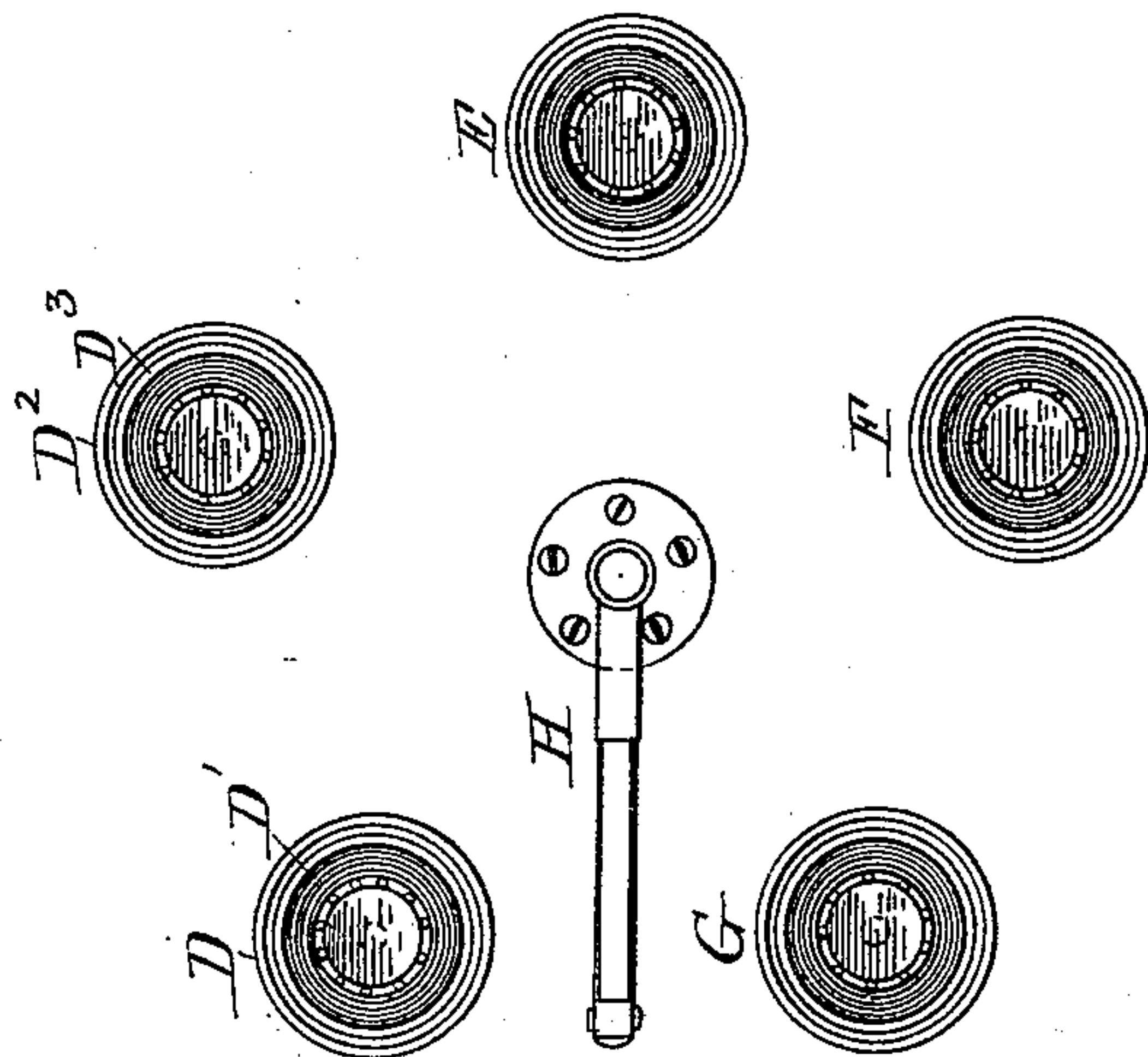


FIG. 1.

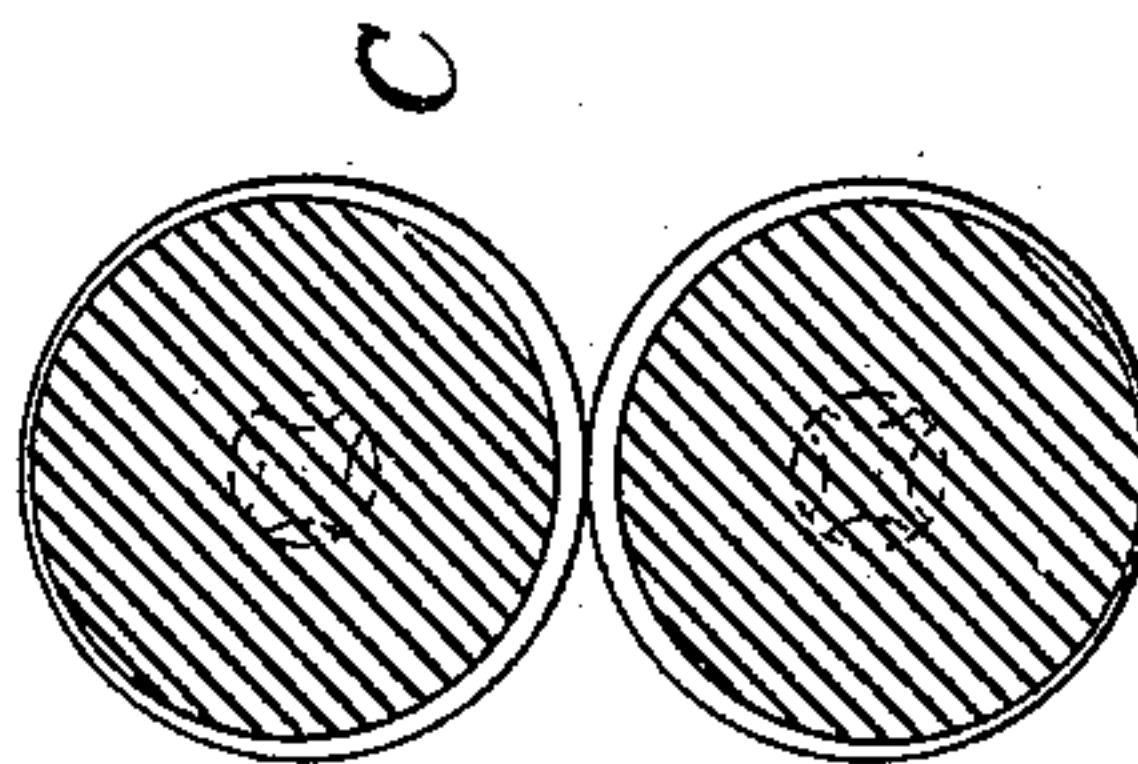
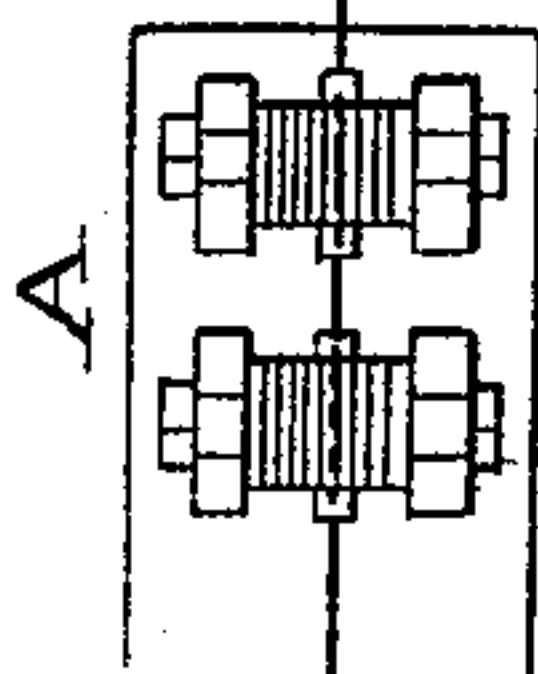
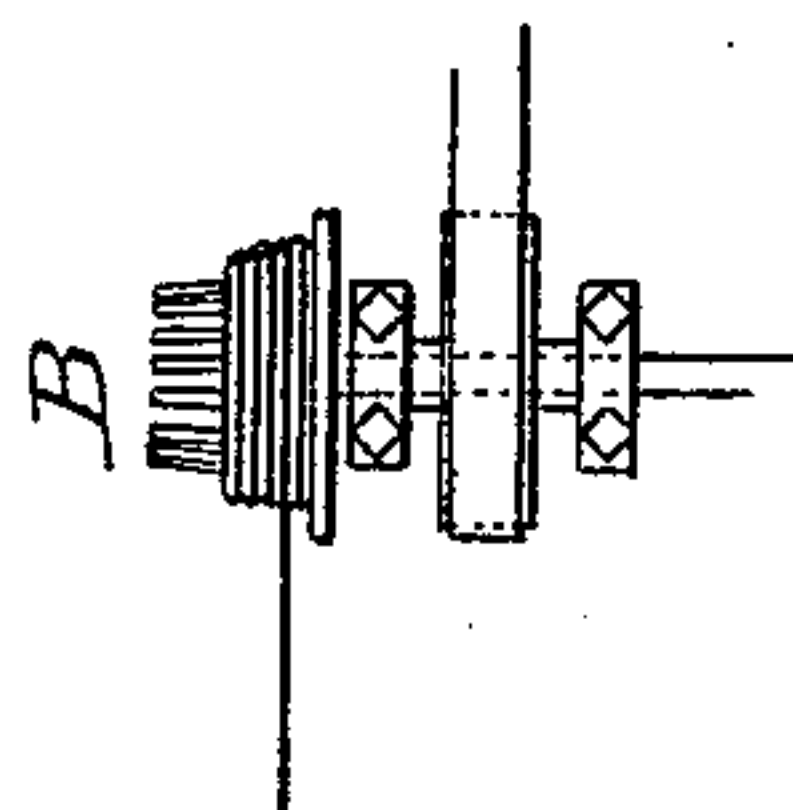
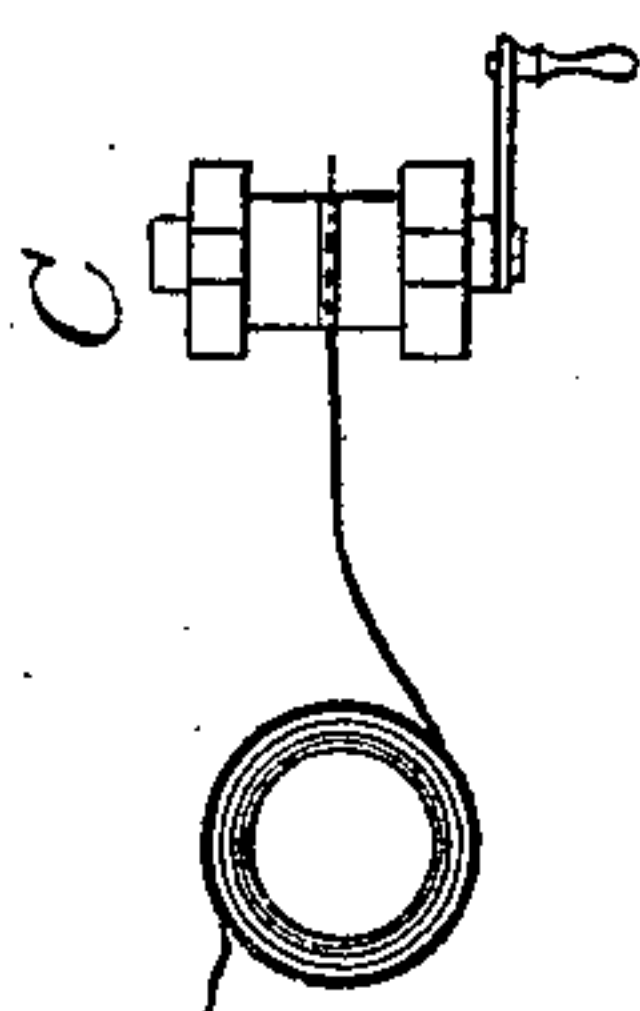


FIG. 5.

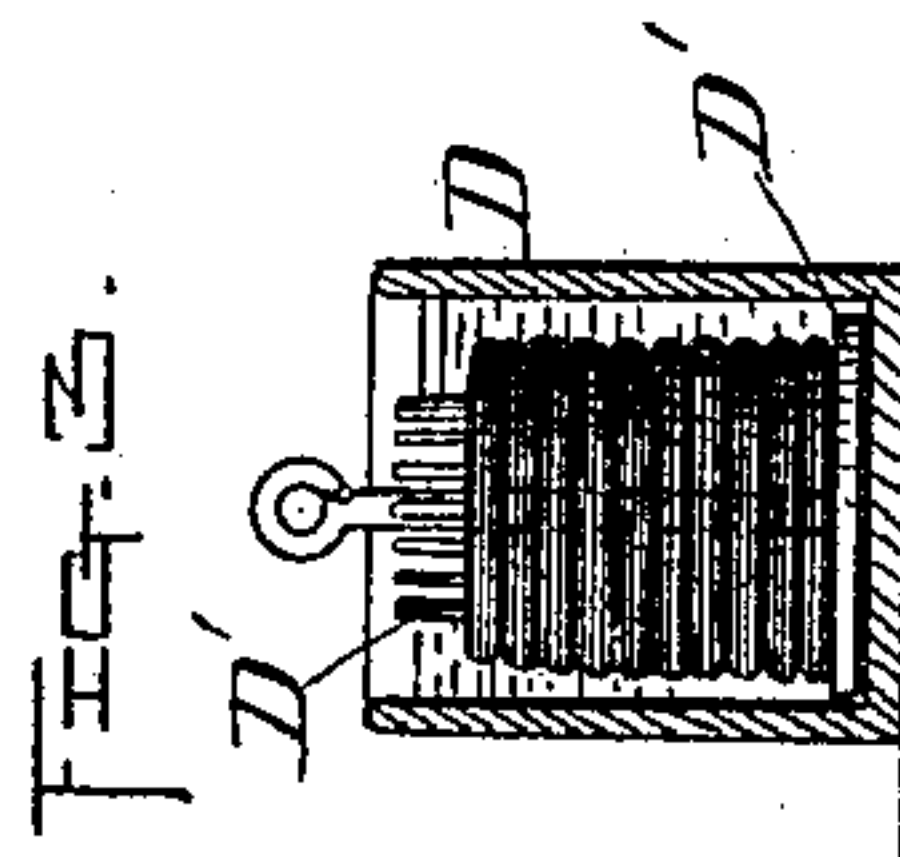


FIG. 6.

WITNESSES;

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UNITED STATES PATENT OFFICE.

CARL WILHELM BILDT, OF WORCESTER, MASSACHUSETTS.

MANUFACTURE OF WIRE RODS.

SPECIFICATION forming part of Letters Patent No. 459,924, dated September 22, 1891.

Application filed January 26, 1891. Serial No. 379,000. (No model.)

To all whom it may concern:

Be it known that I, CARL WILHELM BILDT, of the city and county of Worcester, and State of Massachusetts, have invented certain
5 new and useful Improvements in the Art or Process of Rolling, Reeling, Pointing, Cleaning, and Coating Wire Rods; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had
10 to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents part of a rolling-mill, a wire-reel, a pointing device, a series of water, acid, and coating tubs with a wire block
15 or reel in each, and a swinging crane for transferring the coils from one tub to another in carrying out my aforesaid improved process, hereinafter more fully described. Fig. 2 is a vertical section through the rolls of the
20 pointing device, shown upon an enlarged scale; and Fig. 3 is a vertical section through one of the aforesaid tubs and the wire blocks or reels placed therein.

By the old way of cleaning wire rods much
25 labor and acid are required, the rods being taken from the reel, placed in a pile, and allowed to cool off before being pointed, cleaned, and coated. This method results in considerable loss of time, and much labor is
30 required in handling. Besides, it takes an unnecessary amount of acid to properly clean the rods, on account of the heavy scale formed upon said rods due to slow cooling.

As is well known, it is impracticable to
35 clean hot rods in acid, the fumes generated thereby making it impossible for the attendants to work about the same, and the rods when immersed in acid at that temperature have a detrimental effect on the quality of the
40 metal. The purpose of my invention is to overcome these objections.

Said invention consists in rolling, reeling, pointing, cleaning, and coating the rods in rapid succession or continuously in the fol-
45 lowing manner:

The billets are first reduced to rods by passing the same through a rolling-mill, as usual, the last two sets of rolls A of which only being shown in this instance. As fast as de-
50 livered from said rolling-mill they are automatically coiled upon the usual rotating reel

B, then removed from said reel by the "tongmen," and one end of the rod taken by an attendant and inserted into the pointing device C, to be pointed also, as usual. The coil
55 is now placed over a movable wire block or reel D' suitable for the purpose and placed while said rod is still red-hot into the first tub D, containing water, which cools as well as by the sudden immersion into the cold wa-
60 ter, removes a greater portion of the scale formed upon the rod, the transfer being made, preferably, by means of a suitable hydraulic or other crane H, arranged to swing around
65 on a vertical axis secured at the center of the series of tubs D, D', E, F, and G, which are preferably located in a circle around said axis and in line vertically with the outer end of the arm of the crane, as is shown in the draw-
70 ings. When properly cooled in the tub D, the wire-block with the coil on it is transferred by the crane from said tub to the tub E, which contains acid, to subject the same to the usual acid-cleaning process. It is next
75 lifted out of said acid-tub and placed in tub F, which contains water, to remove or wash off the acid preparatory to coating. It is then placed in the tub G, containing a solution of lime, meal, flour, salt, or other suitable coat-
80 ing material, and finally removed from said tub and transferred to the dry-house preparatory to drawing.

I have described the process of treating only one coil at a time; but it will be under-
85 stood that in practice the wire blocks or reels which are placed in the tubs are filled with from eight to twelve coils before subjecting the same to the cleaning and coating process, the same being filled from several mills in op-
90 eration at the same time. To facilitate the process, a duplicate water-tub and block or reel D² D³ may be employed, so that while the coils are being transferred from the wa-
95 ter-tub D to the acid-tub E the next set of coils rolled, reeled, and pointed may be placed in the other water-tub and thus save waste of time. Therefore it is obvious that a continuous process of rolling, reeling, pointing, cleaning, and coating may be constantly kept up,
100 and in consequence resulting in a large saving in time as well as labor, as aforesaid. The rods being cooled before submersion in

the acid-cleaning bath results also in a large saving in acid as well as in a superior product over the old way of treating wire rods to coat the same for drawing.

5 The separate parts or elements which are employed in carrying out my improved process, I am aware, are all old and well understood by those skilled in the art to which my invention appertains, and I therefore limit
10 said invention to the combination thereof in effecting the continuous process described, and pointed out in my claim.

As various ways may be employed for pointing the ends of the rods, as well as for
15 transferring the coils from one position to another, I do not limit myself to the particular constructions shown in this instance for

effecting said results in carrying out said process in practice.

Having now described my improved process, what I claim as new, and desire to secure by Letters Patent, is—

In the manufacture of wire rods, the art or process consisting of rolling, reeling, pointing, cleaning by immersion in water, then in
25 acid, again in water, and finally coating said rods in a solution of suitable coating material in continuous succession, substantially as and for the purpose set forth.

CARL WILHELM BILDT.

Witnesses:

A. A. BARKER,
W. B. NOURSE.