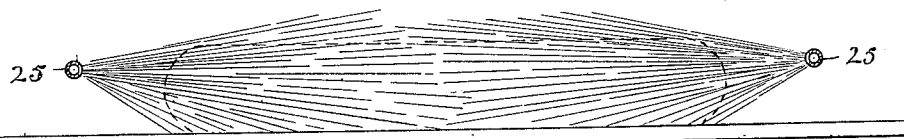
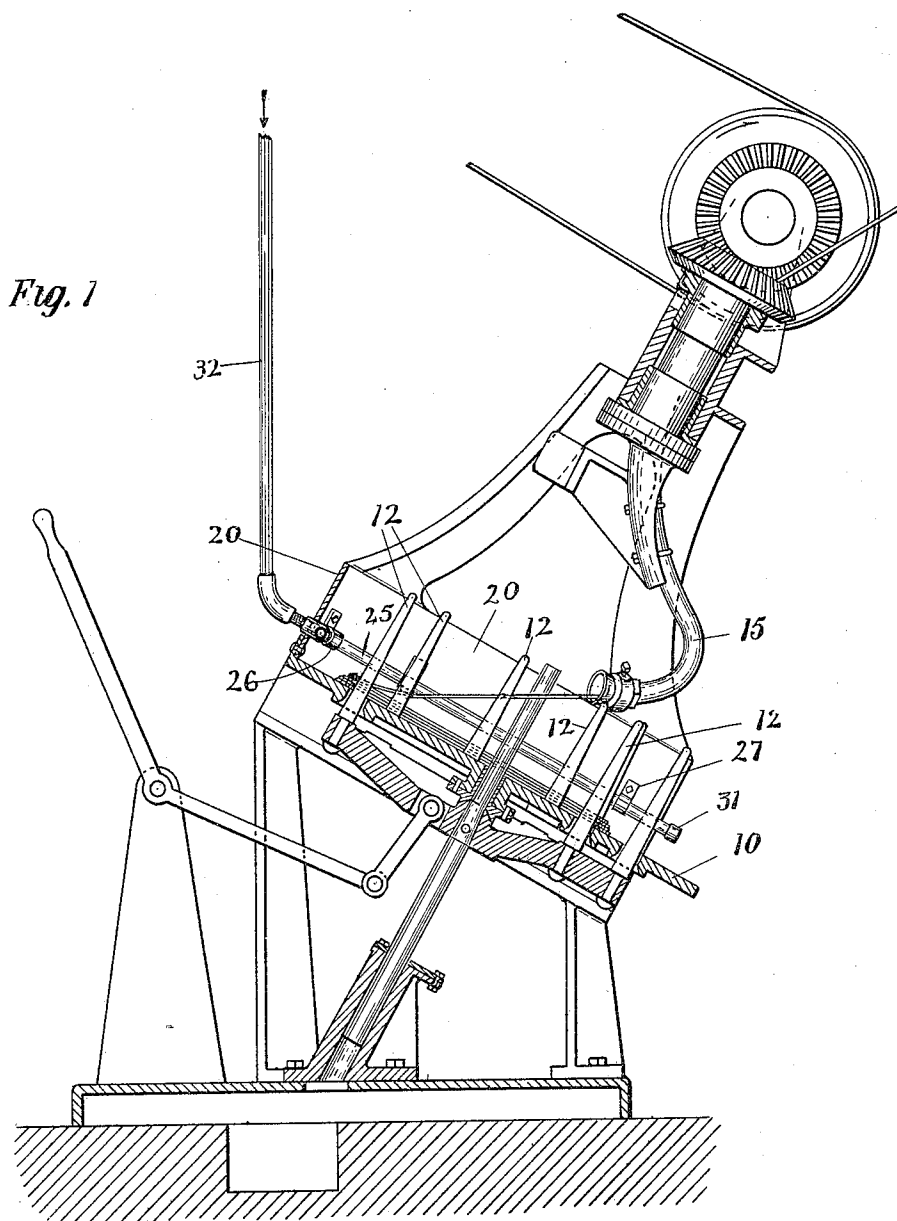


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 APPARATUS FOR TREATING WIRE RODS.
 APPLICATION FILED AUG. 7, 1911.

1,013,056.

Patented Dec. 26, 1911.
 2 SHEETS—SHEET 1.



Witnesses;
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Fig. 6

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by Hayes & Harriman
attys.

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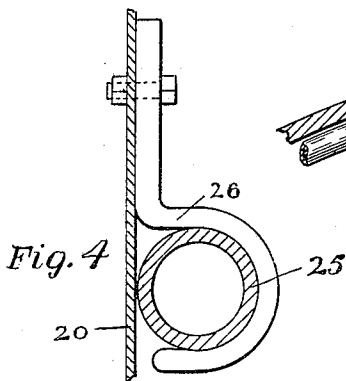
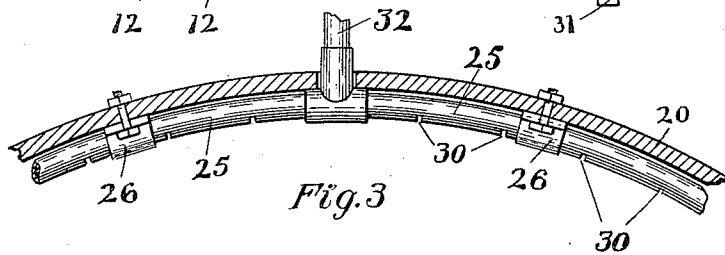
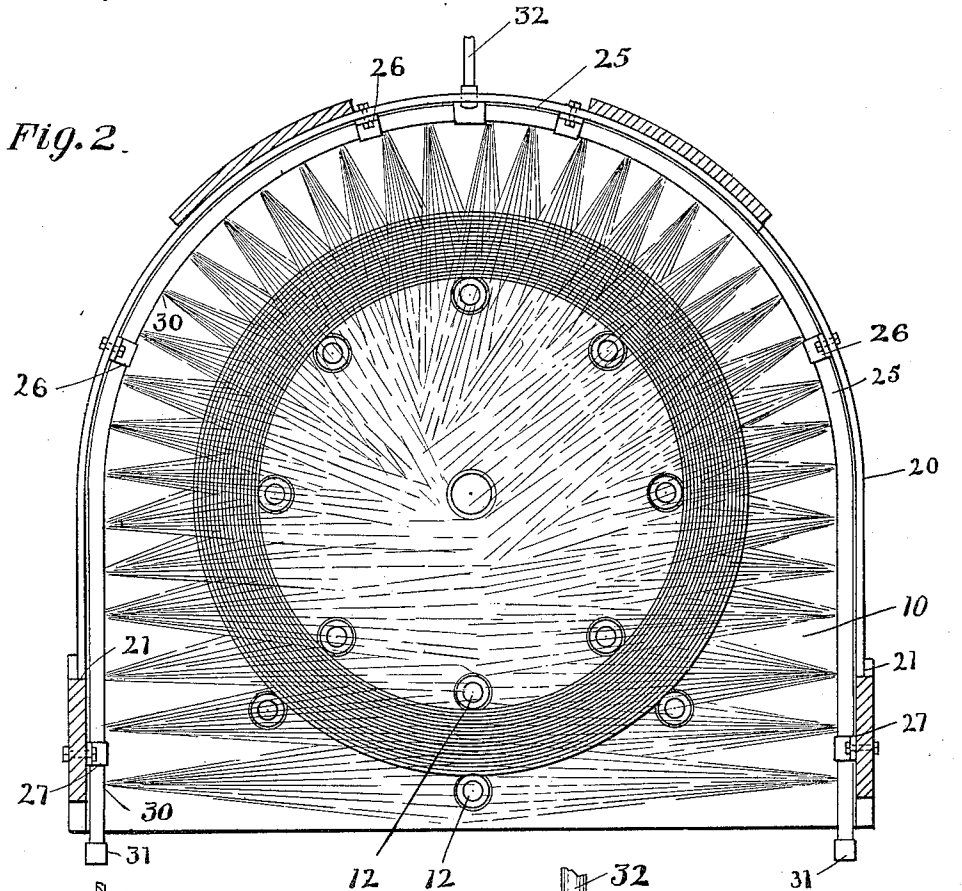
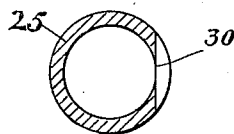


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM J. POWNEY, OF CHICAGO, ILLINOIS.

APPARATUS FOR TREATING WIRE RODS.

1,013,056.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed August 7, 1911. Serial No. 642,860.

To all whom it may concern:

Be it known that I, WILLIAM J. POWNEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Apparatus for Treating Wire Rods, of which the following is a specification.

This invention relates to the manufacture of wire-rods, and consists in improved means for cooling the same while they are being coiled on a reel, whereby the formation of scale thereon is prevented, the object being to simplify the construction of the cooling-means and yet maintain a reasonably high efficiency.

In the present embodiment of my invention the wire-rod, while hot, is wound on a disappearing-reel by means of a revolving-coiler, and said reel is arranged in connection with an inclined platform, or table, with means to move-it to cause it to disappear and permit a coil which has been wound thereon to slide by gravity from the platform. A U-shaped guard is connected with the upper end portion of the inclined platform which extends upward approximately to the tops of the reel-pins, and forward to a point in front of the lower end of the reel, and a steam-pipe is extended along the inside of said guard, from end to end thereof, which is arranged thereon or otherwise supported a short distance above the platform or about midway the height of the reel-pins, said steam-pipe having numerous orifices for the issuance of small jets of steam under pressure which are directed toward the coil which is being formed on the reel, which act to drive off the heat from the coil and also to form a dense cloud of steam, which entirely envelops the coil and excludes the atmosphere from coming in direct contact with it while it is being formed.

Figure 1 is a vertical section of a portion of an apparatus for treating wire-rods having cooling-means embodying this invention. Fig. 2 is a plan view of the platform, reel and cooling-means. Figs. 3 and 4 are sectional details of the guard and steam-pipe and securing-means for the pipe. Fig. 5 is a cross-section of the steam pipe taken through one of the exit orifices. Fig. 6 is a view designed to illustrate the dense cloud of steam which entirely envelops the coil which is being formed on the reel.

10 represents the platform, which is in-

clined as usual, and 12 the reel-pins of any usual or suitable form of disappearing-reel, which is arranged in connection with the platform, and 15 is a revolving-coiler of any usual or suitable construction.

20 is a guard which is made as a plate of sheet metal, bent U-shaped and extended around the upper end of the inclined platform 10. It is made of a height to extend upward approximately to the tops of the reel-pins 12, or thereabout, and its parallel side portions are extended forward to a point in line with the front of the reel, or beyond such point. As here shown, the U-shaped guard is attached to the reel-supporting frame, and connected with the inclined platform, and the forward ends of its parallel side portions are abutted against the reel supporting-frame at 21, and said frame forms a continuation of said side portions, so that the side portions, including the frame terminate at a point beyond the front end of the reel and coil which is formed thereon, but the precise point of termination of said parallel side portions is not of material consequence. A steam-pipe 25 is extended along the inside of said U-shaped guard which is supported in elevated position above the platform by means of clips 26 which are connected with the guard and clips 27 which are connected with the frame, but it will be understood that said steam-pipe may be otherwise supported, it being, however, desirable for purposes hereinafter described, that it shall occupy a position a short distance above the platform. It is purposely arranged about midway the height of the reel-pins and extended from end to end of the U-shaped guard, and is bent to conform to the shape of said guard. Said U-shaped steam-pipe has numerous orifices 30, for the issuance of steam in the form of jets, said orifices being formed by slitting the pipe, as shown in Fig. 5 or otherwise and arranged on the side facing the reel. Said U-shaped steam-pipe is closed at both ends by caps 31. A steam supply-pipe 32 is connected with said U-shaped steam-pipe at any point desired.

Steam, at say 110 lbs. pressure is delivered to the U-shaped steam-pipe, which issues through the numerous orifices 30, and is thereby directed toward the wire-rod which is being coiled upon the reel, and by reason of the jets of steam being projected toward

the reel with considerable force they act to drive off the heat from the coil which is being formed, and also to form a dense cloud which entirely envelops the coil and thereby excludes the atmosphere from coming in direct contact with it, and hence prevents the formation of scale thereon. In order to insure the dense cloud of steam entirely enveloping the coil, it will be noted that the forward ends of the side portions of the U-shaped steam-pipe extend beyond the front of the coil, which is being formed on the reel, so that the jets of steam issuing from the orifices at said end portions will pass across the platform in front of the reel, as shown in Fig. 2.

I claim:—

1. In an apparatus for treating wire-rods, the combination of a disappearing-reel, a revolving-coiler, and an inclined platform in connection with said reel, a steam-pipe arranged about the reel having numerous exit orifices in its side facing the reel to deliver jets of steam in a direction toward the reel and also across the platform in front of the reel, thereby to produce a dense cloud of steam which entirely envelops the coil which is being formed on the reel, substantially as described.

2. In an apparatus for treating wire-rods, the combination of a reel, an inclined platform in connection with the reel, a U-shaped steam-pipe adapted to be connected with a steam supply arranged around the upper end portion of the inclined platform, the parallel sides of which extend forward to a point beyond the front of the reel, said steam-pipe having numerous exit orifices arranged in its side facing the reel for the issuance of jets of steam in a direction toward the coil which is being formed on the reel, to produce a dense cloud of steam which entirely envelops the coil which is being formed, substantially as described.

3. In an apparatus for treating wire-rods, the combination with a disappearing-reel, a revolving-coiler, and an inclined platform,

of a U-shaped guard arranged about the upper end portion of the platform which extends upward approximately to the tops of the reel-pins and forward approximately to the front of the reel, and a U-shaped steam-pipe adapted to be connected with a steam supply, arranged on the inside of said guard a short distance above the platform, and extended from end to end thereof, said pipe having its ends closed and having numerous exit orifices in its side facing the reel, whereby a dense cloud of steam is produced which entirely envelops the coil which is being formed on the reel, substantially as described.

4. In an apparatus for treating wire-rods, the combination of a reel, a coiler, and an inclined platform in connection with said reel, and means, arranged about the reel, to forcibly project numerous jets of steam directly upon the coil which is being formed, which act to drive off the heat and to form a dense cloud of steam which entirely envelops the coil, thereby to exclude the atmosphere, substantially as described.

5. In an apparatus for treating wire-rods, the combination of a disappearing reel, a revolving coiler and an inclined platform in connection with said reel, and means arranged about the reel and in substantially the same plane to project numerous jets of steam under pressure toward the reel in a radial direction relative thereto, and also across the platform in front of the reel, which act to drive off the heat and to form a dense cloud of steam which entirely envelops the coil which is being formed on the reel, thereby to exclude the atmosphere, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM J. POWNEY.

Witnesses:

ROBERT HATTON,
THOMAS POWNEY.