C. J. MOGAN.

METHOD OF COATING BUNDLES OF WIRE.

APPLICATION FILED NOV. 7, 1918.

1,314,889.

Patented Sept. 2, 1919.

2 SHEETS—SHEET 1.

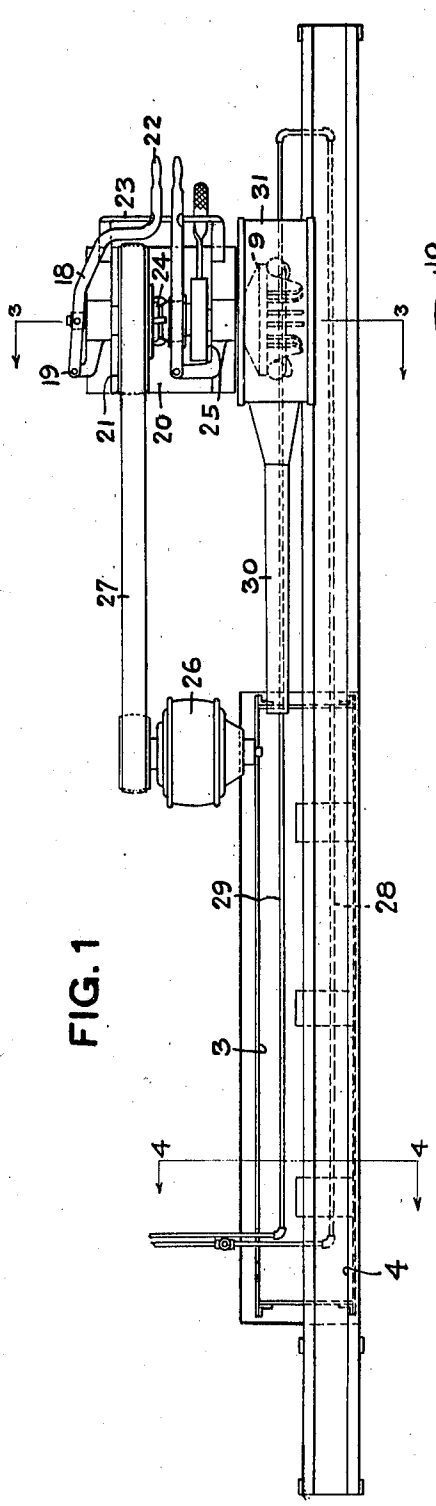


FIG. 1

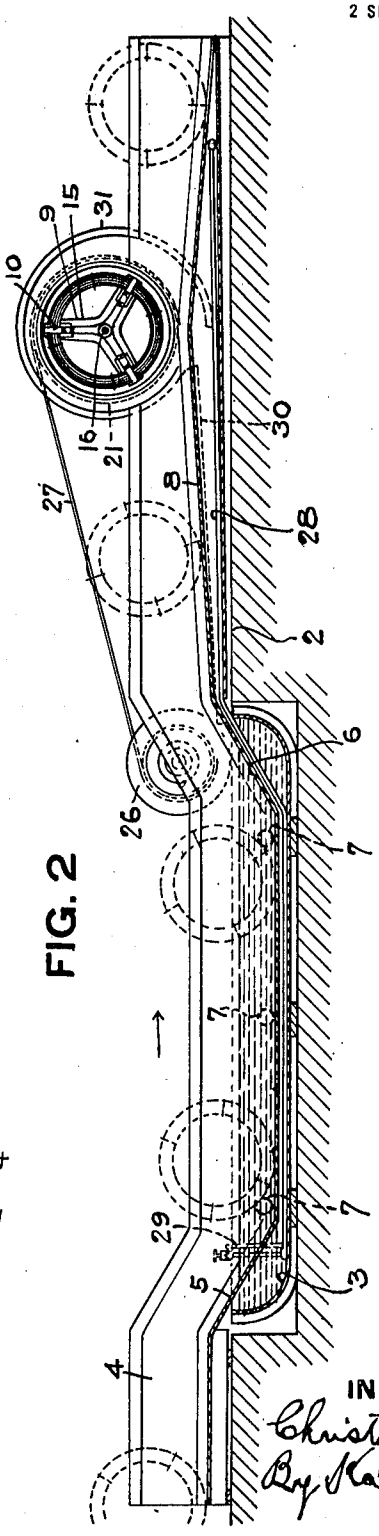


FIG. 2

INVENTOR

Christopher J. Mogan

By Kay Sutton Bissell

Attys

C. J. MOGAN.

METHOD OF COATING BUNDLES OF WIRE.

APPLICATION FILED NOV. 7, 1918.

1,314,889.

Patented Sept. 2, 1919.

2 SHEETS—SHEET 2.

FIG. 3

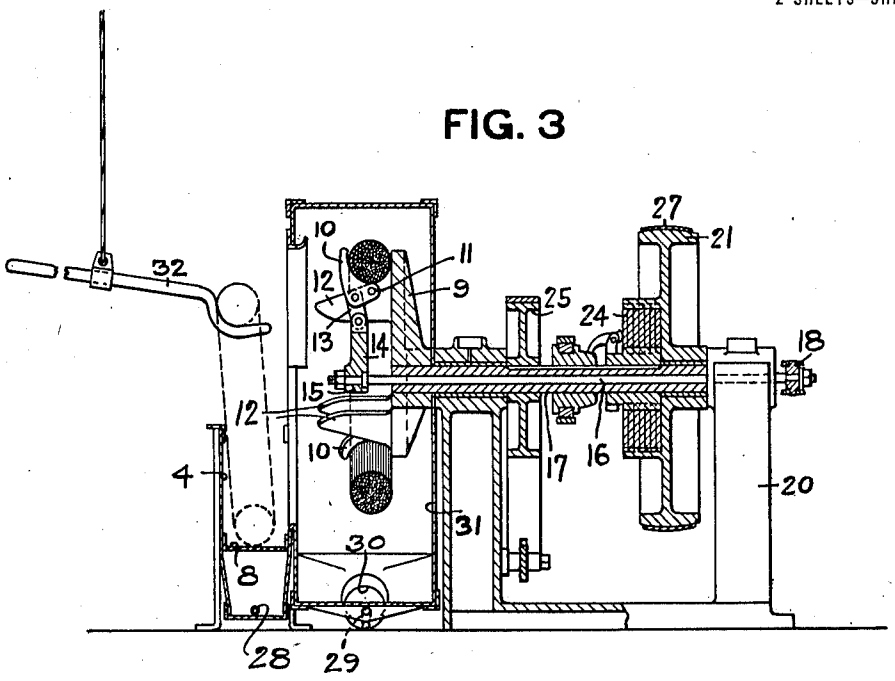
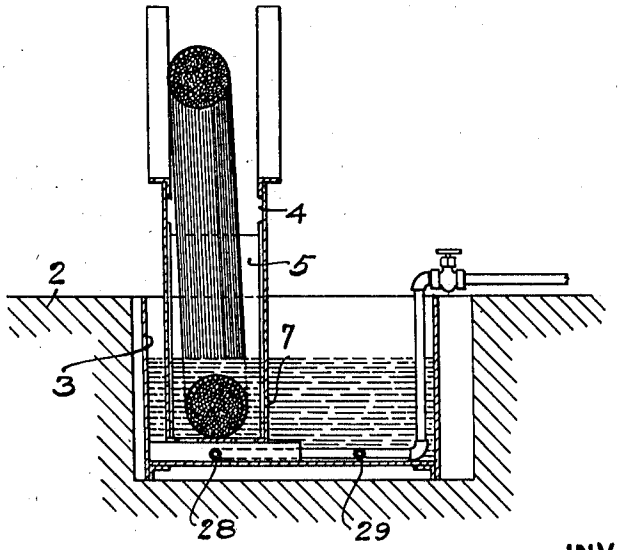


FIG. 4



INVENTOR

Christopher J. Mogan

By Kay Tittle Powell

Atty

UNITED STATES PATENT OFFICE.

CHRISTOPHER J. MOGAN, OF CHARLEROI, PENNSYLVANIA.

METHOD OF COATING BUNDLES OF WIRE.

1,314,889. Specification of Letters Patent. Patented Sept. 2, 1919.

Application filed November 7, 1918. Serial No. 261,504.

To all whom it may concern:

Be it known that I, CHRISTOPHER J. MOGAN, a citizen of the United States, and resident of Charleroi, in the county of Washington and State of Pennsylvania, have invented a new and useful Improvement in Methods of Coating Bundles of Wire, and do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a method of coating bundles of wire or other annular objects.

The object of my invention is to provide a simple and efficient method of coating annular objects, and more especially bundles of wire so that the coating material has an opportunity to seep through the layers of wire and the coating material so disseminated that the wire is thoroughly coated.

To these ends my invention consists, generally stated, in rolling the bundles of wire or other annular bodies through a bath of coating material, removing the same from said bath and subjecting it to rotation at high speed.

In the accompanying drawings, Figure 1 is a plan view of apparatus for carrying out my improved method; Fig. 2 is a longitudinal sectional view of same; Fig. 3 is an enlarged view on the line 3—3, Fig. 1; and Fig. 4 is an enlarged view on the line 4—4, Fig. 1.

In the drawing, the numeral 2 designates a suitable floor or foundation, and below said floor is formed the vat or receptacle 3 which is adapted to contain the coating material.

A runway or guide 4 is provided to guide the bundle of wire into the vat, and in its passage through the vat as well as when it leaves the vat. On its entrance into the vat said runway has the inclined bottom 5 and on its exit from the vat a like inclined bottom 6. Where said runway extends through the vat it is provided along its sides with openings 7 which admit the coating fluid to said runway, and the depth of the vat is such that a portion only at one time of the bundle of wire is submerged in the coating fluid.

The height of the runway is such that the bundle of wire projects above the same so that the attendant can roll the bundle along the runway by the use of a bar or tool of any suitable character, and the runway is furthermore so narrow as to support the bundle in vertical or substantially vertical position.

Beyond the exit incline 6 the bottom of the runway is inclined, as at 8, to permit the coating material dripping from the bundle to flow back into the vat. Beyond the exit end of the vat and to one side of the runway 4, is the revolving chuck 9, said chuck being provided with the movable fingers 10 pivoted at 11 between the bars or arms 12, links 13 connecting the fingers 10 to the arms 14 of the spider 15. Connected to the spider 15 is the rod 16 which passes through the shaft 17. A lever 18 is connected to the rod 16, said lever being pivoted at its outer end 19 to the housing 20. The lever 18 is bent around the pulley 21 and is provided with the handle 22. A notched bar 23 is provided to receive the handle 22 to lock it in position. It will be apparent from the above that by the movement of the rod 16 the fingers 10 are raised and lowered for the purpose of holding or releasing the bundle, as will more fully hereinafter appear.

The pulley 21 runs loose on the shaft 17, and a clutch 24 is provided to throw the shaft into driving engagement with the pulley when it is desired to rotate the chuck 9 mounted on the shaft 17.

A suitable brake-wheel 25 is provided to check the rotation of the shaft 17 after the pulley 24 has been thrown out of engagement with the pulley 21.

A suitable motor 26 is connected up by the belt 27 to the pulley 21.

As the coating material used for coating bundles of wire is liable to congeal when cold, I provide the steam pipe 28 which passes down into the vat 3, and said pipe also extends up and in under the inclined bottom 8 of the runway so that the coating material dripping from the bundle rolled up said runway will be kept sufficiently hot to flow back into the vat.

This steam pipe 28 has the return pipe 29 which passes through the conduit 30 connected up with the hood or casing 31 surrounding the chuck 9. The coating material driven off by the centrifugal action of the rotating bundle will be caught by the casing 31 and will eventually be drained by the conduit 30 from the casing 31 back into the vat 3.

In the operation of coating bundles of wire, the bundles are introduced into the runway 4 and are rolled along said runway, passing down the incline 5 into the vat 3. An operator standing at the side of the

runway with a bar or other suitable tool rolls the bundle through the coating liquid, the bundles being supported in substantially a vertical position by the walls of the runway. During the passage of the bundles through the vat the bundles at all points are subjected to the action of the bath, the liquid finding its way through the coils of the wire, and the bundles are then rolled up the exit incline 6 onto the incline 8, and as they move along said incline any coating fluid dripping from the bundles will be drained back into the vat. When the bundles have reached the point opposite the chuck 9 the bundle is lifted from the vat by a suitable tool 32, as indicated in Fig. 3, and is lifted from the runway and placed upon the chuck, the fingers 10 having been lowered by the operation of the lever 18. When the bundle has been slipped onto the arms 12 of the chuck the lever 18 is thrown around and locked in the notched bar 23. The fingers 10 then act to hold the bundle securely in position on the chuck, whereupon the shaft 17 is rotated by throwing the clutch 24 into engagement with the pulley 21. In this manner the bundle is rotated at a rapid rate of speed, and by the centrifugal action the coated material is forced through the coils and the surplus is thrown off from the periphery of the bundle against the walls of the casing 31, to be carried off by the drain conduit 30 back to the vat.

By my improved method the coils or bundles of wire are passed through the coating fluid in succession and are all subjected to a like degree of coating and at the same time the operators are protected from the coating liquid, and when the bundles have been saturated by their passage through the vat they are then subjected to rotary motion at high speed, which acts to distribute the coating material throughout the coils and all parts of the wire become thoroughly coated.

What I claim is:—

1. A method of coating bundles of wire or other annular objects consisting in rolling same partly submerged through a bath of coating material.

2. The method of coating bundles of wire or other annular objects consisting in rolling same partly submerged through a narrow bath of coating material.

3. A method of coating bundles of wire or other annular objects consisting in rolling same partly submerged through a bath of coating material, removing same from said bath and subjecting them to rotation.

4. The method of coating bundles of wire or other annular objects consisting in rolling same from an elevated position down into a bath of coating material, through the material partially submerged and up out of same to elevated position and then rotating same.

In testimony whereof, I the said CHRISTOPHER J. MOGAN have hereunto set my hand.

CHRISTOPHER J. MOGAN.

Witnesses:
JAS. S. RUSSELL,
H. J. CHAVERIN.