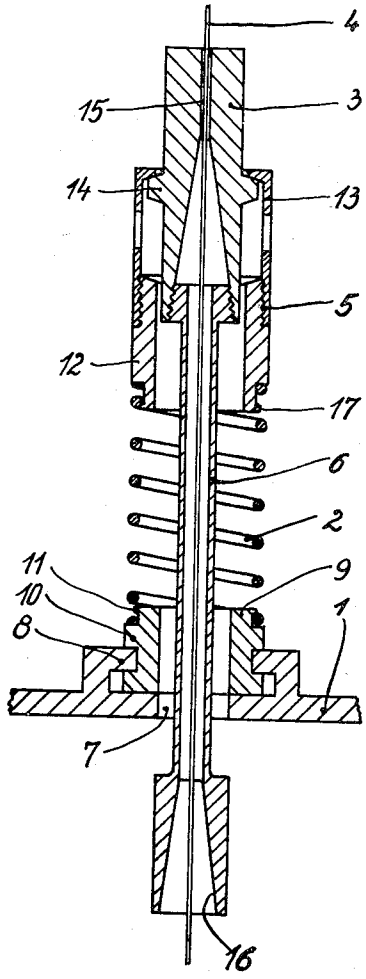
Dec. 6, 1955 H. GRAMATKE 2,725,847

APPARATUS FOR COATING AN ELONGATED ARTICLE OF CONSTANT CROSS SECTION, SUCH AS WIRE

Filed Jan. 19, 1953



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United States Patent Office 2,725,847
Patented Dec. 6, 1955

2,725,847

APPARATUS FOR COATING AN ELONGATED ARTICLE OF CONSTANT CROSS SECTION, SUCH AS WIRE

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Application January 19, 1953, Serial No. 331,974
Claims priority, application Germany January 23, 1952
4 Claims. (Cl. 118—125)

My invention relates to an apparatus for coating an elongated article of constant cross section, such as wire, with a viscuous material, such as lacquer.

More particularly, my invention relates to a stripping mechanism serving the purpose of stripping the surplus of the viscuous material applied to the wire before the viscuous material has hardened. In the operation of such stripping mechanism it is a requirement that the coat of material left on the wire will have a uniform thickness, and it is the primary object of the present invention to provide improved stripping means satisfying such requirement. More specifically, it is an object of the present invention to provide improved means whereby the stripping member will be so mounted as to have liberty of free lateral movement in directions normal to the path of the coated wire being thus able to follow all oscillations of the wire and all departures of the same from its normal path.

A particularly simple and reliable mechanism of this character is obtained, according to the invention, by the provision of a stripper preferably in form of a nozzle member which is carried by a resilient element mounted to extend substantially in the direction of the wire, such resilient element permitting the stripper any desired movement in a direction normal to the path of the wire.

The resilient element may be formed, for instance, by a resilient spring rod extending parallel to the wire. Where the wire is guided to move in a horizontal path, the spring is preferably so provided and adjusted that the weight of the stripper will be compensated for, and that the axis of the stripper coincides with the axis of the wire under normal conditions.

In a particularly effective stripping mechanism, the resilient element is so chosen and disposed as to surround the elongated article, said resilient element having an axis normally coinciding with that of the article. Preferably, the resilient element is a helical spring. Where the wire or other elongated article is guided in a vertical direction the helical spring may be suitably mounted on the cover of the lacquer container.

In the accompanying drawing, an embodiment of the invention is shown for the purpose of illustration, the drawing showing an axial section through the stripper mechanism mounted on the cover of the lacquer container.

The cover **1** of the lacquer container is provided with a hole **7** for the passage of the wire **4** therethrough in upward direction. The hole **7** is surrounded by a bracket formed with a horizontal flange **8** which is spaced from the cover **1** and engages a peripheral groove of a sleeve **9** which is thus held on top of the cover **1** in coaxial relationship to the hole **7**. A helical spring **2** is mounted on the sleeve **9** in coaxial relationship thereto, its lower end resting on a collar **10** of the sleeve **9** and being secured against accidental axial disengagement therefrom by a suitable lug **11** of sleeve **9** engaging over the lowermost winding of the helical spring **2**.

The spring **2** serves the purpose of supporting a stripping member. Preferably, such stripping member is composed of a nipple **5** fixed to the spring **2** and of a nozzle member **3** mounted within and projecting from the nipple. In the embodiment shown, the nipple **5** comprises a lower sleeve **12** having a reduced and threaded upper end and an upper sleeve **13** screwed on sleeve **12**. The sleeve **13** has an upper flange engaging over a collar **14** provided on the nozzle member **3**. Preferably, the top face of collar **14** and the lower face of the upper flange of sleeve **13** are formed by mating spherical seating faces which afford liberty of relative angular adjustment to the nozzle member **3** and the nipple **5** independently of the flexion of spring **2**.

The helical spring **2** engages the reduced lower end of sleeve **12** and is held against accidental disengagement therefrom by a suitable lug **17** over which the top winding is sprung.

The nozzle member **3** has an aperture **15** substantially coaxial to the nipple **5** affording passage to the wire **4**. The lower end of the aperture **15** is formed by a flaring conical bore being threaded at its lower end for the detachable insertion of a tubular member **6** which has an internal diameter exceeding that of the nozzle aperture **15**. The tubular member extends downwardly through the nipple **5**, the helical spring **2** and the hole **7** into the lacquer container, and its lower end is provided with a flaring mouth **16**.

In operation the spring **2** permits the stripping member constituted by the elements **3**, **5** and **6** full liberty of lateral self-adjustment with respect to the wire **4**. In this manner, a coat of uniform thickness will be produced on the wire.

When it is desired for operation on wire of a different diameter to substitute another nozzle member for member **3** shown, the member **3** may be easily removed after sleeve **13** will have been unscrewed from sleeve **12**, and upon insertion of a substitute nozzle member **3**, sleeve **13** may be again fixed in place on sleeve **12**.

The tubular member **6** prevents the wire from carrying along excessive quantities of viscuous lacquer and feeding same onto the stripping member, since such excessive quantities unless retained in the lacquer container might clog the windings of the spring adversely affecting the resiliency thereof.

While I have described a preferred embodiment of my invention hereinabove, I wish it to be clearly understood that my invention is in no way limited to the details of such embodiment, but is capable of numerous modifications within the scope of the appended claims. Thus, the helical spring **2** shown as having windings of the same diameter throughout its length may be given a conical shape, the diameter of the top winding differing from the diameter of the bottom winding. The helical spring may be replaced by any other suitable tubular resilient element, for instance by a rubber hose. Moreover, the spring **2** may be carried by an ovehead supporting structure in suspended position carrying the stripping member at its lower end.

What I claim is:

1. In an apparatus for coating wire with lacquer, the combination comprising the cover of a lacquer container, said cover being provided with a hole for the passage of wire therethrough, a helical spring, means for attaching said helical spring to said cover in coaxial relationship to said hole, a nipple fixed to and carried by the free end of said helical spring, a nozzle member provided with a central, elongated lacquer-stripping aperture, adjustable means for supporting said nozzle member in said nipple so that said aperture is normally in substantially coaxial alignment with said nipple, said supporting means being operable to allow limited angular movement of said nozzle with respect to said nipple, and a tubular member

fixed to said nozzle member and extending through said nipple, said helical spring and said hole of said cover, the internal diameter of said tubular member being small enough to prevent excessive amounts of lacquer from being drawn from said container, whereby fouling of said spring is prevented.

2. The combination claimed in claim 1 in which said tubular member is provided with a flaring mouth.

3. In apparatus for coating wire with lacquer, the combination comprising the cover of a lacquer container, a hole being provided in said cover affording passage to said wire, a stripping member spaced from said cover and provided with an aperture disposed substantially coaxially to said hole for the passage of said wire therethrough, a spring connected to said cover and to said stripping member to support the same and adapted to afford liberty of lateral self-adjustment thereto, said stripping member comprising a nipple fixed to said spring, and a nozzle member mounted within and projecting from said nipple, both being provided with mating spherical seating surfaces for affording freedom of relative angular adjustment.

4. In an apparatus for strip-coating an elongated article of constant cross-section with a viscuous material, the combination comprising a base member having an opening for passage of the article therethrough, a stripping device spaced from said base in the longitudinal direction of the article, said stripping device having a central stripping orifice adapted to receive passage of the article therethrough for stripping, resilient mechanism mechanically interconnecting said stripping device and said base member for holding said device and member mutually spaced and so relatively disposed that said stripping orifice is substantially coaxial with said opening, said resilient mechanism comprising an elongated helical spring having its longitudinal axis substantially coaxial with said stripping orifice and said opening, whereby said resilient mechanism provides freedom of self-adjustment to the article being stripped, and a coaxial tubular member fixed to said stripping device and extending downwardly through said spring and base member opening, the internal diameter of said tubular member being small enough to prevent excessive amounts of lacquer from being drawn through said opening, whereby fouling of said spring is prevented.

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