

No. 876,755.

PATENTED JAN. 14, 1908.

H. H. WEBB.  
WIRE COATING MACHINE.  
APPLICATION FILED MAR. 26, 1907.

2 SHEETS—SHEET 1.

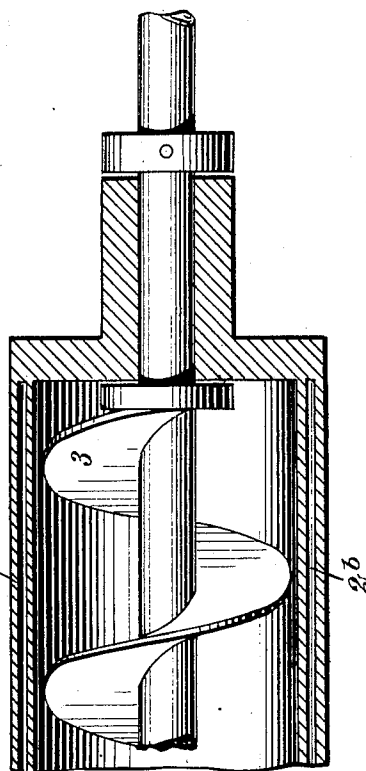
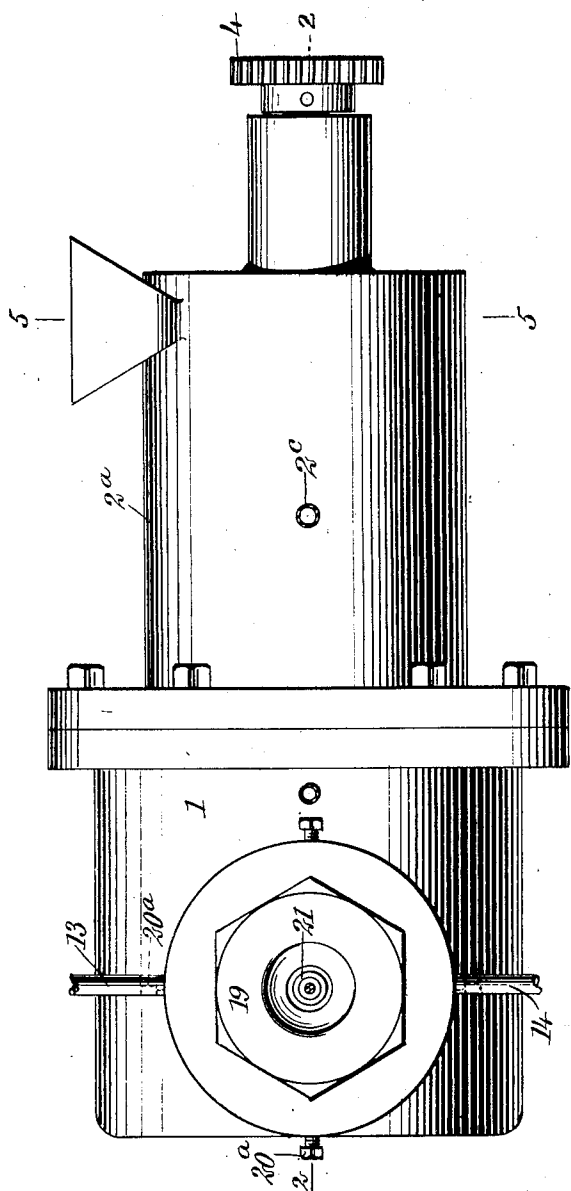


Fig. 1.

WITNESSES  
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Fig. 2.

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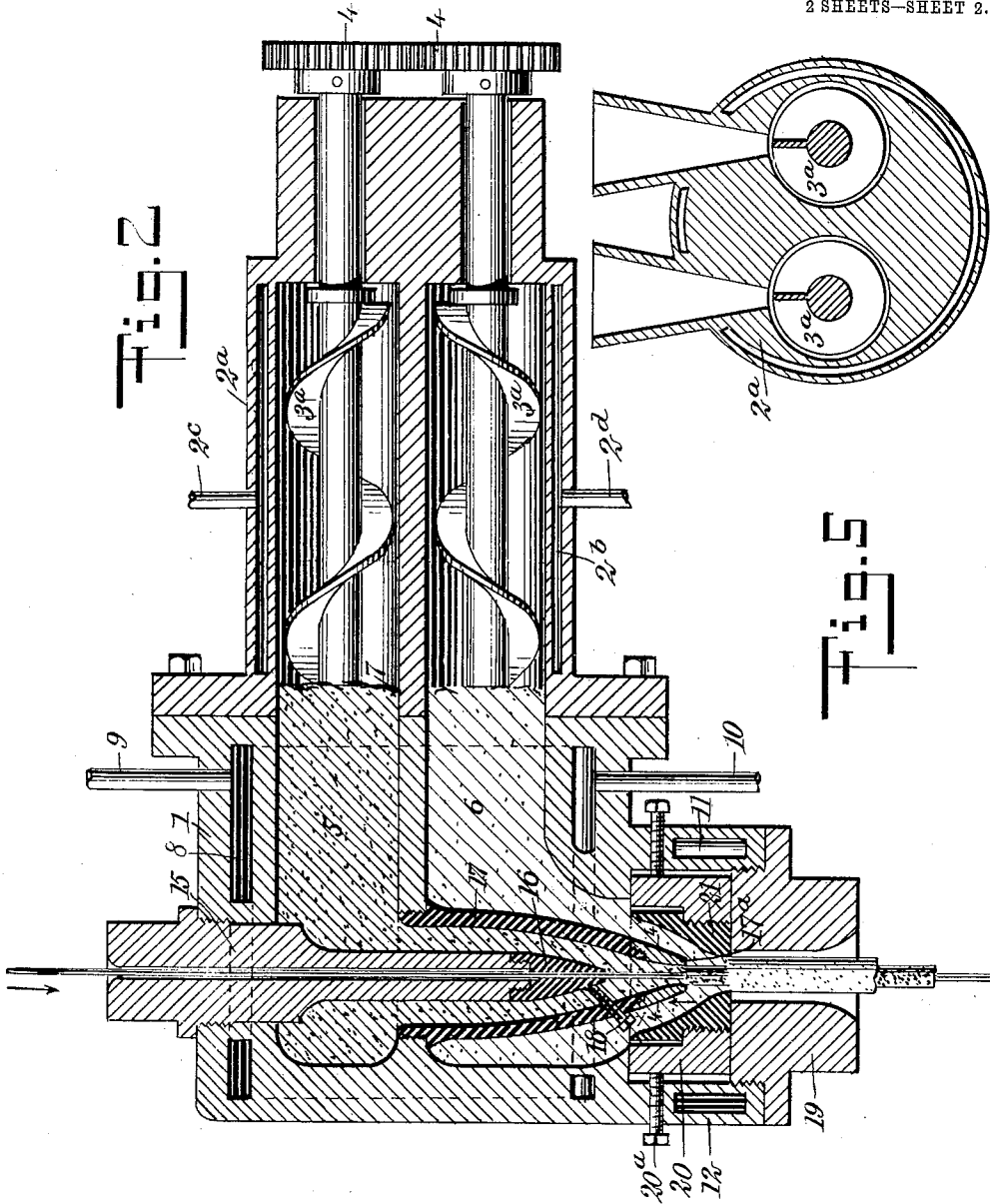


Fig. 2

Fig. 5

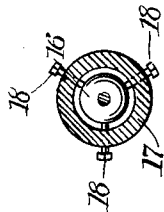


Fig. 4

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# UNITED STATES PATENT OFFICE.

HOWARD HARRY WEBB, OF YONKERS, NEW YORK, ASSIGNOR OF ONE-HALF TO ARTHUR H. HYDE, OF YONKERS, NEW YORK.

## WIRE-COATING MACHINE.

No. 876,755.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed March 26, 1907. Serial No. 364,608.

*To all whom it may concern:*

Be it known that I, HOWARD HARRY WEBB, a subject of the King of Great Britain, and a resident of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Wire-Coating Machine, of which the following is a full, clear, and exact description.

This invention has reference to improvements in wire coating machines, the object of which is to successively apply two coats of plastic to the wire on passing it through the machine a single time.

Prior to my invention it has been necessary to apply only one coating of plastic to a wire at a time, which must be given time to set before it is firm enough to receive an additional coating; also it is impractical to apply the entire thickness of plastic at once owing to the inability to centrally envelop the wire. I overcome these difficulties by successively covering the wire with two or more coats in the same machine, which coats may be of one and the same or different materials, as desired.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of one embodiment of my improvement; Fig. 2 is a longitudinal, central section of the same on the line 2—2 of Fig. 1, showing a modified form of the feeding device; Fig. 3 is a modified form of feed for the machine which is used in applying two or more coats of the same plastic to the wire; Fig. 4 is a section on the line 4—4 of Fig. 2, looking in the direction of the arrow, and Fig. 5 is a section on the line 5—5 of Fig. 1, looking in the direction of the arrow.

The machine as preferably constructed, comprises a head 1, which is adapted to be detachably connected with a feeding mechanism ordinarily known as a spewing machine and consisting of a steam or water jacketed cylinder 2 shown in Fig. 3, in which a single feeding worm 3 is journaled, this worm being driven from any suitable source of power.

In Fig. 2 I have shown the head 1 detachably connected to a double cylinder 2<sup>a</sup>, having a steam or water jacket 2<sup>b</sup> supplied and discharged through pipes 2<sup>c</sup> and 2<sup>d</sup>, respec-

tively. In the bores of the cylinder 2<sup>a</sup> are revolubly mounted feed worms 3<sup>a</sup> which are right and left hand, respectively, and inter-gearred together at the outside of the machine through gears 4. Each bore of the double cylinder 2<sup>a</sup> registers with a corresponding bore in the head 1, which are designated by the numerals 5 and 6, the bores being separated from each other by a central partition 7 formed in the head.

The head 1, as shown in Fig. 2, is cored out to provide a steam or water jacket 8, to which steam or water is piped to and from it through pipes 9 and 10, respectively. A steam or water jacket 11 is likewise formed in the head around an extension 12 constructed at one side of the bore 6, this last jacket being supplied and discharged through steam or water pipes 13 and 14, shown in Fig. 1.

Threaded through the wall of the head 1 at a point opposite and in central alinement with the extension 12, is a tubular guide 15 for the wire, said guide also passing through an opening in the partition 7 to near the opposite wall of the head, where it is provided with a detachable tip 16 of conical form and constructed with a bore of a size to exactly fit the wire to be coated, said bore being somewhat smaller than the bore in the guide 15.

Concentrically surrounding the tip 16 and the inner portion of the guide tube leaving an annular space therebetween connecting with the bore 5 of the head, is a conical nozzle 17, which is threaded into the partition 7, and is provided with a detachable tip 17<sup>a</sup>. The tips 16 and 17<sup>a</sup> are maintained in exact central alinement by adjusting screws 18. These screws, as shown in Figs. 2 and 4, are angularly threaded through the nozzle 17 and press on the tip 16 near its outer end.

As shown in Fig. 2, the extension 12 is counterbored and has threaded into its outer end a plug 19 having a bore of sufficient size to freely clear the wire after the last coat of plastic has been applied thereto. Between the plug 19 and the shoulder formed by the counterbore in the extension 12 is arranged a collar 20 laterally adjustable by screws 20<sup>a</sup> passing through the walls of the extension 12, acting to centrally locate it with respect to the nozzle 17. The collar 20 is provided with a threaded bore adjacent to the plug 19, and is expanded or counterbored at its opposite side to receive a nozzle 21, the latter

being constructed with a conical bore concentrically surrounding and forming an annular space between it and the nozzle 17, said space communicating with the feed bore 6 of the head.

In the operation of the machine, the cylinder which is attached to the head 1 is fed with rubber, a composition thereof, or other plastic, through the hoppers shown in Figs. 1 and 5. If the inner and outer coatings are to be formed of the same plastic, the cylinder 2 having the single feed worm can be used; otherwise the cylinder 2\* should be employed and the plastic to form the inner coating of the wire fed to the bore 5 of the head 1. As the wire is drawn through the head in the direction of the arrow shown in Fig. 2, the plastic is forced about it in the nozzle 17, which applies a thin, concentric coating to the wire as it passes into the nozzle 21. The nozzle 21 likewise applies a covering of the plastic fed into the bore 6 over the coating applied by the nozzle 17, the wire which is discharged through the plug 19 being concentrically enveloped by coatings of the same or different materials.

It is obvious that the invention as hereinbefore described is susceptible of numerous modifications falling within the scope of the annexed claims.

Having thus described my invention I claim as new and desire to secure by Letters Patent:

1. A wire coating machine, comprising a jacketed cylinder having two bores, each provided with a supply hopper, right and left hand feed screws in the bores respectively and geared together, a jacketed head secured to the cylinder and having bores registering with the bores of the cylinder and provided with a lateral extension, a nozzle having a conical bore and adjustably mounted in the extension of the head, a conical nozzle secured to the partition separating the bores of the head and extending into the conical nozzle, and a tubular guide secured in the wall of the head opposite the extension and extending into the last named nozzle, the said guide having a conical inner end, and means for centering the inner end of the guide in the conical nozzle.

2. A wire coating machine, comprising a cylinder having two bores, each having an

inlet for the admission of the material, screws in the bores of the cylinder and geared together, a head secured to the cylinder and having two bores registering with the bores of the cylinder and provided with a lateral extension, a nozzle having a conical bore and secured in the extension of the head, a conical nozzle secured to the partition separating the bores of the head and projecting into the nozzle of the extension, and a tubular guide secured in the wall of the head opposite the extension and extending into the conical nozzle, the said guide having a conical inner end.

3. In a wire coating machine, a head having two bores and provided with a lateral tubular extension, a plug having a bore and secured to the extension, a collar fitting loosely in the extension, screws for adjusting the collar in the extension, a nozzle having a conical bore and carried by the collar, a conical nozzle secured to the partition separating the bores of the head and extending into the nozzle in the extension, a tubular guide secured in the wall of the head and projecting into the conical nozzle, said guide having a conical inner end, and means for feeding plastic material into the bores of the head.

4. In a wire coating machine, a head having two bores and provided with a lateral tubular extension, a plug having a bore secured to the extension, a collar in the tubular extension and of less diameter than the same, said collar having two bores, the outer one being the smaller and screw threaded, screws screwing into the extension into engagement with the collar, a nozzle having a conical bore and screwed into the smaller bore of the collar, a conical nozzle secured to the partition separating the bores of the head and projecting into the nozzle in the extension, a tubular guide secured to the wall of the head projecting into the conical nozzle, the guide having a conical inner end, and means for feeding plastic material into the bores of the head.

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

HOWARD HARRY WEBB.

Witnesses:

MATTHEW A. BRODERICK,  
ALBERT LOCKWOOD.