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C. H. HAWKINS.

MACHINE FOR INSULATING ELECTRICAL CONDUCTORS.

APPLICATION FILED NOV. 28, 1904.

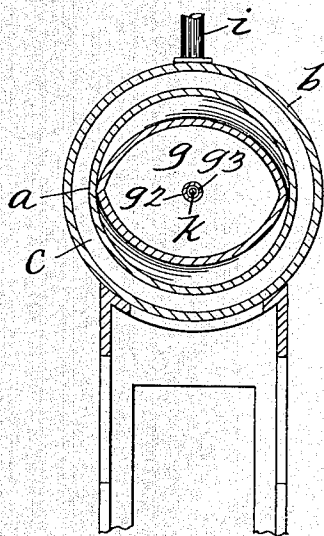
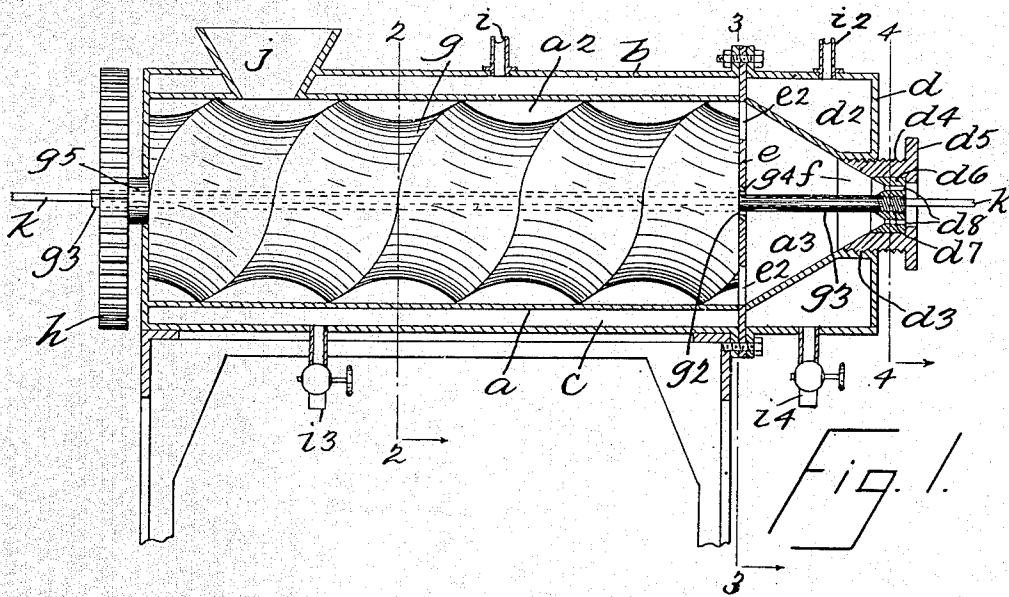


Fig. 2

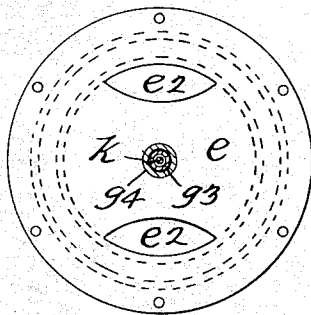


Fig. 3

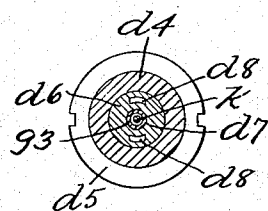


Fig. 4

WITNESSES

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MACHINE FOR INSULATING ELECTRICAL CONDUCTORS.

No. 798,606.

Specification of Letters Patent.

Patented Sept. 5, 1905.

Application filed November 28, 1904. Serial No. 234,503.

To all whom it may concern:

Be it known that I, CHARLES H. HAWKINS, a citizen of the United States, residing at Long Island City, in the county of Queens and State of New York, have invented certain new and useful Improvements in Machines for Insulating Electrical Conductors, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to machines for insulating wires used for electrical conductors, and particularly to that class of such machines known as the "Royle;" and the object thereof is to improve a machine of this class so that the insulating material will be forced therefrom in narrow strips, a further object being to provide an improvement in a machine of the class referred to which will render it better adapted for use in connection with the supplemental machine described and claimed by me in an application for Letters Patent of the United States, filed August 21, 1904, Serial No. 219,220.

The invention described and claimed herein is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a sectional side elevation of the head of a rubber-wire-coating machine of the Royle type made according to my invention; Fig. 2, a transverse section on the line 2 2 of Fig. 1; Fig. 3, a similar view on the line 3 3 of Fig. 1, and Fig. 4 a section on the line 4 4 of Fig. 1.

In the practice of my invention, as shown in the drawings, I provide a cylindrical casing *a*, having an inclosing jacket *b*, whereby an annular chamber *c* is formed around the casing *a*, and at one end of the casing *a* is a supplemental casing *d*, also cylindrical in cross-section and between which and the casing *a* is secured a plate *e*, the sides of which are provided with openings *e'*, which form a communication between the interior chamber *a'* of the casing *a* and a conical chamber *a''* in the supplemental end casing *d*. The supplemental end casing *d* is also provided with an annular chamber *d'* and with a large central screw-threaded opening *d''*, closed by a screw-threaded hollow plug *d'''*, having a rim *d''''*, and in which is placed a plug *d'''''*, having a central screw-threaded bore *d''''''* and opposite side ports or passages *d'''''''*, which are oblong

and rectangular in cross-section, and the inner ends of the plug *d'''''* are channeled out, as shown at *f*, so as to form a continuation of the conical chamber *a''* in the supplemental end casing *d*.

Within the casing *a* is placed a longitudinal worm *g*, having a central longitudinal bore *g''*, through which is passed a tube *g'*, one end of which is screwed into the plug *d'''''*, and the worm *g* is provided at the end thereof adjacent to the supplemental end casing *d* with a tubular journal *g'*, which passes through the plate *e*, and the other end thereof is provided with a tubular journal *g''*, which passes through the corresponding end of the casing *a*, and a gear-wheel *h* is mounted on the tubular journal *g''*, and one end of the tube *g'* also passes through the tubular journal *g''*.

A tube *i* is connected with the jacket *b* and communicates with the chamber *c*, and another tube *i'* is connected with the supplemental end casing *d* and communicates with the chamber *d'* therein, and by means of this tube either hot water or steam may be supplied to the chambers *c* and *d'*, and said chambers are also preferably provided with drain-pipes *i''* and *i'''*.

One end of the casing *a* is provided with a hopper *j*, which also passes through the jacket *b*, and in practice the gum or other material employed for coating electric wires is fed, in a plastic or semiliquid condition or in any other condition, into the casing *a* through said hopper, and the worm *g* is turned by means of the wheel *h*, to which suitable gearing is applied, or said worm may be turned in any desired manner. In this operation the material in the casing *a* is forced in the direction of the supplemental end casing *d* and passes through the openings *e'* in the plate *e* and is forced into the conical chamber *a''* and gradually fills said chamber, and the continued pressure applied by the worm *g* forces the said material in the form of strips through the opening *d''* in the supplemental plug *d'''''*, which forms a part of the head of the machine.

The wire *k* to be coated is passed through the tube *g'*, and as it emerges from the plugs *d'''''* and *d''''''* the coating or the narrow strips which form said coating are applied to the wire *k* and compressed around the same in the usual or any desired manner. This operation in practice is preferably done by means of my improved supplemental machine, described and claimed in the application for

Letters Patent of the United States hereinbefore referred to, and it will be understood that the casing *a*, the supplemental end casing *d*, connected therewith, and all the interior and other parts within and connected with said casing and supplemental casing, as hereinbefore described, constitute the head of what is known as the Royle machine, hereinbefore referred to as improved by me.

10 In the operation of this machine as hereinbefore described the casing *a* and the contents thereof are warmed by steam or hot water admitted through the tube *i*, and the casing *d* or the interior thereof is also warmed
15 by steam or hot water admitted through the tube *i*², and the contents of the chambers *c* and *d*² may be drained off whenever desired, and the parts of the machine may be cooled by passing cold water into and through the
20 chambers *c* and *d*².

My invention is not limited to the exact details of the construction herein shown and described, and I reserve the right to make all such alteration therein as fairly come within
25 the scope of the invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for insulating electrical conductors, a cylindrical casing, a worm placed therein, and a supplemental casing at one end of the cylindrical casing and provided with a conical chamber which communicates with the interior of the cylindrical casing and is
30 provided at its apex with concentrically-arranged slots or openings, said worm being also provided with a stationary tube which is passed therethrough and through the apex of the casing of the conical chamber, substantially as shown and described.
40

2. In a machine of the class described, a cylindrical casing, a worm placed therein, a supplemental casing at one end of the cylindrical casing and provided with a conical cham-

ber in communication with the interior of
45 said cylindrical casing, said conical chamber being closed at its apex by a plug having concentrically-arranged slots forming openings therein, said worm being also provided with a stationary tube which is passed therethrough
50 and through the conical chamber and secured in said plug, substantially as shown and described.

3. In a machine of the class described, a cylindrical casing, a worm placed therein, a
55 supplemental casing at one end of the cylindrical casing and provided with a conical chamber in communication with the interior of said cylindrical casing, said conical chamber being closed at its apex by a plug having con-
60 centrically-arranged slots forming openings therein, said worm being also provided with a stationary tube which is passed therethrough and through the conical chamber and secured in said plug, and both of said casings being
65 provided with heating and cooling chambers and pipes communicating therewith, substantially as shown and described.

4. In a machine of the class described, a cylindrical casing provided with a jacket forming an inclosing chamber, a worm placed in
70 said casing, a supplemental casing at one end of the cylindrical casing and provided with a conical chamber which communicates with the interior of the cylindrical casing, said conical
75 chamber being closed at its apex by a plug having concentrically-arranged slots forming openings, and a tube passed longitudinally through said worm and secured in said plug, substantially as shown and described.
80

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 26th day of November, 1904.

CHARLES H. HAWKINS.

Witnesses:

F. A. STEWART,
C. E. MULREANY.