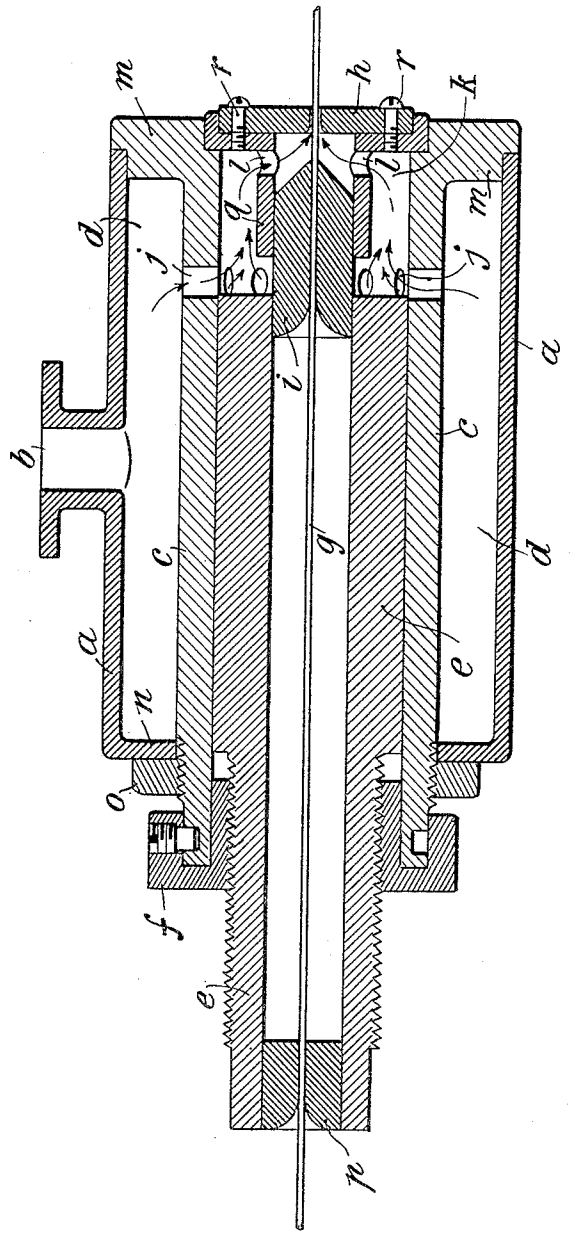
E. C. WEEKS.

MACHINE FOR COATING OR COVERING MATERIAL.

APPLICATION FILED AUG. 12, 1920.

1,393,860. Patented Oct. 18, 1921.



INVENTOR

Edward Chester Weeks

BY

ATTORNEY

UNITED STATES PATENT OFFICE.

EDWARD CHESTER WEEKS, OF JACKSON, MICHIGAN.

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To all whom it may concern:

Be it known that I, EDWARD CHESTER WEEKS, a citizen of the United States of America, residing at Jackson, county of Jackson, State of Michigan, have invented certain new and useful Improvements in Machines for Coating or Covering Material, of which the following is a specification.

This invention relates to machines employed for coating or covering material such as ribbon metal, wires, or other long lengths of more or less rigid substance with adhesive, plastic, or the like material, and while capable of many such uses it is specially designed and will hereinafter be described more particularly with reference to the covering of ribbon or strip metal with adhesive substance which will harden upon exposure to the atmosphere with or without the assistance of additional heat.

The invention refers more particularly to the means and method of coating the material and may be broadly described as consisting in making the usual intake guide or die as a rigid unit with the draw-plate die and in such a manner that these two parts can be placed in or removed from the machine as one member instead of in separate pieces as has hitherto been usual.

It has been customary to pass the ribbon metal through a tubular chamber in or about one end of which the intake guide is fitted, requiring very careful and tedious adjustment to secure alinement with the draw-plate die which is fitted at or in conjunction with the other end of the chamber, means being provided between the two for the introduction and application of the material with which the ribbon is to be coated, the said material being applied under some little pressure and in some cases contained within a warm water chamber for the purpose of keeping the material in an easily flowing state.

As above stated I make the intaking die and the draw-plate die as a unit so that they can be applied together to the supply chamber and removed therefrom in like manner.

The supply chamber I prefer comprises two cylindrical portions one of which is adapted to telescope pretty closely within the other and the inner of which is adapted to control the supply of flowing material to the ribbon draw-plate by more or less covering openings in the outer cylinder or casing through which the material is supplied, in addition to which the inner end of the bore of the inner cylinder serves as a guide or support for the intaking guide or die.

In addition to the facility with which the intaking guide and the draw-plate die can be simultaneously fitted and removed, my construction has the advantage that when these parts are to be taken out the inner cylinder can be quickly adjusted to stop the flow of material to the space back of the draw-plate so as to prevent waste and mess. Guides and dies of different sizes having the same exterior dimensions can be interchanged at will in one machine so that strips of material of varying sizes can be coated by it.

The best form of apparatus at present known to me embodying my invention is illustrated in the accompanying drawing which shows a longitudinal axial section of the machine.

In this example the device comprises outer cylindrical member *a* into which the covering material is forced through inlet *b*. Within this member a second cylinder *c* is fitted forming with *a* a tubular casing having an annular cavity or space *d* for the covering material. One end of cylinder *c* has an external flange *m* which fits into the corresponding end of cylinder *a*, while the other end of cylinder *a* has an inwardly extending flange *n* which fits over *c*. These two parts may be held together by a nut *o* screwed on to the unflanged end of *c*. A third cylinder *e* is fitted within cylinder *c* and is capable of longitudinal movement therein and of being fixed in any desired position therein by the nut *f*. The bore of the cylinder *e* forms the passage through which the metal ribbon or wire *g* is passed from left to right, according to the drawing, preferably entering through a guide *p* at one end of the cylinder and passing out through the main guide *i* and draw-plate die *h* which latter is formed as a unit with the main guide *i* which is located in the other end of cylinder *e*. The forward end of cylinder *e* fits closely over but has sliding movement on the guide *i* and is adapted to more or less cover the openings *j* in cylinder *c* leading from cavity *d* to the space *k* around the combined draw-plate die and main guide *h*—*i*. The draw-plate *h* is mounted on the outer face of the flange of a short, flanged

cylinder q by means of screws, r, r, or equivalent fastening means, and cylinder q fits tightly over the main guide i, so the latter is always centered properly with reference to the draw-plate h. Openings are formed at l in cylinder q so that the coating material can pass through from space k between c and q to the ribbon g immediately behind the die h and there completely cover said ribbon before it is drawn out through the die or draw-plate h.

It will be evident that if the machine is left unused and the adhesive material sticks in chamber k, or if any faults or stoppages arise in use of the machine, it will be a simple matter to remove the die h and guide i, as one member, to get full access to the interior of the device without in any way changing the mounting of the guide i, with reference to the draw-plate, or changing the relative positions of these parts, or the positive alinement of the intake guide with the draw-plate die.

I have not shown means other than friction fits between the parts for holding the die and the guide in place but any suitable means may be employed and it will be obvious that the details of construction can vary considerably within the scope of the following claims.

Having described my invention I claim:

1. In an apparatus for covering ribbons and similar forms of material with a coating of plastic material the combination, with a casing open at one end, into which the plastic material may be introduced under pressure, of a guide and a draw-plate for the ribbon, and a member holding these two in alinement and slightly spaced apart, said member being in the form of a short flanged tube to the flange of which the draw plate is fastened and in the unflanged end of which the guide is supported, said tube being provided with radial perforations through which the plastic material may pass under pressure to the space in the tube interior between the guide and draw plate, and the flange of the tube being adapted to fit into and close the open end of the casing, whereby the guide, draw-plate and connecting member may be removed from or replaced in the casing without disturbing the relative adjustment of guide and draw-plate.

2. In an apparatus for covering ribbons and similar forms of material with a coating of plastic material the combination of a tubular casing having an annular cavity in its walls, which walls are provided with an exterior opening for admitting plastic material to the cavity and a plurality of interior openings for delivering the material to the bore of the casing, a cylinder movable into or out of one end of said tubular casing and adapted to more or less close the said interior openings, and a combined ribbon guide and draw-plate member located in the other end of said tubular casing, the guide portion of said member telescoping into the said movable cylinder.

3. In an apparatus of the kind herein described the combination of a tubular casing having a radial opening in its wall through which plastic material may be forced, a combined guide and draw-plate member adapted to fit in and close one end of the said casing, and a tubular member adapted to fit into the other end of the casing, surround the inner end of the combined guide and draw-plate member, and overlap more or less the radial opening in the wall of the casing.

4. In an apparatus of the kind herein described the combination of a cylindrical casing having an annular cavity in its walls extending nearly from end to end of the casing, an exterior inlet to said cavity and a series of outlet passages from said cavity to the bore of the tubular casing near one end thereof, a short flanged tube held by its flange in that end of the casing bore, the tube projecting into the casing and having a series of holes in its walls near the flange, a draw plate fastened to the exterior of the flange, a guide plug mounted in the inner end of the tube and bored in line with draw-plate opening but spaced far enough therefrom to leave uncovered the holes in the tube walls, a cylindrical member which telescopes into said tubular casing and over the inner end of the said guide plug, and an adjustable stop on the outer end of the said cylindrical member whereby its position in the casing may be adjusted to overlap more or less the outlet passages from the cavity in the casing walls.

EDWARD CHESTER WEEKS.