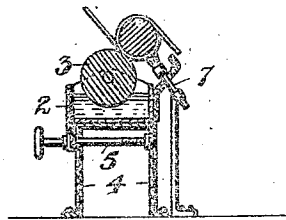
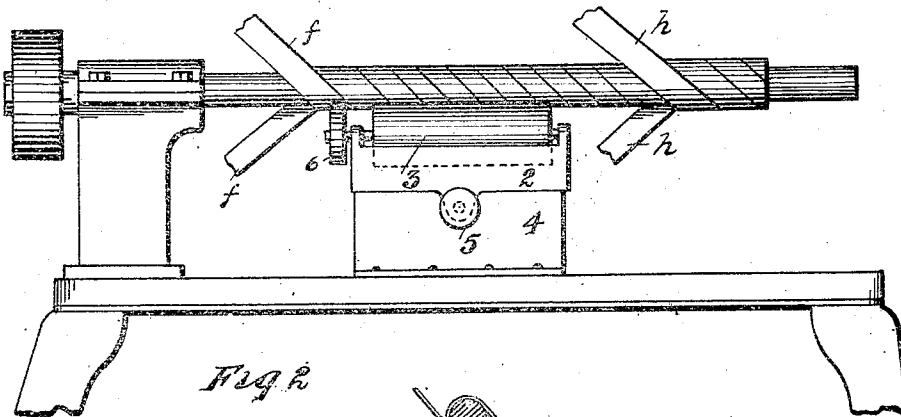
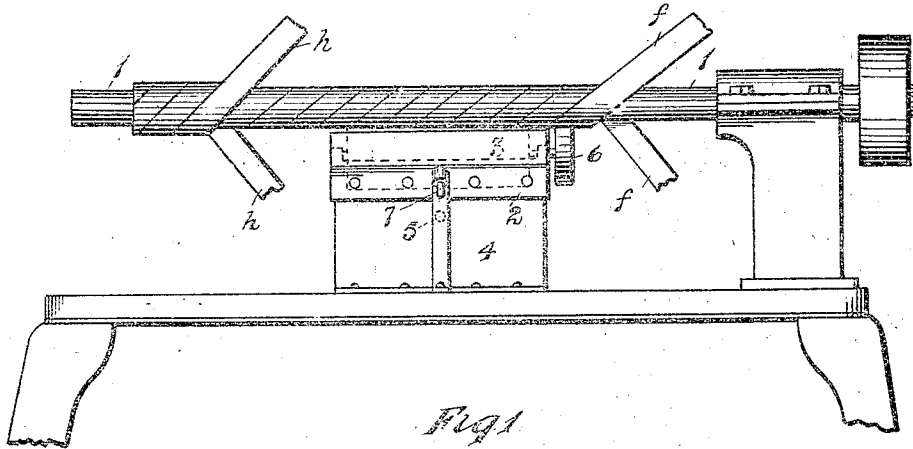


F. P. WOOD.
COATING MACHINE.
APPLICATION FILED SEPT. 11, 1909.

968,826.

Patented Aug. 30, 1910.



Witnesses
Clarence E. Day
Virginia C. Spratt

Fig. 3.

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UNITED STATES PATENT OFFICE.

FREDERICK P. WOOD, OF DETROIT, MICHIGAN.

COATING-MACHINE.

968,826.

Specification of Letters Patent. Patented Aug. 30, 1910.

Application filed September 11, 1909. Serial No. 517,235.

To all whom it may concern:

Be it known that I, FREDERICK P. WOOD, a subject of the King of Great Britain, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Coating-Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to machines for inserting a layer of waterproof material, or similar protective layer between two spirally wound tubular members, the object of the invention being to produce a tube or vessel which contains as a constituent part thereof a layer of protective material that is itself separate from and protected from the contents of the vessel.

The vessel is made as a continuous double tube afterward cut in sections and fitted with end closures, and the device, which is the object of this invention, is intended to place between the two tubes, of which the walls of this vessel are made, a layer of protective material. Usually the protective layer is of waterproof compound, but it may be a compound to prevent the escape of any character of material placed inside the vessel.

In the drawings:—Figure 1, is a side elevation. Fig. 2, is a reverse side elevation. Fig. 3, is a cross section.

1 indicates the mandrel of an ordinary tube winding machine of the character employed to wind what is known as spirally wound tubes. Upon this are run the strips $f-f$ of a spiral tube, and at a distance along the mandrel are run the strips $h-h$ to form another tube or another layer upon the first tube, using the first tube as a base for the second and winding both sets of strips to construct what would be a four-ply tube instead of a two-ply tube or two tubes, one constructed inside of the other. Between the two sets of strips $f-f$ and $h-h$ is located a base 4, upon which there is mounted a tank 2, above which and on the casing thereof is journaled a coating roller 3; the tank 2 carrying the coating roller is adjustable across the base 4 by means of an adjusting

screw 5 to bring the roll of the coating machine to its proper relation to the mandrel. The coating roll 3 is so located that the upper run of its periphery will contact the lower run of the tube that is making, if the tank upon which the roll is carried be thrown over to produce that result or it may be drawn away as much as may be desired. The adjustment is especially required because the material used in constructing the tubes varies in thickness. Toward the feed end of the mandrel the shaft of the roll 3 is extended and provided with a driving wheel 6 that is slightly greater in diameter than the coating roll 3; the driving wheel presses against the tube that is making with a pressure sufficient to rotate the coating roll, although the coating roll itself may be spaced from the coated tube to such an extent that it would not be driven without the driving wheel. Such an adjustment is sometimes necessary when the coating to be applied is quite thick and it is desired to have a thick layer of it applied intermediate the walls of the double tube. The cellular or soft character of the material of which such tubes are usually made renders it possible to have a considerable range of adjustment and still retain the driving wheel 6 in driving contact with the tube that is making. The lower run of the coating roll dips in the tank 2 and applies a coating of protective material to the tube, which is immediately covered in by the second layer of material $h-h$; the protective material is thus itself inclosed between the two layers of the tube, which, with the protective coating form the finished tube and the side walls of the finished vessel. A scraper 7, preferably a stiff brush, removes superfluous material.

What I claim is:—

1. In combination with the mandrel of a tube-forming machine adapted to be rotated, a coating roll adjustable with respect to said mandrel, a tank adjustable with said roll, a driving wheel on said roll adapted to contact the tube making on said mandrel, and thereby drive said roll, substantially as described.

2. In combination with the mandrel of a tube-forming machine adapted for the making of a double-walled tube thereon, each wall consisting of a plurality of spirally

wound strips, a tank adapted to hold a
coating compound, a coating roller mounted
to revolve above and partially in said tank,
means for adjusting the roll with respect to
5 the mandrel, and means for driving the roll
independently of its own frictional contact
with the mandrel, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

FREDERICK P. WOOD.

Witnesses:

VIRGINIA C. SPRATT,
CHARLES C. JENNINGS.