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## APPARATUS FOR PRODUCING SHEATHED ARTICLES

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Our invention relates to a machine for handling strand and/or strip material, more particularly to a machine for handling a plurality of moving wires during the process of continuously applying individual insulation around the wires and simultaneously vulcanizing the insulating coatings upon the wires.

An object of the invention is to produce a plurality of individually insulated and vulcanized wires in a simple, expeditious and economical manner.

It has hitherto been the practice to take a single wire and extrude a coating of vulcanizable material upon the wire, pass the wire thus coated directly through a vulcanizer without contact with the air to cure the insulation. While this is quite a satisfactory method of insulating wire with rubber, many obstacles arise when it is attempted to handle in that manner a plurality of wires at the same time and in one operation, especially when it is desired to have each wire with an independent sheathing or covering of rubber. The object of the invention is therefore, to overcome these obstacles and to produce a machine that will handle forty to a hundred wires as simply as heretofore one has been handled by the old method and to produce a vulcanizer that will retain the vulcanizing medium without loss and to insulate a multiplicity of wires in an expeditious and practical manner.

The foregoing and other features of our invention will now be described in connection with the accompanying drawings forming part of this specification in which we have represented our apparatus in its preferred form, after which we shall point out more particularly in the claims those features which we believe to be new and of our own invention.

In the drawings:

Figure 1 is a diagrammatic side view of the entire apparatus from the supply reels 11 of plain wire on the right to the reels of finished insulated wire 42 on the left. For convenience in illustration, this diagram is divided in the middle and illustrated on two sheets.

Figure 2 is an enlarged detail of the capstan for producing even tension on the wires to be insulated.

Figure 3 is an enlarged view of the stripper rolls at right angles to their position as shown in Figure 1.

Figure 4 is an enlarged detail of our water gland at inlet end of vulcanizer.

Figure 5 is a section on line 5—5, Figure 4.

Figure 6 is an end view of the vulcanizer.

Figure 7 is an enlarged detail of the seam turner.

Figures 8 and 9 show method of turning wire between the stages of stripping.

Figure 10 is a modification of my seam turner.

In the drawings, we have illustrated a rack 10 arranged to accommodate ten supply reels 11, but in our preferred practice we intend to operate with forty reels. However, we do not wish to limit ourselves to that number and it may even be practical to handle over a hundred individual reels of wire in one operation. The wires 12 are passed from these reels through friction 13 which may be any means for putting a resisting pull on each wire. In the friction shown, the wires run between two blocks 17 and 18 faced with rubber which are clamped together to give the resistance desired. The wires then pass over the capstan 14, passing around the rolls 15 and 16 which not only delivers the wires with even tension but straightens them. From here the straightened wires are fed to the stripper 20 which may be of any well known type of stripping device.

The stripping device 20 as shown, comprises two stations 21 and 22, both identical in operation and are used to put on two independent layers of rubber strip insulation. Each station has two rolls 23, 24 carrying on the periphery of each a plurality of grooves with sharp shearing edges between adjacent grooves. Two rolls of rubber strip 25 and 26 are mounted in any convenient manner so that the strip from roll 25 will be fed into the rolls 23, 24 on the top of the plurality of wires 12, while the strip from the roll 26 will be fed into the rolls 23, 24 on the under side of the plurality of wires 12. In this manner the rubber strips are fed into the first stage of the stripper and the rubber is rolled into the grooves of the rolls and is firmly packed around each individual wire while the edges of the grooves sever the rubber strips so that each wire emerges from this stage of the stripper with a complete covering layer of rubber insulation. Between the first and second stage we may provide a device which we call our seam turner 30. One modification which we may employ comprises a roller having a plurality of grooves 31 provided with inclined planes and mounted to revolve so that the upper horizontal periphery of the roll is slightly above the direct line of travel of the wires 12. When each wire 12, which has had its first covering of rubber insulation, approaches the groove, the seams of the covering have the relative position to the groove as shown in Figure 9. The seams 32 are in a horizontal position. After the wire