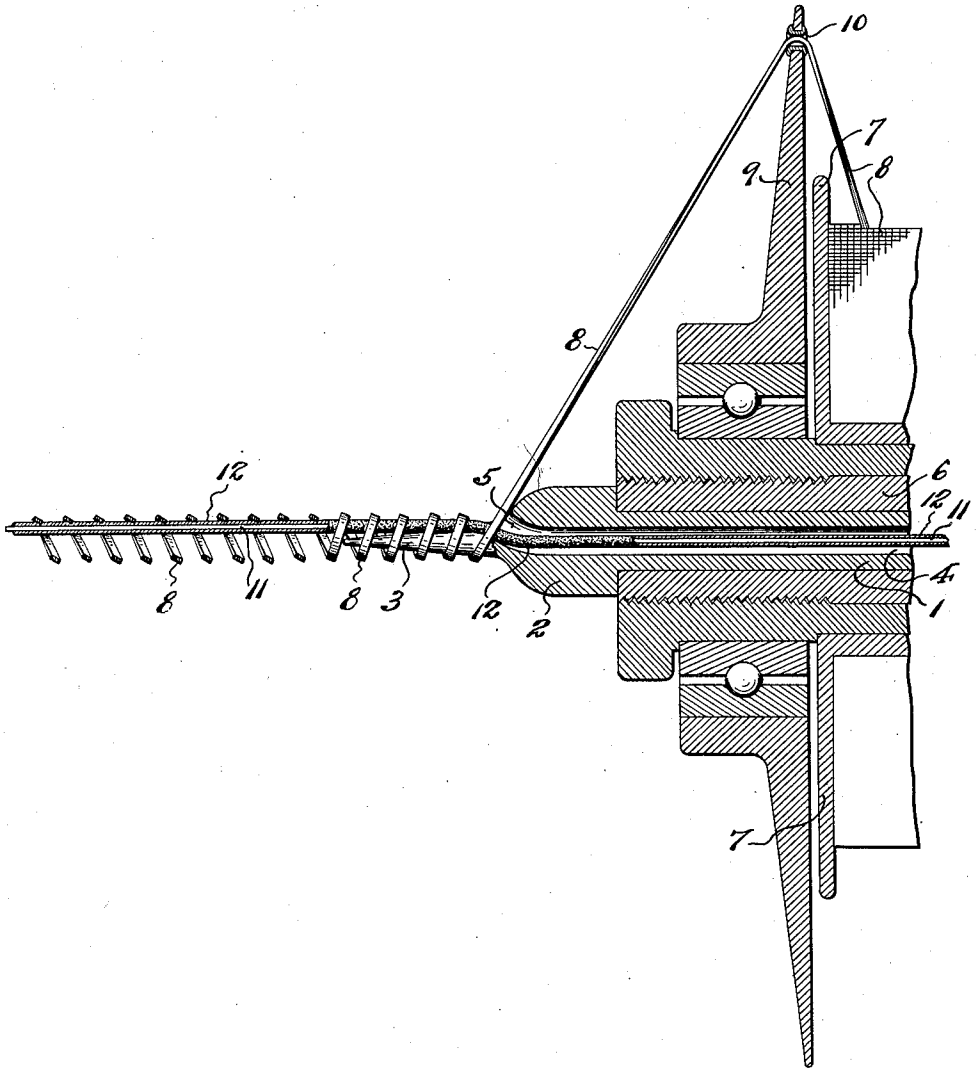
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PREPARING ALL METAL GIMPED MATERIAL

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PREPARING ALL METAL GIMPED MATERIAL

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This invention relates to metal gimped material and method of producing the same; and the invention has reference, more particularly, to a method of applying upon a metallic carrier member or core a spirally wound or convolved gimping of metallic material, such as wire or tinsel in such manner that the convolutions, as formed, will be distributed along the carrier member or core in substantially uniformly spaced relation without tending to either bunch together or stretch apart so as to produce stringy sections or spots in the finished material.

It has been found that a smooth metallic carrier member or core is not easy to gimp, since it does not readily draw off the loops of the gimping from the needle or mandrel of the gimping machine on which the gimped material is made. This is due to the fact that ordinarily the hard smooth carrier member or core too easily slips relative to the loops or convolutions of the gimping, thus allowing the latter to pile up on the forming mandrel or needle instead of being drawn off of the same by the onward movement of the carrier member or core. As a result, the gimped material is not uniform in quality and evenly distributed, but is likely to be stringy in one place or spot on the carrier member or core and unduly bunched together at another place or spot thereon.

It is the object of this invention to provide a method of treating the carrier member or core to the end that its surface offers a strong frictional contact with the convolutions or loops of the gimping applied thereto by the operations of the gimping machine on which the gimped material is produced, all whereby the onward movement of the carrier member or core will tend to uniformly and surely draw off the loops or convolutions as they are formed, from the mandrel or needle of the gimping machine, thus assuring in the finished gimped material, a substantially even distribution or spacing of the formed loops or convolutions along the carrier member or core.

To illustrate the principles of the present invention, a carrier member or core, treated in accordance with present invention, is shown in the accompanying drawing in operative relation to the mandrel and gimp forming flier of a gimping machine.

Referring to said drawing, the reference character 1 indicates the needle or mandrel shaft of a suitable gimping machine, which is provided at its forward end with a head portion 2 from which projects a reduced outwardly tapered winding needle or mandrel 3. Said needle or mandrel shaft 1 is provided with an axial bore 4 terminating at the base of the needle or mandrel 3 in a discharge opening or outlet mouth 5. Said needle or mandrel shaft 1 extends through a hollow rotatable spindle 6. The reference character 7 indicates a spool on which is wound a supply of metallic gimping material to be used as the gimp strand 8, the same comprising either flat or round metallic wire. Said supply spool is preferably suitably fixed on said spindle 6 so as to be rotated thereby. Freely rotatable, adjacent to the forward end of the supply spool 7, is a winder or flier 9, having adjacent to its periphery an opening or eye 10 through which the gimp strand 8 is led from the supply spool to the needle or mandrel 3.

In the operation of the gimping machine, a carrier member or core 11, comprising either flat or round metallic wire, is led through the bore 4 of the needle or mandrel shaft 1 to emerge from the opening or outlet mouth 5, to thence extend along the exterior side of the tapered needle or mandrel 3 to the take-up reel of the machine (not shown); said take-up reel operating to draw away from the needle or mandrel 3 the finished gimped material resulting from the winding around the carrier member or core 11, as it passes along the needle or mandrel 3, of the convolutions or loops of gimp strand 8. The rotation of the supply spool 17 in cooperation with the freely rotatable winder or flier 9 operates to carry said gimp strand 8 around both the needle or mandrel 3 and the carrier member or core 11 moving along the latter.

In carrying out the present invention, the carrier member or core 11 is first provided with a coating 12 comprising a substance calculated to provide its surface with compara-

tively strong frictional characteristics, whereby when engaged by the formed convolutions or loops of the gimp strand 8, sufficient frictional resistance to relative slipping or sliding movement between said gimp convolutions or loops and carrier member or core is established as will cause the former to easily and uniformly draw away from the needle or mandrel 3, while at the same time maintaining comparatively uniformly even spaced relation one to another on and about said carrier member or core. Said coating 12 may consist of suitable roughening or tacky substance. For example, the carrier member or core may be coated with a solution of sodium silicate, which provides a roughened highly frictional surface; or the coating may consist of a soluble glue. In either of the examples of coating material above given, the coating, being soluble, may be washed off after the gimped material is completed, and either before or after said material has been fabricated to form various articles of manufacture for which it constitutes a base or raw material, such e. g., as abrasive scouring devices, dish and bottle mops, filter pads and wads, etc. When the coating is removed the gimped material will possess the bright metallic appearance inherent in the metallic strands or wires of which it is composed.

In cases where the metallic appearance of the finished gimp material of the article fabricated therefrom is not desired, non-soluble coating material having either a roughening effect on the carrier member or core surfaces, or producing a tacky or adhesive quality thereof, may be employed.

It will be obvious that many different kinds of coating materials per se may be employed, and that consequently it is not intended to limit this invention to the particular illustrative examples thereof above given.

Having thus described my invention, I claim:—

1. A method of producing all-metal gimped material, comprising the winding of a comparatively smooth fiberless metallic gimp strand about a longitudinally traveling smooth metallic carrier core, and treating said carrier core, preliminary to the winding of said gimp strand thereon, to provide the same with a coating of a substance adapted to offer frictional resistance to relative slipping movement between the carrier core and the convolutions of gimp strand applied thereto.

2. A method of producing all-metal gimped material, comprising axially moving a smooth metallic carrier core relative to a mandrel and winding a correspondingly smooth metallic gimp strand around said mandrel and over said moving carrier core, and treating said carrier core, preliminary to the winding of said gimp strand thereon, to provide the same with a coating of a substance adapted to offer frictional resistance to relative slipping movement between the carrier core and the convolutions of gimp strand applied thereto, whereby said gimp convolutions are drawn off the mandrel by the moving carrier core and at the same time uniformly distributed along the latter.

3. A method of producing all-metallic gimped material, comprising the winding of a metallic gimp strand about a longitudinally traveling metallic carrier core, and providing said carrier core, preliminary to the winding of said gimp strand thereon, with a soluble coating substance adapted to offer frictional resistance to relative slipping movement between the carrier core and the convolutions of gimp strand applied thereto, which coating may be dissolved and removed after completion of the gimped material.

4. A method of producing all-metal gimped material, comprising axially moving a metallic carrier core relative to a mandrel and winding a metallic gimp strand around said mandrel and over said moving carrier core, and providing said carrier core, preliminary to the winding of said gimp strand thereon, with a soluble coating substance adapted to offer frictional resistance to relative slipping movement between said carrier core and the convolutions of gimp strand applied thereto, whereby said gimp convolutions are drawn off the mandrel by the moving carrier core and uniformly spaced along the latter which coating may be dissolved and removed from the completed gimped material at will.

5. All metal gimped material, comprising a smooth surfaced metallic carrier core, a metallic gimp strand of smooth surface character spirally convolved about and along said carrier core, said carrier core having a coating applied thereto adapted to offer frictional resistance to relative slipping movement between said carrier core and the gimp convolutions applied thereto.

6. All metal gimped material, comprising a metallic carrier core, a metallic gimp strand spirally convolved about and along said carrier core, said carrier core having a removable soluble coating applied thereto adapted to offer frictional resistance to relative slipping movement between said carrier core and the gimp convolutions applied thereto.

In testimony, that I claim the invention set forth above I have hereunto set my hand this fourteenth day of February, 1931.

RUSSELL B. KINGMAN.