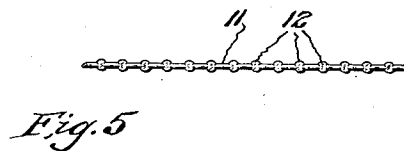
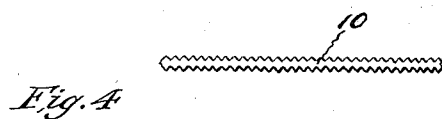
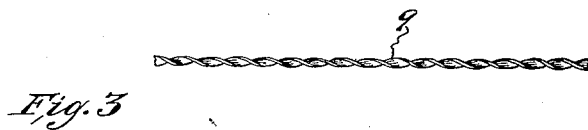
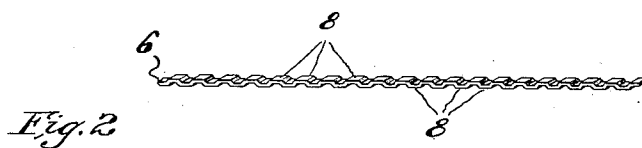
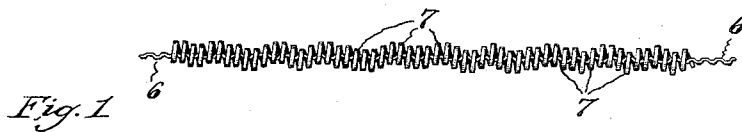


July 12, 1932.

R. B. KINGMAN
ALL METAL GIMPED MATERIAL

1,867,157

Filed Nov. 1, 1930



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ALL METAL GIMPED MATERIAL

Application filed November 1, 1930. Serial No. 492,781.

This invention relates to improvements in metal gimped material from which may be fabricated various articles, such e. g., as abrasive scouring devices, pot cleaners, dish and bottle mops, filter pads and various other articles produced entirely from metal gimped strands, or in which metal gimped strands are incorporated.

Heretofore metal gimped strands have comprised a flexible carrier member or core, usually made of textile yarn, cord or similar fibrous material, upon which is spirally wound or convolved a gimping of metallic wire. Carrier members or cores of textile yarn or vegetable fiber are not altogether satisfactory, since the same are subject to comparatively rapid deterioration in use, and being absorbent are not as sanitary as a non-absorbent material would be. A flexible metallic wire, if employed as the carrier member or core of the metal gimped material, would avoid the objections above mentioned. It has been found, however, that a smooth metallic carrier wire 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 wire too easily slips relative to the loops or convolutions of the gimping, thus allowing the same to pile up on the forming mandrel or needle instead of being drawn off of the same by the onward movement of the carrier or core. As a result, the gimped material is not uniform in quality, and the gimping thereof is likely to be "stringy" on one part of the core and "bunched" on another. Such nonuniformly gimped material is difficult to handle in fabricating therefrom desired forms of articles into the structure of which the material is incorporated. Even though such all metal form of gimped material can, although with difficulty, be fabricated into desired articles, the stability of the gimping in the finished article is not assured, since the too easy sliding of the gimping on the smooth metal carrier wire or core, results in unequal distribution of the gimping, i. e. at some points

there would be too much gimping and at others too little, and the desired uniformity of structure and appearance of the article would be thus impaired.

It is the object of this invention, therefore, to provide an all metal gimped material or strand, comprising a novel flexible metallic carrier wire or core having a friction surface to engage and support the convolutions of the metal gimping applied thereto, so that said gimping convolutions will not only be more surely and uniformly drawn off the needle or mandrel of a gimping machine by which they are produced, but also will be maintained in comparatively uniformly spaced distribution along the core, and held by the friction effect provided at the core against undue displacement as thus distributed, both during the operations of fabricating the material into desired forms of articles, as well as during the use of the fabricated article. To this end I provide a flexible metallic carrier wire or core, so prepared and formed as to provide along its length surface irregularities of a character adapted to adequately roughen the same to provide a frictional surface without unduly interfering with its desired flexibility.

Illustrative embodiments of this invention are shown in the accompanying drawing, in which:—

Figure 1 is a side elevation of a portion of the complete all metal gimped material made according to this invention; Figure 2 is a fragmentary view of one form of flexible metallic core roughened to provide a frictional surface; Figures 3 to 5 inclusive are respectively modified forms of the roughened flexible metallic core.

Referring to Figures 1 and 2 of the drawing, the reference character 6 indicates the flexible metallic carrier core or strand, and 7 the spirally convolved metallic gimping applied upon and along the same. The carrier core or strand 6 is of the type shown on somewhat enlarged scale in Figure 2, and consists in a flat ribbon-like metallic wire having substantially transversely extending corrugate portions 8, which so roughens the surface of the same as to provide the desired frictional

characteristics whereby the applied convolutions of metallic gimping 7 are so engaged that tendency of the same to unduly slide on the core is resisted. As a consequence of such resistance to slip, the convolutions of the gimping are maintained in comparatively uniformly spaced relation along the core at all times, not only when initially forming the gimped material and when manipulating the material in the fabrication of articles therefrom, but also in the finished articles themselves.

It will be obvious that the corrugate form of frictional surface shown in Figure 2 is only one of many forms of carrier wire deformation adapted to provide the desired frictional support for gimping, it follows therefore that the invention contemplates, broadly, any suitable form of more or less regular deformation of the carrier wire for the purpose mentioned.

Illustrative of other forms of carrier wire deformation, I have shown in Figures 3 to 5 inclusive modifications adapted to provide the desired roughened frictional character contemplated by this invention.

In Figure 3 I have shown a flat ribbon-like carrier wire 9 which has been twisted on itself to provide the desired roughened frictional surface; in Figure 4 I have shown a flat ribbon-like carrier wire 10, the longitudinal margins of which have been serrated to provide the roughened frictional effect; and in Figure 5 I have shown a round carrier wire 11, having flattened portions 12 at longitudinally spaced intervals, thus providing lateral deformations for the purposes mentioned. It will be apparent that in any of the above described modified forms of carrier wire, the deformations will sufficiently roughen the wire so to provide obstruction to undue sliding thereon of metal gimping applied thereto in the general manner disclosed in Figure 1.

Having thus described my invention, I claim:—

1. All metallic gimped material, comprising a flat ribbon-like metallic carrier member shaped to provide lateral projections more or less regularly spaced throughout its length, and metallic gimping spirally convolved about and extending longitudinally along said carrier member.

2. All metallic gimped material, comprising a flexible carrier wire having surface irregularities throughout its length to provide frictional surface, and metallic gimping more or less loosely spirally convolved about and extending longitudinally along said carrier wire, the convolutions of said gimping being held against undue longitudinal displacement by the frictional surface of said carrier wire.

3. All metallic gimped material, comprising a transversely corrugated flat ribbon-like

carrier wire, and metallic gimping spirally convolved about and extending longitudinally along said carrier wire.

In testimony that I claim the invention set forth above I have hereunto set my hand this 27th day of October, 1930.

RUSSELL B. KINGMAN.

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