April 16, 1940. D. J. KELMAN 2,197,615

ORNAMENTAL ARTICLE AND METHOD OF MAKING SAME

Filed Feb. 26, 1938

Fig. 1.

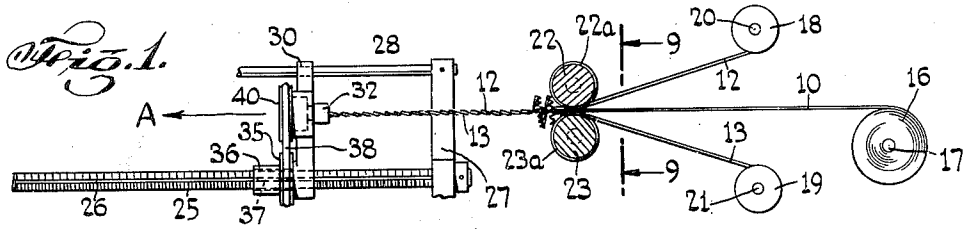


Fig. 2.



Fig. 3.



Fig. 5.

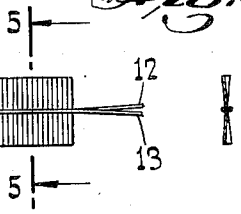


Fig. 4.

Fig. 6.

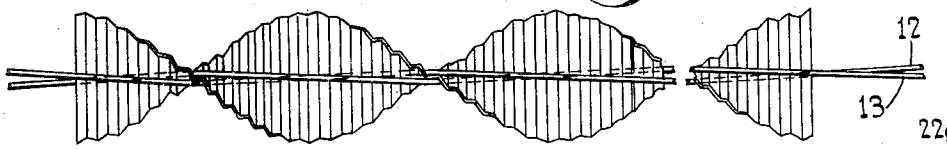


Fig. 9.

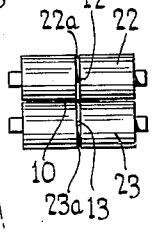


Fig. 7.

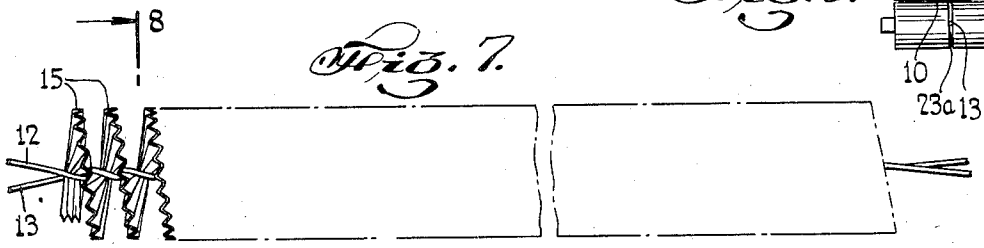
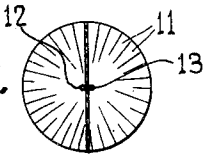


Fig. 8.



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Patented Apr. 16, 1940

2,197,615

UNITED STATES PATENT OFFICE

2,197,615

ORNAMENTAL ARTICLE AND METHOD OF MAKING SAME

David J. Kelman, New York, N. Y.

Application February 26, 1938, Serial No. 192,772

10 Claims. (Cl. 41—10)

This invention relates to decorative ornaments. More particularly, my invention relates to decorative ornaments of the convoluted type adapted for making festoons, streamers and other similar decorative articles.

One of the objects of my invention is to provide an improved method for making convoluted decorative ornaments of the character described and in which the resulting ornaments thus produced will be prevented from axial displacement and distortion.

Another object of my invention is to provide an improved decorative ornament of the character described which shall comprise relatively few and simple parts, which shall be relatively inexpensive to manufacture, which shall be sturdy in construction, neat in appearance and at the same time highly effective for the purposes intended.

A further object of my invention is to provide an improved method for making decorative ornaments of the character described, which shall be relatively easy to practice, which shall comprise relatively few and simple steps, and which at the same time shall be relatively inexpensive and highly efficient.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the claims.

In the accompanying drawing, in which is shown one of the various possible embodiments of this invention;

Fig. 1 is a side elevational view, largely diagrammatic, of an apparatus illustrating my improved method of manufacturing decorative ornaments,

Fig. 2 is a plan view, slightly in perspective, of a flat strip of material used in my improved method of making decorative ornaments,

Fig. 3 is a view similar to Fig. 2, but illustrating a step in my improved process,

Fig. 4 is a view similar to Fig. 3 but illustrating another step in my improved method of manufacture,

Fig. 5 is a cross-sectional view taken substantially on the line 5—5 of Fig. 4,

Fig. 6 is an enlarged view similar to Fig. 4 but illustrating still another step in my improved method of manufacture,

Fig. 7 is an elevational view illustrating the finished convoluted decorative article made in accordance with my method,

Fig. 8 is a cross-sectional view taken substantially on the line 8—8 of Fig. 7; and

Fig. 9 is a cross-sectional view taken substantially on the line 9—9 of Fig. 1.

Referring now in detail to the drawing, there is schematically disclosed the various steps employed in my improved method for manufacturing a convoluted decorative article of the character described, from flat strips of paper, Cellophane or any other similar suitable resilient material. My improved method of manufacture will now be described.

A flat strip 10 of any suitable material customarily employed for making convoluted ornaments, such as paper, Cellophane, or the like, shown in Fig. 2 of the drawing, may be first crimped or pleated in any suitable manner well known for crimping or pleating flat strips, to produce a crimped, crinkled or pleated strip 11, as shown in Fig. 3. The next step in my method comprises the positioning of a core member 12 and a core member 13 on opposite sides of the strip 11. The core members 12 and 13 are preferably positioned along the longitudinal axis of the strip 11 and are in alignment with each other. These core members may be of any suitable core material, such as for example, heavy wire, light wire, cord, thread, or any combination thereof. After the cores 12 and 13 have been properly positioned, as shown in Figs. 4 and 5, the strip 11 together with the cores 12 and 13 are axially twisted to form a convoluted ornament, as shown in Fig. 6. It is understood that any desired amount of twisting may be employed to obtain the result desired. If the article illustrated in Fig. 6 is further axially twisted, a convoluted article such as shown in Figs. 7 and 8 may be produced in which the convolutions are generally circular in cross-sectional contour, as shown in Fig. 8, and in which the said convolutions are relatively closely adjacent. It is also noted from Figs. 6 and 7 of the drawing that the cores 12 and 13 are so twisted as to hold the spaced convolutions 15 in definite spaced relationship and to prevent longitudinal extension or contraction of the decorative ornament. It is thus seen that there is provided a convoluted form at all times without the necessity of employing adhesive materials heretofore used in the manufacture of similar ornaments.

While in Fig. 3 of the drawing I have shown the strip 10 as crimped, or pleated, it is understood that my improved method may be satis-

factorily practiced and my convoluted ornament produced without crimping or pleating the strip 10.

In Figs. 1 and 9 of the drawing there is diagrammatically shown an arrangement of one form of apparatus for automatically manufacturing a convoluted decorative ornament in accordance with my invention. The said apparatus may comprise a roll 16 of flat flexible paper material, similar to the material 10, which is rotatably mounted on a suitably supported shaft 17. There is also provided a pair of spools 18 and 19, rotatably mounted on suitably supported shafts 20 and 21. The spools 18 and 19 may contain the material for the core members 12 and 13. The core material from the spools 18 and 19 are fed between a pair of suitably mounted adjustable tension rollers 22 and 23, each of said rollers 22 and 23 having a circumferential groove 22*a* and 23*a*, respectively, into which the core material from the spools 18 and 19 are adapted to be received. The spools 18 and 19 are so positioned with respect to the rollers 22 and 23 as to provide a space between the cores 12 and 13 to permit the feeding of the strip 10 between the rollers 22 and 23 in such manner so that one core, such as core 12, will be positioned adjacent one side of the strip 10 and the other core, 13, will be positioned on the opposite side of the strip 10, substantially along the longitudinal axis of said strip, as the strip 10 and cores 12 and 13 are passed between the rollers.

Any suitable means may be provided for causing the cores 12 and 13 together with the strip 10, to be unwound from the spools 18 and 19 and the roll 16 and passed between the rollers 22 and 23. Such means may comprise an elongated threaded shaft 25 provided with a key-way 26. The shaft 25 may be journaled at one end thereof in a fixed bracket 27. In the said bracket 27 there is also fixedly supported a rod member 28 disposed at a spaced distance from the shaft 25 and parallel thereto. A member 30 supported on the shaft 25 and rod 28, is adapted to slide adjacent one end thereof on the shaft 28 and is provided at the other end thereof with a threaded opening into which the correspondingly threaded shaft 25 is received. It is thus seen that upon rotation of the shaft 25 the member 30 will be caused to move due to the threaded opening above described and will freely slide on the shaft 28. Any suitable well known means (not shown) may be employed for causing rotation of the shaft 25. Rotatably mounted on the member 30 is a shaft 32, to the end of which the ends of the cores 12 and 13 are fixedly attached. It is thus seen from the above described construction that when the shaft 25 is rotated so as to cause the member 30 to move in the direction of the arrow A the cores 12 and 13 will be unwound from the spools 18 and 19, and passed between the tension rollers 22 and 23, as hereinbefore described.

Means are provided for twisting the cores 12 and 13 as they emerge through the rollers 22 and 23 so that the material 10, which is simultaneously fed between the cores 12 and 13 may be also twisted to form a convoluted ornament as shown in Figs. 6, 7 and 8. Any suitable means may be employed for this purpose, such as for example, a separate pulley member 35 journaled in the member 30 and provided with a hub portion 36 having a non-threaded opening and freely received on the shaft 25. The pulley hub 36 is also provided with a key 37 permanently fixed thereto, said key being adapted to ride in the keyway 26 of the shaft 25. Mounted on the shaft 32 for rotation therewith is a pulley 40. The pulley 35 is caused to drive the pulley 40 by means of an interconnected belt 38. It is thus seen that when the shaft 25 is rotated so as to cause the member 30 to travel in the direction of the arrow A to exert a pulling force on the cores 12 and 13, the pulley 35 will be caused to rotate with the shaft 25 due to the key 37 being engaged in the keyway 36 and at the same time being free to slidably move with the member 30. The rotation of the pulley 35 will cause the pulley 40 and the shaft 32 to rotate by means of the belt 38. Therefore, it is seen that as the member 30 is being slidably moved in the direction of the arrow A to exert a pulling force on the cores 12 and 13, at the same time the said cores 12 and 13 will be axially twisted due to the rotation of the pulley 40 and shaft 32.

In view of the above description, it is seen that as the strip 10 is fed between the cores 12 and 13 it frictionally passes between the rollers 22 and 23 and immediately upon emerging from said rollers 22 and 23 it is twisted with the cores 12 and 13 to form a convoluted ornament on the nature of that shown in Figs. 6, 7 and 8. If desired, the rollers 22 and 23 may have their surfaces corrugated on opposite sides of the grooves 22*a* and 23*a* so that the strip 10 will be corrugated or crimped as it passes between the rollers and before it is twisted with the cores 12 and 13.

While, in Figs. 1 and 9 of the drawing, I have shown one form of apparatus for practicing my improved method for manufacturing convoluted ornaments of the character described, it is understood that any other suitable apparatus may be employed for feeding a strip of material between two cores and thereafter twisting the cores and paper.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. An ornamental article of the character described comprising a pair of core members, a strip of flexible material having continuous longitudinal edges disposed between said core members, said cores being twisted axially to form a convoluted ornament in which the said longitudinal edges of said strip substantially define the surface of said article, and which will resist longitudinal extension or contraction.

2. A convoluted ornament of the character described comprising a pair of twisted flexible core members, and a shirred strip of flexible material between said twisted cores, said strip having continuous unbroken longitudinal edges.

3. The method of manufacturing convoluted shirred ornaments of the character described from a flat strip of flexible material having continuous unbroken longitudinal edges comprising shirring said strip transversely of its longitudinal axis, positioning said shirred strip between two cores, and then twisting said cores.

4. The method of manufacturing convoluted shirred ornaments of the character described

from a flat strip of flexible material having continuous unbroken longitudinal edges comprising pulling two cores into convergence, independently feeding said strip between said cores toward the point of convergence of said cores, whereby said strip will be shirred against said point of convergence and then twisting said cores.

5. The method of manufacturing convoluted shirred ornaments of the character described from a flat strip of flexible material having continuous unbroken longitudinal edges comprising feeding said strip between a pair of rollers, pulling a pair of cores through said rollers and on opposite sides of said strip, and twisting said cores.

6. In a process for making convoluted ornaments from a flat strip having continuous unbroken longitudinal edges, that improvement which consists of the steps of positioning said strip between a pair of flexible cores, causing said flat strip to become transversely shirred, and then twisting said cores.

7. As an article of manufacture, a decorative material comprising a plurality of metallic wires twisted together, and a web of flexible material having continuous edges spiralled between the wires, and having a multiplicity of overlapping folds.

8. As an article of manufacture, a decorative material comprising a plurality of metallic wires twisted together, and a web of flexible material spiralled between the wires, and having a multiplicity of overlapping folds, said web having a length greater than the wires.

9. The process of making a decorative material comprising directing flexible strands into contact with the opposite faces of a web of flexible material, positively advancing the web independently of the strands substantially at the point of contact of the web and strands, twisting the strands and web together and positively advancing the strands and web during the twisting.

10. The process of making a decorative material comprising directing flexible strands into contact with the opposite faces of a web of flexible material, positively advancing the web relative to the strands substantially at the point of contact of the web and strands, twisting the strands and web together and positively advancing the strands and web during the twisting.

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