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ARTIFICIAL-FLOWER-FORMING RIBBON

This invention relates to a ribbon for forming an artificial flower.

One of the conventional artificial-flower-forming ribbons has an overlapped pair of strips joined to each other at one end and a pair of strings placed along and between said strips also joined at one end with the ends of the strips. On both sides of the overlapped strips are made a plurality of notches equally spaced apart in the longitudinal direction of the strips and aligned widthwise to pair with each other. Around respective portions of the strips narrowed by the sets of notches are fitted metallic rings to surround the strings.

In the conventional artificial-flower-forming ribbons, the parts between the narrowed portions of both strips gradually bend outwardly, each forming a petal by pulling apart the other ends of the strings or by drawing the other ends thereof by one hand with the neighbouring portion of the strips held by the other hand, when the petals are oriented by the rings provided at the notches.

This conventional ribbon can form an artificial flower when needed. However, it is difficult to make definite orientations of the petals by this conventional ribbon, because it is the rings fitted at the narrowed portions that orient the petals. Therefore, the ribbon cannot easily form an artificial flower with uniformly

and radially oriented petals. In addition, the artificial flower thus formed does not sufficiently look like a natural flower of which diameter decreases from the base to the top thereof as a whole, because

5. of a uniform length of the petals.

Furthermore, the conventional ribbon requires notches on both sides of the strips and the rings to fit around these notches to such a disadvantage as to need a complicated manufacturing process.

10. It is, therefore, an object of the present invention to provide a ribbon for forming an artificial flower with regularly and radially oriented petals.

According to the present invention, there is

15. provided an artificial-flower-forming ribbon comprising a pair of strips overlying each other; and at least one string placed longitudinally in the middle of said strips and therebetween, said string being joined to respective joined one ends of said strips

20. at one end of the ribbon, said strips being adhered to each other on both sides of the string at a plurality of line areas respectively spaced apart in the longitudinal direction of said strips so as to permit relative movement of said strips and said string,

25. said line areas being inclined with respect to the widthwise direction of said strips, and the angle of inclination of successive ones of said line areas lie on opposite sides of the widthwise direction of the strips.

Orientation of respective petals can be defined by said line areas so that the petals can be distributed in the circumferential direction of the flower. No notches and rings are required as in the conventional one so that the structure and manufacturing process can be more simplified.

Figures 1 and 2 are respectively side and plan views showing the artificial-flower-forming ribbon according to the present invention;

10. Figure 3 is a plan view showing a production process of the ribbon shown in Figures 1 and 2;

Figure 4 is a drawing similar to Figure 3 showing another embodiment of the present invention;

15. Figure 5 is a perspective view of the artificial flower showing a manner of forming a flower by the ribbon of the present invention;

Figure 6 is a perspective view showing the artificial flower formed by the ribbon of the present invention;

20. Figures 7 and 8 are respectively plan views showing further embodiments of shapes of the flower centres formed by the ribbon of the present invention;

Figure 9 is a drawing similar to Figure 3 showing a further embodiment of the present invention;

25. Figure 10 is a drawing similar to Figure 3 showing a production process of the ribbon shown in Figure 9;

Figure 11 is a drawing similar to Figure 5 showing a manner of forming a flower by the ribbon shown in Figure 9;

Figure 12 is a perspective view of the flower
5. formed by the ribbon shown in Figure 9;

Figure 13 is a plan view of the flower shown in Figure 12; and

Figure 14 is a plan view similar to Figure 9 showing further embodiment of the present invention.

10. Figures 1 and 2 show the artificial-flower-forming ribbon of the present invention before forming a flower, the entire ribbon being indicated by reference numeral 10. The ribbon 10 consists of an overlapped pair of elongated strips 12, 14 and a pair of
15. strings 16 placed along and between said strips. Strips narrower enough than the width of the strips 12, 14 can be used as the strings. The strings 16 are longitudinally placed between and in the middle of strips 12, 14 as clearly shown in Figure 2. Both
20. strips 12, 14 are joined together at the adhesive portions 18 provided near one end thereof where the strings 16 are adhered to both strips 12, 14. Strips 12, 14 can be formed by folding back a single strip, and by this, strips 12, 14 can be united at one end.
25. Also, the one end of the strips 16 may be fastened to

the strips 12, 14.

Strips 12, 14 are further adhered to each other at a plurality of line areas 20 spaced apart in the direction of the length of the strips 12,

5. 14. In the example of Figure 2 the strips are adhered to each other in the whole line areas 20 except for the middle portion to permit relative movement against the strips 12, 14 of the strings 16 placed in the longitudinal direction of the strips.

10. Respective line areas 20 are inclined of a certain angle, for example, of 45° with respect to the widthwise direction of the strips, the inclinations of which are alternately reverse. Also, distance D between the line areas 20, viz., the distance
15. D between the middle portions of respective line areas 20 gradually lengthens from the one end of the strips 12, 14 toward the other end thereof.

- As an adhesive for the adhesive portion 18 and the line areas 20, a hot-melt adhesive such as poly-
20. vinyl acetate is preferable. Also, by using a heat-adhesion means with at least a pair of heat rollers (not shown) having a die for adhering the adhesive portion 18 and the line areas 20, both strips 12, 14 and the strings 16 can be combined by one heat-
25. adhesion process. Further, successive forming of the ribbon 10 is practicable, and after that, a number

of the ribbon 10 can be efficiently produced by cutting a prescribed portion as shown by A in Figure 3.

5. Instead of adhering both strips 12, 14 at the entire areas except for the above-mentioned middle portion through respective line areas 20, as shown in Figure 4, the portions 20' on both sides of the strings 16 in the respective line areas 20 may be spot glued.

10. In order to form an artificial flower by the ribbon 10 of the present invention, hold near the other ends of the strips 12, 14 by one hand, for example, and pull the other end of strings downwards by another hand as shown in Figure 5. This causes
15. respective portions 12a, 14a, between the areas 20 of the strips to bend outwardly with the line areas 20 as folded lines. These bent portions 12a, 14a form petals, and because petals are oriented by respective line areas 20 with an inclination of 45° with respect
20. to the widthwise direction of the strips 12, 14, the portions 12a, and the portions 14a in pairs make an angle of 90° to each other. Moreover, since the inclination angle of the line areas 20 is alternately reverse, respective petals 12a, 14a have a phase dif-
25. ference of 90° to each other. As the result, as shown

in Figure 6, an artificial flower with considerably uniformly distributed petals 12a, 14a in cross-shape can be speedily formed.

- Also, since the distance D between the respective line areas 20 gradually lengthens as mentioned above, from the one ends of the strips 12, 14 toward the other ends, the petals 12a, 14a, gradually shorten from the base of the flower toward the flower centre 22 formed by the tip portions of the one ends.
10. Accordingly, while the distance D can be made equal, the artificial flower looks like more natural if the distance D varies to increase from the one ends toward the other ends of the strips.

- The strings 16 can be used as strings to fasten
15. the artificial flower to an article like a box. Only one string 16 may be used, but a pair of strings 16 can be used to tie around the article in two opposite directions or four strings 16 in four directions.

- As shown in Figure 7, by notching the tip
20. portions of the strips 12, 14 in V-shape or by inclining the adhesive portion 18 in the direction of the width of the strips 12, 14, a desired form of flower centre 18 can be made.

- Figures 9 and 10 are drawings respectively
25. similar to Figures 2 and 3 and show other embodiment of the ribbon 10' according to the present invention. In the embodiment shown in Figures 9 and 10 similarly to those shown in Figures 1 to 4, a pair of strips 12,

- 14 overlapped on each other are joined together at an adhesive portion 18 near one end thereof and extending in the widthwise direction of the strips. Further, each one end of a pair of strings 16 placed
5. along and between both strips is adhered to both strips at the adhesive portion 18. Similarly to the abovementioned embodiments, both strips 12, 14 may be integrated at one end. Both strips 12, 14 are further adhered to each other at a plurality of line areas
10. 20a, 20b spaced apart from each other in longitudinal direction of the strips. Respective line areas 20a, 20b, are, as clearly shown in Figure 9, defined at spot adhesive portions 20' arranged to form a straight line, and the respective line areas 20a, 20b, permit
15. relative movements of the strings 16 at the middle portion in the longitudinal direction of the strips against both strips 12, 14.

- Near both ends portions of strips 12, 14 are formed a pair of line areas 20a parallel to each
20. other and extending in the widthwise direction of the strips respectively spaced apart in the longitudinal direction of the strips 12, 14, and in the central portion of the strips 12, 14 are formed line areas 20a inclined with respect to the widthwise
25. direction of the strips 12, 14. The line areas 20a has an inclination angle, for example, of 45° with respect to the widthwise direction of the strips 12, 14, the direction of the inclination being alternately

reverse in the longitudinal direction of the strips 12, 14.

As clearly shown in Figure 10, in respective pairs of the line areas 20b each one of the line areas 20b is approximate to the adjoining inclined line area 20a. Further, the distances between respective line areas 20a-20b, 20a-20a and 20b-20b except for the distances between the adjoining line areas 20a, 20b gradually lengthen from the one ends towards the other ends of the strips 12, 14.

As shown in Figure 10, a large number of ribbon 10' can be efficiently produced by successively forming and cutting same at the portions indicated by the reference A.

15. In order to form an artificial flower by the ribbon 10', as shown in Figure 11, similar operations to those in the embodiment in Figure 5 are made to the ribbon 10', so that the portions 12a-2 through 12a-5, 14a-2 through 14a-5 between respective line areas 20a, 20b and the portions 12a-1, 14a-1 between the adhesive portion 18 and the one line area 20b adjoining thereto bend outwardly with the line areas 20a and 20b as fold lines. The bend portions 12a-1 to 12a-5 and 14a-1 to 14a-5 form petals as in the above-mentioned embodiments. Of these petals the portions 12a-3, 12a-4, 14a-3 and 14a-4 between the inclined line areas 20a have the inclined line areas 20 with an inclination angle of 45° so that they are oriented with

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a phase difference of 90° to each other. Further, since other petals 12a-1, 12a-2, 12a-5 and 14a-1, 14a-2, 14a-5 are oriented at the line areas 20b parallel to the widthwise direction of the strips 12, 14

5. they are placed in a straight line respectively between the petals 12a-3 and 4, 14a-3 and 4, as shown in Figure 12.

- As the result, according to the ribbon 10', as clearly shown in Figure 13, in addition to the petals
10. 12a-3, 12a-4, 14a-3 and 14a-4, distributed in the four directions in cross-shape, an artificial flower having petals in two more directions, i.e. 12a-1, 12a-2, 12a-5, 14a-1, 14a-2 and 14a-5 radially arranged in six directions can be speedily formed without adjusting
 15. the orientation of the petals by hand.

- As shown in Figure 14, there may be provided a space required to form the petals between on of the line areas 20b adjoining the inclined line areas 20a, of a pair of the line areas 20b placed near the one
20. end of the strips 12, 14a, and the inclined line areas 20a. However, the petals being oriented jointly by the line areas 20b agreeing with the widthwise direction of the strips 12, 14 and by the line areas 20a inclined with respect to the widthwise direction of the strips
 25. 12, 14 may be readily twisted. Accordingly, it is desirable to have the line areas 20b adjoining the inclined line areas 20a sufficiently approached to the inclined line areas 20a, as shown in Figure 10.

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Also, though we have explained the embodiments with a plurality of pairs of line areas 20b parallel to each other provided in the widthwise direction of the strips 12, 14 in addition to a plurality of the inclined line areas 20a in Figures 9 and 14, it will be apparent that in place of these pairs of the line areas 20b an artificial flower having petals radially arranged in six directions can be obtained by providing a line area 20b parallel to and spaced apart from the adhesive portion 18.

In the foregoing, the case with the inclination angle of respective line areas 20, 20a at 45° was explained; however, in order to give a desired phase difference to the petals, the angle can be varied as desired.

Petals can be oriented by the line areas adhering both strips together, whereby the petals can be oriented to the desired directions correctly without using rings.

Besides, since orientation of petals can be effected by the line areas adhering both strips together, no ring is used to form easily an artificial flower having uniformly distributed petals in the circumferential direction.

Furthermore, the structure and the production process can be simplified, since no rings and notches for the rings are needed.



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CLAIMS

1. An artificial-flower-forming ribbon comprising a pair of strips overlying each other; and at least one string placed longitudinally in the middle
5. of said strips and therebetween, said string being joined to respective joined one ends of said strips at one end of the ribbon, said strips being adhered to each other on both sides of the string at a plurality of line areas respectively spaced apart in the
10. longitudinal direction of said strips so as to permit relative movement of said strips and said string, said line areas being inclined with respect to the widthwise direction of said strips, and the angle of inclinations of successive ones of said line areas
15. lie on opposite sides of the widthwise direction of the strips.
2. An artificial-flower-forming ribbon as claimed in claim 1, wherein the pair of strips are united by being adhered to each other at their respective
20. one ends.
3. An artificial-flower-forming ribbon as claimed in claim 1 or 2, wherein said strips are additionally secured together on both sides of said string along one or more additional line areas extending parallel to the
25. widthwise direction of the strips.
4. An artificial-flower-forming ribbon as claimed in claim 1, 2 or 3, wherein the pair of strips are spot adhered together to define said respective line areas



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on both sides of said strings.

5. An artificial-flower-forming ribbon as claimed in claim 1, wherein distances between respective line areas gradually lengthen from the one end toward the other end of said strips.
 6. An artificial-flower-forming ribbon as claimed in claim 1, wherein respective line areas have an inclination angle of about 45° with respect to the direction of the width of said strips.
 10. 7. An artificial-flower-forming ribbon as claimed in claim 1, wherein said at least one string comprises a pair of strings.
 8. An artificial-flower-forming ribbon as claimed in claim 1, wherein distances between respective ones of said inclined line areas gradually lengthen from the one end toward the other end of the ribbon.
 15. 9. An artificial-flower-forming ribbon as claimed in claim 1, wherein said respective inclined line areas have an inclination angle of about 45° with respect to the widthwise direction of the strips.
 20. 10. An artificial-flower-forming ribbon substantially as hereinbefore described with reference to any of Figures 1 to 14 of the accompanying drawings.
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