

July 6, 1965

J. L. MONTOYA

3,193,162

APPARATUS FOR FORMING DECORATIVE BOWS

Filed Aug. 21, 1963

3 Sheets-Sheet 1

Fig. 1.

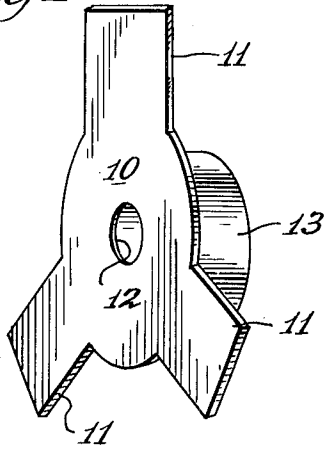


Fig. 3.

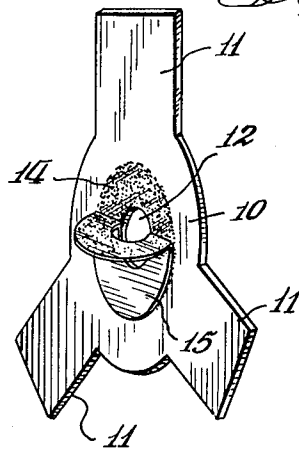


Fig. 4.

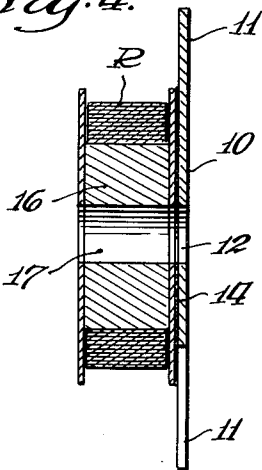


Fig. 5.

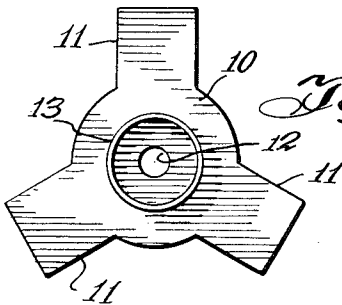
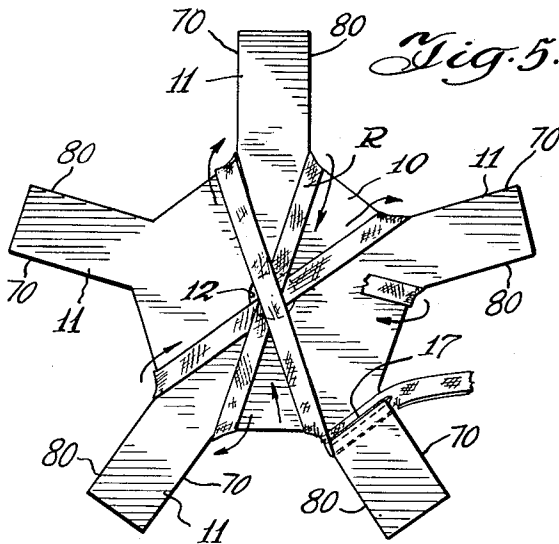


Fig. 2.

Inventor  
Jonas L. Montoya  
By Merriam, Smith & Marshall  
Attorneys

July 6, 1965

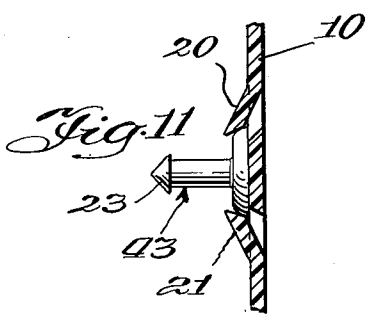
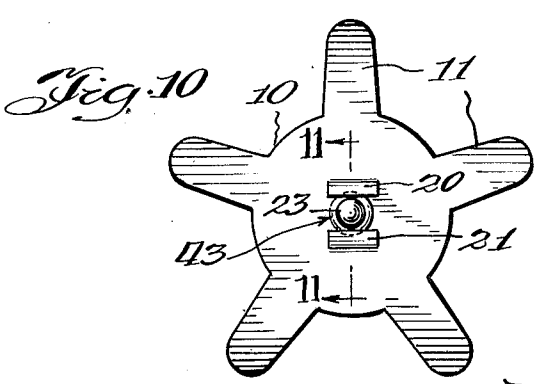
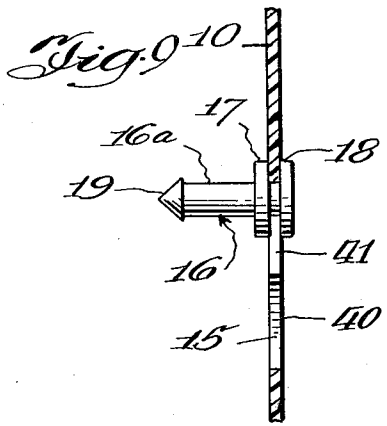
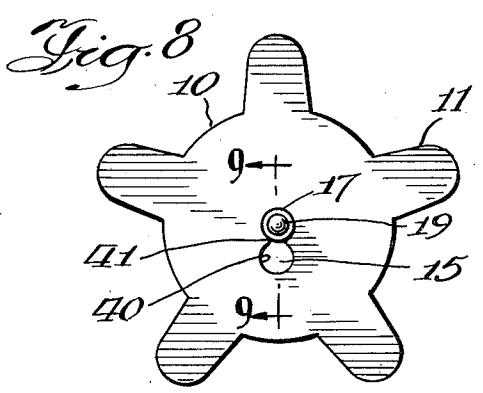
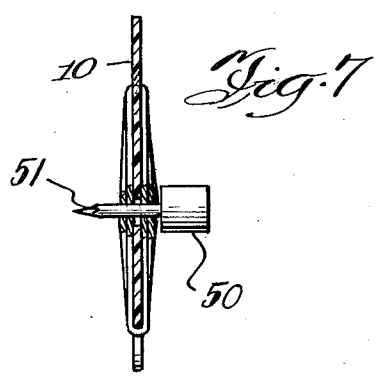
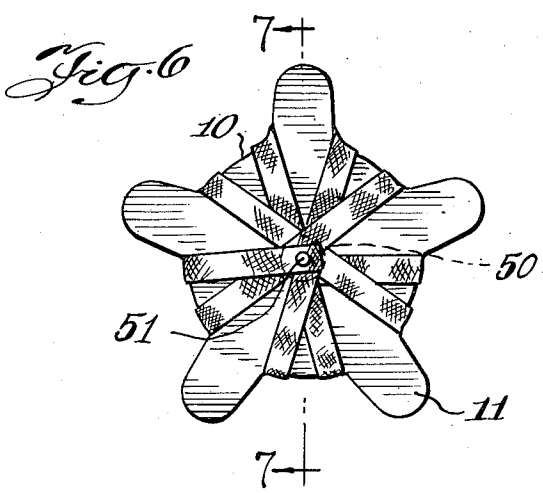
J. L. MONTOYA

3,193,162

APPARATUS FOR FORMING DECORATIVE BOWS

Filed Aug. 21, 1963

3 Sheets-Sheet 2



Inventor  
Jonas L. Montoya

By Merriam, Smith & Marshall  
attorneys

July 6, 1965

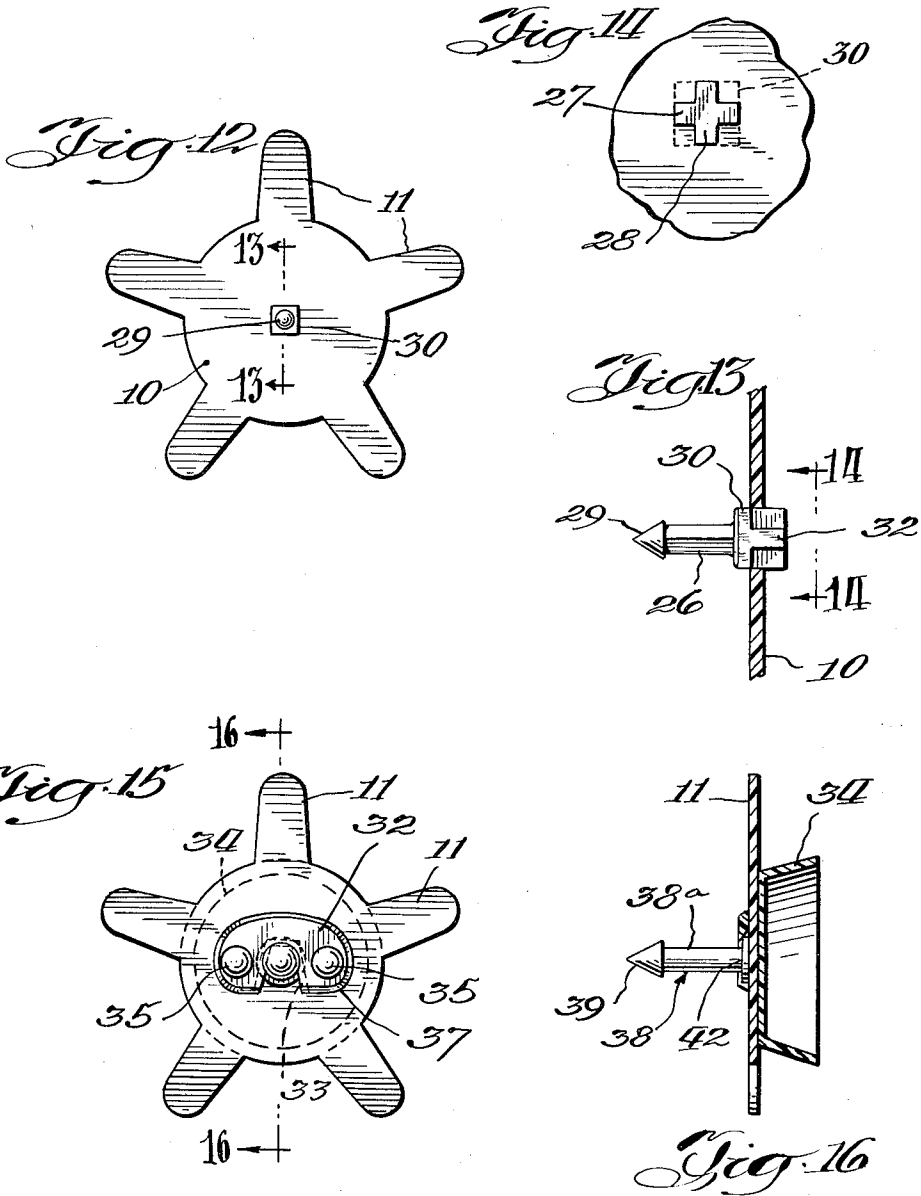
J. L. MONTOYA

3,193,162

APPARATUS FOR FORMING DECORATIVE BOWS

Filed Aug. 21, 1963

3 Sheets-Sheet 3



Inventor  
Jonas L. Montoya  
By Merriam, Smith & Marshall  
Attorneys

1

3,193,162

**APPARATUS FOR FORMING DECORATIVE BOWS**  
Jonas L. Montoya, Sauk Village, Ill., assignor to Chicago  
Matrix Corp., Chicago, Ill., a corporation of Illinois  
Filed Aug. 21, 1963, Ser. No. 303,615  
4 Claims. (Cl. 223-46)

This invention relates generally to an apparatus for facilitating the manual formation of decorative bows. It is a continuation-in-part of my application Serial No. 184,755, filed April 3, 1962, and now abandoned. It is especially concerned with providing an economical means which can be used by the average layman to double a ribbon or narrow strip material into a plurality of loops to form a bow.

In wrapping gifts, packages or other types of packaging wherein a decorative touch is desired, quite frequently the package is decorated with a bow formed from ribbon which is secured to one of the surfaces of the package by a suitable fastening means. Although there is automatic machinery available for the mass production of ornamental bows which are sold over the counter in package lots, the use of apparatus for facilitating the forming of bows by amateurs has not had widespread use because of the complexity of the apparatus and the expense entailed in its manufacture, production and sale. As a result, amateurs, in forming ornamental bows from ribbon, have used makeshift arrangements which do not provide an end result having a professional finish. In accordance with this invention, however, there is provided a simple apparatus which can be adapted for forming ornamental bows with a minimum of effort and a maximum effect.

Moreover, aside from providing a means for making a pretty and decorative ornament on gift wrapped packages and the like, the inexpensive device can be used as an inducement in promoting sales of various items, e.g., ribbon, gift wrapping. My bow forming device could be given free to all persons purchasing a roll of ribbon and/or wrapping material. The bow form and a fastening pin which cooperates with the form to make a desired bow product could be included in a package containing a roll of ribbon or other materials. The thought of being able to produce a decorative bow having the appearance of being made by a professional with a minimum amount of time and effort would induce purchasers to buy the product or products being promoted. The result of such a scheme would increase sales of the promoted articles.

Referring to the drawings:

FIGURE 1 is a perspective view illustrating a bow forming apparatus of this invention employed in the formation of three-loop bows or bows having multiples of three loops;

FIGURE 2 is a plan view showing on a smaller scale the device illustrated in FIGURE 1;

FIGURE 3 is another embodiment of the instant invention for the formation of three-loop bows wherein an adhesive face is provided for attaching the apparatus to a suitable handle;

FIGURE 4 is a cross-sectional side view showing the apparatus of FIGURE 3 mounted on a spool upon which ribbon is conventionally marketed;

FIGURE 5 is a plan view of still another embodiment of the instant invention wherein bows of five loops or multiples thereof can be formed;

FIGURE 6 shows a plane view of a bow being formed in a five-loop bow forming device with the overlapping ribbons being punched prior to insertion of a bow-fastening pin which keeps the bow from losing its shape upon removal from the bow form;

2

FIGURE 7 is a sectional view taken along line 7-7 of FIGURE 6;

FIGURE 8 shows another embodiment of the bow forming device;

FIGURE 9 is a cross-sectional view taken along line 9-9 of FIGURE 8 showing the pin in a locked position;

FIGURE 10 shows another embodiment of the bow forming apparatus;

FIGURE 11 is a sectional view taken along line 11-11 of FIGURE 10 showing the pin in a locked position;

FIGURE 12 shows another embodiment of the bow forming device;

FIGURE 13 is a sectional view taken along lines 13-13 of FIGURE 12 showing the pin in a locked position;

FIGURE 14 is a fragmentary view taken along line 14-14 in FIGURE 13 showing the locking means of the pin;

FIGURE 15 shows another embodiment of a bow forming device;

FIGURE 16 is a sectional view taken along line 16-16 in FIGURE 15 showing the pin in a locked position and a bow form holder for the bow forming operator; and

FIGURE 17 is a view of the bow-fastening pin used with the bow forming apparatus of FIGURE 15.

Also illustrated in FIGURES 5 and 6 is the manipulative technique for effecting the formation of the bow using the apparatus of this invention.

Referring to the figures, it will be seen that the bow forming apparatus of this invention comprises the base member 10 having laterally and radially depending therefrom a plurality of flexible fingers 11 each finger being rooted to the base member 10. To facilitate holding the base member, a handle 13 is provided which is secured to one face of the base member 10. An aperture 12 is provided at the geometric center of base member 10 and is used, as will hereinafter be discussed, to permit the use of a fastener for securing the plurality of loops into a unitary bow. In order to permit access to aperture 12 from both sides of base member 10, handle 13 is tubular in configuration and of an extent sufficient only to permit the convenient handling of the apparatus while the bow is being formed. This arrangement is shown in FIGURE 2 wherein handle 13 is formed from a short length of a cylindrical tube and attached to one face of base 10 by cementing with adhesives or other conventional forming techniques.

In the event that the bow forming apparatus of this invention is manufactured and sold without an integral handle element, a handle can be conveniently provided by providing on one face of base member 10 a disc of a pressure sensitive adhesive 14 which is covered with a tear sheet 15 for the purposes of retaining the adhesive disc in an inactive state prior to its being attached to a suitable handle. While a number of expedients can be employed as a handle to which the base member 10 can be attached by means of the pressure sensitive adhesive, one convenient handle is provided by the conventional spools which are used to dispense ribbon in stores, gift shops and other retail outlets. Where this expedient is employed, the bow forming apparatus of this invention can be dispensed as a separate item or in conjunction with the sale of ribbon on such bows and, when used as a bow forming apparatus, it can be adapted directly to one face of the spool as shown in FIGURE 4.

In this application of the instant invention, the base member 10, having an adhesive disc 14 applied to one face thereof, overlays one side of ribbon spool 16 which has a central hole 17 which can be axially aligned with aperture 12. With this arrangement, a sufficient length of ribbon can be unfurled from spool 16 and used to form a ribbon

by proper manipulation of the bow forming apparatus of this invention.

In employing the bow forming apparatus of this invention in forming a plurality of loops which are assembled into an ornamental bow, a free end of the ribbon which is to be folded is secured to one of the fingers. This can be done as shown in FIGURES 5 or 6, by making a slit in the ribbon having the width of one of the fingers 11 attached to the base member 10. Other expedients, however, can also be employed for securing the free end to the initial finger from which the bow forming operation is initiated. As shown in FIGURE 5, the ribbon is then brought to the side of a cooperating finger diametrically opposed to the leading edge of the first finger and looped under the trailing edge of the cooperating finger and brought around to its leading edge. The ribbon is then pulled diametrically across the face of the base member 10 to the next cooperating finger around its trailing edge and leading edge. This procedure is continued until a sufficient number of loops have been formed. Where a single multiple of loops is desired, the manipulation can terminate as soon as all of the fingers have been engaged. In the event, however, that a multiple number of loops is desired, the manipulation can continue as before, in each instance bringing the bow from the leading edge of one finger diametrically across the base member and around the trailing edge of a cooperating finger. When a sufficient number of multiples have been formed, the loops are secured together by means of a brass fastener, staple or other fastening means which is inserted at the intersection of the loops.

In order to remove the bow from the bow forming apparatus, the unused portion of the ribbon is snipped off and any one of the flexible fingers, which are adapted to being bent substantially 90°, is flexed into a bent position which will permit the loops mounted thereon to be slipped off. Each of the other fingers is then flexed into a bent position laterally outwardly from the base member in a direction away from the handle means used to hold the bow forming apparatus and sufficient to remove the loops formed thereon, until the formed bow can be removed from the apparatus.

In the embodiment shown in FIGURES 6 and 7, the ribbon has been looped over the respective fingers 11 until a loop or a sufficient multiple of desired loops have been formed after which punch 50 having a pointed tip 51 is passed through aperture 12 in base member 10. In passing pointed tip 51 through this aperture, the ribbon overlying the aperture will be pierced. The punch is then removed and a fastener, staple or other suitable fastening means can be inserted in the slit made by punch 50 to permanently hold the layers of overlapped ribbon together. The fastening means, hereinafter described, permits angular adjustment between the loops and multiple layers.

In the embodiment disclosed in FIGURES 8 and 9, aperture 15 comprising circular portion 40 and a tapered slotted portion 41 is located in base member 10. Pin 16 comprises shaft 16a with circular head 18 located on one end of shaft 16a and cone-shaped head 19 on the remaining end. The diameter of shaft 16a is slightly larger than the narrowest width of slotted portion 41. The base of cone-shaped head 19 has a diameter slightly larger than the diameter of shaft 16a. A second circular head 17, parallel to head 18, is located along shaft 16a spaced from head 18 a distance equal to the thickness of base member 10. The diameters of heads 17, 18 are larger than the width of slotted portion 41 but less than the diameter of circular portion 40. When the bow forming device is ready for use, fastening pin 16 is conveniently inserted into aperture 15 and pressed into slotted portion 41 with heads 17 and 18 each abutting a face of base member 10, pin 16 being frictionally retained in this position. The free end of a ribbon is attached to the device. The ribbon is then brought to the side of finger 11, looped under

its trailing edge, brought around to its leading edge, and pulled diametrically across the face of the base member. As the ribbon crosses the face of the base member, it is punctured by and pulled onto ribbon cross pin 16. Thereafter, the ribbon is brought to the next cooperating finger, around its trailing edge and leading edge where it is again punctured by and pulled onto ribbon cross pin 16. If desired, however, the bow could be completely formed on the apparatus after which the bow could be slit with punch 50 and pin 16 inserted as a permanent fastener. This procedure is continued until a sufficient number of loops have been formed. The loops are then removed from the apparatus in the manner previously described and pin 16 is removed from its frictionally maintained position. The bow is kept from sliding off shaft 16a due to the size of the diameters of the base of cone-shaped head 19 and circular head 17.

In FIGURES 10 and 11, a further embodiment of my invention is shown. Here the pin holding device consists of flaps 20 and 21 which are cut into base member 10. Pin 43 has a cone-shaped head 23 located at one end while circular head 24 is located at the other. The diameter of head 24 is greater than the spacing between flaps 20 and 21. To hold the pin in a locked position, flaps 20 and 21 are angularly flexed and pin 43 is inserted under the flexed flaps and maintained in this position due to pressure exerted by the flexed flaps as they attempt to return to their original position.

FIGURES 12, 13 and 14 disclose an additional modification of my pin holding device. Here slots 27, 28 are centrally located in base 10, the slots intersecting one another at about 90°. Pin 26 has a cone-shaped head 29 at one end and base 30 at the other. Extending outwardly from base 30 in a direction away from head 29 are insertion members 31, 32, which intersect with each other in a manner corresponding to the intersection of slots 27, 28. When the device is in operation, insertion members 31 and 32 are pressed into slots 27, 28 and the pin is frictionally maintained in this position.

Another modification of the pin holding means is shown in FIGURES 15, 16 and 17. A slotted retaining member 32 is connected to one face of base member 10 by means of rivets 35. Rivets 35 also hold a cuplike handle 34 to the other face of base member 10. The slot in pin retaining member 32 tapers inwardly from outer edge 37 to the inner part of member 32. Further, the sides of the slot are sloped from one face of member 32 to the other. Pin 38 has a shaft 38a with a cone-shaped head 39 on one end of shaft 38a and circular head 42 at the other. The diameter of circular head 42 is slightly larger than the largest width of the slot in member 32 and its thickness is slightly less than the thickness of member 32. The diameter of shaft 38a is at most equal to the narrowest width of the slot of member 32. This pin is frictionally maintained in the slot when the device is operative. Though handle 34 and pin retaining member 32 have been illustrated as being riveted to the respective faces of base member 10, these members could be bonded to or made integral with base member 10 by any suitable means.

The fastening pin illustrated in the various embodiments of my invention can be made of a plastic or other suitable material. Further, though punch 13 was used to put a slit in the overlapping ribbons prior to insertion of a fastening pin, it is appreciated that this step could be eliminated and the pin could be inserted directly into the material without any pre-punching.

In fabricating the bow forming apparatus of this invention, it is preferable that the base member and cooperating fingers attached thereto be integrally formed from a plastic sheeting having resilient characteristics. It has been found that non-linear polyethylene is suitable to effectuate the objectives of this invention. However, other plastic materials such as polyvinyl chloride, polypropylene and the like, or even resilient metal strips can

be used, provided that the finger members can be afforded resiliency to permit them to be flexed into a bent position necessary for removal of the formed bow. Fingers formed from plastic sheeting 7 to 15 mils thick afford sufficient flexibility. The thickness, however, depends upon the resiliency and flexibility of construction used. For example, 10 mil thick polyethylene provides a satisfactory material.

While it is preferred that the assembly of the fingers and base member be integrally formed, depending upon the manufacturing facilities, it is possible to use a separate base member and a separate set of fingers and join the respective elements by suitable fastening techniques.

Although the illustrated embodiments show the use of three finger and five finger members, bow forming apparatus constructed in accordance with this invention can be prepared which will produce seven point bows. The number of fingers which is utilized is an odd number, namely, three, five, seven, nine, etc. Although any odd number of fingers can be employed, from a practical standpoint it is preferred that three, five or seven fingers be utilized. More fingers than this provides an unwieldy apparatus unless very narrow ribbon or string is used, in which case as many as fifteen to twenty-one fingers can be employed.

It will be noted from the drawings that the relationship and width of the fingers is such that the ribbon must be drawn from the leading edge of one finger across the center of the base member to the trailing edge of an opposed cooperating finger. In FIGURE 5, the trailing edges of the fingers are numbered 70 and the leading edges are numbered 80. Thus, while the number of fingers, whether three, five, seven or more, are radially oriented and each angularly displaced from the other an equal number of degrees, the width of the finger at its root with base member 10 must be such that the face of the ribbon is drawn across the center of the base member. In other words, the width of the fingers at the base member is such as to provide intersections between leading and trailing edges of the fingers with some of the intersections diametrically opposed to other such intersections to provide ribbon stringing paths therefrom that meet in the center of the base. This is an important structural aspect because it permits the various layers of ribbon to be secured by means of a suitable fastener in the center of the bow where the ribbon strips overlap one another. The length of the finger need only be sufficient to permit the ribbon to be held in place thereon. In the event that the fingers and base member are integrally formed from a single sheet of plastic, conventional design concepts should be followed and sharp corners where abrupt changes in direction of peripheral outline occur should be made on a radius in order to avoid the severing of the arm from the base member upon flexing.

The instant invention has application in the formation of ornamental bows from various fabric ribbon materials of different widths. It is preferred, in the event that ribbon bows are formed, that ribbons varying from 3/8" wide to

1 1/2" wide be employed in order that the fingers can conveniently be formed.

Although the instant invention has been described with reference to a number of specific illustrative embodiments, it is apparent that variations and modifications therein can be effected by one skilled in the art to which this invention pertains, without departing from the spirit and scope of this invention. Accordingly, it is intended that the subject invention be limited only in the manner described in the appended claims.

What is claimed is:

1. A device for the manual forming of an ornamental and decorative bow, said device consisting essentially of a planar base member having radially extending therefrom at least three thin, resilient and flexible fingers equally spaced from each other for releasably holding the individual loops of ribbon making up the bow, the fingers having root widths which determine ribbon paths extending between the leading edges of said fingers and the trailing edges of generally oppositely disposed fingers, whereby ribbon portions looped about said fingers and bearing on edge portions of the base member extending between said fingers and following said ribbon paths will overlay one another on the geometric center of said base member, said fingers being manually bendable substantially 90° out of the plane of said base member along lines of bend which extend across the root portions of said fingers.

2. A device in accordance with claim 1, wherein said base member and fingers are made of polyethylene.

3. A device in accordance with claim 1, wherein said base member has an opening at its geometric center for the passage of a fastening means for securing ribbon portions overlaying one another on the geometric center of said base member.

4. A device in accordance with claim 3, further including bow fastening means for passing through said opening for fastening together overlaying ribbon portions overlaying one another on the geometric center of said base member.

References Cited by the Examiner

UNITED STATES PATENTS

2,011,617	8/35	Cottrell	-----	223-46 X
2,093,828	9/37	Carlson	-----	223-46 X
2,413,955	1/47	Cottrell	-----	223-46 X
2,860,399	11/58	Bates	-----	223-46 X
3,021,038	2/62	Dean	-----	223-46
3,044,670	7/62	Barefoot	-----	223-46
3,061,153	10/62	Rector	-----	223-46

FOREIGN PATENTS

477,852 8/15 France.

JORDAN FRANKLIN, *Primary Examiner*.  
DAVID J. WILLIAMOWSKY, *Examiner*.