Oct. 30, 1962 H. R. RECTOR 3,061,153

BOW MAKER

Filed March 23, 1959 2 Sheets-Sheet 1

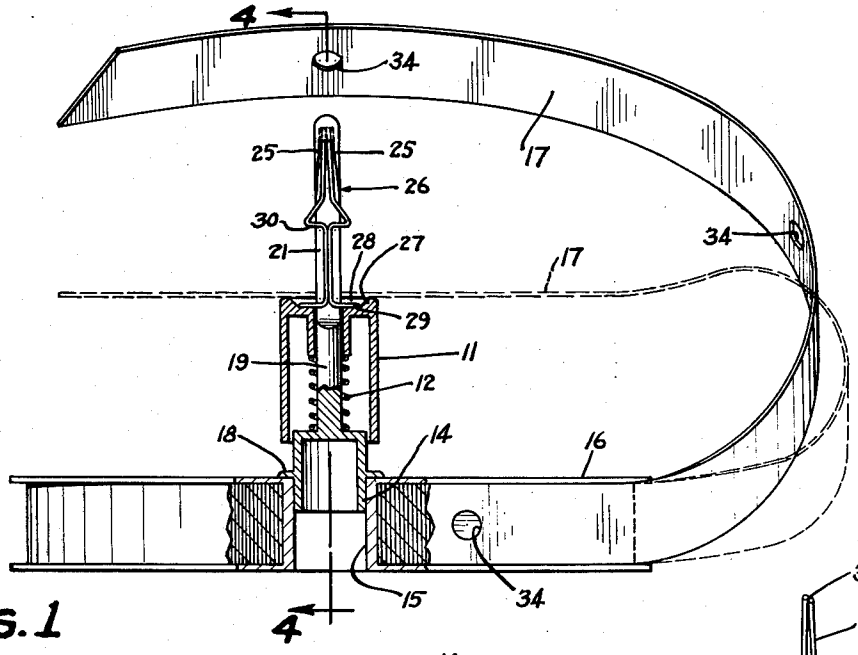


FIG. 1

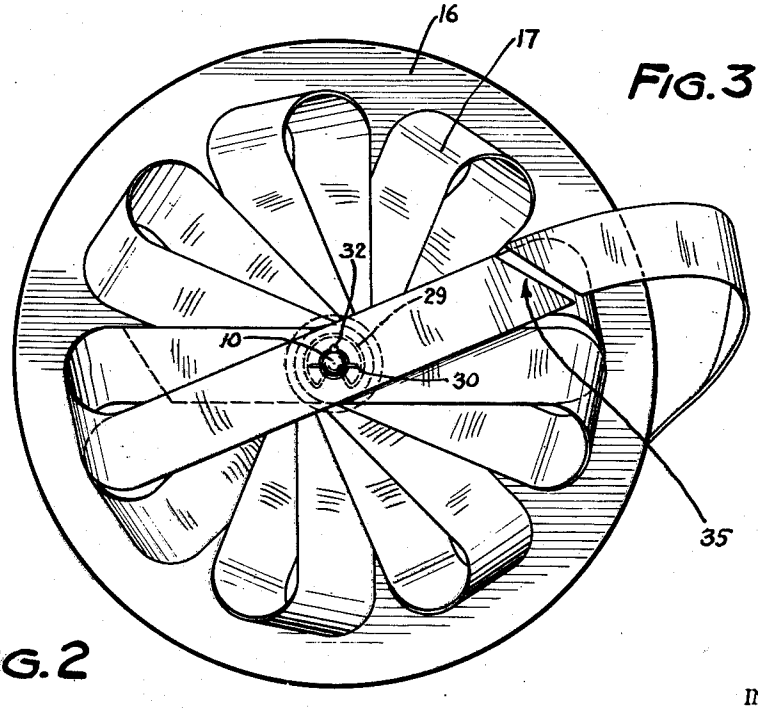


FIG. 2

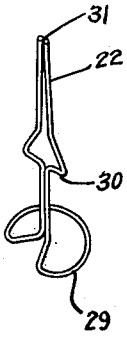


FIG. 3

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BOW MAKER

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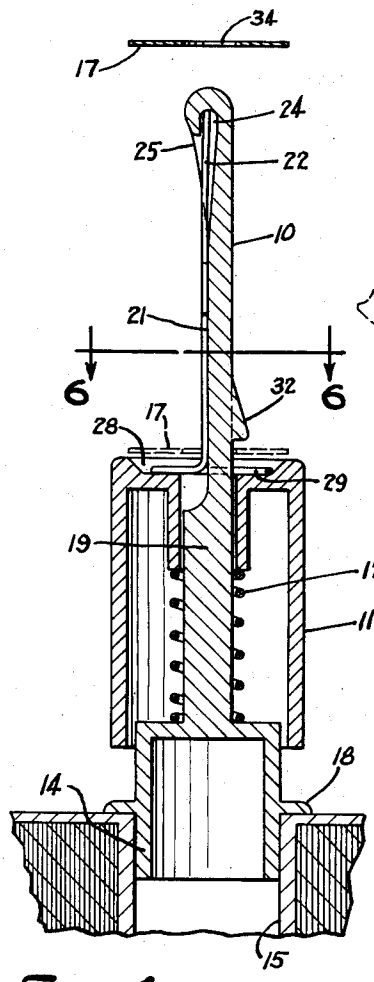


FIG. 4

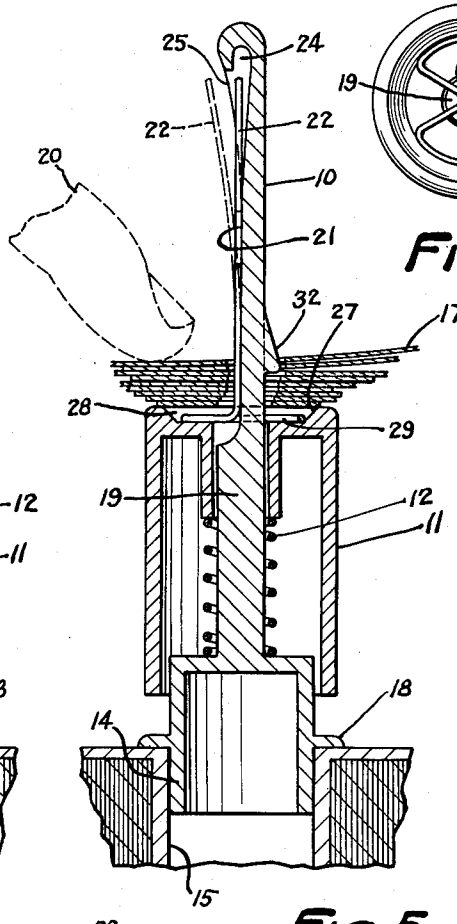


FIG. 5

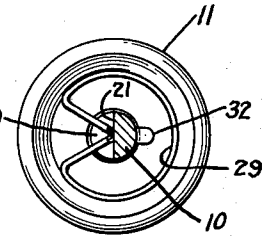


FIG. 6

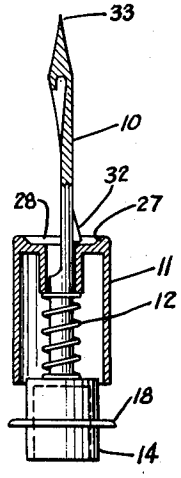


FIG. 7

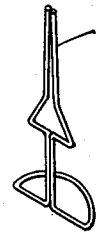


FIG. 8

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3,061,153

BOW MAKER

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13 Claims. (Cl. 223—46)

This invention is a bow maker for use in making decorative bows to complete fancy wrappings of packages and boxes. It features structure that makes it particularly adaptable for use by an unskilled person. The featured structure of this invention includes a spindle on which ribbon is collected and formed into a bow; a biased wire holder that forces and holds the point of a binding wire used with the device up into an inverted well at the top of the spindle; the inverted well serves to guide ribbon onto the binding wire; guides on the spindle near the well at the top to assist in placing the points of the wire used with the device into the well; a ribbon spool center opening fitting portion whereby a spool of ribbon used with the bow maker can serve as a base for the bow maker device, thus avoiding the need for a separate base; and a shaped bow binding wire that is inserted onto the spindle quite easily and that holds a bow formed on the device in its decorative shape when it is removed from the spindle; this wire also provides an easy means for attaching a finished bow to a package ribbon or a box surface. One form of the device features a sharply pointed spindle top that can be used successfully with any split resisting ribbon.

It has been proposed before to have devices to aid in the making of decorative bows. Until the present invention, devices for assisting people to make decorative bows have been properly categorized as those for professional use or those for home use. Bow makers most commonly used have been machines devised for professional use by department stores as a courtesy service feature and other businesses that specialize in decorative wrapping. These machines at first had rather complex finger systems for holding bow loops while the completed bow was being secured, at its center. Later developments resulted in a machine generally known as the hank type bow maker. This device consists of a revolving element that forms a hank of ribbon of the size of the intended bow. After sufficient layers of ribbon have been wound on the revolving element, the hank is flattened and cut at each side of its center to provide a means for tying ribbon to grip and hold the loops in the position they have been placed before tying. After the center of the loops is thus secured, it is possible to pull the inside loop ends out, thus forming a decorative bow that can be secured to a package. Usually the ends of the center tying ribbon are used for this purpose. More recently, a unit has been devised that uses a special plastic button having barbs on it and over which the loops of ribbon are forcibly jammed to be secured thereon by the barbs. When enough loops to form a bow have been thus forced onto the button by means of mechanical arms that also measure the exact ribbon length to provide uniform loops, the ribbon may be severed and the finished bow on the plastic button removed from the machine. The button may be driven through a box cover and thus secure the bow to a box quickly and easily.

All of these devices have had shortcomings. The hank type is relatively inexpensive as a machine and makes a bow that can be secured to numerous different types of wrappings, but it is slow in operation. An excessive amount of labor is expended in making each bow on the hank type machine. The button type, while much faster, cannot be used in some instances as, for example, on boxes containing silk stockings and other easily damaged merchandise which, sliding around in the course of being

transported after the bow is secured thereto, can be damaged by the point of the button extending into the interior of the box. The present invention provides a machine element that is well-adapted to solving the problems presented by these earlier devices.

Another category of bow making device might be referred to as those for hobby or home use. Several devices have been placed on the market for this purpose, one of which is a ribbon having a gathering string pre-threaded through it. By pulling the string, the ribbon is bunched into a decorative collection of ribbon. It has not proved very satisfactory, however, because the string has a tendency to split the ribbon and because the gathered ribbon does not bear much resemblance to what is usually thought of as a bow. Also, placing the string in the ribbon presents manufacturing problems and is rather expensive. Another device that has been suggested is more a matter of method than a device, and simply requires threading loops of ribbon onto a needle in order to secure the bow temporarily and then using the thread attached to the needle to permanently secure the bow center after the bow is finished. Still a third device is a special needle or dowel slotted at the bottom to receive a split brad-type of paper fastener. In the use of this device, the brad point is inserted into the dowel and special punched ribbon can then be threaded over the dowel, as a needle, and onto the brass brad. After the bow is completed, the brad can be pulled from the dowel and the points spread to hold the ribbon bow together. All of these devices are rather difficult to use, and require considerable skill on the part of the user. In part, this stems from the fact that they must be held in one hand while the ribbon is being manipulated with the other. It is very desirable in making bows of a variety of types to have both hands available for looping the ribbon and forming it as desired, as well as turning the bow as it is being constructed in order to space the loops evenly around its center. My invention provides such a device that is self-supporting and is easily used by amateurs to produce very desirable decorative bow-making special effects. Also it is of such a construction that it is readily adaptable to inexpensive mass packaging and sale for home use.

Accordingly, it is the principal object of this invention to provide a novel bow making device; one that:

(1) Can be used by unskilled persons with substantial success after little or no instruction;

(2) Is quickly and easily prepared for use;

(3) Provides an easy means for removing a finished bow from the device;

(4) Is well-adapted to being packaged for mass sale;

(5) Consists of a minimum of parts;

(6) Provides versatile means for securing a finished bow to a box or package;

(7) Can be used with any split-resisting ribbon.

Other objects of the invention will become apparent as the description proceeds.

To the accomplishment of the foregoing and related ends, this invention then comprises the features hereinafter fully described and particularly pointed out in the claims, the following description setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principles of the invention may be employed.

The invention is illustrated by the accompanying drawings in which the same numerals refer to corresponding parts and in which:

FIGURE 1 is an elevation of the bow maker mounted in a spool of ribbon; it is shown partly in section to illustrate the construction of the device; broken lines illustrate adjusted position of the ribbon as it is forced onto the spindle and hidden tips of the wire in the well.

FIGURE 2 is a plan view of the invention.

FIGURE 3 is a perspective view of the shaped wire used with the device and drawn to a slightly larger scale than FIGURES 1 and 2.

FIGURE 4 is an enlarged vertical section of the device and a fragment of the ribbon spool taken on the line 4—4 of FIGURE 1; broken lines show adjusted position of a ribbon fragment on the device.

FIGURE 5 is a view similar to that shown in FIGURE 4 except that the spindle collar which holds the clip in place is shown being depressed in order to remove a finished bow and its wire from the device; broken lines show adjusted positions of the wire ends and also show a finger depressing the center portion of the bow; broken lines also illustrate hidden portions of the wire.

FIGURE 6 is a limited plan view showing a portion of the spindle and the wire taken on the line 6—6 of FIGURE 4.

FIGURE 7 is a modified form of the spindle drawn to the same scale as FIGURE 1.

FIGURE 8 is a modified form of the wire and drawn to the same scale as FIGURE 3.

As shown in the drawings the bow making device is seen to consist principally of a spindle generally designated **10** and a wire holding means such as the sliding collar designated **11** with a suitable resilient spring element such as spring **12** interposed between them tending to force the collar upward toward the free end of the spindle. The spindle terminates at its lower end in an enlarged portion or plug **14** that fits within the opening **15** in the center of a spool **16** on which ribbon **17** is normally stored. As seen clearly in FIGURES 1, 4, and 5, the enlarged portion forming the bottom of the spindle has a shoulder **18** formed thereon which engages the side of the spool adjacent to the opening **15** in its center and limits the distance portion **14** can extend into the spool **16**. Collar **11** is vertically slidable on the spindle shank **19** as can be seen by comparing FIGURES 4 and 5, for example. FIGURE 4 shows the collar in an upward position engaging and holding a bow binding wire. FIGURE 5 shows the collar forced down by finger pressure, the finger being represented by the broken lines at **20** to illustrate how a finished bow is released. A new wire can be inserted into the device by pressing collar **11** down, inserting a wire, pressing the wire points back against the spindle, and releasing the collar. One side of the spindle, as shown at **21** in FIGURES 1, 4, 5, and 6, is flattened to allow a stabilization of the wire **22** when it is placed in the device. The flattened portion **21** of spindle **10** terminates at its upper end in an inverted well **24** into which the ends of wire **22** are forced and held in preparation for making a bow. Inverted well **24** may also be thought of as a guide for the ribbon as it is placed on the wire. Well **24** guides the ribbon onto the wire. To aid in placing the ends of the wire into the well, a pair of guides extend downward from the lower edge of the well and at the sides of the flattened portion **21**, and extend down to a gradually diminishing size as at **26**. This is most clearly seen in FIGURE 1. The top of collar **11** has a ridge **27** running around its periphery to form a shallow well **28** at its top. This well receives the circle fragment ribbon retainer **29** of wire **22** when it is being held in the device, as shown in FIGURES 1 and 4. On the opposite side of shank **19** from flattened portion **21** is a lug or catch **32** which serves the purpose of preventing the collar **11** from escaping from the shank altogether. This is best shown, perhaps, in FIGURE 7 where the alternate form of the device is shown with the collar **11** up against the lug **31** and held from coming entirely off the spindle in this manner.

The only difference between the two forms of wire used with the bow maker is the shape of the ribbon retaining portion engaged by collar **11**. The device shown in FIGURE 8 uses a semi-circle as its ribbon holding part, while the FIGURE 3 device discloses a ribbon retainer in which more than three-quarters of a circle are formed by the wire before it is bent upward to form the rest of the shaped wire. Nevertheless, they may both be adequately described as a wire having its center portion bent into a fragment of a circle; then its ends bent inwardly toward the center of the circle fragment to a point adjacent to each other; bent upwardly at right angles to the plane in which the circle fragment lies to a point spaced therefrom vertically; bent outwardly in a plane parallel to the plane in which the circle fragment lies to form ribbon retaining shoulders **30**; bent upwardly and toward each other to a point **31**.

As can be seen by examining FIGURE 1, the blunt spindle used and shown as the preferred form of the device is used with ribbon **16** that has openings **34** formed in it to permit slipping the ribbon over the blunt spindle. These openings **34** serve a second purpose, which is to space accurately the points on the ribbon that are placed on the spindle. For example, if a 4" diameter bow is to be made, the holes in the ribbon are spaced approximately 4" apart and thus forms a 2" loop on each side of the spindle to provide an approximately 4" in diameter bow. When a device such as that shown in FIGURE 7, that differs from the preferred form only in having sharp point **33** at the top of the spindle, is used, the ribbon is not perforated but is simply split-resisting ribbon that is punctured by the sharp point 32 of that structure. When the device of FIGURE 7 is used, it is advisable for the operator to either have some means of measuring the ribbon or to be skillful in gauging how much ribbon is taken from the spool in forming each loop, Of course, the structure shown in FIGURE 7 may be used with the ribbon shown in FIGURES 1 and 2, as well as with ribbon that is not perforated.

Operation

The use of the device is relatively simple. Its spindle is inserted into a spool of ribbon as shown in FIGURE 1 and the ribbon spool than serves as a base to hold the spindle upright. A wire such as that shown in FIGURE 3 is dropped over the spindle and then has its shank and shoulder portions pressed flat against the flattened side **21** of spindle shank **19**. With the clip in this position, collar **11** is urged downwardly gently by the user until points **30** of the clip **22** are below the bottom of well **24**. Spring **12** will then force the points **30** of wire **22** up into well **24** if, simultaneously with the release of collar **11**, the points **30** are urged back against the spindle shank **19**. Wire **23** as shown in FIGURE 8 may be used in substantially the same manner as wire **22** or may be used entirely from the flat side **21** of shank **19** by merely holding the shoulder and shank portions of the clip up against the flattened side **21** of the shank **19**. In FIGURES 1 and 2, where a plain looped bow is made, the ribbon is taken from the roll and one of the perforations therein placed over the spindle and forced down past the shoulders of the clip. The first piece of ribbon has been forced down over the clip and is lying against the collar **11** as shown in the broken lines of FIGURE 1. Thereafter, the operator simply weaves the ribbon back and forth in a sinuous pattern turning the ribbon on the spindle a little more than 180° each time a loop is made and thus forming a simple bow as shown in FIGURE 2. It is quite possible with only a little experience with the device to form other types of bows by twisting the ribbon, as it is being looped back and forth. When a ribbon has been formed into what is felt to be an adequate bow; in many cases requiring as many as a dozen or more loops, the ribbon is severed, as shown at **35** in FIGURE 2. The operator is then ready to begin to remove the finished bow from the device. As shown in FIGURE 5, this is done by placing pressure on top of the ribbon folds and pushing downward on them to force collar **11** downward far enough to release point **31** from well **24** and ribbon retainer **29** from well **28**. The ends of the wire are then taken in the fingers of the other

hand of the operator and the entire bow together with the wire on which it is formed is taken off of the spindle. By spreading the points **33** a wire may be made to hold all the loops of the ribbon into the formed bow. The spindle will then be empty and ready to receive another wire to make an additional bow. Furthermore, the portions of the wire from the shoulders thereof up to the points may be used either to secure the bow to external wrappings on a package, such as a ribbon or the like, or may be forced through a thin cardboard box and spread out on the underside thereof to secure the decorative ribbon to the box. Thus, the wire used in this invention is an extremely versatile form of securing bows to packages.

It is apparent that many modifications and variations of this invention as hereinbefore set forth may be made without departing from the spirit and scope thereof. The specific embodiments described are given by way of example only, and the invention is limited only by the terms of the appended claims.

What is claimed:

1. A bow maker for use with ribbon on a ribbon spool having a center opening; a spindle having a side; a plug at the bottom of said spindle adapted to fit the center opening of a spool of ribbon; holding means secured to said spindle for releasably securing a bow binding element to the side thereof while the bow is being formed thereon; a ribbon guide in the form of an inverted well near the top of said spindle; whereby ribbon placed on said spindle is directed onto said bow binding element secured to the side of said spindle.

2. A blow maker comprising: a spindle having a side; holding means secured to said spindle for releasably securing a bow binding element to the side thereof while a bow is being formed thereon; a ribbon guide at the top of said spindle; said ribbon guide comprising an inverted well near the top of said spindle; whereby ribbon placed on said spindle is directed onto said bow binding element secured to the side of said spindle.

3. The bow maker according to claim 1 in which said holding means comprises; a collar slidably secured to said spindle; a well in the top of said collar; and a resilient element between said collar and said plug urging said collar toward said inverted well.

4. The bow maker according to claim 3 in which said spindle is flat on a side below said ribbon guide; and wire guides formed on the edges of the flat side of said spindle immediately below said ribbon guide.

5. In combination a spool having a center opening; ribbon wound on said spool; a spindle enlarged at one end engaged in the center opening of said ribbon spool; an inverted well at the top of said spindle; and means below said inverted well and secured to said spindle adapted to engage the bottom of a bow binding element and urging it up toward said inverted well; said spindle between said holding means and said inverted well being partially flattened.

6. The combination of claim 5 in which a pair of wire guides are formed at the edges of said spindle flattened portion commencing at the lower edges of said inverted well and extending down.

7. The combination of claim 6 in which the spindle is pointed on top.

8. The combination in claim 5 in which the spindle is pointed on top.

9. In combination a spool having a center opening; perforated ribbon wound on said spool; a spindle enlarged at one end and engaged in the center opening of said ribbon spool; a shoulder on said spindle enlargement limiting its entry into said ribbon spool opening; an elongated collar slidably mounted on said spindle above said shoulder; a resilient means interposed between the top of said spindle enlargement and said sliding collar; a shallow well in the top of said collar; an inverted well at the top of said spindle; said spindle having a flattened portion extending from said sliding collar to said inverted well; and a pair of wire guides at the outer marginal edges of said flat portion near said inverted well, and extending down from its lower edges.

10. A shaped bow binding wire; a piece of wire formed at its center into a circle fragment with the two ends thereof bent inwardly toward the center of said circle fragment and then upwardly at right angles to the plane of said circle fragment and adjacent to each other to a point spaced above said circle fragment; said ends then being bent outwardly away from each other in a plane parallel to said circle fragment to form ribbon restraining shoulders; said wire ends then being bent inwardly and upward toward each other to form an elongated point.

11. The shaped wire bow binding wire of claim 10 in which said circle fragment is the majority of a circle.

12. In a bow maker for use with ribbon wound on a spool having a center opening; a spool center opening fitting element; a shoulder having a spool engaging surface on said spool center opening fitting element to limit movement thereof with regard to the spool; a spindle extending at right angles to the spool engaging surface of said shoulder and secured to said spool center opening fitting element; a collar slidably fitting said spindle and said spool center fitting element; a coil spring on said spindle between the top of said spool center fitting element and the inside of said sliding collar; a lug on said spindle engaging the top of said sliding collar at times to limit its vertical movement with respect to said spindle; an inverted well in the top of said spindle; a flattened portion on said spindle leading up to said inverted well; a pair of wire guides formed at the sides of said flattened portion of said spindle and extending from a point below said inverted well to the lower edges thereof.

13. The bow maker according to claim 12 in which said spindle is pointed at its top.

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