Oct. 20, 1959 J. DARATA 2,909,308

APPARATUS FOR MAKING BOWS

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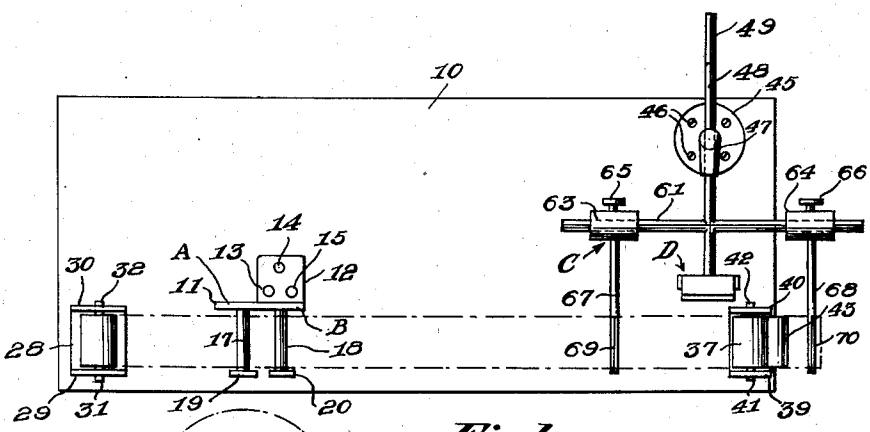


Fig. 1.

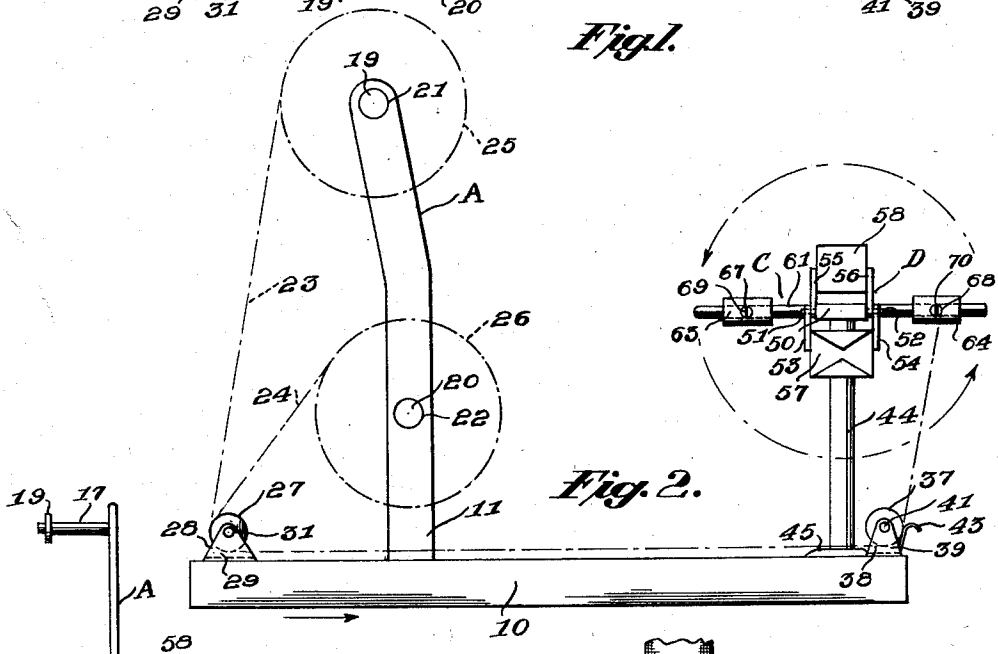


Fig. 2.

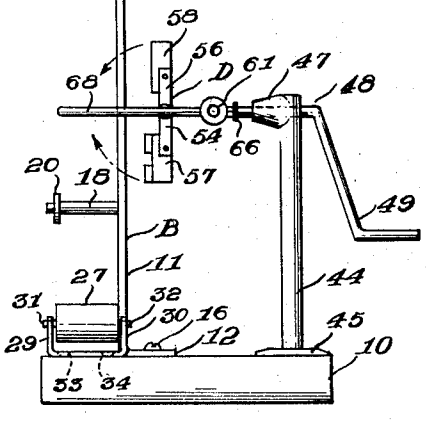


Fig. 3.

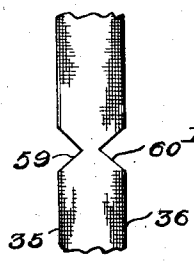


Fig. 4.

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APPARATUS FOR MAKING BOWS

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2 Claims. (Cl. 223—46)

The present invention relates to apparatus for making bows, rosettes, pompons and like ornaments.

Heretofore, apparatus and machines have been developed for making bows and like ornaments and such apparatus and machines have either been able to only partially make the bows or if the machine completely forms the bow, the same is a very complex and bulky machine.

It is an object of this invention to provide a machine or bow making apparatus, which is a simple light weight and portable device readily usable by any inexperienced person or even children, whereby a professionally perfect appearing ornamental bow may be produced by such inexperienced persons.

Another object is to provide a novel bow making apparatus adapted to produce in one bow forming operation a pompon bow, rosette or the like, having a plurality of bow loops of different colors.

Another object is to provide a novel ribbon spool support for pluralities of spools of ribbon of various colors, in combination with guide means for feeding the ribbons in an untwisted and flat position to a ribbon loop forming frame for operation thereon by an operatively associated notching cutter carried by the ribbon loop forming frame.

A further object is to provide a novel cutter means adapted to oppositely notch the intermedate strips or reach or reaches of ribbons looped on a ribbon loop forming frame, whereby the final ornamental bow or the like may be manually tied at the opposed notches to form the finished product.

Still another object is to provide a bow making device that is adjustable, to thereby make different sizes of ornamental bows and the like and also to provide means to maintain the bow ribbon under proper tension while the device is in use.

The foregoing objects of the present invention are attained by providing a portable device for household use, which broadly includes a crank operated ribbon looping means, a remotely positioned ribbon spool support adapted to support a plurality of spools of ribbon in offset relation for paying out the ribbon separately from each spool, ribbon guide means adjacent the ribbon spool support and the ribbon looping means, positioned so the payed out ribbon feeds to the said looping means from the ribbon spools in a flat and untwisted position, and a ribbon notch cutter having V-shaped cutters arranged to form oppositely opposed notches in the opposite longitudinal edges of the reaches of the respective ribbon loops on the said looping means.

Other objects, advantages and uses of this invention will appear more fully after reading the following detailed description together with reference to the accompanying drawing wherein one embodiment is illustrated.

In the drawings:

Figure 1 is a top plan view of the apparatus showing the remotely positioned ribbon spool support bracket at the left and the guide means for guiding the payed out ribbon to the ribbon looping frame and notch cutter to the right of the sheet;

Figure 2 is a side elevational view of the ribbon spool support and a front elevational view of the ribbon looping frame;

Figure 3 is an end view of the apparatus looking in the direction of the arrow in Figure 2; and

Figure 4 is a plan view of one strip or reach of a ribbon loop shown with the opposed tie notches formed therein by the novel cutter mechanism.

Ribbon spool support means

Referring in detail to the drawing and first with particular reference to Figures 1, 2 and 3, there is disclosed a rectangular base or block **10**. This base supports a spool support bracket **11** formed with a laterally extended foot **12** formed with fastener openings **13**, **14** and **15** positioned in triangular relation for receiving fasteners, such as bolts or screws **16**, see Fig. 3, to thereby mount the spool support in a vertical position from the base adjacent an end and a longitudinal edge thereof.

The bracket **11** is formed of a single flat bar and is formed with an angularly offset upper portion A which mounts a spool spindle **17** extending laterally adjacent the end thereof and a lower portion B extending from the foot **12** formed therein. The portion B likewise mounts a spool spindle **18**. These spindles are formed with heads **19** and **20** respectively and may be threaded on one end and the portions A and B may be formed with threaded apertures **21** and **22** respectively, so the spindles may be threadedly attached and detached with a ribbon spool **25** and **26** respectively thereon.

As shown in Figure 2, the offset arrangement of portions A and B of the spool support permits very efficient unwinding and pay out of a plurality of ribbons **23** and **24** from their respective ribbon spools **25** and **26** to a common guide roller **27**. The guide roller **27** is rotatably mounted in a U-bracket **28** having oppositely apertured side lugs **29** and **30** for receiving the roller spindles **31** and **32**. Preferably the guide roller U-bracket is secured to the base **10** in a corner thereof by countersunk screws **33** and **34** and positioned, so as to reeve the ribbons in a straight tangential line from the respective ribbon spools to thereby prevent twisting and to maintain the ribbon flat and uncurled at the edges **35** and **36** thereof. This condition of the ribbon facilitates the notch cutting operation hereinafter described in connection with Figure 4. Also, the guide roller brackets may be made adjustable to provide for ribbon of different widths.

Ribbon guide means

The ribbons **23** and **24** are reeved over and under the guide roller **27** in a straight line, see Figure 2, to a second guide roller **37** mounted in a U-bracket **38** similar to U-bracket **28**, positioned on the same side of base **10** in the opposite corner from roller bracket **28**, and having similar apertured lugs **39** and **40** for rotatably receiving spindles **41** and **42** of the roller **37**. The reaches or strips of ribbon **23** and **24** are held taut by a tension means, such as the leaf spring **43**, which prevents any back slack from the guide roller **37**, as it leads off to the ribbon loop forming means C and the ribbon notching cutter D, now to be described.

Ribbon looping means and notch cutter

The combination ribbon looping means C and ribbon notch cutter means D are supported above the base **10** by a vertical support post **44** having a circular base **45** apertured radially to receive fastener elements, such as screws or bolts **46** to anchor the same firmly to the base

10. The upper end of the post 44 is bored through transversely and enlarged to provide a bearing 47 for journalling a crankshaft 48, see Figure 3. The post is mounted adjacent the corner edge of the base 10 at the opposite side of the block 10 from the ribbon feeding mechanism. This position of the post is desirable to provide for the extension of the crankshaft 48 from the bearing 47 and to properly position the ribbon looping frame C and the cutter D with respect to the ribbon guide roller 37.

The crankshaft 48 extends from one side of the bearing 47 beyond a longitudinal side of the base 10 in the form of a hand crank 49 and from the other side of the bearing the crankshaft extends over the base 10 to a position adjacent one edge of the ribbon on the looping frame C. This end of the crankshaft is formed with a T-head 50 having reduced ends or pivot studs 51 and 52 on which are pivoted the ends of spaced pairs of arms 53–54 and 55–56, each pair of arms being secured to plates 57 and 58, respectively. The plates form the major parts of a ribbon dual notch cutter. For example, plate 57 carries a pair of oppositely positioned V-shaped cutter elements, and plate 58 serves as the anvil plate of the cutter, which plates when squeezed together over a strip of ribbon cut opposed notches 59 and 60 in opposite longitudinal edges 35 and 36 of the ribbon strip, see Figure 4.

The ribbon looping means C comprises a cross bar 61 secured intermediate its ends at 62 to the crankshaft 48. This bar 61 is positioned on the crankshaft rearwardly of the cutter D. Slidably adjustable from each end of the cross bar 61 are bushings 63 and 64, respectively, with set screws 65 and 66 to hold the same to adjusted positions. Projecting in spaced substantially parallel relation from the bushings are arms 67 and 68 each formed with slotted ends 69 and 70 for receiving the longitudinal edges of ribbon or ribbons to be looped around the arms when the ribbon looping frame is revolved by the crankshaft as hereinafter described under the heading, "Operation."

Operation

To operate the apparatus, the machine is loaded by placing one or two spools of ribbon on spindles 17 and 18. It will operate with one or two spools of ribbon and they can be of different colors. The ribbon passes under the guides 27 and 37 and is inserted in a slot in either of the winding arms 67 and 68. The winding arms 67 and 68 are adjustable for making bows of different lengths. The handle 49 is then rotated clockwise which wraps the ribbon around the winding arms 67 and 68 to any desired thickness, depending on the fullness of bow desired. The cutting plates 57 and 58 are then brought together with the left hand and the opposite edges of the ribbon are notched as shown in Fig. 4. Arrows show the path in which the cutter plates travel to notch the ribbon.

It is then tied with a much narrower ribbon across the V-notch and cut. Leaf spring 43 retains the ribbon during the final tying.

Remove the tied ribbon from winding arms 67 and 68 and by inserting ends of cut ribbon in slot 69, another bow is ready to be formed.

Without further description, it is believed the invention has been fully illustrated and described so that others may understand and practice the invention in accordance with the Patent Statutes. It is to be understood, however that this invention is an example only of the apparatus and other arrangements and improvements may be made without departing from the scope of the present invention. To determine the scope of the present invention, reference should be had to the appended claims.

What is claimed is:

1. Apparatus for making ribbon bows and the like comprising a base, a bracket supported by said base and projecting upwardly therefrom, means on said bracket for supporting spools of ribbon, ribbon guide rollers supported on said base, one at each side of said bracket, a post projecting vertically upwardly from said base and being secured thereto, the upper end of said post being provided with a horizontal bearing whose axis is disposed at right angles to a vertical medial plane of said rollers, a crank shaft rotatably supported in said bearing and being provided with a crank for effecting manual rotation thereof, a bar extending transversely of said crank shaft and being secured thereto at its mid portion, an arm disposed at each side of said crank shaft in parallel relation thereto and having a ribbon receiving slot therein, said arms being slidably adjustable on said bar for varying the transverse spacing thereof, whereby upon rotation of said crank shaft the ribbon is drawn from the spools thereof on said bracket and wound around said arms and form one or a plurality of loops around same, said crank shaft projecting beyond said bar, and ribbon notching cutter means supported by the end of said crank shaft in spaced relation to said bar and intermediate said arms.

2. Apparatus for making ribbon bows or the like according to claim 1, wherein said crank shaft is provided with a pair of axially aligned pivot studs at said end thereof, and said notching cutter means comprising an anvil plate swingably supported on said studs and a second plate also swingably supported on said studs for cooperation with said anvil plate and having oppositely positioned V-shaped cutter elements supported thereby.

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