Jan. 27, 1942. G. H. BIRD 2,271,326

DISPLAY REEL

Filed June 14, 1940

Fig. 1

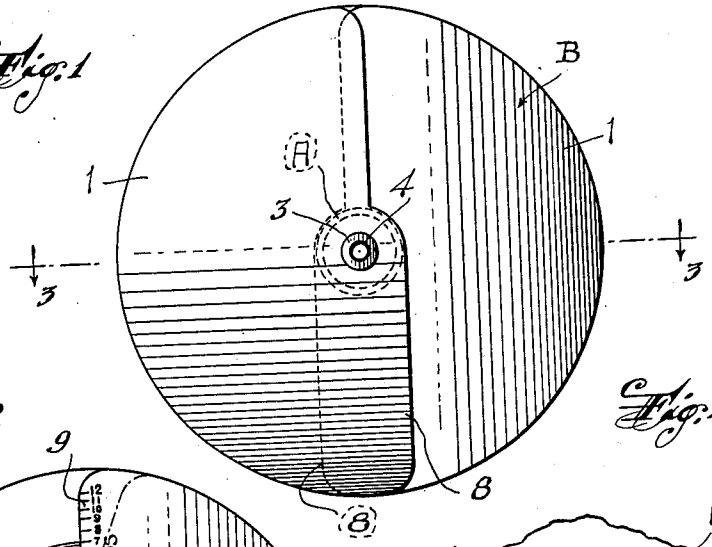


Fig. 2

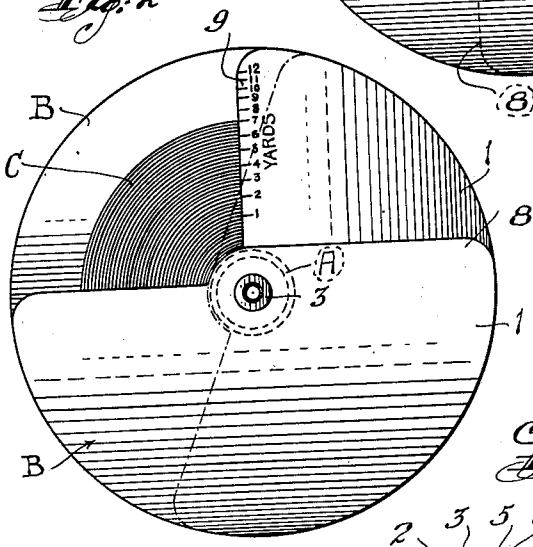


Fig. 4

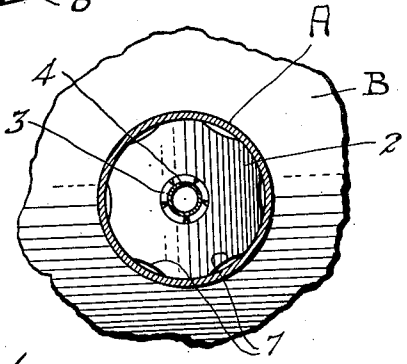


Fig. 3

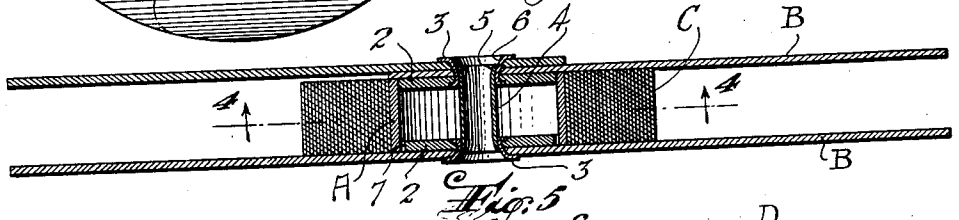
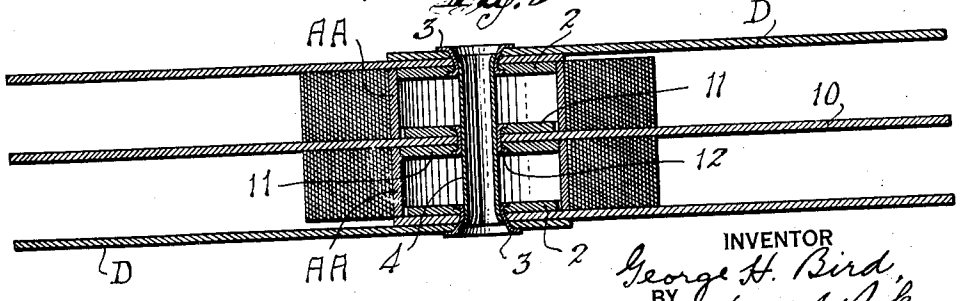


Fig. 5



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Patented Jan. 27, 1942

2,271,326

UNITED STATES PATENT OFFICE

2,271,326

DISPLAY REEL

George H. Bird, Brooklyn, N. Y.

Application June 14, 1940, Serial No. 340,455

3 Claims. (Cl. 242—70)

This invention relates in general to reels, and particularly to reels for receiving ribbon and other narrow fabric as it is usual to prepare them for sale. A reel of this type generally comprises a core or drum upon which the ribbon or other material is wound and separate end flanges secured to opposite ends of the core or drum to retain the ribbon thereon. One such type of reel or spool is disclosed in my United States Patent No. 1,578,257, of March 30, 1926.

One object of the present invention is to provide a reel of this general character that shall embody novel and improved features of construction whereby the contents of the reel may be viewed or displayed edgewise through an opening in at least one of the end flanges.

Another object is to provide such a reel wherein one of the end flanges shall comprise a plurality of sections or segments, at least one of which shall be movable relatively to another to form an opening between adjacent sections or segments for display of the contents of the reel.

Another object is to provide a reel having a central hole to receive a supporting spindle and an end flange formed of complementary segments, wherein said segments have overlapping portions shaped and located so that the major portion of the weight of the flange is disposed at one side of a diametral plane of the reel, whereby when the reel is mounted on a horizontal spindle or is set edgewise on a horizontal surface, gravitational action on said major portion of the weight will resist rotation or rolling of the reel and reduce the possibility of accidental unwinding of the contents of the reel.

A further object is to provide a reel that shall embody novel and improved features of construction for connecting the end flanges to the core or drum whereby the structure shall be strong, durable and inexpensive.

Other objects are to provide a reel including a tubular core or drum and end flanges therefor, and novel and improved means for fastening said end flanges to the core including discs attached to the end flanges and snugly and adhesively secured within corresponding ends of the core; to provide a novel and improved method for distributing the adhesive between peripheries of such discs and the inner surfaces of the opening in the core; and to obtain other advantages and results as will be brought out by the following description in conjunction with the accompanying drawing in which

Figure 1 is a side elevational view of the reel embodying my invention.

Figure 2 is a similar view showing the segments of one end flange of the reel swung apart to display the contents of the reel.

Figure 3 is an enlarged horizontal sectional view on the line 3—3 of Figure 1.

Figure 4 is a fragmentary transverse vertical sectional view on the line 4—4 of Figure 3, and

Figure 5 is a view similar to Figure 3 showing a modification of the invention.

Specifically describing the invention, the reel comprises a core or drum A that is preferably tubular and formed of cardboard or other suitable material. An end flange B is secured to each end of the core A for retaining on the core ribbon, other narrow fabric or the like C that is spirally wound on the core.

At least one end flange B comprises a plurality of sections 1, at least one of which is pivotally mounted to rotate coaxially with the core relative to another section or segment to form an opening for exposing or displaying the contents of the reel, as shown in Figure 2.

Preferably the end flanges are circular and each segment 1 is approximately semi-circular with its chordal or diametral edges overlapping the corresponding edges of the other segment.

For connecting the end flanges to the core, each end flange has a disc 2 secured to one side thereof as by an eyelet or tubular rivet 3, and a disc 2 on each end flange is snugly fitted into one end of the core A as shown in Figure 3. The disc 2 carried by the sectional end flange is connected to one of the segments 1, and the other segment is pivotally connected to the first-mentioned segment by the corresponding eyelet 3.

The two end flanges are connected together by a tie member 4 that extends through the opening in the tubular core and has its ends expanded at 5 into the corresponding eyelet. Preferably the outer portions of the openings through the eyelets are tapered as at 6, the tie member 4 is a metal tube, and the end portions of said tube are expanded into the tapered or flared portions 6 of the eyelets. With this construction, the end flanges are tightly held in abutting contact with the corresponding ends of the core, and the end flanges are held against lateral movement relatively to the core by the discs 2.

If desired, the discs 2 may be adhesively connected to the core, and in such cases it is possible to dispense with the tie member 4 if desired.

For evenly and thoroughly distributing adhesive between the contacting surfaces of the peripheries of the discs 2 and the interior of the core, the discs may have notches 7 in their pe-

ripheries in which the adhesive is inserted. In assembling the parts, the adhesive is applied to the recesses 7, whereupon the discs are inserted telescopically into the ends of the core and the core and discs are relatively rotated. During this action, the adhesive is drawn from the notches along the portions of the discs between the notches and the inner surface of the core, the edges of the notches serving as wipers or spreaders.

Preferably one or more of the segments 1 has an extension 8 along its chordal or diametral edge at one side of the corresponding eyelet or axis of the core, both for reenforcement of the end flange and to locate a major portion of the weight of the end flange at one side of a diametral plane of the reel. With this construction, when the reel is set edgewise on a flat horizontal surface, gravitational action on the reel will automatically dispose the major portion of the weight of the end flange beneath a horizontal diametral plane of the reel and thereby resist rolling of the reel in such a manner as to prevent accidental unwinding of the ribbon from the reel. Similarly, when the reel is mounted on a horizontal spindle inserted through the opening through the core, said major portion of the weight of the end flange provided by the overlapping portions 8 of the segments, will serve as a counterweight for the loose end of the ribbon or material that may be left hanging from the reel, and thereby prevent accidental unreeling of the ribbon.

For convenience of a sales person and for inventory purposes, one edge of one of the segments may have indicia 9 thereon to indicate the approximate amount, for example number of yards, of the material between the indicia and the core. In this way, it is possible to quickly ascertain approximately how much material is on the reel at any given time.

The invention may also be embodied in a compound or multiple reel as shown in Figure 5, where the structure is substantially the same as that above described except that one or more intermediate partitions 10 may be disposed between the end flanges D, and preferably each of the end flanges will be formed of complementary sections or segments. As shown, the partition 10 may have a disc 11 corresponding to the disc 2 at each side thereof and secured thereon by a tubular rivet 12, and there will be two core section AA, one disposed between each end flange D and the adjacent partition 10. With such a construction, a quantity of ribbon or the like may be wound on each of the core sections AA, and said material may be displayed between the segments of the end flanges D in the same manner as described in connection with Figures 1 to 3 inclusive.

Other modifications and changes in the details of structure of the reel, and the embodiment of the invention in other types of reels may be effected by those skilled in the art without departing from the spirit or scope of the invention.

Having thus described my invention, what I claim is:

1. A reel of the character described comprising a tubular core, an end flange for each end of the core having a disk at one side snugly fitted into the corresponding end of the core, at least one end flange comprising a plurality of complemental segments to one of which the corresponding said disk is secured, and means pivotally mounting at least one of said segments for rotation about the axis of the core relatively to another segment to form an opening between said segments for display of the contents of the reel.

2. A reel of the character described comprising a core and two separate and independent end flanges each secured coaxially to one end of the core, at least one of said flanges comprising a plurality of complementary segments adjacent ones of which normally overlap each other at their radial edges and at least one of which is rotatable about the axis of the core relatively to another segment to form an opening between the segments for displaying the contents of the reel, at least one of said segments having an extension at one radial edge at one side of said axis, whereby normally the major portion of the weight of the corresponding flange will be located at one side of a diametral plane of the reel to restrain gravitational rotation of the reel.

3. A reel of the character described comprising a core, and two separate and independent circular end flanges each secured coaxially to one end of the core, at least one of said flanges comprising two approximately semi-circular complementary segments having their diametral edges normally overlapping each other, at least one of said segments being rotatable about the axis of the core relatively to the other segment to form an opening between the segments for displaying the contents of the reel, and each of said segments having an extension at its diametral edge at one side of said axis, whereby said segments normally may be relatively located with said extension of one segment overlapping the extension of the other segment so that the major portion of the weight of said flange will be located at one side of a diametral plane of the reel to restrain gravitational rotation of the reel.

GEORGE H. BIRD.