Sept. 12, 1933. S. G. MALBY 1,926,729

BOBBIN

Filed March 5, 1930

Fig. 1.

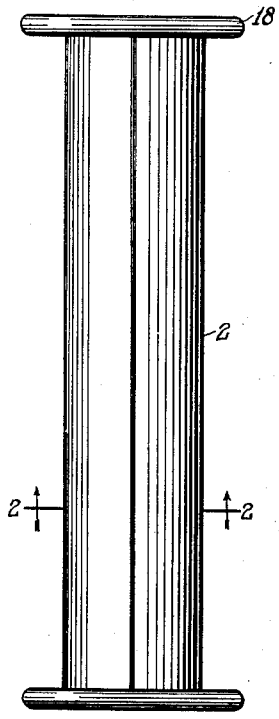



Fig. 2.

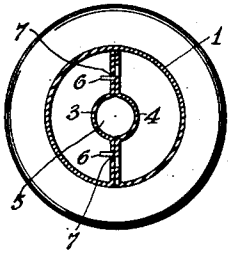



Fig. 3.

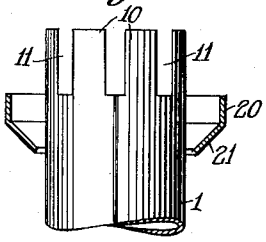



Fig. 4.

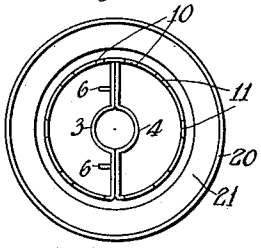



Fig. 5.

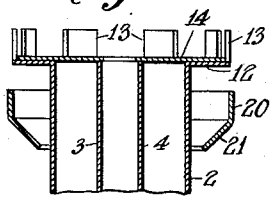



Fig. 6.

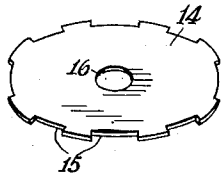



Fig. 7.

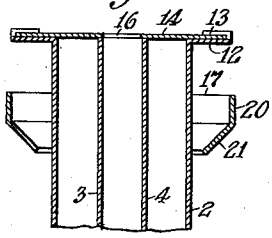



Fig. 8.

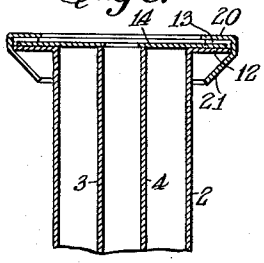
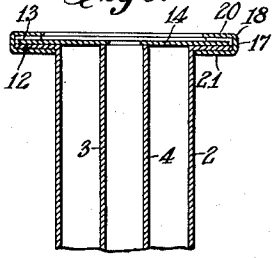



Fig. 9.




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# UNITED STATES PATENT OFFICE

1,926,729

## BOBBIN

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Application March 5, 1930. Serial No. 433,265

7 Claims. (Cl. 242—123)

This invention relates to a bobbin and more particularly to a new and improved metallic bobbin.

The present invention contemplates a sheet metal bobbin which is light, rugged and durable and which can be very expeditiously assembled.

The invention further provides a bobbin having flanged elements associated therewith which can be assembled into interlocking relationship in a very facile and expeditious manner.

The invention also consists in certain new and original features of construction and combinations of parts hereinafter set forth and claimed.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, the mode of its operation and the manner of its organization, may be better understood by referring to the following description taken in connection with the accompanying drawing forming a part thereof, in which:

Figure 1 is an elevation of the assembled bobbin embodying the features of the present invention;

Figure 2 is a view taken on line 2—2 of Figure 1;

Figure 3 is an elevation partly in section of part of the bobbin assembly showing one stage in the construction of said bobbin;

Figure 4 is a top plan view of the elements shown in Figure 3;

Figure 5 is a vertical sectional elevation showing the elements of the bobbin in another stage of its assembly;

Figure 6 is a perspective showing a disc constituting one of the elements of the flanges of the assembled bobbin;

Figure 7 is a view similar to Figure 5 in still another stage of the assembly;

Figure 8 is a section similar to Figure 7 at a different stage of construction; and

Figure 9 is a sectional elevation of the assembled bobbin in its final stage of construction.

Like reference characters denote like parts in the several figures of the drawing.

In the following description and in the claims parts will be identified by specific names for convenience, but they are intended to be as generic in their application to similar parts as the art will permit.

Referring particularly to the accompanying drawing, there is shown a unitary metallic blank 1 having the medial portion thereof convoluted to form a tubular drum 2. This blank 1 is provided with side portions 3 and 4 which are bent inwardly to form a diametrical rib, as shown in Figures 2 and 4. Part of these side portions 3 and 4 are bent outwardly to conjointly form a spindle tube 5. One of the side portions, such as 4, has a plurality of tongues 6 cut out therefrom, these tongues being bent so as to cooperate with a plurality of corresponding apertures 7 in the other side portion 3, as shown in Figures 2 and 4.

It should be noted that the side portions 3 and 4 are held in contiguous relationship and that the tongues 6 with their cooperating apertures 7 are so disposed as to obviate the relative displacement of these side portions along their contiguous plane. This arrangement serves to effectively resist torsional stresses in the bobbin.

The ends of the tubular drum 2 are provided with alternate tabs 10 and slots 11, these tabs having portions 12 and 13 thereof bent radially outwardly and inwardly, respectively, in overlapping relationship, as shown in Figure 9. Interposed between these portions 12 and 13 of the tabs 10 is a plate or disc 14 which is provided with a plurality of marginally disposed notches 15, the widths of which are substantially coextensive with the widths of the tabs 10. This disc 14 is of substantially the same diameter as the diameter across radially opposite tabs and cooperates with the tabs 10 so that these tabs are engaged by the corresponding notches 15 of the disc 14. This disc 14 is also provided with a central aperture 16 to permit the passage therethrough of a suitable spindle.

Embracing the portions 12 and 13 of the tabs 10 is an annular collar 17 which serves to interlock the elements of a flange 18 formed thereby, as shown in Figure 9. This collar 17 is preferably press-fitted in place so as to provide snug relationship between the elements of said flange 18.

In constructing this particular type of bobbin, the blank 1 is shaped to form the main tubular drum 2 and the collar 17 slipped into the position shown in Figures 3 and 4. This collar 17, at this stage of construction, is provided with a cylindrical portion 20 and a conical portion 21, as shown in Figures 3, 4, 5 and 7. The portions 12 of the tabs 10 are then bent outwardly and the portions 13 bent upwardly, as shown in Figure 5. In the enlarged cylindrical area defined by these tabs 10 is placed the disc 14, so that the notches 15 engage their respective tabs 10. The

upstanding portions 13 of these tabs 10 are then crimped into contiguous relationship with the disc 14, as shown in Figure 7.

The collar 17, at this stage of construction, is brought into a proximate position with respect to the tabs 10 and the cylindrical portion 20 thereof bent over into abutting relationship with the portions 13 of said tabs 10, as shown in Figure 8. The conical portion 21 of said collar 17 is then press-fitted into the position shown in Figure 9, so as to form a tight-fitting collar, thereby effectively holding the elements of the flange 18 in interlocking relationship.

It should be noted that this construction is not only conducive to a very durable and rugged bobbin but also permits the elements thereof to be assembled in a very expeditious and facile manner.

It should also be noted that both ends of the bobbin are similarly constructed although for the sake of simplicity only one end of said bobbin has been shown and described.

While certain novel features of the invention have been shown and described and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. A bobbin having a main drum, tabs at the terminus of said drum and extending outwardly therefrom, a plate associated in interlocked relationship with said tabs, and means forming a peripheral flange engaging said tabs and said plate.

2. A bobbin having a tubular drum, tabs at the terminus of said drum and extending radially outwardly therefrom, a disc of substantially the same diameter as the diameter across radially opposite tabs associated with said tabs, and a peripherally disposed collar embracing said tabs whereby said tabs and said disc are held in interlocked relationship.

3. A bobbin having a tubular drum, tabs terminally positioned on said drum, said tabs extending radially outwardly from the drum and being crimped in overlapping relationship, a disc interposed between the overlapped portions of said tabs and provided with means whereby said tabs and said disc are disposed in interlocked relationship, and a collar embracing the opposite sides of said crimped tabs.

4. A bobbin having a tubular drum, a plurality of tabs terminally positioned on said drum, said tabs extending radially outwardly from the drum and being crimped in overlapping relationship, a disc of substantially the same diameter as the diameter across radially opposite tabs interposed between the overlapped portions of said tabs, said disc being provided with marginal notches which engage said tabs, and a collar embracing the opposite sides of said crimped tabs.

5. A bobbin having a tubular drum, a radially extending tab terminally positioned on said drum, said tab being crimped in overlapping relationship, a disc interposed between the overlapped portions of said tab and provided with means whereby said tab and said disc are disposed in interlocked relationship, and a collar embracing the opposite sides of said crimped tab.

6. In a bobbin the combination comprising a metal sheet having the medial portion thereof convoluted to form a tubular drum and the side portions thereof bent inwardly in contiguous relationship in the interior of said drum, cooperating means in said side portions to obviate relative displacement of said side portions along their contiguous plane, a plurality of tabs at the terminus of said drum and extending outwardly therefrom, a plate associated in interlocking relationship with said tabs, and means forming a peripheral flange engaging said tabs and said plate.

7. In a bobbin the combination comprising a metal sheet having the medial portion thereof convoluted to form a tubular drum and the side portions thereof bent inwardly in contiguous relationship in the interior of said drum, cooperating means on said side portions to obviate relative displacement of said side portions along their contiguous planes, tabs terminally positioned on said drum, said tabs being crimped in overlapping relationship, a disc interposed between the overlapping portions of said tabs and provided with means whereby said tabs and said disc are disposed in overlapping relationship, and a collar embracing the outside of said tabs.

SETH G. MALBY.