Jan. 18, 1944. W. F. STAHL 2,339,432

BOBBIN FORM FOR WINDINGS AND THE LIKE

Filed Nov. 6, 1941

Fig. 1

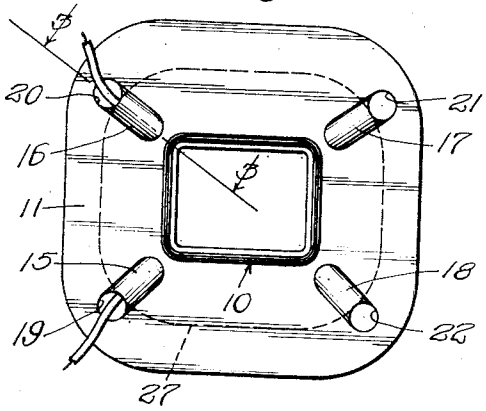


Fig. 2.

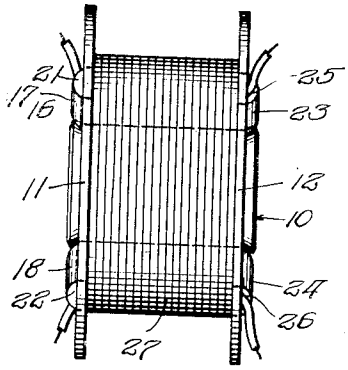


Fig. 3.

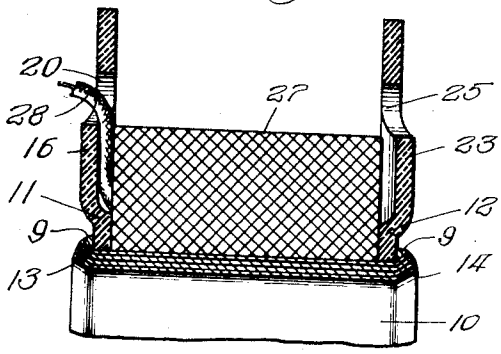


Fig. 4.

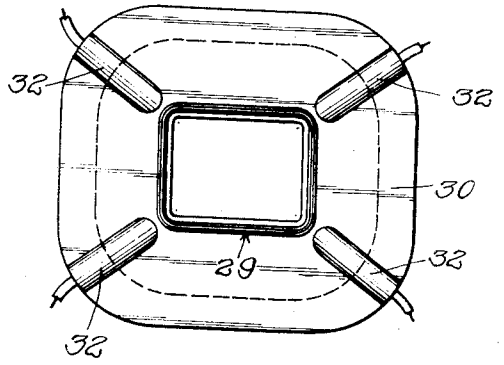
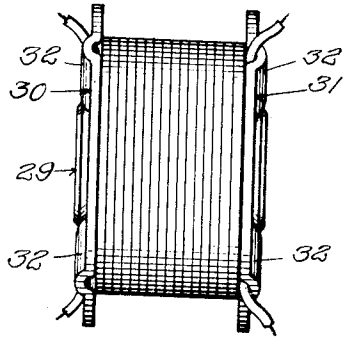


Fig. 5.



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BOBBIN FORM FOR WINDINGS AND THE LIKE

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Application November 6, 1941, Serial No. 417,981

7 Claims. (Cl. 242—119)

This invention relates to a bobbin form for windings and the like and more particularly to a form having end flanges equipped with bosses thereon, the bosses being adapted to provide an outlet for electrical connections and the like from from the winding on the form.

An object of the invention is to provide a core equipped with outwardly extending flanges, the form being adapted to be supported upon the end thereof and being equipped with an outlet for electrical connections. Another object is to provide in a bobbin form forward and rear flanges on the ends thereof equipped respectively with forwardly struck and rearwardly struck bosses for supporting the form on its ends and for providing grooves on the inner sides of the flanges. Still another object is to provide in a bobbin form, bosses struck in the flanges thereof forming on the inner sides of the flanges grooves which are open at one end.

A further object of the invention is to provide a laminated hollow paper core with the ends thereof outwardly swaged to support outwardly extending flanges, the flanges having bosses struck therein with the extended portions of the bosses being in the plane of the ends of the core and with the inner sides of the flanges having grooves formed by the bosses and opening at the outer ends thereof, the grooves being adapted to receive electrical connections from a winding on the core and to provide outlets for such connections.

Other features and advantages will appear from the following specification and drawing, in which—

Figure 1 is an end elevational view of a bobbin form having a winding thereon; Fig. 2 is a side elevational view of the form; Fig. 3 is a transverse sectional view taken along the line 3—3 of Figure 1; Fig. 4 is an end elevational view of a modification of the bobbin form; and Fig. 5 is a side elevational view of the modification shown in Fig. 4.

In the embodiment of the invention described herein and shown particularly in Figs. 1 to 3, the bobbin form includes a hollow laminated paper core 10 having the flanges 11 and 12 supported thereon at the forward and rear ends respectively of the core. The flanges 11 and 12 extend outwardly from the core to provide the ends of the form.

Each of the flanges is equipped with a central aperture which receives the paper core. The end portions 13 and 14 of the paper core are swaged outwardly to engage the flanges 11 and 12 adjacent the central apertures therein. The outward swaging of the ends of the core causes a separation of the laminations and thus securely fixes the flanges in position on the core 10. If desired, a suitable hardening material 9, such as varnish lacquer or a synthetic resin, may be applied to the outwardly swaged ends of the core. The hardening material will penetrate the slight spaces between the laminations on the end of the core and tend to firmly fix the end portions 13 and 14 of the core 10 in outwardly swaged position.

The forward flange 11 is provided with a plurality of forwardly struck bosses 15, 16, 17 and 18. The extended surfaces of the bosses are preferably in substantially the same plane as the adjacent end of the core 10 and thus provide with the end 13 of the core 10 means for supporting the bobbin upon the forward end thereof.

The bosses 15, 16, 17 and 18 are preferably elongated and run from the central portion of the flange toward the outer edge or periphery thereof. Preferably the bosses are also radially disposed with respect to the central axis of the core 10. The bosses 15, 16, 17 and 18 may be equipped at their outer ends with the apertures 19, 20, 21 and 22 respectively.

These apertures or openings communicate with the grooves in the flange which are formed by the inner surfaces of the bosses.

The rear flange 12 may be similarly provided with a plurality of bosses of which the bosses 23 and 24 are seen in Figure 2. These bosses are also equipped with apertures 25 and 26 at the outer ends thereof.

Each of the flanges should be provided with at least one boss which is struck in an endwise direction with respect to the core to extend beyond the end surface of the flange and provide a groove on the inner side of the flange, the groove preferably being open at its outer end as shown.

The bobbin form is adapted to receive windings and the like such as the electrical coil winding 27 shown in Figs. 2 and 3. The electrical connections from the coil may be introduced into the grooves formed by the bosses and may extend from the bobbin form through the apertures or openings at the outer ends of the grooves. Thus the electrical connection 28 extends from the coil 27 into the groove formed by the boss 16 and then forwardly through the opening 20.

The bosses in the flanges provide with the ends of the core a means for supporting the bobbin upon its end while the grooves formed on the inner surfaces of the flanges permit an electrical

connection or wire from the coil carried by the bobbin to pass along and through the flange.

The modification shown in Figs. 4 and 5 is equipped with a core 29 and with forward and rear flanges 30 and 31 respectively corresponding to the core and flanges shown in the embodiment set forth in Figs. 1 to 3.

The modification shown in Figs. 4 and 5 differs from the construction shown in Figs. 1 to 3 in that the bosses 32 formed in the flanges extend outwardly along the surface of the flange to the outer periphery thereof. In this way, the groove formed on the inner surface of the flange is in each case provided with an open end which permits an electrical connection received within the groove to pass from the bobbin form without extending toward the inner surface of the flange beyond such surface.

In both constructions, the bosses in the forward flange are forwardly struck to provide a groove on the inner side of the flange. In each case, the extended surfaces of the bosses may be in substantially the same plane to provide a means for supporting the bobbin at that end. The grooves formed on the inner surface of the flange are adapted to receive electrical connections from the coil winding on the bobbin and to permit the connections to pass outwardly along the flange and then beyond the flange without interfering with the winding between the flanges. In other words, the groove in the inner surface of the flange is sufficiently deep to receive the electrical connection and to provide an outlet for this connection which does not interfere with the winding.

Although the invention has been set forth and described in connection with certain specific embodiments it will be obvious that many modifications and changes may be made in the construction shown and described without departing from the spirit of the invention.

I claim:

1. A bobbin form for windings and the like, comprising a laminated paper core, flanges supported at the forward and rear ends of the core and extending outwardly therefrom to provide the ends of the form, each of the extreme ends of said core extending slightly beyond the body of the adjacent flange, a plurality of bosses extending forwardly from the forward flange and rearwardly from the rear flange, said bosses being disposed from the core towards the outer edges of the flange, and having the extended surfaces thereof in substantially the same plane, said plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses, the inner side of at least one boss in each flange being depressed to provide a groove in the flange for receiving electrical connections, each of said last-mentioned bosses being equipped with an aperture therein.

2. A bobbin form for windings and the like, comprising a laminated hollow paper core, flanges supported at the forward and rear ends of the core and extending outwardly therefrom, each of the extreme ends of said core extending slightly beyond the body of the adjacent flange, a plurality of bosses radially disposed in each flange with respect to the axis of the core, said bosses extending forwardly from the forward flange and rearwardly from the rear flange with the extended surfaces of the bosses in each flange being in substantially the same plane, said plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses, the inner side of at least one boss in each flange being depressed to provide a groove in the flange for receiving electrical connections, each of said last-mentioned bosses being equipped with an aperture therein adjacent the edge of the flange.

3. A bobbin form for windings and the like, comprising a laminated hollow paper core, a pair of flanges supported at the ends of said core and extending outwardly therefrom, said flanges being engaged by outwardly swaged end portions of the core, each of the extreme ends of said core extending slightly beyond the body of the adjacent flange, a plurality of forwardly struck bosses on the forward flange, and a plurality of rearwardly struck bosses on the rear flange, the bosses being radially disposed from the core towards the outer edge of the flange, the extended surfaces of the bosses on each flange being in substantially the same plane, said plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses, each boss providing a groove on the inner side of the flange for receiving the electrical connections, and each of said bosses being provided with an aperture at the end thereof adjacent the periphery of the flange adapted to permit an electrical connection to extend forwardly from the forward flange and rearwardly from the rear flange.

4. A bobbin form for windings and the like, comprising a core, flanges supported at the forward and rear ends of the core and extending outwardly therefrom to provide the ends of the form, and a plurality of bosses extending forwardly from the forward flange and rearwardly from the rear flange, each of said bosses being disposed outwardly along the flange to the outer edge thereof and providing a groove in the flange open at the outer end, the extended surfaces of the bosses in each flange being in substantially the same plane and the plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses.

5. A bobbin form for windings and the like, comprising a laminated hollow paper core, flanges supported at the forward and rear ends of said core and extending outwardly therefrom, and a plurality of bosses extending forwardly from the forward flange and rearwardly from the rear flange, each of said bosses being disposed radially with respect to the axis of the core and running outwardly to the periphery of the flange, the inner side of each of the bosses being depressed to provide a groove in the inner side of the flange open at the outer end, the extended surfaces of the bosses in each flange being in substantially the same plane and the plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses.

6. A bobbin form for windings and the like, comprising a laminated hollow paper core, a pair of flanges supported at the forward and rear ends of the core respectively and extending outwardly therefrom, said flanges being engaged by outwardly swaged end portions of the core, a plurality of radially disposed forwardly-struck bosses on the forward flange with the forward surfaces of the bosses being in substantially the same plane, said plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses, and a plurality of radially disposed rearwardly-struck bosses on the rear flange with the rear surfaces

of the bosses being in substantially the same plane, said bosses running radially outwardly from the core to the periphery of the flange, each boss providing a groove on the inner side of the flange extending outwardly to the periphery of the flanges and open at the outer end thereof.

7. A bobbin form for windings and the like, comprising a laminated paper core, flanges supported at the forward and rear ends of the core and extending outwardly therefrom to provide the ends of the form, each of the extreme ends of said core extending slightly beyond the body of the adjacent flange, a plurality of bosses extending forwardly from the forward flange and rearwardly from the rear flange, said bosses being disposed from the core towards the outer edges of the flange, and having the extended surfaces thereof in substantially the same plane, said plane being at the end of the form whereby the form may be supported at its end on the extended surfaces of said bosses, the inner side of at least one boss in each flange being depressed to provide a groove in the flange for receiving electrical connections.

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