Jan. 11, 1949. T. D. DI ADDARIO 2,458,898

COMBINATION SPOOL AND BOBBIN ASSEMBLY

Filed March 2, 1948

Fig. 2.

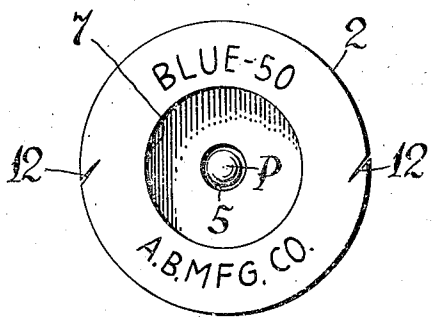


Fig. 1.

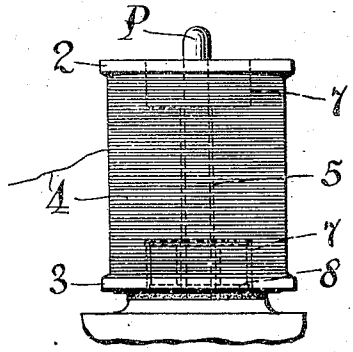


Fig. 3.

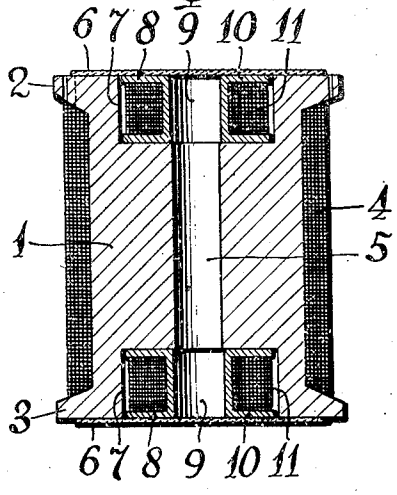


Fig. 6.

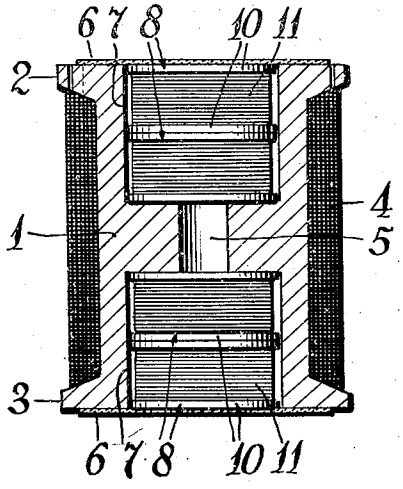


Fig. 4.

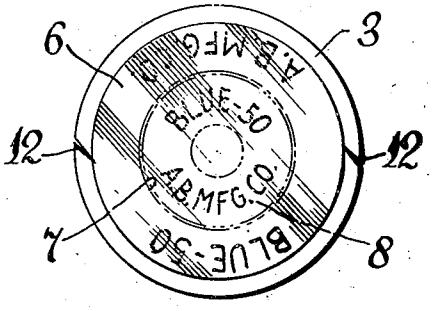
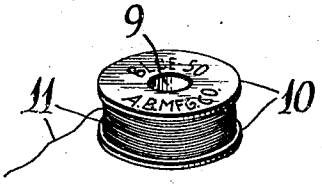


Fig. 5.



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Patented Jan. 11, 1949 2,458,898

UNITED STATES PATENT OFFICE

2,458,898

COMBINATION SPOOL AND BOBBIN ASSEMBLY

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Application March 2, 1948, Serial No. 12,512

6 Claims. (Cl. 206—47)

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This invention relates to improvement in a combination spool and bobbin assembly as a new article of manufacture and sale.

The principal object of the invention is to provide a spool and bobbin assembly which occupies no more space than the standard spool, wherein at least two bobbins are associated with the spool and are factory wound, the length of the thread which each of them carries being in a definite proportion to the length of thread of the spool, and wherein the liability of loss or misplacement of the bobbins or the selection of the wrong bobbin for operative association with the spool in the sewing machine is effectively avoided.

A further object of the invention is to provide a combination spool and bobbin assembly which may be produced with the greatest economy and which retains and utilizes all of the features of a standard spool.

An embodiment of the invention is illustrated in the accompanying drawing wherein:

Figure 1 is an elevation of the spool mounted in the usual manner upon the post of the sewing machine, the bobbin normally provided at the upper end of the spool being assumed to be fitted in the sewing machine in the usual manner for cooperation with the shuttle.

Figure 2 is a plan view thereof.

Figure 3 is a vertical central section of the combination spool and bobbin assembly as an article of manufacture and sale.

Figure 4 is a bottom plan view of the assembly shown in Figure 3, the assembly as viewed in top plan being similar in appearance.

Figure 5 is a perspective view of the bobbin.

Figure 6 is a central vertical section of a modified form wherein two bobbins are provided at each end of the spool, the bobbins being shown in elevation.

The spool 1 resembles any standard spool to the extent that it comprises a cylindrical body having flanges 2 and 3 at its upper and lower ends to provide an annular channel within which the thread 4 is wound in the usual manner and having between its upper and lower ends an axial bore 5 by means of which the spool may be mounted upon the post P of the sewing machine. The spool has affixed to its flat upper and lower end faces the usual labels 6 which bear the manufacturer's name or trade-mark, the designation of the gage of the thread and the designation of the color of the thread. As shown in Figures 2 and 4 there designations are also, as a matter of preference, stamped upon the flat end faces of the spool.

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The spool 1 is counterbored at each end in concentric relation to the bore 5, the counterbores providing recesses 7 open to the flat end faces of the spool. The recesses 7 accommodate bobbins 8, each having a central opening 9 between its end faces, these being in alinement with the bore 5 and permitting the post P to pass through the bobbins as well as through the spool. The bobbins include spaced end flanges 10 in parallel planes which provide an annular channel upon which the thread 11 may be wound. The bobbins may be made of any cheap material, such as paper board, which will be suitable for the purposes in view. The designations which are applied to the labels and to the spool are also, as a matter of preference, applied to the end faces of the bobbins as shown in Figure 5. The outer flat faces of the bobbins are preferably flush with the outer flat faces of the spool. The labels 6 overlie the bobbins and normally close the outer ends of the openings 9. The labels thus confine the bobbins in the recesses 7 and normally prevent their displacement, thereby eliminating liability of loss. The fit of the bobbins in the recesses 7 is preferably close, whereby the labels 6 will also prevent rattling or shaking of the bobbins in connection with the shipment or handling of the combination assembly. The bobbins are wound at the factory and the combined length of the thread which they carry ideally equals the length of the thread wound upon the spool. Thus the length of the thread on each bobbin is ideally one-half of the length of the thread wound upon the spool. The spool is preferably provided with a pair of notches 12 which extend from the periphery of one of the end flanges and are located at diametrically opposite points. As a matter of preference the notches 12 are provided in both the end flanges as shown in Figures 2 and 4.

When the use of the combination assembly is required, the operator simply removes the label from one end of the spool in order to free the adjacent bobbin and thereupon removes the bobbin from the spool and inserts it into an operative position in the sewing machine. The spool is then mounted upon the post P which, of course, punches a hole in the remaining label, the remaining bobbin being confined in association with the spool until its use is required. The end of the spool from which the bobbin was removed is preferably placed uppermost as shown in Figures 1 and 2. When all the thread upon the bobbin has been used, and the sewing operation is to be continued, the spool is lifted from the post P and the remaining bobbin is removed and inserted

into the sewing machine. The recesses 7 have the permanent capacity for the association of the bobbin and the spool and for the confinement of the bobbins against displacement. Thus if the use of the bobbin be discontinued before all of the thread is used, the bobbin is removed from the sewing machine and inserted into the uppermost recess 7 in which it may be held against displacement by a suitable confining strip of such material as gummed Cellophane or Scotch tape pasted against the end of the spool. However, instead of using such a confining strip, an end bight of the thread upon the spool may be secured in the notches 12, the bight extending across the open end of the recess 7 and serving to confine the bobbin.

Many sewing operations require threads of different color, different gage and different kinds of fiber; and it is, of course, necessary that the thread on the bobbin in all respects match the thread on the spool. The improvements have the important advantage of eliminating any question of choice since any bobbin which is not in use will be confined in association with the spool to which it is related, and therefore the bobbin proper for the spool is at all times dictated by its association with the spool, all that is required being merely the removal of the bobbin for its insertion into the sewing machine. A further important advantage is that liability of the bobbin becoming lost or mislaid or mixed with other bobbins is entirely avoided. Further advantages are that the combination assembly, both when offered as an article of sale and when in use, takes up no more space than a standard spool bearing a like amount of similar thread and that the spool is used in precisely the same manner as a standard spool.

In some cases where the spool may carry twice the amount of thread normally provided, the number of bobbins associated with the spool may be correspondingly increased. This is illustrated in Figure 6 where a pair of bobbins is provided at each end of the spool, the recesses 7, of course, being deeper to accommodate the bobbins as a pair. The bobbins of each pair abut one another and one of them rests against the base of the recess 7 while the other rests against the label 6 which thereby serves to confine both of the bobbins of the adjacent pair. In this case the ideal winding of each bobbin will be one-fourth of the length of the thread on the spool. When the outermost bobbin of a pair has been removed for use in the sewing machine, the remaining bobbin may be confined against displacement in the manner above described, that is to say, by the use of a confining strip or by means of a bight of thread secured in the notches 12. If desired a dummy or unwound bobbin may be inserted into the recess 7 to bear against the remaining bobbin of the pair, the dummy bobbin and the adjacent wound bobbin being confined in the recess 7 as above described.

I claim:

1. As a new article of manufacture and sale, a combination spool and bobbin assembly comprising a spool having a cylindrical body formed at its ends with upper and lower annular flanges which provide a channel in which thread is wound upon the cylindrical surface of the spool body and having an axial bore to take over the post of a sewing machine, the body being counterbored at each end concentrically to the axial bore in order to provide recesses open to the flat face of the body, bobbins fitted in the recesses and upon which thread is wound, the bobbins each having a central opening in alinement with the the bore and which may be set over the post of the sewing machine, and labels attached to the flat end faces of the spool and overlying the bobbins, normally to confine them in the recesses and to prevent their displacement.

2. The article of manufacture and sale as set forth in claim 1 wherein at least one of the flanges of the spool is provided with a pair of notches extending from its pheriphery and located at diametrically opposite points, the notches serving to hold a bight of the thread wound upon the spool body.

3. The article of manufacture and sale as set forth in claim 1 wherein the bobbins as nested in the recesses have their outer faces flush with the outer faces of the spool.

4. As a new article of manufacture and sale, a combination spool and bobbin assembly comprising a spool having a cylindrical body formed at its ends with upper and lower annular flanges which provide a channel in which thread is wound upon the cylindrical surface of the spool body and having an axial bore to take over the post of a sewing machine, the body being counterbored at one end concentrically to the axial bore in order to provide a recess open to the flat face of the body, a bobbin fitted in the recess and upon which thread is wound, the bobbin having a central opening in alinement with the bore, and a label attached to the flat end face of the spool and overlying the bobbin, normally to confine it in the recess and to prevent its displacement.

5. The article of manufacture and sale as set forth in claim 4 wherein the flange at the end of the spool where the recess is formed is provided with a pair of notches extending from its periphery and located at diametrically opposite points, the notches serving to hold a bight of the thread wound around the spool body.

6. The article of manufacture and sale as set forth in claim 4 wherein the recess is of a depth to accommodate two bobbins and a second bobbin is fitted within the recess in abutting relation to the first bobbin and the label overlies the second bobbin.

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