March 10, 1953 G. STROCCO 2,630,981

COMBINATION SPOOL RETAINER AND THREAD DISPENSER

Filed Nov. 24, 1950 2 SHEETS—SHEET 1

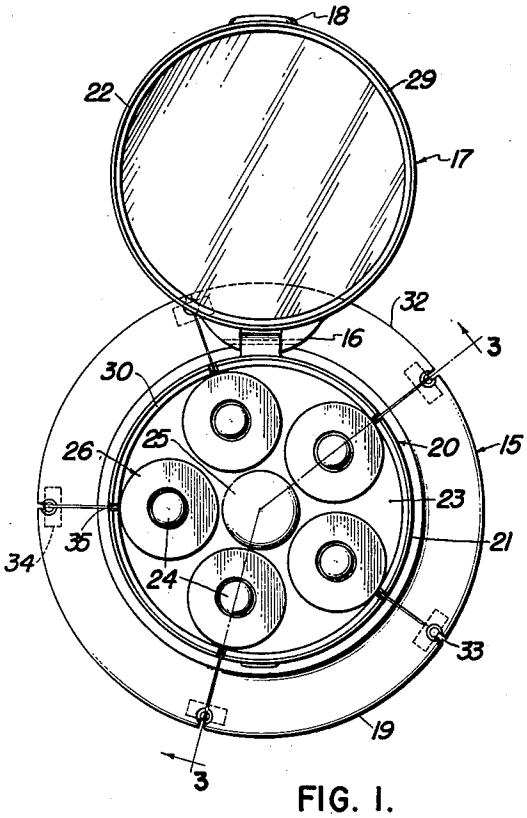



FIG. 1.

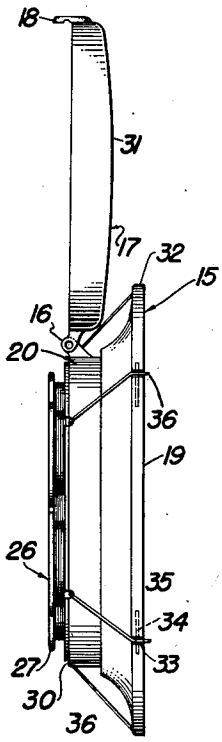



FIG. 2.

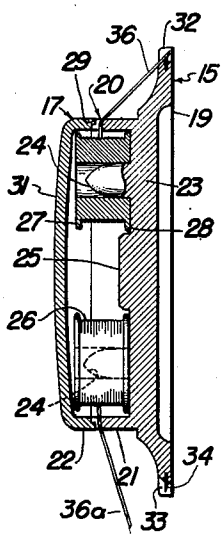



FIG. 3.

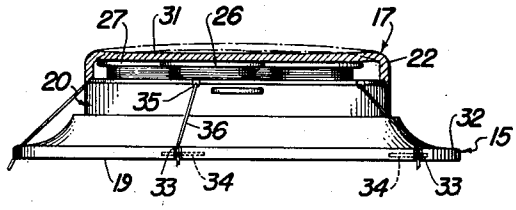



FIG. 4.

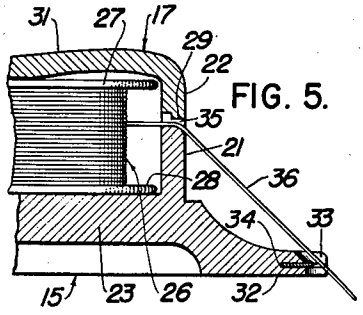



FIG. 5.

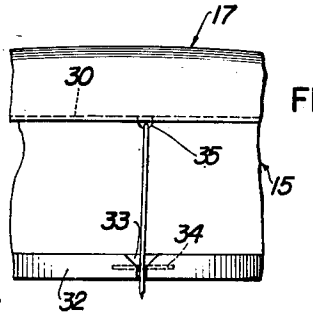



FIG. 6.

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COMBINATION SPOOL RETAINER AND THREAD DISPENSER

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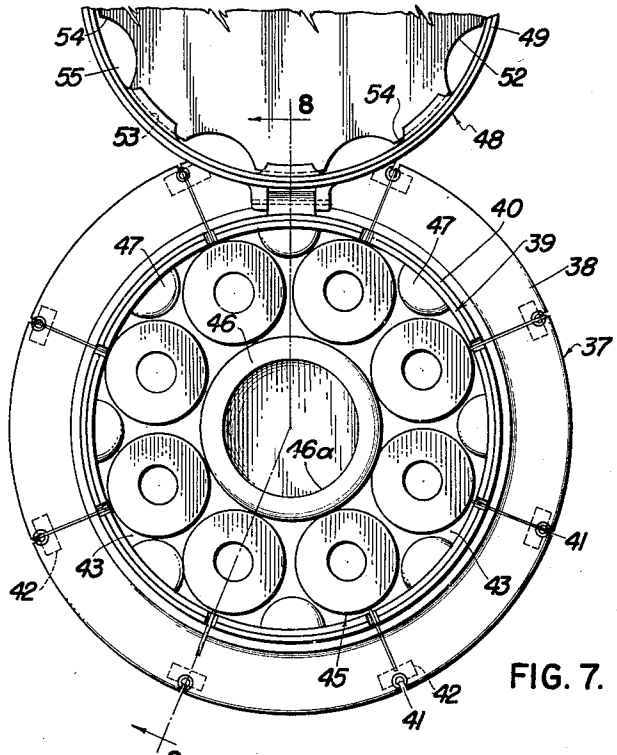



FIG. 7.

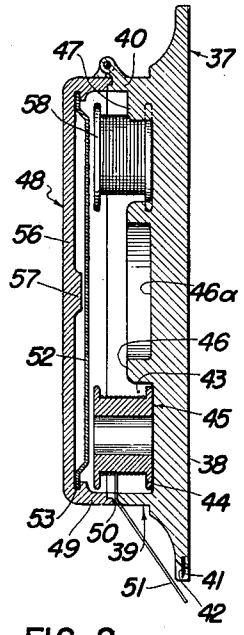



FIG. 8.

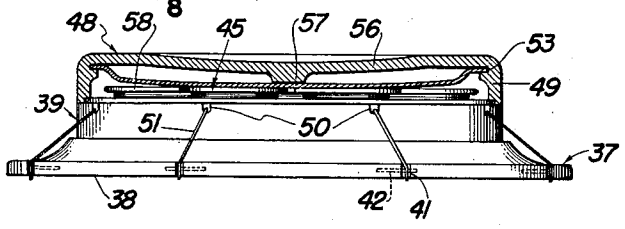



FIG. 9.

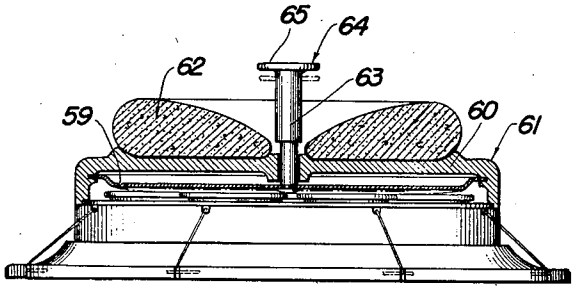



FIG. 10.

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## COMBINATION SPOOL RETAINER AND THREAD DISPENSER

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Application November 24, 1950, Serial No. 197,243

10 Claims. (Cl. 242—135)

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This invention relates to a combination bobbin retainer and thread dispenser.

In machine and hand sewing processes it is always required to have two types of thread holders, a bobbin for the sewing machine and a spool for hand sewing. The bobbin must be necessarily much smaller than the spool, since the former must adapt itself to the construction and space limitations in a machine, whereas the latter must be sufficiently large to be conveniently handled manually. It is an important object of my present invention to obviate the need for such two differently sized and constructed thread holders by providing a unitary retainer which will be adapted to rotatably support therein a bobbin arranged for ready removal for use in a sewing machine, and which can nevertheless conveniently serve the function of the conventional spool for hand sewing. And in this aspect of my invention it is within my contemplation to provide a retainer member adapted to operatively hold therein a plurality of bobbins of different colored threads.

It is also an important object of my present invention to enable one or more of the threads on the bobbins within the retainer to be pulled out to any desired length, and readily cut at such length by severing devices integral with the retainer. And it is my objective to provide cutting and thread-securing means in coactive relation to each of the bobbins operatively disposed within the device, so that the operation of drawing out and severing the thread can be performed with utmost convenience and with least effort. And in this aspect of my invention it is a further object to provide the device of my invention with a supporting base on which are peripherally disposed a plurality of cutting devices coactively arranged with respect to thread-terminal holding means, so that upon each severing operation of a thread that had been drawn out, the terminal thereof will be maintained in slight frictional engagement with the said base. And it is my further objective, in this connection, to so space the various thread-terminal retaining means with respect to the bobbin holding means as to provide adequate exposed thread lengths for convenient manual grasping.

In conventional devices for manually drawing out thread on a spool, binding means are employed to hold the thread against movement while the severing operation takes place. Most of these devices employ clamping elements which are in direct engagement with the thread, to frictionally hold it in place, such engagement generally producing pinching, nicking, burring or fraying of

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the thread. It is one of the important objectives of the present invention to provide means for holding the thread against movement during the severing operation, without damaging the thread as occurs in the aforesaid conventional structures. And in this aspect of my invention it is an important object to keep the thread free from any damaging contact with holding elements, by providing suitable brake means on the bobbin itself.

In connection with the last-mentioned objective of my invention, it is a further important object to provide a cover member for the retainer which not only serves as a closure therefor, but which is so constructed as to provide a braking effect upon the bobbins within the retainer, by a simple manual manipulation. It is my further object, in this connection, to enable the braking device to be operatively released with a minimum of manual effort, whereby the threads on the bobbins will immediately be ready for withdrawal.

Still another object of my invention is to enable the cover member operatively to accommodate a pin cushion or other sewing accessory thereon without interfering with the operative manipulation of the braking mechanism through the cover.

It is also an object of my invention to provide the said retainer with means to rotatably support a plurality of bobbins in the manner aforesaid, and yet which will also enable the employment of the retainer for housing other accessories such as pins, scissors and sewing accessories.

And it is within my contemplation to provide a relatively inexpensive, compact and attractive device capable of performing the functions and objectives hereinabove mentioned.

Other objects, features and advantages will appear from the drawings and the description hereinafter given.

Referring to the drawings,

Figure 1 is a plan view of one form of my invention, with the cover member in open position.

Figure 2 is a side view of Figure 1.

Figure 3 is a section of Figure 1 taken along line 3—3, but with the cover closed and an extended thread in position for being withdrawn, one of the bobbins and a portion of one of the bobbin spindles being shown in elevation.

Figure 4 is a part section, part elevation of the device of Figure 1, the section being of the cover member taken substantially along line 3—3, the device being in its operative bobbin-braking position, the dot-dash line indicating the non-braking position of the cover.

Figure 5 is an enlarged fragmentary section of

the device of Figure 1, taken substantially along a portion of line 3—3, showing the cover closed and in bobbin-braking position with the extended thread in engagement with the severing element, a fragmentary portion of the bobbin being shown in elevation.

Figure 6 is a side view of Figure 5.

Figure 7 is a plan view of a modified form of my invention, a fragment of the cover being shown in its open position.

Figure 8 is a section of Figure 7 taken substantially along line 8—8, but with the cover closed.

Figure 9 is a part section, part elevation of the device of Figure 7, only the cover being shown sectioned, the cover being in its bobbin-braking position, and

Figure 10 is a part sectional and part elevational view of another modified form of my invention, the cover portion being shown in section, substantially like the representation of Figure 9, the diaphragm being shown in dot-dash lines in its bobbin-contacting position.

In the form of my invention illustrated in Figures 1 to 6, the casing member 15 has hingedly attached thereto, at 16, the cover member 17, the latter having a catch element 18 engageable with a coacting portion of the casing member 15 in conventional manner. The casing member comprises a flanged base 19 and a retainer member 20, the latter being formed by the annular wall 21 proportioned for coactive interlocking engagement with the lateral wall 22 of the cover 17. Extending upwardly from the floor 23 of the retainer portion 20 are a plurality of spindles 24 disposed circumferentially within said retainer portion. In the preferred form of my invention, the central portion of the casing 15 is slightly raised in the form of boss 25. The said spindles 24 are adapted to rotatably receive thereover the bobbins 26, and are each proportioned to extend below the uppermost flange 27 of the bobbin mounted thereover. And the boss 25 is proportioned to clear the bottom flanges 28 of the bobbins, to enable them freely to rotate.

The peripheral wall 22 of cover member 17 has a stepped bottom edge 29 which is proportioned to interfit the correspondingly stepped upper edge 30 of wall 21 of the casing. The upper wall 31 of the cover is of flexible material, preferably stiff and resilient, so that it could be manually depressed to the position shown in Figures 4 and 5, and adapted to return to its original position shown in Figure 3 upon a release of the manual pressure. The said wall is so shaped and proportioned that in its normal raised position shown in Figure 3, the under-surface thereof will be out of contact with the bobbins 26 or the flanges thereof. Upon a manual pressure applied to the upper surface of said wall 31, whereby it will be brought into the position shown in Figures 4 and 5, the wall 31 will be in engagement with the flanges 27 of all the bobbins for frictionally holding them against rotation, in a manner which will more clearly hereinafter appear.

The peripheral flanged portion 32 of base 19 contains, at spaced intervals along the peripheral edge thereof, the open ended slots 33, proportioned to receive therein threads from the bobbins 26. Disposed within the body of flange 32 and extending into the slots 33 are the blades or severing elements 34, the cutting edges thereof extending outwardly for operative engagement with threads disposed within said slots. In adjacent relation to each of said slots 33 are the notches 35 in the upper edge of wall 21, so that for each slot 33 there is a corresponding notch 35 thereabove. The said notches 35 are preferably placed adjacent each of the bobbins 26, so that for each bobbin there is a corresponding notch.



In operatively employing this device, the threads of the bobbins are drawn through the notches 35 and placed within slots 33, whereby exposed thread extensions 36 are disposed peripherally about the device. If there are different colored threads, there will be an exposed and readily visible array of colored threads adapted to be manually grasped for withdrawal from the retainer and severing. The flange portion 32 extends sufficiently far outwardly beyond the wall 21 to provide a length of each extension 36 adapted for convenient grasping.

It will be observed that (see Figures 3, 5 and 6) when the threads have been drawn through the notches 35, there is no contact of the thread with the bottom edge 29 of the cover 17, thereby enabling the thread to be pulled out to any desired length without restriction, the pulling out action causing the bobbins to rotate on spindles 24. When it is desired to pull out a thread, the terminal portion thereof is raised above the holding slot 33, as indicated by terminal portion 36a of Figure 3, and an outward pull applied. When the desired length has been withdrawn, the terminal portion of the thread is again inserted within slot 33, ready for the severing operation. At this point a downward pressure is applied to the upper wall 31, whereupon it will serve as a flexible diaphragm to engage all the flanges 27 of the bobbins 26. This action causes a braking effect upon the bobbins, whereby they will be prevented from rotation. The terminal portion of the extended thread within slot 33 is then brought into cutting engagement with the cutter 34, whereupon the thread will be readily severed.

It is important to note that the braking action of the bobbin has made it unnecessary to apply any pinching action upon the thread during the cutting step, the bottom edge 29 of the cover being at all times out of engagement with the thread in notch 35, the thread being held against movement only by the action of cover wall 31 upon the flanges. In this way no nicking, burring or fraying of the thread occurs, as would be the case where the holding force would be applied directly in contact with the thread. And upon a release of the pressure on cover 31, it will return to its normal non-braking position shown in Figure 3, the extended portions 36 of the threads being in position to be grasped for a repeated similar operation.

In the form of my invention illustrated in Figures 7 to 9, the casing 37 is provided with a base portion 38 and a retainer portion 39 formed by the annular wall 40, the flanged portion of the base containing a plurality of spaced slots 41 and blades 42 substantially as in the form first above described. This device has no spindles like 24, but in its place contains a plurality of recessed portions 43 within which the lower flange 44 of each of the bobbins 45 rests. Said recessed portions are formed by the central boss 46 and the peripheral bosses 47 extending upwardly from the floor and inwardly from wall 40 as clearly shown in the drawing. The cover member has a lateral wall 49 in interlocking engagement with the lateral wall 40, substantially in the manner described with respect to the first form of my invention, the said wall 40 containing a plurality of spaced notches 50 through which the threads

51 extend, in the manner aforesaid. Upon an outward pull upon a thread, the bobbin will rotate within the casing, the severing action being effected in the manner above described.

In this form of my invention, there is a separate diaphragm 52 which is disposed within the inner annular recess 53 of cover 48, the diaphragm having the flexible and resilient properties of the wall 31 above described. The said diaphragm 52 may be attached to the cover in any known manner, the particular form illustrated showing a plurality of peripheral extensions 54 which are first inserted into spaced portions 55 of the cover (see Figure 7) and then rotatably moved to a locking position in the form of a bayonet lock.

The upper wall 56 of cover member 48 has on the inner central portion thereof the actuating boss 57 which is engageable with the diaphragm 52. Upon applying a pressure to the said upper wall 56 (see Figure 9) the diaphragm will come into engagement with the upper flanges 58 of the bobbins, thereby exerting thereupon a braking effect, in the manner aforesaid. This arrangement will eliminate the need of resiliency in the wall 56, flexibility being sufficient for said wall because of the resilient property of diaphragm 52. In other respects the operation of this form of my invention is like that of the first form described. It has still a further feature in that the said boss 46 has a hollow central compartment 46*a* to receive pins and other sewing accessories.

In the form of my invention illustrated in Figure 10, a diaphragm 59 is employed substantially in the manner shown in the form of Figures 7 to 9. However, the wall 60 of the cover member 61 may be rigid, and adapted to support thereupon a pincushion 62. Attached to the diaphragm 59 is the post 63 of the button member 64, the finger-engaging portion 65 of which being preferably above the uppermost level of pincushion 62, where it is maintained due to the resiliency of diaphragm 59. When it is desired to operatively brake the bobbins, a downwardly pressure is applied to member 64, and the diaphragm will engage the upper flanges of the bobbins to hold them against rotation. Thus this form of my invention has the main features of the forms above described, with the additional feature of a necessary sewing accessory applied to the cover member.

In all the forms above described, it is preferred that the upper flange of the bobbins extend above the lateral edge of the wall forming the casing, such as the walls 21 and 40, thereby enabling the diaphragm portion of the cover freely to contact the upwardly extending bobbins.

The structure of my invention, in its various forms, thus enables a conventional bobbin adapted for use in a sewing machine to be employed for hand sewing also, merely by operatively disposing such bobbins within the casing of my device. The thread is readily withdrawn and cut because of the combination of elements in a self-contained and attractive unit. And should it be desired to use the bobbin for a sewing machine, all that need be done is to open the cover and readily remove any selected one.

In the above description, the invention has been disclosed merely by way of example and in preferred manner; but obviously many variations and modifications may be made therein. It is to be understood, therefore, that the invention is not limited to any specific form or manner of practicing same, except insofar as such limitations are specified in the appended claims.



I claim:

1. In a spool retainer and thread dispenser, of the class described, a container member having a casing and a cover therefor, a spool rotatably supported within the casing, and a spool brake member comprising a resilient diaphragm disposed above the spool and movable between an operative position in engagement with the spool and a retracted position out of engagement therewith, the said cover having an annular peripheral wall and a connecting wall, said connecting wall constituting said resilient diaphragm.

2. In a spool retainer and thread dispenser, of the class described, a container member having a casing and a cover therefor, a spool rotatably supported within the casing, and a spool brake member comprising a resilient diaphragm disposed above the spool and movable between an operative position in engagement with the spool and a retracted position out of engagement therewith, the said cover having an annular peripheral wall and a connecting wall, said diaphragm being carried by said annular wall and disposed below and in adjacent relation to said connecting wall, said connecting wall being flexible and engageable with the diaphragm, whereby upon an operative flexing of said connecting wall towards the diaphragm, the latter will be operatively actuated for engagement with the spool.

3. In a spool retainer and thread dispenser, of the class described, a container member having a casing and a cover therefor, a spool rotatably supported within the casing, and a spool brake member comprising a resilient diaphragm disposed above the spool and movable between an operative position in engagement with the spool and a retracted position out of engagement therewith, the said cover having an annular peripheral wall and a connecting wall, said diaphragm being disposed below and in adjacent relation to said connecting wall, said connecting wall of the cover being apertured, and a manually operatable stem mounted on said diaphragm and extending upwardly through the said apertured portion of the cover, whereby upon an operative depression of the stem, the diaphragm will be operatively actuated for engagement with the spool.

4. In a spool retainer and thread dispenser for use with spools of a predetermined height, a container member having a casing and a cover therefor in peripheral engagement therewith when operatively closed, said casing having therein a plurality of circumferentially disposed retaining portions for rotatably supporting spools, the said container member extending above the predetermined highest level of spools of said height when they are operatively disposed within the casing, said cover having a resilient wall normally above said level and manually movable to an operative position at said level when the cover is in its closed position, whereby the said resilient wall when depressed to its said operative position will act as a brake in engagement with spools of said height operatively disposed within the casing, the container having thread guiding portions spaced from said circumferentially disposed retaining portions, for slidably receiving thread from spools operatively disposed on said retaining portions, said casing having a base, and a plu-

rality of slotted thread-holding portions in said base, whereby thread from spools on said retaining portions will be engageable with said slotted portions.

5. In a spool retainer and thread dispenser, the combination according to claim 4, further provided with thread severing means in said base.

6. In a spool retainer and thread dispenser, the combination according to claim 4, further provided with a cutting blade member in each of said slotted portions in the base.

7. In a spool retainer and thread dispenser, the combination according to claim 4, said thread guiding portions comprising a plurality of spaced notched portions in the upper periphery of the casing, whereby threads operatively engaged by said notched portions will be out of engagement with the cover.

8. In a spool retainer and thread dispenser, the combination according to claim 4, the peripherally engaging edges of the casing and cover being below the said level, whereby spools within the casing will protrude above the said edges to permit the said resilient wall to operatively engage the upper protruding portions of said spools.

9. In a spool retainer and thread dispenser, the combination according to claim 4, the said circumferential retaining portions comprising a plurality of spindles extending upwardly from the



bottom of the casing to a point below the said level.

10. In a spool retainer and thread dispenser, the combination according to claim 4, further provided with a central hollow boss on the floor of the casing, the said circumferential retaining portions comprising recessed portions in the said floor formed by the annular wall of the casing and the wall of said boss.

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