March 25, 1952 J. GOMBERG 2,590,695

BOBBIN FOR HAND KNITTING YARN AND THE LIKE

Filed April 21, 1948 2 SHEETS—SHEET 1

Fig. 1.

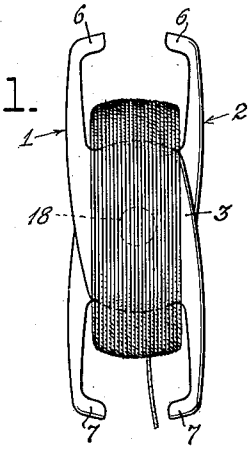


Fig. 2.

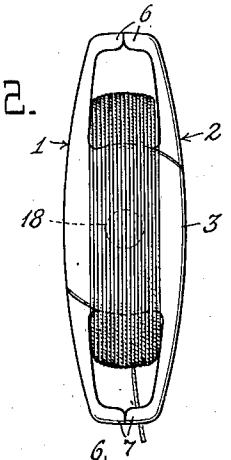


Fig. 3.

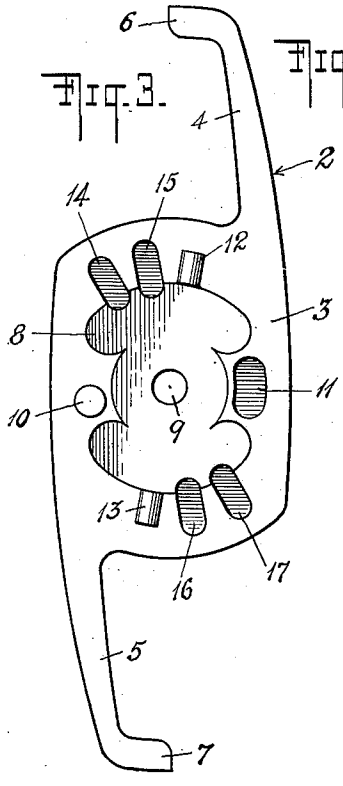


Fig. 4.

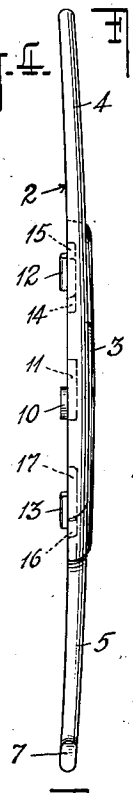


Fig. 5.

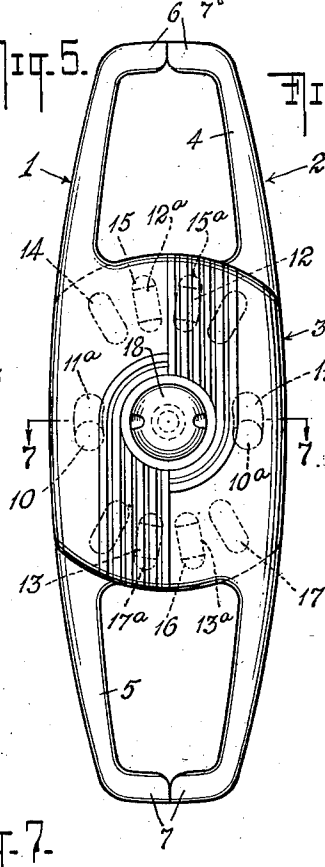


Fig. 6.

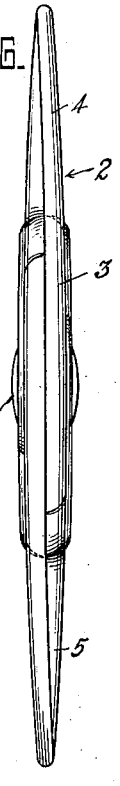
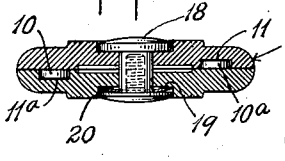


Fig. 7.



WITNESS

G. V. Rasmussen

INVENTOR.

JACOB GOMBERG

BY

Klein, Alexander & Pohl.

ATTORNEYS

March 25, 1952 J. GOMBERG 2,590,695

BOBBIN FOR HAND KNITTING YARN AND THE LIKE

Filed April 21, 1948 2 SHEETS—SHEET 2

Fig. 8.

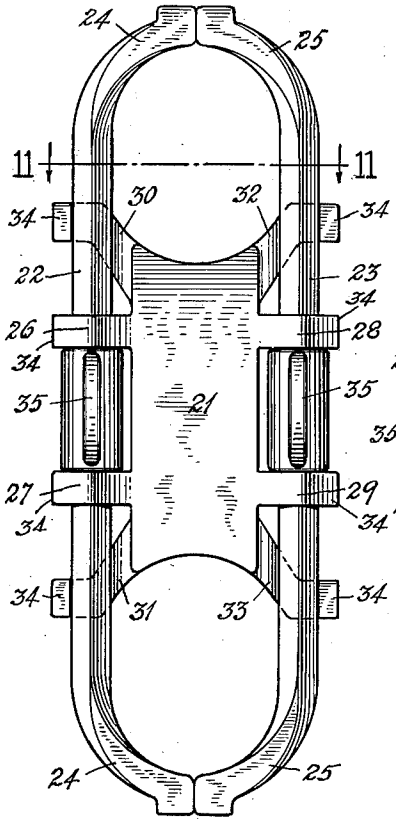


Fig. 9.

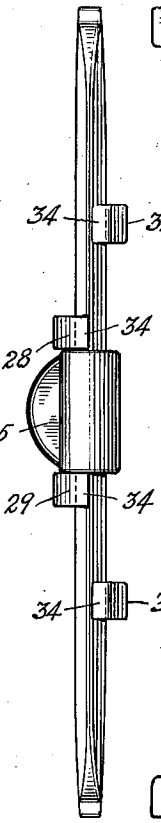


Fig. 10.

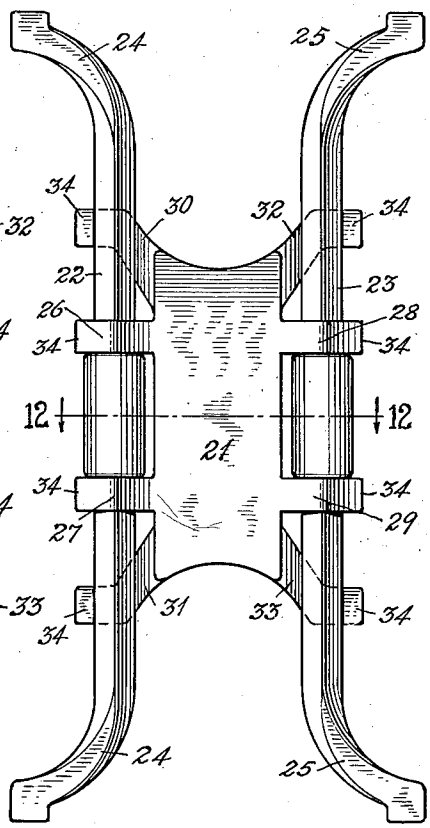


Fig. 11.

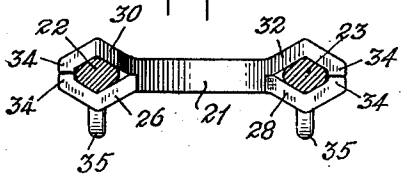
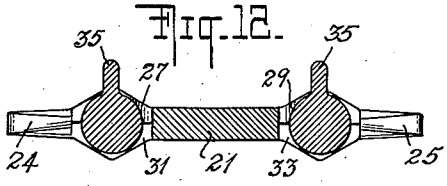


Fig. 12.



WITNESS
G. V. Rasmussen

INVENTOR.
JACOB GOMBERG
BY
Klein, Alexander & Pohl
ATTORNEYS

Patented Mar. 25, 1952 2,590,695

UNITED STATES PATENT OFFICE

2,590,695

BOBBIN FOR HAND KNITTING YARN AND THE LIKE

Jacob Gomberg, Chicago, Ill.

Application April 21, 1948, Serial No. 22,443

6 Claims. (Cl. 242—96)

1

This invention relates to a holder or bobbin for hand knitting yarn and is particularly useful in knitting Argyle socks, sweaters and other like multi-colored articles.

The object of the invention is to provide devices used in sets, one for each color of yarn used by the hand knitter in making a particular type of article. Each device is adapted to carry a multiple winding of yarn which is wound from the ball or hank by hand to such amount as the knitter determines may be required to complete or partially complete the particular portion of such article. The device is light in weight, simple of operation, streamlined, free of projections on which the yarn might catch and when in use retains the wound yarn in orderly fashion locked in the bobbin but readily unwindable therefrom as the knitter requires a supply of yarn carried by a particular bobbin.

In the drawings Fig. 1 is a life-size face view of a bobbin just after a supply of yarn has been wound thereon but before it is locked in the bobbin against unwinding; Fig. 2 is a view similar to Fig. 1 with the bobbin locked, securing the yarn against unwinding; Fig. 3 is a plan view of the inside of one of the two like members which make up a bobbin twice enlarged in respect of the life-size of Figs. 1 and 2; Fig. 4 is an edge view of the device of Fig. 3; Fig. 5 is a plan of two of the devices of Figs. 3 and 4 assembled illustrating some of the internal parts; Fig. 6 is an edge view of the device of Fig. 5; Fig. 7 is a section on the line 7—7 of Fig. 5; Fig. 8 is a plan view of a modification embodying the general principle of operation of the device of Figs. 1 to 7; Fig. 9 is an edge view of the device of Fig. 8; Fig. 10 is a view similar to Fig. 8 with the device open ready to receive windings of yarn; Fig. 11 is a section on the line 11—11 of Fig. 8 and Fig. 12 is a section on the line 12—12 of Fig. 10.

The bobbin of Figs. 1 to 7 consists of two like left and right members 1 and 2, preferably molded in a single piece, from thermoplastic material such as cellulose acetate, Lucite or the like. Inasmuch as both members 1 and 2 are alike, only the member 1 will be described in detail. The member 1 has a body portion 3 and top and bottom fingers 4 and 5, both curved inwardly in respect of the median line of the body and each terminating in an inwardly extending hook or member 6—7. The inner portion of the member 1 is provided with an irregularly shaped recess 8 which is provided with a central aperture 9. A projection or pin 10 outside of the edge of the recess 8 and an oval shape slot 11, outside of the

2

recess 8, opposite the pin 10. The upper and lower edges of the body are provided with half round beads 12—13. The two pairs of depressions 14—15 and 16—17 are positioned one pair, 14—15, at the top of the recess and partially extending thereinto and the other pair, 16—17, diagonally opposite the first mentioned pair. Each of the halves 1 and 2, having the same construction and features, may be matched to form a complete bobbin as is illustrated in Fig. 5. Such like members when matched are secured together by the two part stud 18, the sleeve of the upper portion being internally screw threaded and the stem of the lower portion being externally screw thraded in order that they may be secured together, retain the matched members 1 and 2 together and upon which such members pivot. A leaf spring washer 19 is positioned around the sleeve of the stud 18 in the circular cup shaped member 20 and tends to press the two matched halves together. When the two halves are matched and assembled with the hooks 6—7 in closed position, the bead 12 fits into the depression 15*a* (as shown in dotted lines in Fig. 5) and the bead 13 fits into the depression 17*a*; the bead 12*a* fits in the depression 15 and the bead 13*a* fits into the depression 16. The pin 10 fits into the slot 11*a* and the corresponding pin 10*a* fits into the slot 11.

The device is opened by pulling apart one of the two sets of members 1 and 2, whereupon the body portions will pivot on the stud 18 and by reason of the flexibility of the spring washer 19 and the inherent flexibility of the device the two sets of members 1 and 2 will readily separate to the position shown in Fig. 1. When the devices are so separated, the beads 12 and 13 will move with their respective members, the bead 12 to the right and the bead 13 to the left; the bead 12*a* to the left and the bead 13*a* to the right. Such beads will, when the members 1 and 2 are opened, enter the first depression which they encounter in their path of movement and under the influence of the spring 20 will drop thereinto which thereby retains the sets of members 1 and 2 in open position. When the yarn has been wound on the body of the bobbin, as shown in Fig. 1, two of the members 1 and 2 are pressed together whereupon the device closes and the beads return to the position shown in Fig. 5.

The modification shown in Figs. 8 to 12 consists of three parts molded from a suitable plastic, a body in the form of a spider 21 and two like members 22—23. The like members 22—23 are, generally diamond shape in cross section, pro-

vided at their ends with fingers 24—25. The spider has four sets of holders which carry and retain the members 22—23 in their proper relation and upon which they may rotate to open and close the device, as illustrated in Figs. 8 and 10. The two central sets of holders 26—27, 28—29 are on one side of the body 21 and the two sets of holders 30—31, 32—33 are carried by the opposite side of the body 21. Each of the laterally projecting holders are provided at their ends with retaining members 34 which embrace opposite sides of the members 22—23, as illustrated in Figs. 8–10. Finger pieces 35 are secured opposite each other to the members 22—23 and between the holders 26—27 and 28—29. When it is desirous of opening the bobbin to the position shown in Fig. 10 the user grasps the finger pieces 35 and rotates them which causes the members 22—23 to rotate within the members 34, thereby separating the fingers 24—25. The members 34 are flexible and will give sufficiently to permit a cam-like action, in both opening and closing directions, between the members 34 and 22—23, thereby retaining the members 22—23 in the position to which they have been so adjusted. When yarn is wound on the device the finger pieces are again rotated, in the opposite direction, causing the members 22—23 to close, as shown in Fig. 8.

It is to be noted that the retaining members 34 do not extend entirely around the members 22—23 and inasmuch as the material, of the holders and retaining members, is flexible the members 22—23 can readily be inserted in position by flexing them whereupon they will snap into their proper positions.

While the two devices illustrated in the drawings show a duplication of the fingers 4—5 and 24—25 and the terminal hooks 6—7, nevertheless one set of hooks, for instance the lower set of hooks 7, may be omitted. In other words, the fingers would terminate just in back of the hooks 7 and would leave the lower portion of the bobbin open at all times for winding and unwinding of yarn, but the device would nevertheless function for all practical purposes to lock the yarn when the remaining set of fingers are closed.

It is desirable that when the fingers are closed that the inner faces of the hooks contact in order that the yarn may not slip therethrough, but the device will function if such fingers are slightly separated to form a narrow slot which will be of insufficient width to permit the yarn to pass therethrough when the bobbin hangs from the work.

It is obvious that winding and unwinding of yarn may be done by manipulating but one of the fingers, leaving the other stationary. Thus, for instance, in the device of Fig. 8, either one of the fingers 22—23 may be manipulated to open position leaving the other finger in its normal closed position and when the winding and unwinding has been accomplished, then manipulating the open finger to the closed position. In fact, the devices of this invention may be made with one of the fingers in a permanent fixed position and opening for winding and unwinding may be accomplished by making but one of the fingers movable and manipulating it as desired.

I claim:

1. A bobbin for winding and holding yarn and the like, comprising two like members adapted to match together, means to pivotly secure said members in matched relation, each member having an oppositely disposed finger thereon, an oppositely disposed finger on each of the members facing when the two members are assembled, said fingers being adapted to move away from one another to provide an opening therebetween.

2. In a bobbin of the character set forth in claim 1 in which each of the members is provided with a plurality of internally, spaced depressions, which depressions when the members are assembled arrange in upper and lower rows, each member being provided with internal means, arranged in proximity to said depressions, and entering a depression when the fingers are separated.

3. In a bobbin of the character set forth in claim 1 in which a flexible member is arranged with respect to the securing means to permit slight separation of the members during manipulation of the fingers.

4. A bobbin for winding and holding yarn and the like, comprising a central body portion, two pairs of co-acting members, one pair whereof is carried at the top and the other pair at the bottom of said body portion, fingers on each of said members, said fingers being directed inwardly and angularly with respect to said members, each pair of members, the fingers carried thereby and the edge of the body portion whereby such members are carried, defining a yarn receiving space, said fingers being normally in closed relation and being simultaneously movable by manual force on one pair of said fingers to separate both pairs of fingers, permitting free winding of yarn in said yarn receiving space, and means wholly within said body portion to retain the said fingers in spaced relation.

5. A bobbin according to claim 4 in which the body portion consists of two plates in surface contact, said plates assuming relatively angular positions when the fingers are separated.

6. A bobbin for winding and holding yarn and the like, comprising a central body portion, a pair of fingers extending from said central body portion, each finger being provided with a member extending inwardly and angularly with respect to said fingers, and said inwardly extending members lying substantially in the plane of said central member when said members are in closed relation, said central body portion, said fingers and said members defining a yarn receiving space, said fingers being separable by direct manual manipulation of one of said fingers and being movable in the opposite direction to close said fingers by direct manual manipulation of one of said fingers.

JACOB GOMBERG.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
469,687	Felix	Mar. 1, 1892
1,473,790	Kwapil	Nov. 13, 1923
1,901 050	Voorhees	Mar. 14, 1933