June 13, 1933. S. M. GREEN 1,913,632

REEL

Filed May 7, 1932

Fig. 1.

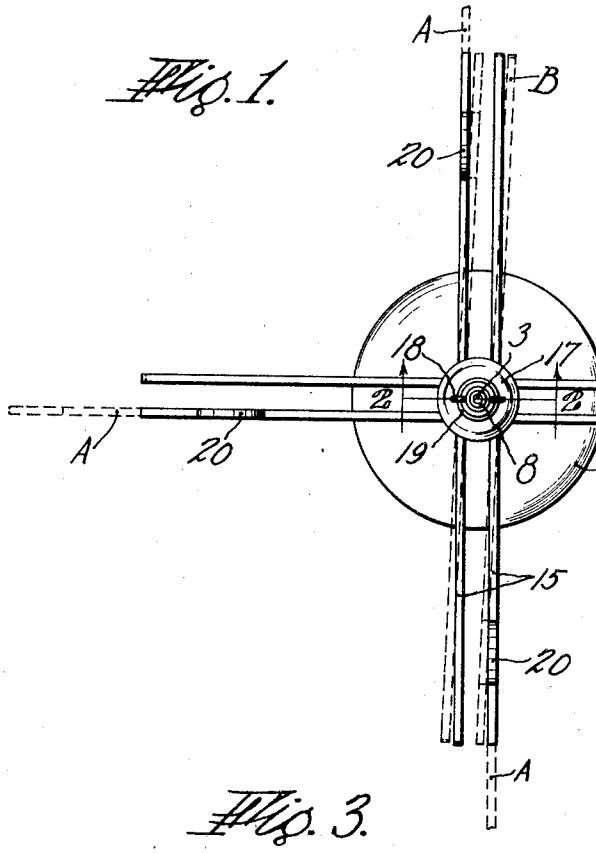


Fig. 2.

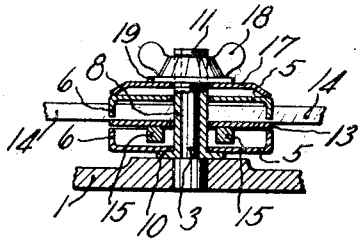


Fig. 3.

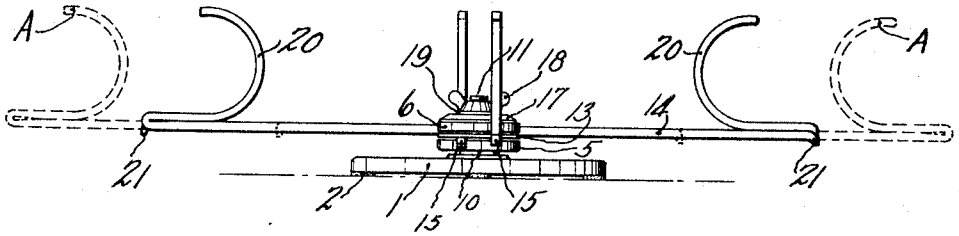


Fig. 4.

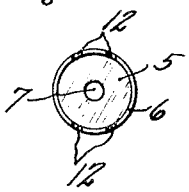
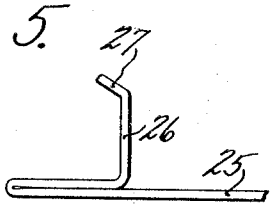


Fig. 5.



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UNITED STATES PATENT OFFICE

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REEL

Application filed May 7, 1932. Serial No. 609,924.

This invention relates to a reel for holding a skein of yarn or the like while it is being wound into a ball as is customary when preparing yarn for hand knitting.

One object of the invention is to provide a reel of this character which may be adjusted to accommodate a substantial range of sizes of skeins. A further object is to provide a construction which may be collapsed into relatively small compass when not in use. A still further object is to provide a reel with a self supporting base, said reel and base being designed to occupy a minimum amount of space and adapted to be moved about and placed in any convenient location for use. Other and further objects will be apparent from the following specification and claims.

In the accompanying drawing which illustrates one embodiment of the invention:

Fig. 1 is a plan view of the device;

Fig. 2 is a sectional view on a larger scale substantially on line 2—2 of Fig. 1;

Fig. 3 is a front elevation of the structure shown in Fig. 1;

Fig. 4 is a detail plan view of one element of the rotary support; and

Fig. 5 shows a modified form of skein receiving arm.

Referring to the drawing 1 designates a base which may be of any suitable shape and is made of sufficient weight to hold the reel on the supporting surface during the winding operation. The underside of the base 1 is preferably provided with one or more felt or rubber pads 2 so as to guard against scratching the surface of the table or other supporting stand upon which it is placed. The base 1 is provided with a fixed upright spindle 3 upon which the reel proper turns. The reel proper comprises a hub formed by a pair of cup-shaped members 5 having vertical flanges or rims 6. The members 5 are provided with central openings 7, through which a hollow cylindrical member 8 is adapted to pass. Member 8 is rotatably engaged on spindle 3. Member 8 is provided on its lower end with a flange 10 and is outwardly threaded at its upper end as indicated at 11. The rims 6 of members 5 are provided with four rectangular notches 12 arranged in aligned pairs spaced on opposite sides of the openings 7 as best shown in Fig. 4. The members 5 are mounted in face to face relation on member 8 with a flat annular disc or washer 13 between them. A pair of rods 14 are slidably mounted in the aligned notches 12 of the upper member 5 and a similar pair of rods 15 are slidably mounted in the notches of the lower member 5. The rods 14 and 15 are square in cross section and the notches 12 are of a depth slightly less than the thickness of rods 14 and 15 so that the rods rest against opposite sides of the disc 13. The members 5, disc 13 and arms 14 and 15 are held in assembled relation on member 8 by means of a spring washer 17 and wing nut 18, a conventional washer 19 being positioned between the wing nut and spring washer 17. The rods 14 and 15, which form the arms of the reel, have one end bent backwardly and then upwardly and outwardly curved to form skein receiving seats 20. The opposite end of each rod is downwardly bent as at 21, to prevent complete withdrawal of the rods from the notches.

By the arrangement above described tightening of the wing nut 18 clamps the members 5, rods 14 and 15, and disc 13 between the nut 18 and flange 10 and through the medium of spring washer 17, the degree of frictional engagement of the rods with members 5 and disc 13 may be adjusted. As indicated by dotted lines at A in Figs. 1 and 3 the rods 14 and 15 may be drawn outwardly to accommodate skeins of different size, and when not in use rods 14 may be swung from their position at right angles to rods 15 to the dotted line position B in Fig. 1, members 5 rotating with respect to each other against the clamping action of the spring washer. The reel proper may be lifted from spindle 3 to further facilitate storing or shipment of the reel.

In Fig. 5 is shown a modified form of skein seat in which the rod 25, corresponding to one of the rods 14 or 15 previously described, is bent rearwardly and then vertically upward as at 26 and then outward at an upwardly inclined angle as at 27. This modified form is of advantage when the reel is po-

sitioned at a lower level than the ball being wound since the yarn slides freely from beneath the upwardly inclined end 27 without catching and interfering with the rotation of the reel.

What I claim is:

1. A reel comprising a spindle, a hub rotatably mounted on the spindle, said hub being divided into two members secured together for forced rotative movement relative to each other, a pair of rods frictionally engaged in and extending through each hub member, each pair of rods being constrained to partake of the relative rotative movement of their respective hub members, and skein receiving seats carried by said rods.

2. A reel comprising a base having an upright spindle, a hub rotatably mounted on the spindle, said hub being divided into upper and lower members secured together for forced rotative movement relative to each other and a pair of rods frictionally engaged in and extending through each hub member, each pair of rods being constrained to partake of the relative rotative movement of their respective hub members, each rod having one end bent to form a skein receiving seat, the seats of each pair of rods being arranged on opposite sides of the hub.

3. A reel comprising a base having an upright spindle, a hub rotatably and removably mounted on the spindle, said hub being divided into upper and lower members, a pair of rods positioned in and extending through each hub member, and spring means acting to press the portions of the hub together with a regulable pressure to permit forced individual longitudinal movement of the rods in the hub and forced rotative movement of the hub members relative to each other, each rod having one end bent to form a skein receiving seat, the seats of each pair of rods being arranged on opposite sides of the hub.

4. A reel comprising a weighted base having an upright spindle, a hub rotatably mounted on said spindle, said hub comprising a hollow cylindrical member and upper and lower hub members rotatably mounted on the cylindrical member, a pair of rods positioned in and extending through each hub member, and means carried by the cylindrical member to exert a regulable pressure on the hub members and the rods to permit forced individual longitudinal movement of the rods in the hub member and forced rotative movement of the hub members, about the cylindrical member, relative to each other, each rod having one end bent to form a skein receiving seat, the seats of each pair of rods being arranged on opposite sides of the hub.

5. A reel comprising a weighted base having an upright spindle, a hub rotatably mounted on the spindle, said hub comprising a hollow cylindrical member provided with a flange on its lower end, two cup members rotatably mounted on the cylindrical member, the cup members being positioned with their open sides facing each other and with the lower cup member resting on said flange, a flat washer interposed between the cup members, the rim of each cup member being provided with four notches arranged in aligned pairs on opposite sides of the spindle, a rod positioned in each aligned pair of notches to provide a pair of rods in each cup member, the notches being of less depth than the thickness of the rods, a spring washer mounted on the cylindrical member in engagement with the upper cup member and a nut threaded on the upper end of the cylindrical member to compress the spring washer and cause the rods to be frictionally engaged between the cup members and the flat washer to permit forced individual longitudinal movement of the rods and forced rotative movement of the cup members relative to each other, each rod being bent at one end to form a skein receiving seat, the seats of each pair of rods being arranged on opposite sides of the hub.

In testimony whereof I have affixed my signature.

SAMUEL M. GREEN.