Aug. 13, 1929. J. BRENZINGER 1,724,002

REEL

Filed Dec. 7, 1925

Fig. 1.

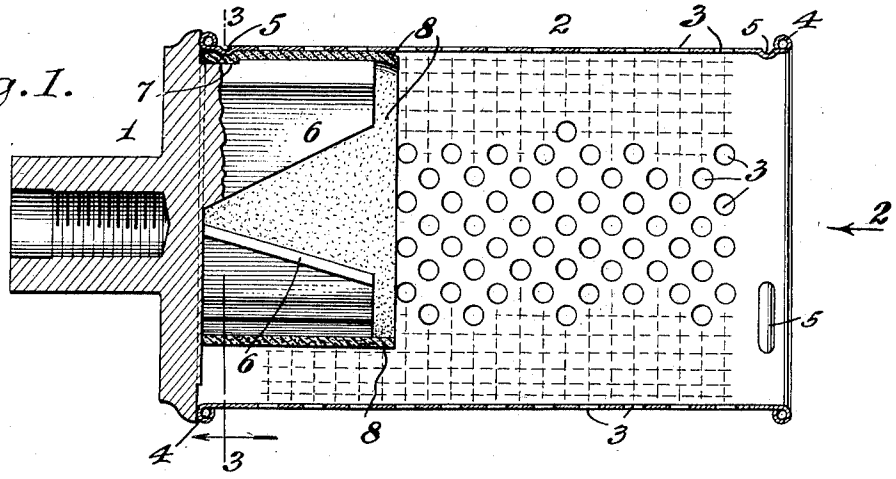


Fig. 2.

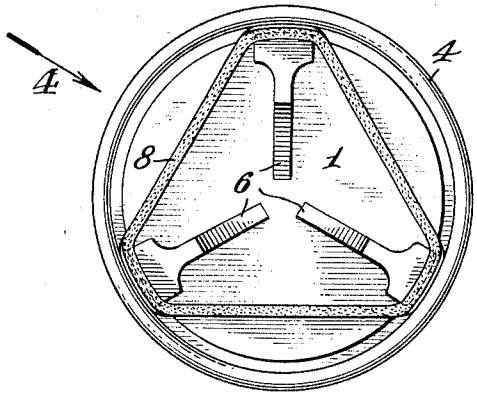
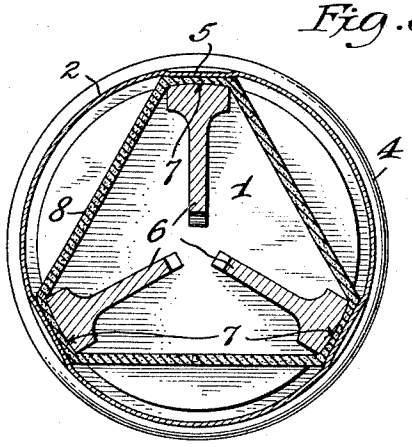


Fig. 3.



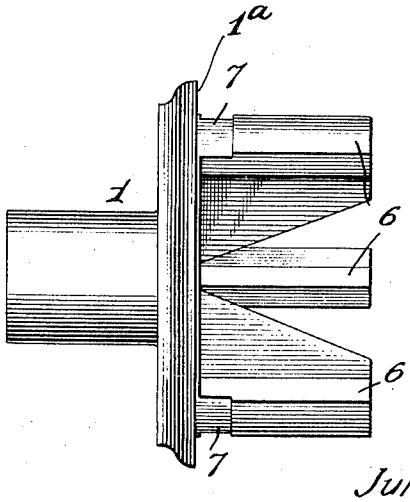


Fig. 4.

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Patented Aug. 13, 1929. 1,724,002

UNITED STATES PATENT OFFICE.

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REEL.

Application filed December 7, 1925. Serial No. 73,688.

This invention relates to reels for artificial silk or the like, and has for its main object and feature the production of a reel of such character that a washing or dyeing operation may readily be carried on with respect to the material wound thereon.

In the accompanying drawings the invention is disclosed in a concrete and preferred form in which:

Fig. 1 is a longitudinal sectional view of a device embodying one form of the invention.

Fig. 2 is an end elevation looking in the direction of arrow 2 of Fig. 1.

Fig. 3 is a transverse sectional view on the plane of line 3—3 of Fig. 1.

Fig. 4 is a view of the carrier looking in the direction of arrow 4 of Fig .2.

The device of this invention is particularly though not exclusively designed to be used in connection with a machine of the character disclosed in application Ser. No. 75,093 filed December 12, 1925, now Patent 1,678,053, July 24, 1928, in which the artificial silk is wound upon a spool and the washing or dyeing fluid is drawn through the material and spool to effect the washing or dyeing operation.

The reel consists of a carrier 1 and a spool 2 detachably mounted thereon. The carrier is provided with a circularly extending abutment surface 1^a from which rise, substantially at right angles thereto, a plurality of spaced projections 6 having slots 7 in their outer surface that extend substantially parallel to the abutment surface. Covering said projections in the plane of the slots is an elastic medium here taking the form of an elastic band 8 that passes around all of the projections. The spool consists of a hollow shell, preferably of sheet material, having perforations, a few of which are shown at 3, and here shown as being provided with strengthening beads 4 which constitutes a circularly extending abutment portion substantially at right angles to the axis of the spool and parallel to abutment surface 1^a. The spool also carries a plurality of inwardly projecting and spaced detents 5 in the plane of the slots. It will now be understood that the operator, by inserting his hand into the interior of the shell, may slip the shell on the carrier and bring abutment portion 4 against abutment surface 1^a. Then, while retaining the abutment members in engagement, a slight twist will bring detents 5 into engagement with elastic covering 8 thereby compressing the latter into slots 7, and that this can be done without in any way damaging the delicate threads wound on the outside of the spool. The reverse operation will of course release the parts. The thread is wound on the spool in the spinning machine and it is essential to the washing or dyeing process that the winding process be carried on properly, that is to say; openings 3 must be covered and not exposed if the dye or other fluid is to be drawn or freed through the threads. It is therefore essential that the spool run true in the winding machine, and as the spool runs as high as four hundred revolutions a minute it may easily free itself from or become displaced with respect to the carrier. The abutment members and the parallel arrangement of the slot and detents will prevent any loosening of the spool while rotating because, as shown by the drawing, the locking means do not work on the principle of a bayonet joint, that is to say: there is no inclined slot-and-pin connection. The result is that the spool runs true, but nevertheless it may be detached and attached quickly when shifting it from a carrier in the winding machine to a carrier in the dyeing or washing machine.

I claim:

The combination with a carrier having a circularly extending abutment surface, of a plurality of spaced projections on said carrier rising substantially at right angles from the abutment surface, each projection provided with a slot in its outer surface that extends substantially parallel with said abutment surface, an elastic covering, for each projection, in the plane of its slot, a spool to surround the projections and to be thereby detachably secured to the carrier, a circularly extending abutment portion, on said spool, substantially at right angles to the axis of the spool and parallel to the abutment surface to engage the latter, and a plurality of inwardly projecting and spaced detents on said spool in the plane of the slots to engage and compress or to disengage and release the elastic coverings upon producing a relative turning movement between the spool and carrier while the abutment surface and abutment portion are in engagement.

Signed at Bridgeport in the county of Fairfield and State of Connecticut this 27th day of November 1925.

JULIUS BRENZINGER.