July 4, 1933.

O. BOCHMANN

1,916,822

SPOOL

Filed June 2, 1931

Fig. 1.

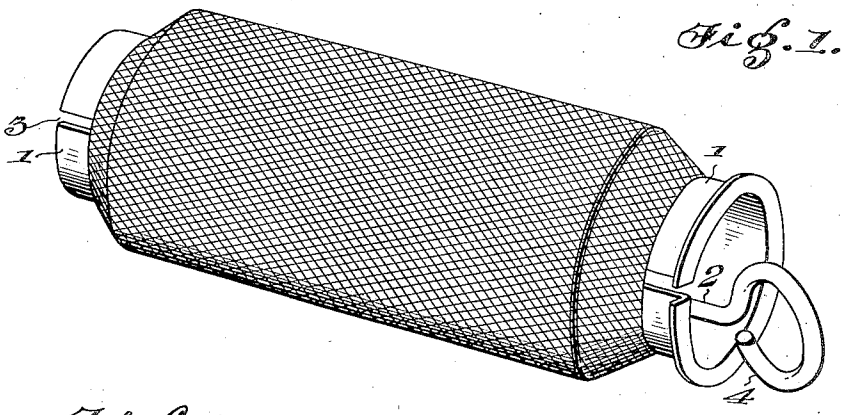


Fig. 2.

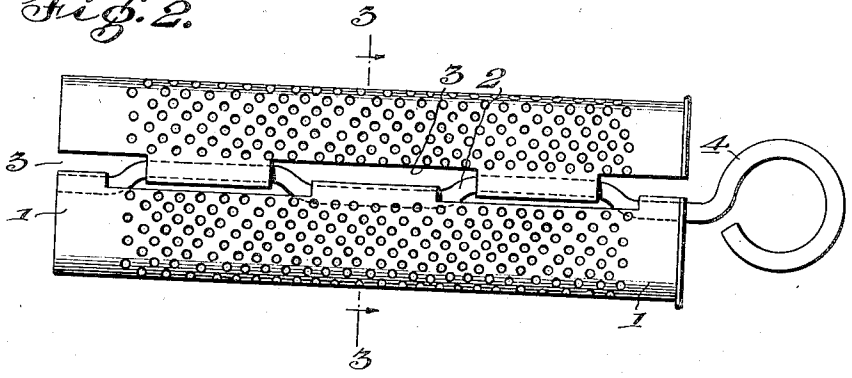


Fig. 3.

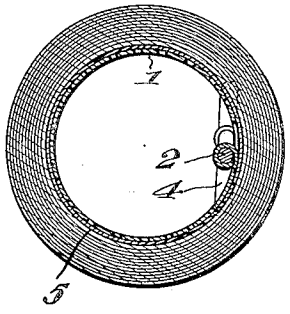
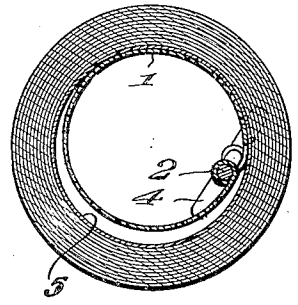


Fig. 4.



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Patented July 4, 1933 1,916,822

UNITED STATES PATENT OFFICE

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SPOOL

Application filed June 2, 1931, Serial No. 541,625, and in Germany June 13, 1930.

My present invention has to do with a deformable spool for use in the manufacture of artificial filaments, threads, etc.

One object of my invention is to provide a means whereby stretching of the filaments while they are drying, is avoided.

Other objects will become apparent from a reading of the following specification, and a study of the attached drawing, in which:

Figure 1 is a perspective view of my improved spool with yarn wound thereupon;

Figure 2 is a longitudinal cross-sectional view of the spool;

Figure 3 is a cross sectional view of Figure 1 on the line 3—3, showing the spool in expanded position; and

Figure 4 is a view similar to that in Figure 3, showing the spool compressed.

The spool comprises a cylindrical shell-like portion (1) which is open in one spot throughout its length. (See Figure 2.) The open edges (3) thus formed are secured together by means of a crank-shaped wire (2), one end of which is shaped to form a handle (4). The wire is connected alternately with the two sides (3) so that it cooperates with each side a plurality of times. By turning the handle (4) the two edges (3) are caused to lap, one over the other. This causes the circumference of the spool to become smaller.

The wire (2) is attached to the edges (3) by rolling the edges over the wire.

The spool may be made of any material which is resistant to the liquids carried in the spinning baths, such as aluminum, acid resisting sheet iron, etc.

The spool may be either imperforate or foraminous. It should be noted that a foraminous or perforated spool will be necessary in the event that a vacuum or pressure wet-treatment is to be employed.

In the process of manufacture of the artificial filaments, etc., by the viscose, cuprammonium, or any other process, the filaments may be spun directly onto the spools. The filaments thus wound may be washed, desulfurized, bleached, etc., or given any necessary wet-treatment. Before drying the filaments upon the spools, the diameter of the same may be reduced by turning the handle (4). In this way the filaments are allowed to shrink slightly during the drying process.

As an alternative arrangement, or modification, the freshly spun filaments may be wound, not directly onto the spool, but onto an outer layer of material. This material (5) should be light and cheap, such as impregnated paper, a thin aluminum sheet, etc. This outer covering, if vacuum or pressure liquid treatments are to be employed, should be perforated to correspond to the perforations on the spools. When such a covering is employed, the collapsible spool acts as a support during the winding and wet-treatment steps, and may be withdrawn from the covering for following treatments.

Having now set forth my invention as required by the patent statutes, what I desire to claim is:

1. A spool comprising, in combination, a cylindrical body portion with a slot extending longitudinally thereof, a plurality of rolled-over portions at the edges of the slots, and a crank-like wire engaging alternately the edges of the slots at the rolled-over positions.

2. A device as set forth in claim 1, in which the said wire is provided at one end with a handle portion which, on rotation, causes one of the said edges to overlap the other.

3. A spool comprising, in combination, a cylindrical body portion with a slot extending longitudinally thereof, a plurality of rolled-over portions at the edges of the slots, and a crank-like wire engaging alternately the edges of the slots at the rolled-over positions whereby, by rotation of the wire the two edges are caused to overlap.

4. In combination, a spool body cylindrical in shape, an open slot running lengthwise of the spool and extending throughout the length of the same, and means contacting with the edges of said slot, comprising a crank-like element, for causing the edges of the spool at the slot to overlap.

5. In combination, a spool body with non-meeting edges, crank-like means associated with said edges, and adapted, upon rotation, to cause said edges to overlap, and a deformable covering embracing said spool, said covering being adapted to be removed when said edges are in overlapped relationship.

In testimony whereof I affix my signature.

OTTO BOCHMANN.