

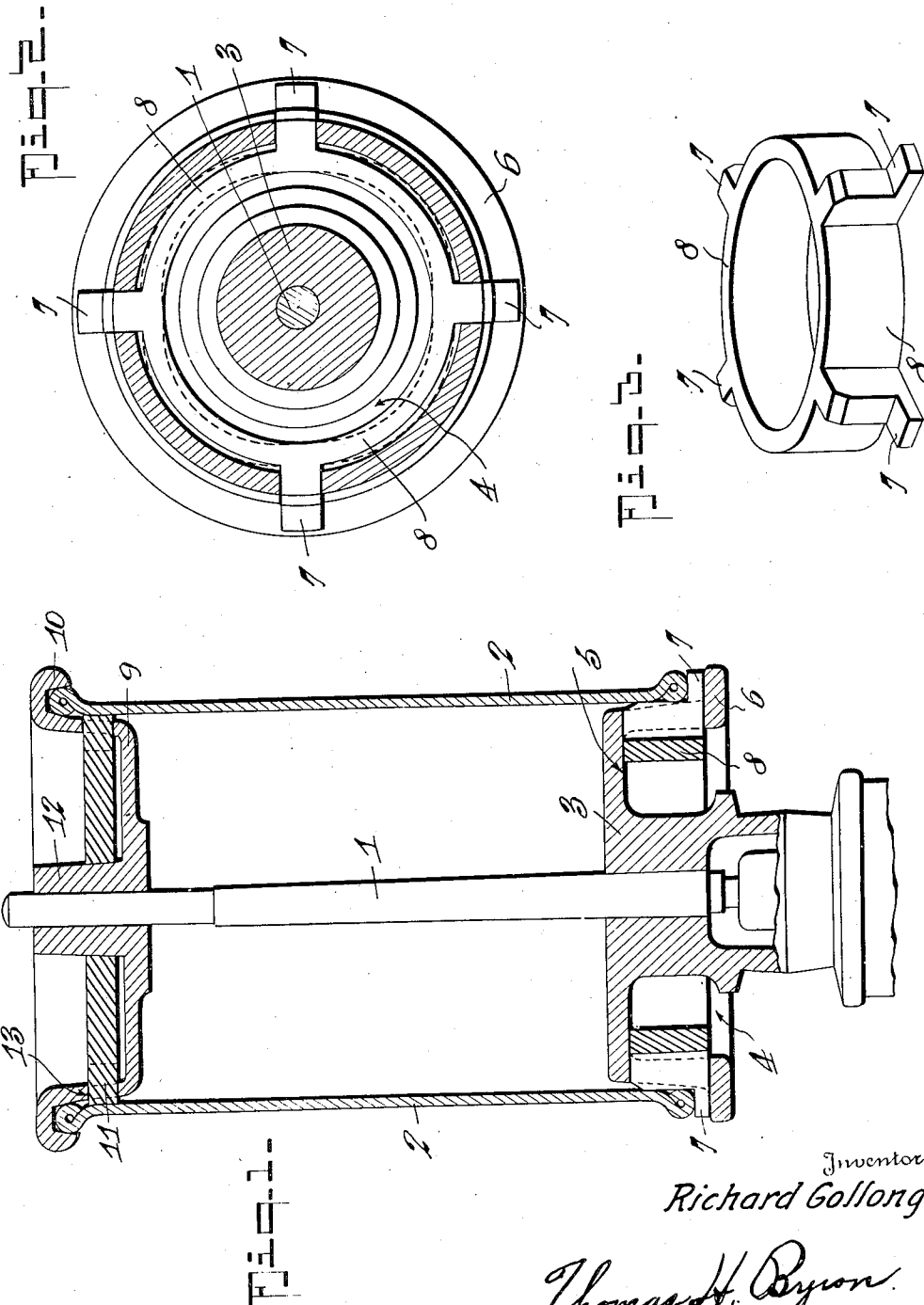
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R. GOLLONG

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SPOOL HOLDING MEANS

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Inventor
Richard Gollong.

By Thomas H. Byron.

Attorney

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SPOOL HOLDING MEANS

Richard Gollong, Johnson City, Tenn., assignor
to North American Rayon Corporation, New
York, N. Y., a corporation of Delaware

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3 Claims. (Cl. 242—46.5)

My present invention has to do with a new and improved method for preventing a spool from flying loose from a twisting spindle.

One object of my present invention is to provide a means whereby the spool may be positively gripped onto the base or spool flange while the spindle is in motion.

Another object is to provide a gripping means of the type set forth, which will cease to grip as positively as soon as the speed of the spindle is decreased.

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

Figure 1 sets forth an elevational view, partially in cross section, of my new gripping means, showing the same in operative relation with a spindle and spool;

Figure 2 is a detailed view, showing the manner of constructing the base or spool flange; and Figure 3 is a perspective view of my new gasket arrangement.

In the manufacture of artificial filaments, for example, by the wet spinning process, the formed filaments are usually collected on foraminous bobbins or spools, and are wet-treated while thereon. After drying, the filaments are usually respooled, being twisted during this operation. My present invention may be used in this twisting operation. This example is being given, merely to indicate one use of my new device, but obviously it is not limited to a use with wet-spun artificial filaments, and may be used in any yarn or thread twisting operation.

Usually, although not necessarily, I have found it expedient to employ my present gripping means in conjunction with my novel means for gripping a twisting cap to a spool, as described in my copending application, Serial Number 560,420, filed August 31, 1931, Patent No. 1,870,202, issued August 2, 1932.

As set forth in the drawing, a spindle 1 is associated with a spool 2 by means of a gripping action exerted through a base or spool flange 3. In the event that any corrosive substances might be adhering to the filaments, it may be advisable to make this flange 3 of bakelite. This flange portion 3 is provided with a groove-like opening 4 in its outer periphery, forming and defining two projecting surfaces 5 and 6. As can be seen from the drawing, the portion 6 extends outwardly further than 5, and forms a supporting base for the lower end of the spool 2.

Because the spools used are sometimes lacquered, and must be protected from damage, a rubber or elastic seat portion 7 has been provided. As is shown by Figure 3, the seat 7 is provided at spaced intervals around the base portion 6. Although four seats are disclosed for purposes of illustration, I do not wish my invention to be limited to this particular number. Integral with, and at right angles to, the seat portion 7 is a ring or gasket 8. As is indicated in Figure 2, this gasket portion 8 extends throughout the space 4 between the two projections 5 and 6.

A cap, for example, such as that shown at 9 in Figure 1, may be used in order to grip the spool 2 at the top. Such a cap is set forth specifically in my copending application Serial Number 560,420, mentioned above. This type of cap comprises a base section 9 with an upwardly and outwardly extending flange 10 adapted to grip the top of a spool 2. An elastic means 11 is provided, gripping a central lug portion 12 of the spindle. By the centrifugal force applied while the spindle is in motion, the means 11 is forced outwardly through the slots 13 and grips the spool 2. It is thus seen that the cap 9 grips the spool 2, and does not positively grip the spindle 1. It has been found that such an arrangement, alone, acts to secure the spool from displacement during the twisting operation, due, possibly, to the addition of the weight of the cap 9 to the weight of the spool 2. All these details, however, are covered in my copending application Serial Number 560,420, and are mentioned here only to show how my present gripping means may cooperate with a cap positively gripped to a spool, in order to provide additional assurance that no loosening of the spool from the flange 3 will occur.

In operation, the spool 2 is set upon the spacing and spaced seats 6, and a cap, such as that shown, for example, set in place. When the spindle begins to revolve, the rubber gasket portion 8, described above, is extended outwardly, as indicated by the dotted lines in Figure 2, and positively grips the bottom of the spool to the flange.

My new gripping gasket means 8 may be used in conjunction with any base, but is shown here, in its preferred form, cooperating with a base locked to the spool, rather than the spindle.

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

1. In a device of the type set forth, in combination, a flange portion grooved at its periphery, spaced radial openings in said groove, a resilient means in the groove, spaced seat portions formed integral with said resilient means

and extending through said radial openings, said seat portions adapted under the influence of centrifugal force, to grip a spool, said seat portion also acting as a seat for the bottom of the spool.

5 2. In combination, a spindle and base together with a spool to be held thereon, said base being provided with a radially grooved edge providing two outstanding shelf-like portions, a resilient ring adapted to lie within the said groove, said
10 ring possessing extending portions adapted to act as a seat for the spool, the said ring being adapted to press outwardly and grip the spool under the action of centrifugal force when the
15 said spool is rotating.

3. A combined seat and gripping means for use with a spool adapted to rotate on a spindle, comprising, in combination, an elastic ring, a groove within which the said ring may move, a series of extensions on said ring presenting seat-
80 ing faces upon which the spool is adapted to rest, said seats being provided with upstanding faces parallel to and outward from the said ring, which
85 faces are adapted to grip the spool, due to outward motion under the action of centrifugal force, when the said spool is rotating.

RICHARD GOLLONG.

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