June 24, 1930. F. G. KRAFT 1,767,217

CLIP FOR BUCKET COVERS

Filed May 24, 1928

Fig. 1.

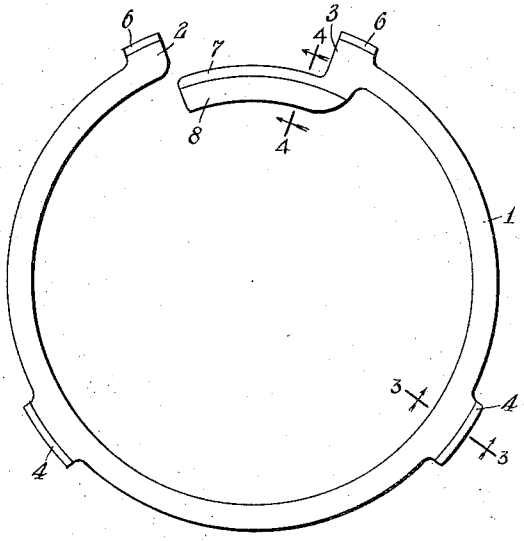


Fig. 4.



Fig. 3.

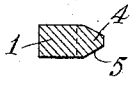
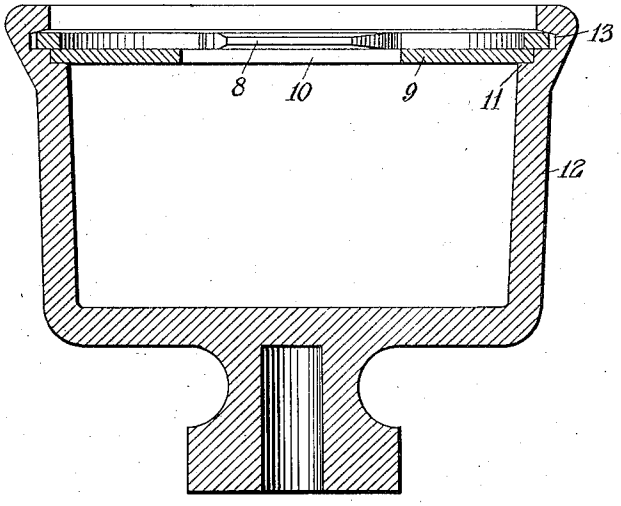


Fig. 2.



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UNITED STATES PATENT OFFICE

FRED G. KRAFT, OF BUFFALO, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO DU PONT RAYON COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

CLIP FOR BUCKET COVERS

Application filed May 24, 1928. Serial No. 280,372.

This invention relates to a device for locking a cover upon a rotating receptacle and more particularly to the locking of a cover on a pot or bucket used in the spinning of rayon.

In the pot or bucket method of spinning rayon the filaments, after they are drawn from the coagulating bath, are carried around a roller and thence down into a revolving pot. The revolving pot rotates at a very high speed, whereby the filaments are twisted to form threads. In passing from the roller to the pot the filaments pass through an aperture in a cover on the pot.

Prior to this invention the cover was locked into position by means of spring metal clips. Any metal from which the clip may be made and which would retain its spring action is subject to corrosion from the various acids and solutions to which it will be subjected. Furthermore, the spring metal clips woud not stay in balance which is so essential in spinning rayon by bucket or pot machines.

I have found that I can effectively lock the cover of the bucket by forming a balanced clip or locking device from a material which is yielding and resistant to the various acids and solutions with which it will contact.

It is, therefore, an object of this invention to provide a balanced cover locking device, which will effectively maintain the cover in locked position and which will not be affected by the various acids or solutions with which it will contact.

Further objects will appear from the following description, appended claims and the accompanying drawing, in which

Figure 1 is a top plan view of the device constituting my invention.

Figure 2 is a vertical sectional view illustrating the locking member in position on a pot or bucket.

Figure 3 is a cross sectional view taken on lines 3—3 of Figure 1, and

Figure 4 is a sectional view taken on lines 4—4 of Figure 1.

Referring to the drawings wherein like reference numerals designate like parts, the reference numeral 1 designates a ring member. This ring member is made circular in form and noncontinuous whereby the ends 2 and 3 thereof are spaced from each other. By this construction the ring member 1 is made yielding and resilient and capable of being reduced in size. Disposed at various points on the outer periphery of the ring member 1 are outwardly extending lugs 4 having beveled edges 5 for reasons which will become apparent from the following description.

Adjacent the ends 2 and 3 of the spring member 1 there are also provided outwardly extending lugs 6 similar to lugs 4. It is obvious that the ring may be provided with any number of lugs. I have obtained satisfactory results by providing four lugs as illustrated in Figure 1, but I do not intend to limit myself to this exact number.

Since the pot rotates at a very high speed it is essential that the pot be perfectly balanced. Accordingly, it is essential that this locking member or device be perfectly balanced. To attain this result there is integrally attached or formed to end 3 of the spring member 1 a curved member 7 whose radius is smaller than that of the ring member. Member 7 is so disposed that it bridges the space between the ends 2 and 3 of the body member 1 and permits end 2 to travel thereover, when pressure is exerted, to form a smaller ring. In the drawings the inner edge 8 is shown as beveled. This is not essential and may be omitted if desired. It is, however, obvious that various other means may be used to accomplish this balancing result. The member 7 also functions as a finger member whereby the device may be gripped during the insertion and removal from the pot.

In operation the cover 9 having a central aperture 10 is mounted on a shoulder or seat 11 of the pot or bucket 12. The locking device is then reduced in size by forcing end 2 to travel over member 7 and inserted in position in the annular groove 13 disposed above the seat or shoulder 11 of the pot 12. In position the ring member expands to its normal size and engages the

cover 9. Upon rotation of the pot the centrifugal force causes the ring member to expand whereby the outwardly extending lugs are tightly wedged in the groove. The bevel 5 at the edges of the lugs 4 and 6 makes better contact with the bottom side of the groove than does the usual rounded edges. This results in a more positive downward pressure against the top of the cover thereby preventing any movement of the cover against the seat upon which it rests.

The locking device may be made of any material which is yielding, resilient and resistant to the acids and solutions employed in the manufacture of rayon. The locking member may be made by moulding a condensation product such as "bakelite" composition containing a fibrous filling material. I have obtained satisfactory results by making a laminated structure comprising alternate layers of fabric or other fibrous materials and bakelite moulded together.

Since various modifications and changes may be made without departing from the nature of the invention, I do not intend to limit myself to the exact and specific details above described, except as set forth in the following claims.

I claim:

1. A device to lock a cover on a spinning bucket comprising a circular noncontinuous ring member normally having its ends spaced apart, a plurality of lugs extending outwardly therefrom and means adjacent the spaced ends to balance said ring.

2. A device to lock a cover on a spinning bucket comprising a circular noncontinuous ring member normally having its ends spaced apart, a plurality of lugs extending outwardly therefrom and means adjacent the spaced ends to balance and provide a finger portion for said ring.

3. A device to lock a cover on a spinning bucket comprising a circular noncontinuous ring member having its ends spaced apart, a plurality of lugs extending outwardly from said ring member, a curved member bridging the space between said spaced ends whereby one end may travel thereon and providing a balancing and finger means.

4. In combination, a spinning bucket, a cover with a central aperture therein mounted on a seat in said bucket, a cover locking device positioned in an annular groove in said bucket above said seat, said locking device comprising a noncontinuous circular balanced ring member having a plurality of outwardly extending lugs provided with beveled edges, whereby upon rotation of said bucket the lugs will become wedged in said groove and exert a downward pressure on the top of the cover and prevent any movement thereof.

5. In combination, a spinning bucket, a cover having a central aperture therein mounted on a seat in said bucket, a cover locking device positioned in an annular groove in said bucket above said seat, said locking member comprising a noncontinuous circular member having its ends spaced apart, a plurality of beveled edged lugs extending outwardly from said ring member and in said groove, a member bridging the space between said ends providing a balancing and finger means, said locking device becoming wedged in said groove upon rotation of said bucket whereby a pressure is exerted on said cover and movement thereof prevented.

6. A device to lock a cover on a spinning bucket comprising a circular noncontinuous ring member normally having its ends spaced apart, a plurality of lugs extending outwardly therefrom and means adjacent the spaced ends to balance and provide a finger portion for said ring, said device being made from a bakelite composition.

7. In combination, a spinning bucket, a cover with a central aperture therein mounted on a seat in said bucket, a cover locking device made from a bakelite composition positioned in an annular groove in said bucket above said seat, said locking device comprising a noncontinuous circular balanced ring member having a plurality of outwardly extending lugs provided with beveled edges whereby upon rotation of said bucket the lugs will become wedged in said groove and exert a downward pressure on the top of the bucket and prevent any movement thereof.

In testimony whereof, I have affixed my signature to this specification.

FRED G. KRAFT.