

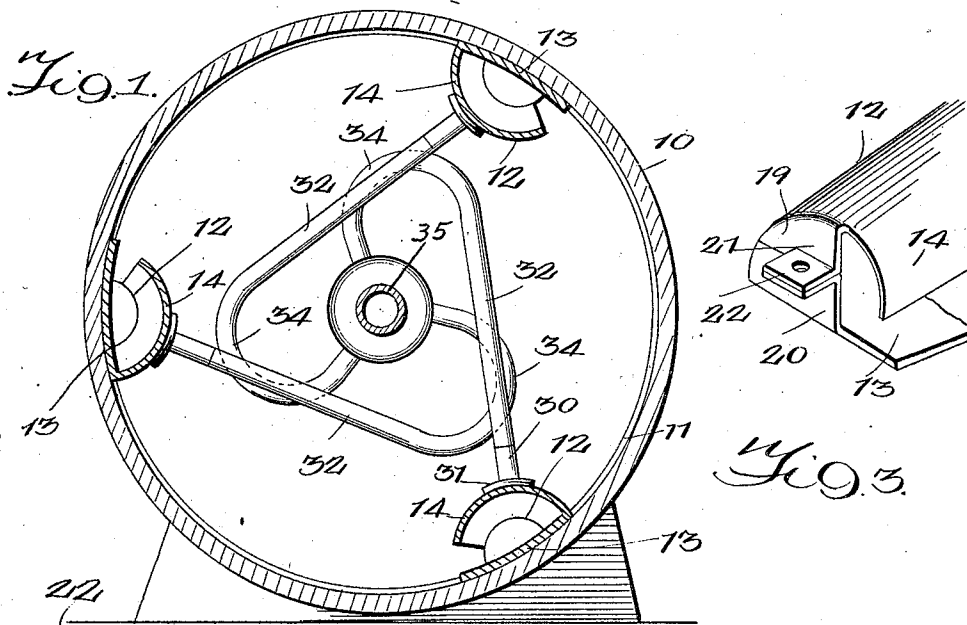
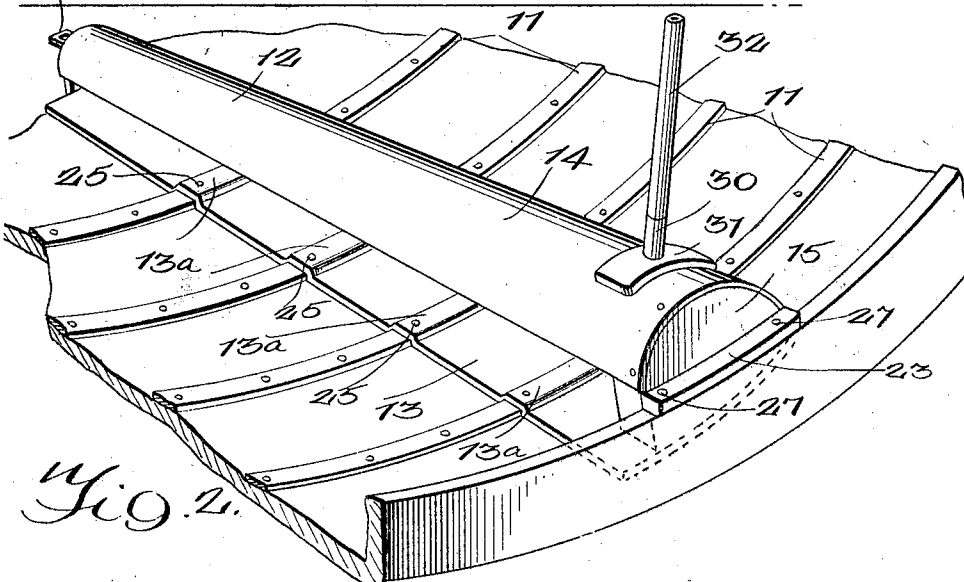
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E. L. GLADIN

SLASHER CYLINDER

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WITNESSES
George C. Meyer
W. F. Buckley

INVENTOR
 E. L. GLADIN,

BY *Mum Co.*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

EUGENE L. GLADIN, OF MANCHESTER, GEORGIA.

SLASHER CYLINDER.

Application filed April 18, 1922. Serial No. 554,839.

To all whom it may concern:

Be it known that I, EUGENE L. GLADIN, a citizen of the United States, and a resident of Manchester, in the county of Meriwether and State of Georgia, have invented certain new and useful Improvements in Slasher Cylinders, of which the following is a specification.

This invention relates in general to slasher cylinders utilized in textile mills for drying yarn to which a size or finishing has been applied and more particularly the present invention relates to an improvement of this character wherein means is provided for carrying off the water accumulated within the slasher cylinders by reason of the condensation of the steam contained therein.

The object of the invention is to provide an improvement of this character in which the water of condensation is efficiently carried off while at the same time the operation and durability of the slasher cylinders are not impaired, the present invention and the slasher cylinders being so organized and the present invention being so constructed as to strengthen and brace the slasher cylinders rather than weaken or otherwise impair the same.

Another object is to provide a device of this character wherein the use of solder or the like is obviated, the invention being adapted to make use of rivets, bolts, screws, nuts or other positive fastening means.

Another object is to provide an apparatus of this character which is of extremely simple and durable construction, reliable and efficient in operation, and easy and inexpensive to manufacture and install.

Other objects and advantages of the invention reside in certain novel features of construction, combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming part of this specification, and in which:

Figure 1 is a view in transverse section, illustrating a slasher cylinder embodying the present invention;

Figure 2 is a fragmentary perspective view, illustrating one of the buckets or scoops applied to the slasher cylinder.

Figure 3 is a fragmentary perspective

view, illustrating the small end of a bucket or scoop; and

Figure 4 is a view, in transverse section, illustrating the construction of the large end of a bucket or scoop.

Referring to the drawings wherein for the sake of illustration is shown the preferred embodiment of the invention, the numeral 10 designates a slasher cylinder which is of conventional construction and as usual comprises a cylinder of relatively thin copper braced and strengthened by means of a plurality, preferably four, annular ribs or bands 11 arranged within the cylinder and secured thereto. As is well known the slasher cylinders are rotated and the interior thereof is supplied with live steam under pressure. The yarn after the sizing or finishing has been applied thereto is immediately run over the slasher cylinders which being heated by the steam therein serve to dry the yarn thereby completing the sizing or finishing operation. As the heat from the steam is thus utilized the steam of course condenses and it becomes necessary to remove the water of condensation from the interior of the cylinder.

For this purpose the present invention provides a number of buckets or scoops, preferably three, which are designated at 12. The buckets 12 are arranged within the cylinder 10 in the manner shown in Figure 1, and as these buckets are of identical construction, a common description will serve for all. Each includes a combined hanger and scoop plate 13 having integrally formed therewith a trough 14 both the hanger plate and the trough being preferably constructed of a single piece of copper. The hanger plate and the trough taper from one end to the other, as shown in Figure 2 and the trough tapers not only laterally but also vertically that is it is deeper at one end than at the other so that the water collected by the bucket will drain to one end thereof for a purpose which will be hereinafter more fully described. The large end of the bucket is closed by an end plate 15 welded or otherwise secured to the hanger plate of the trough. This end plate, however, does not take the strain but serves merely to close the large end of the trough. The strain imposed upon this end of the

trough is taken by a frame 16 arranged within the bucket and secured by means of screws 17 and rivets 18 to the trough and to the hanger plate, respectively. The small end of the trough is also closed by an end plate, designated generally at 19, and this end plate is preferably made up of two sections which are formed integral with the hanger plate and the trough and are designated at 20 and 21, respectively. These sections are united and extend from the end and are secured to each other to form an attaching lug 22, the attaching lug being apertured, as shown. An attaching bar 23 is carried by the end plate 15 and is also apertured, as shown.

When assembled with the cylinder the bucket has its combined scoop and hanger plate 13 disposed flush with the inner wall of the cylinder and the hanger plate has pressed therein a number of grooves 13^a in order to accommodate the ribs or bands 11. Rivets, screws or similar fastening means, designated at 25, are utilized to secure the hanger plate to the cylinder and preferably these fastening means are also utilized to secure the bands in position, as shown in Figure 2. The bucket is further secured in position by fastening means 27 which coact with the lug 22 and the bar 23, respectively. It is understood of course that the fastening means 27 not only engage the lug 22 and bar 23 but also the reinforcing ribs of the heads or ends of the cylinder with which the lugs and bar coact.

The reinforcing ribs are shown for the sake of simplicity in illustration as integral with the body of the cylinder but it is to be understood that they may comprise annular angle irons secured to the body of the cylinder. The heads of the cylinders are of course secured to the reinforcing ribs.

The deep end of each trough of each bucket is provided with an outlet nipple 30 coupled with its trough by a connection 31. The outlet nipples 30 of the various buckets communicate with pipes 32 all of which lead to the hollow axle 35 of the slasher cylinder which extends exteriorly of the cylinder. Each of the pipes 32 is formed with a return band 34 adjacent the connection of the pipe to the hollow axle so that the pipe delivers its water into the hollow axle on the side thereof opposite to the trough from which the pipe leads, thereby preventing back-flow of water from the axle to the troughs.

As fast as the water of condensation accumulates in the slasher cylinder it is taken therefrom by the improved buckets constituting the present invention for as the slasher cylinder rotates the combined scoop and hanger plates 13 of the buckets will pick up the water of condensation and deliver such water to the troughs of the

buckets. The troughs being tapered and deeper at one end than at the other deliver the water of condensation to the outlet nipples 30 from whence it flows through the pipes 32 into the hollow axle 35 and from the hollow axle the water is carried off in any approved manner. The present invention thus obviates the use of solder which under the action of live steam will break down and tends to impair the efficiency of the slasher cylinder. Further than this it strengthens and braces rather than weakens the organization and is of itself of simple and durable yet reliable construction.

I claim:

1. In combination with a slasher cylinder having a hollow axle, a plurality of buckets arranged within the cylinder and each including a combined hanger and scoop plate, and a trough, and means for conducting the water from said buckets to said hollow axle including a nipple carried by each of the troughs, and pipes between said nipples and the hollow axle.
2. A bucket for use with slasher cylinders including a combined hanger and scoop plate and a trough, said hanger and scoop plate being formed of a single piece of sheet metal and tapered toward one end.
3. In a bucket for use with slasher cylinders, a combined hanger and scoop plate adapted to be disposed flush against the inner periphery of the slasher cylinder, rivets for securing said combined hanger and scoop plate to the slasher cylinder, a trough integrally formed with the combined hanger and scoop plate, end plates closing the ends of said trough, and attaching means carried by the end plates and cooperable with the slasher cylinder.
4. In a bucket for use with slasher cylinders, a combined hanger and scoop plate adapted to be disposed flush against the inner periphery of the slasher cylinder, rivets for securing said combined hanger and scoop plate to the slasher cylinder, a trough integrally formed with the combined hanger and scoop plate, end plates closing the ends of said trough, and attaching means carried by the end plates and cooperable with the slasher cylinder, said attaching means including a lug carried by one of said end plates, and a bar carried by the other of said end plates.
5. In combination with a slasher cylinder having reinforcing bands in its inner periphery, the ends being provided with reinforcing ribs and a hollow axle, a plurality of buckets arranged within said slasher cylinder, and each comprising a combined hanger and scoop plate disposed flush against the inner periphery of the slasher cylinder and having grooves therein accommodating bands of the slasher cylinder, rivets coacting with the hanger plates for securing the

buckets in position, a trough integrally formed with each hanger plate, said hanger plate and said trough tapering toward one end and the trough being deeper at the large end, end plates closing the end of said trough, an apertured lug carried by one of said end plates and coacting with the reinforcing rib at the adjacent end of the cylinder, a bar carried by the other end plate and coacting with the rib of the adjacent end of the cylinder, an outlet nipple having connection with the large end of the trough, a pipe connecting the outlet nipple with the hollow axle. 10

EUGENE L. GLADIN.