May 29, 1928. 1,671,522

F. L. FURBUSH

SECTIONAL METAL SQUEEZE ROLL

Filed Sept. 23, 1927

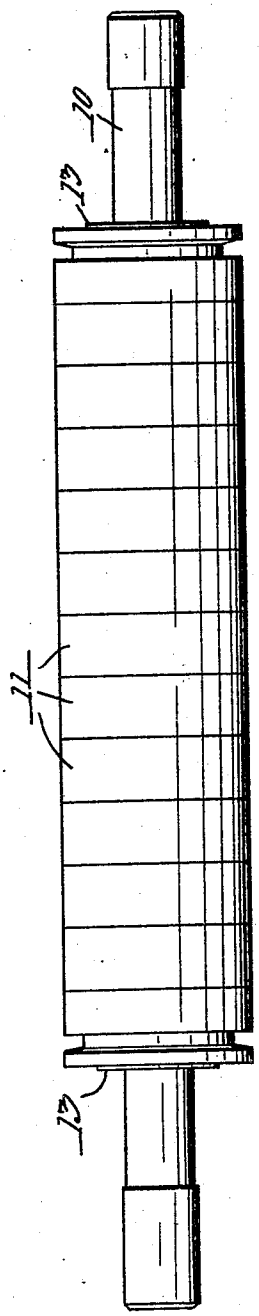


Fig. 1.

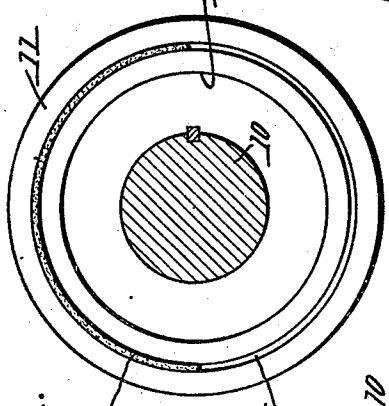


Fig. 3.

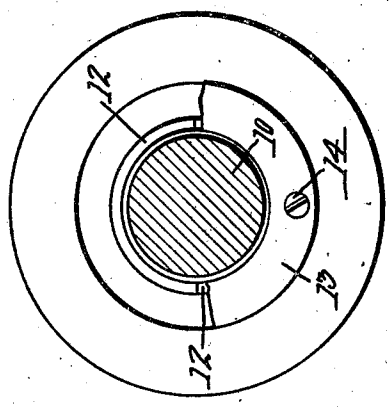


Fig. 4.

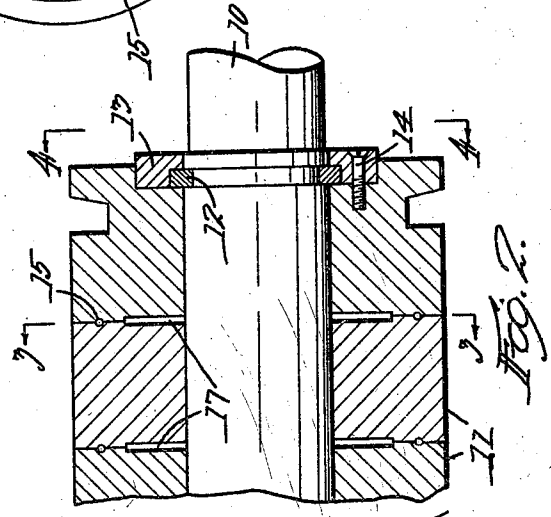


Fig. 2.

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Patented May 29, 1928. 1,671,522

UNITED STATES PATENT OFFICE.

FRANK L. FURBUSH, OF WESTFORD, MASSACHUSETTS, ASSIGNOR TO C. G. SARGENT'S SONS CORPORATION, OF GRANITEVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SECTIONAL METAL SQUEEZE ROLL.

Application filed September 23, 1927. Serial No. 221,586.

This invention relates to a squeeze roll for a washing machine for textile plants.

The principal objects of the invention are to provide a roll which can be taken to pieces in case of injury to the journals and a new shaft inserted and used with the old roll or certain parts of it; to provide a construction in which if there is a fault in the body of the cast metal roll only this part of it need be lost, and to provide means whereby the roll can be made up of sections and these sections secured to the shaft in a simple and convenient manner and the entrance of the liquor to the shaft from the outside of the roll will be prevented. Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a side view of a squeeze roll for a textile washing machine constructed in accordance with this invention;

Fig. 2 is a central longitudinal sectional view of one end of the same on enlarged scale;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2; and

Fig. 4 is a sectional view on the line 4—4 of Fig. 2 showing the roll in end elevation.

Certain types of washing machines used in the preparation of cloth for sale have been made solid, either of cast iron or steel, and some have been made with a wrought iron shaft with a body of iron cast to it. In these types of rolls the journals frequently break and then they are beyond repair. The entire roll and shaft or journal have to be replaced by new ones. Also if a blow hole or cold shot occurs in the body of the solid roll the entire roll will be a loss, except for scrap.

In order to avoid these difficulties and permit a new shaft to be put in or new parts of the roll to be substituted, without discarding the entire roll, I form my roll on a shaft 10 of a series of discs 11. These discs or rings are made of cast iron or steel and keyed to the wrought iron shaft.

Each end ring is held in place by a small ring 12 made in halves which fit into a groove around the shaft. A larger ring 13 is fitted over them and projects into an annular recess in the end of the end ring in which it is secured by screws 14 or the like. This construction is employed at each end and securely holds the discs or rings 11 in place and also prevents the liquor from getting in along the shaft past the ring 12.

The discs 11 are all provided with a circular groove 15 cut in the face thereof, and a gasket 16 of lead or fiber is placed in this groove and extends all the way around. This prevents the liquor from getting into the shaft and destroying the ring fit on the shaft. Of course, the rings 11 are pressed together firmly before the rings 12 and 13 are applied at the end. In this way the gasket 16 in each space adequately fills it and prevents passage of liquor therethrough. Furthermore, the rings 11 are cut away at 17 so that they will have their bearing surfaces near the circumference and the gaskets 16 are located midway between the inner and outer circumferences of the bearing part where they receive a maximum pressure.

In this type of roll damages can be easily repaired. If the journals should break, the rings can all be taken off and a new shaft furnished, using the old rings or discs. If there is any defect in one of the rings or discs this one can be removed and replaced by a duplicate without discarding or throwing away any other part of the roll. This constitutes an improvement on account of the economy involved in its use.

Although I have illustrated and described only one form of the invention I am aware of the fact that changes can be made therein without departing from the scope of the invention as expressed in the claim. Therefore, I do not wish to be limited to the exact form shown, but what I do claim is:—

As an article of manufacture, a squeeze roll comprising a central shaft, a series of separate metal discs mounted thereon, each disk being cut away at its surface adjacent to the next one for a distance from the shaft, and each two adjacent discs fitting each other for a distance inside the circumference to form a bearing surface, each disc having a circular groove midway between the inner and outer edges of said bearing surface, and a soft gasket filling said groove all around for the purpose described.

In testimony whereof I have hereunto affixed my signature.

FRANK L. FURBUSH.