May 27, 1930. E. B. MORRIS 1,760,370

OUTER COVERING FOR THE MOISTENING AND INKING FORM ROLLERS OF LITHOGRAPHIC OFFSET PRINTING MACHINES

Filed Aug. 24, 1928

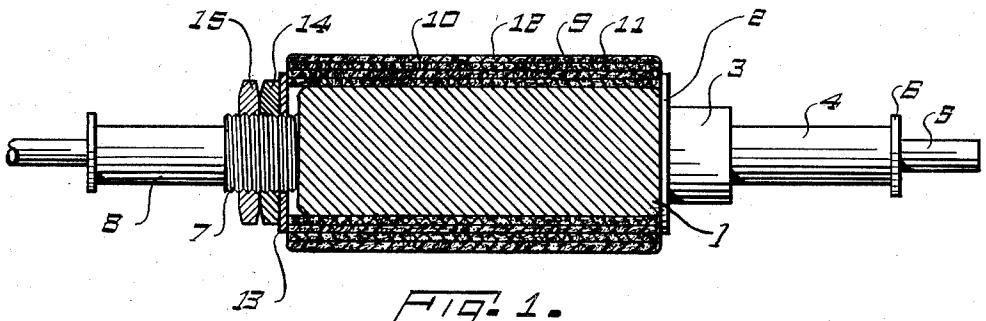


Fig. 1.

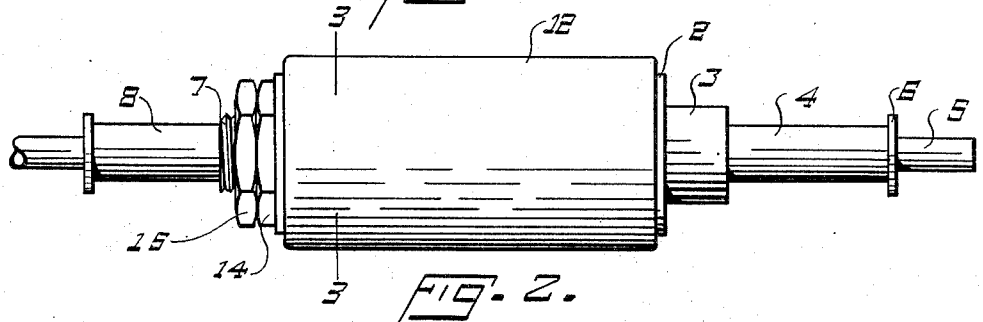


Fig. 2.

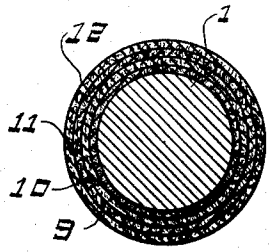


Fig. 3.

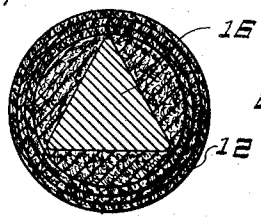


Fig. 4.

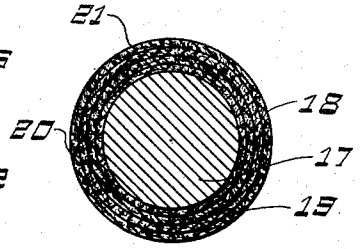


Fig. 5.

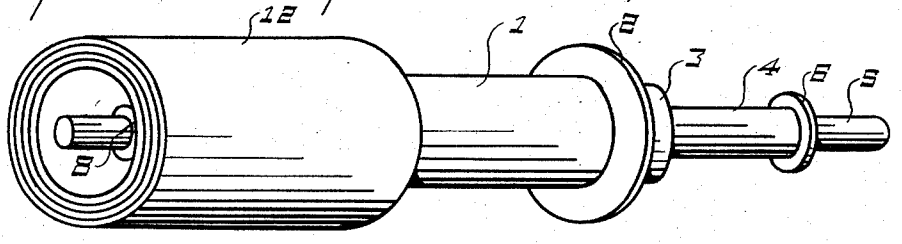


Fig. 6.

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Patented May 27, 1930

1,760,370

UNITED STATES PATENT OFFICE

EDWIN B. MORRIS, OF CLAYTON, MISSOURI

OUTER COVERING FOR THE MOISTENING AND INKING FORM ROLLERS OF LITHOGRAPHIC-OFFSET-PRINTING MACHINES

Application filed August 24, 1928. Serial No. 301,836.

This invention relates to new and useful improvements in the outer coverings for the moistening and inking form rollers of lithographic offset printing machines.

It is the principal object of my invention to provide for such rollers, a cylinder covering which may be easily slipped on, and removed from, the rollers in a very short time.

At present it requires a long period, and to be more definite, approximately three hours, to renew the soiled coverings of the dampening rollers of a lithographic offset printing machine. These coverings, soiled by ink and the moistening fluid, can be renewed only by scraping them off the rollers with a knife and sewing the new ones on. This is a long and tedious process, which my invention is designed to obviate by providing a cylinder covering which may be slipped off a dampening roller shaft and replaced by a new one in a few minutes.

It is another object of my invention to provide such an outer covering that is constructed of layers of suitable fabric applied to an inner paper or fiber tube treated with a moisture-proof liquid, which is adapted to be easily slipped on and off the roller shaft.

Other important and incidental objects will be brought out in the following specification and particularly set forth in the subjoined claims.

In the accompanying drawings illustrating the different forms of embodiment of my invention, Figure 1 is a longitudinal sectional view taken through the moistening roller of a lithographic offset printing machine, showing my improved outer covering locked in place on the roller shaft. Figure 2 is a side elevational view thereof, showing said covering on the shaft. Figure 3 is a cross sectional view taken through the same on the line 3—3 of Figure 2. Figure 4 is a cross sectional view taken through a triangular member to which my outer covering has been applied.

Figure 5 of the drawings is a cross sectional view taken through the inking form roller shaft of a lithographic offset printing machine, and a covering therefor comprising an inner paper tube treated with a moisture-proof liquid, two intermediate layers of flannel and an outer cylindrical tube of rubber. And Figure 6 is a perspective view of a roller shaft, showing one of my outer coverings being slipped thereon.

Referring to the accompanying drawings for a detailed description of my invention, the numeral 1 in Figures 1, 3 and 6 designates a moistening roller shaft for a lithographic-printing plate (not shown). This shaft is made of suitable metal and is formed at one end with a flange 2. Beyond this flange the shaft terminates in a stepped extension comprising portions 3, 4 and 5 of successively reduced diameters, and has a flange 6 between its portions 4 and 5.

At its outer end the shaft 1 is formed with a threaded extension 7 of reduced diameter, and from which there axially projects a stepped extension 8. (See Figures 1, 2 and 6.)

The shaft 1, as is well known in the art, is adapted to receive an outer covering for the purpose of moistening the form plate of a lithographic offset printing machine. This covering distributes over the plate a liquid which is repulsive to grease or ink, and it is the object of my invention to provide such a covering which not only spreads this liquid evenly and equally over the plate, but which can be slipped on and off the shaft in a few minutes as against the time measured in hours which is now required to scrape from the dampening roller shafts of such machines the coverings which are sewed onto them.

My roller shaft covering is preferably made in a plurality of layers. In Figure 3 the inner layer comprises a paper or fiber tube 9 which has been treated with a moisture-proof liquid. Such a tube may be easily slipped on

the shaft 1, and may be as easily removed therefrom for renewal.

Preferably secured by stitching to the inner tube 9 in Figure 3 is a layer 10 of thin wool, around which there is stitched a layer 11 of heavy wool. Stitched to the heavy wool layer 11 is an outer covering 12 of cotton fabric such as molleton which forms a suitable absorbent for the moistening fluid and which it subsequently applies evenly and equally to the form plate. This entire roller shaft cover, from the inner paper tube 9 to the outer cotton fabric cylinder 12, forms an economical and efficient unit which may be easily slipped on the shaft and which, when soiled, may be as readily removed therefrom without the laborious operation of scraping it off.

After the outer covering is slipped on the shaft 1 against the flange 2, a washer 13 is pressed against it by a retaining nut 14 screwed on the threaded portion 7 of the shaft, after which a lock nut 15 is screwed on the same against the retaining nut. To remove the covering 12 after it has become soiled, it is only necessary to take off the washer 13 and the nuts 14 and 15, whereupon the roller shaft covering may be slipped off with ease and thrown into a refuse can.

In Figure 4 I have shown a roller shaft 16 which is triangular in cross section and to which the outer covering just described has been applied. My outer covering is not only adapted for use with a circular shaft, but may be conveniently and quickly applied to a member of any other contour in cross section.

In Figure 5 I have shown a cylinder covering for the inking form roller shaft 17 of a lithographic offset printing machine. This covering comprises an inner paper or fiber tube 18, two surrounding layers 19 and 20 of flannel and an outer cylindrical tube 21 of rubber slipped over the outer flannel layer 20.

Having described my invention, I claim:

1. A covering for the moistening roller shafts of lithographic offset printing machines, comprising an inner tube treated with a moisture proof liquid free to be axially slipped on each shaft, and absorbent material secured around said tube.

2. A covering for the moistening roller shafts of a lithographic offset printing machines, comprising an inner paper tube treated with a moisture proof liquid and free to be axially slipped upon each shaft, and layers of absorbent material secured around said tube.

3. A covering for the moistening roller shafts of a lithographic offset printing machine comprising an inner tube free to be slipped upon each shaft, a layer of thin wool secured around said tube, a layer of heavy wool secured around the thin wool layer, and a cotton fabric layer secured around the heavy wool.

4. A covering for the moistening roller shafts of lithographic offset printing machines, comprising an inner tube of paper or fiber, a layer of thin wool secured around said tube, a layer of heavy wool secured around the layer of thin wool, and an outer layer of molleton stitched around the inner tube.

In witness whereof I have hereunto set my hand this 22nd day of August, 1928.

EDWIN B. MORRIS.