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INK FOUNTAIN

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8 Claims. (Cl. 101—364)

This invention relates to improvements in ink fountains for printing presses, and has reference particularly to means of mounting the fountain roll in the fountain body.

One of the objects of the invention is the provision of a roll mounting of simplified construction and low cost.

Another object is the provision of a roll mounting wherein the tolerances need not be so close as formerly was necessary.

Another object is the provision of a roll mounting wherein metals of different thermal coefficients of expansion may be employed for the roll and fountain body without the sealing of the bearing joints being adversely affected by temperature changes.

A further object is the provision of a roll mounting such that leakage of ink into and through the roll bearings is prevented by means contacting the bearing surfaces.

Still another object is the provision of a roll mounting such that the roll may be readily removed or replaced.

Other objects and features of novelty will appear as I proceed with the description of that embodiment of the invention which, for the purposes of the present application, I have illustrated in the accompanying drawing, in which

Fig. 1 is a plan view partly in horizontal section of an ink fountain embodying the invention.

Figs. 2 and 3 are cross sectional views taken substantially on the lines 2—2 and 3—3 respectively of Fig. 1.

In the drawing 10 and 11 represent side members of a printing press frame. Two aligned arms 13 are attached to these frame members by means of machine screws 12 or the like. These arms constitute supporting means for an ink fountain body member 14 with which they are preferably made integral.

At opposite ends of the body member 14 there are fountain side walls 15, and these walls have aligned bores 16 constituting plain bearings in which are mounted the fountain roll 17, the bearings having an internal diameter such as to rotatably support the roll. In the present embodiment the parts 13, 14 and 15 are built of aluminum or aluminum alloy for the sake of light weight, and the roll 17 is of steel. Consequently the fit of the roll within its bearings will vary somewhat with changes of temperature.

Roll 17 has extensions 18 and 19 of reduced diameter. To the extension 18 there may be connected suitable means for revolving the roll a small increment at a time in the conventional

manner. The opposite extension 19 projects through a bore 20 in a laterally extending part 21 of the adjacent arm 13. Collars 22 are secured to extension 19 on either side of the projecting part 21, their function being to prevent axial movement of the roll 17.

The ink in the fountain, indicated at X, is carried upon a flexible blade 23 which may have a rigid backing 24 for a portion of its width, the backing being suitably secured to the body member 14. The position of the lower edge of the blade in relation to the surface of the roll may be regulated by means of a plurality of the usual adjusting screws 25. Thus, as the roll turns, a thin coating of ink is applied to the roll surface ready to be taken by the ductor roll of an inking mechanism not herein illustrated.

Heretofore it has been the usual practice to form shoulders on the ends of the fountain roll and to fit these shoulders accurately against the end walls of the fountain in order to prevent ink from seeping past the roll ends and into the journals, where it not only interferes with the rotation of the roll but also may seep out at a later time to contaminate ink of a different color. In accordance with the present invention, however, the seepage of ink into the bearings is prevented by means such as a grease seal incorporated in the cylindrical bearing surfaces. Preferably also the journals of the roll are of the same diameter as the roll itself thereby simplifying construction and permitting the use of materials of different thermal coefficients of expansion without affecting adversely the fit of the roll in the fountain body.

As illustrated the sealing means comprises a peripheral groove 26 cut in the journal portion of the roll and an expansion ring 27 preferably of a thickness to fit snugly but slidably between the walls of the groove. This ring may vary in its construction but, as shown, consists of a standard automobile piston ring. The ring presses against the bearing wall 16 and normally remains stationary as the roll rotates. As is apparent a labyrinth is formed by the ring and groove which effectively prevents seepage of the ink. The arrangement also permits radial and longitudinal expansion or contraction of the roll relative to the fountain body.

Other known types of grease seal may be employed in place of the expansion ring shown.

Instead of forming the groove in the journal as illustrated it may be formed in the bearing wall and the ring caused to bear against the roll.

