Oct. 16, 1934. G. V. CHANDLER 1,977,375

PRINTING PRESS ROLLER SOCKET

Filed May 7, 1931

Fig. 1

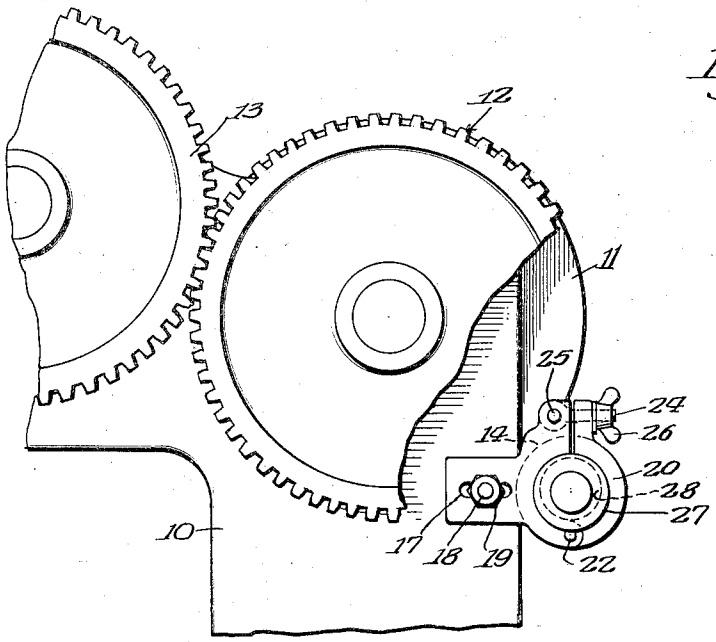


Fig. 2

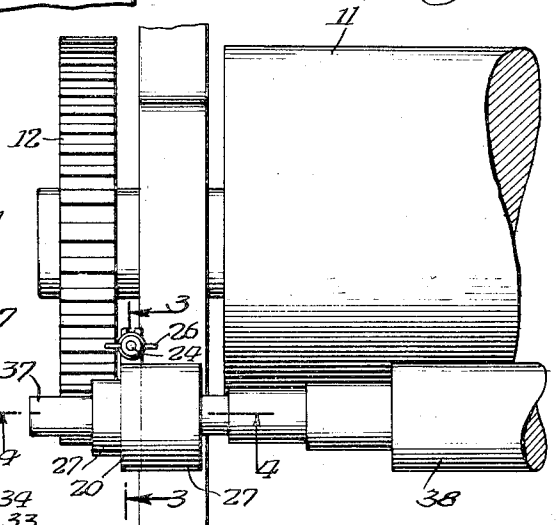


Fig. 3

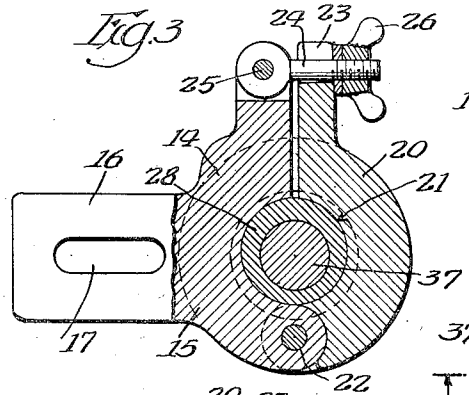
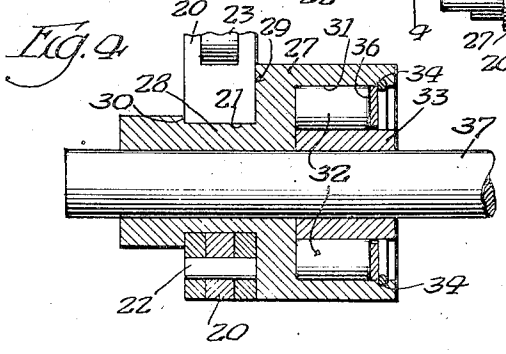


Fig. 4



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PRINTING PRESS ROLLER SOCKET

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2 Claims. (Cl. 101—349)

In printing presses the inking rollers are generally arranged in a fixed position with respect to the surfaces of the printing plate or type, and in the larger type of presses the rollers are very heavy and considerable friction is caused in the bearings thereof, with the result that considerable power is necessary to cause them to function properly. It is one of the objects of the present invention to provide improved roller bearing sockets in which the ends of the inking rollers are journaled, with the result that the speed of operation of the machine will be materially increased, requiring less power to operate the press and at the same time better printing will result.

It is well known that rollers of this character are constructed of a composition which, after being in use for some little time, will become soft and if allowed to remain against or in contact with the surface of the cylinder or printing surface, when the press is idle, will result in the formation of flat or irregular portions on the surface of the roller. It is another object of the present invention to provide improved means whereby the rollers may be adjusted out of contact with the printing surface when not in use, without taking the same out of the bearings, and for maintaining them in such a position to permit cooling of the rollers, as well as maintain the rollers in proper shape.

Furthermore with the present invention it is possible to quickly throw the roller back and away from the cylinder to permit of a ready cleaning of the same.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawing illustrating this invention, and in which

Figure 1 is a view of a portion of a printing press having a roller socket attached thereto constructed in accordance with the principles of this invention.

Figure 2 is a left hand end elevation of Figure 1.

Figure 3 is a detail sectional view with parts omitted and with parts broken away, and as taken on line 3—3, Figure 2.

Figure 4 is a detail sectional view taken on line 4—4, Figure 2, with parts omitted.

Referring more particularly to the drawing the numeral 10 designates generally the supporting structure of a printing press, 11 the printing cylinder and 12—13 operating gears therefor, all of the ordinary and well known construction. The numeral 14 designates one member of a supporting bearing or bracket provided with a semi-circular bearing 15, and this bracket 14 may be secured to any portion of the printing press for adjustment in different planes for positioning an inking roller journaled therein toward and away from the periphery of the cylinder by means of an arm 16 in which is provided a slot 17, and through which slot a fastening bolt 18 passes, a nut 19 being provided on the bolt for securing the bracket in position.

A co-operating member 20 having a semi-circular recess or seat 21 therein is pivotally connected as at 22 to the bearing member 14 and is provided with a bifurcated portion 23 in which a bolt 24 is adapted to be positioned, and which bolt is pivotally connected as at 25 to the member 14 and is provided on its free end with an adjustable thumb nut 26. The member 20 is adapted to be moved about its pivot 22 when the bolt 24 is disengaged therefrom, which latter may be accomplished by adjusting the thumb nut 26 on the bolt so as to allow the bolt to swing about the pivot 25 and out of the bifurcation 23.

The numeral 27 designates generally a bearing member having a reduced portion 28 shaped to form spaced shoulders 29—30. The bearing 27 is secured in position by means of the brackets so that the portions 28 will rest in the recesses 15—21 when the member 20 is closed with respect to the member 14 and so that the shoulders 29 and 30 will abut the lateral faces of the members 14 and 15 and thereby hold the socket 27 against displacement, one extremity beyond the reduced portion 28 extending beyond the outer face of the bracket 14 to serve as a hand grip by means of which the bearing member may be rotated in the bracket.

The bearing 27 is provided with a socket 31 opening through one face thereof and within this socket roller bearings 32 are arranged to encompass a sleeve portion 33. The roller bearings 32 are held against displacement with respect to the socket 31 in any suitable manner such as by means of a split spring ring 34 engaging in a recess 35 in the wall of the socket 31, and rests against a plate 36 which encompasses the sleeve 33 and forms a closure for the socket 31. This plate 36 forms a closure for the portion of the socket in which the rollers 32 are located and renders it possible to fill the socket with lubricating material.

The extremities of the axles or shafts 37 of the printing or inking rollers 38 are eccentrically

mounted in the bearing member 27 and are inserted into the sleeves 33 and project through the portions 28 of the bearing members 27 and the axles 37 frictionally fit within the sleeves 33, so that upon rotation of the axles the sleeves will also be rotated.

It will therefore be manifest that with this improved construction there is provided a roller bearing socket in which the ends or axles of the printing rollers are journaled and by reason of these roller bearings the friction between the printing rollers and the bearings will be materially reduced and less power will be required to operate the machine.

It has been found that by reason of the fact that these printing rollers 38 are constructed of a composition, they become very hot when the use thereof has been extended, and they become soft, with the result that when the press is idle, if the rollers are allowed to remain in contact with the cylinder or printing surface as and when they become cool, flat portions will be formed in the rollers or the surfaces thereof and they will become distorted. Therefore, in order to provide a means for maintaining and holding the rollers out of contact with the printing surfaces when the press is idle, and thereby avoid the necessity of lifting the rollers out of position, the axle of the rollers have been eccentrically mounted in the bearings 27. By loosening the thumb nuts 26 and rotating the bearings 27 in the brackets by means of the portion of the bearings which project beyond the brackets it will be manifest that owing to the eccentric mounting of the axle 37 the roller will be bodily moved away from the cylinder and may be maintained in such position to permit them to cool. When it is desired to again employ the rollers the bearings 27 are again rotated in the brackets to properly position the inking rollers with respect to the cylinder. Obviously this means may be utilized in order to obtain the desired pressure of the inking rollers upon the cylinders.

Furthermore the slot and bolt connection 17—18 between the bracket and the frame of the press will serve as a means for also varying the position of the inking rollers with respect to the cylinder, that is the bracket may be adjusted to cause the roller to move toward and away from the cylinder, or the bracket may be adjusted about the bolt 18 as a pivot.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:—

1. In combination, in a printing press, a printing cylinder, an inking roller, a supporting bracket for the roller, said bracket embodying two members hinged together to form a bearing seat, a bearing for the roller within said seat, a portion of the bearing being reduced to receive the bracket walls, one end of the bearing projecting beyond the bracket to form a hand grip for rotating the bearing in the bracket, the roller shaft being eccentrically mounted in said bearing, and means for clamping the bracket members together to frictionally bind said bearing against rotation in the bracket, said bearing being freely rotatable in said bracket when the clamping effect of the bracket members is released, to permit the roller to be quickly moved laterally away from the said cylinder.

2. In combination, in a printing press, a printing cylinder, an inking roller, a supporting bracket for the roller, said bracket embodying two members hinged together to form a bearing seat, a bearing for the roller within said seat, a portion of the bearing being reduced to receive the bracket walls, one end of the bearing projecting beyond the bracket to form a hand grip for rotating the bearing in the bracket, the roller shaft being eccentrically mounted in the bearing, means for clamping the bracket members together to frictionally bind said bearing against rotation in the bracket, said bearing being freely rotatable in said bracket when the clamping effect of the bracket members is released, to permit the roller to be quickly moved laterally away from the said cylinder, there being a slot in a portion of the bracket, and a bolt passing therethrough for securing the bracket in position, said bolt and slot serving to permit the roller to be bodily adjusted toward and away from the cylinder and also about said bolt as a pivot.

GEORGE V. CHANDLER.