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1,965,734

PRINTING PRESS ROLLER SOCKET

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Fig. 1.

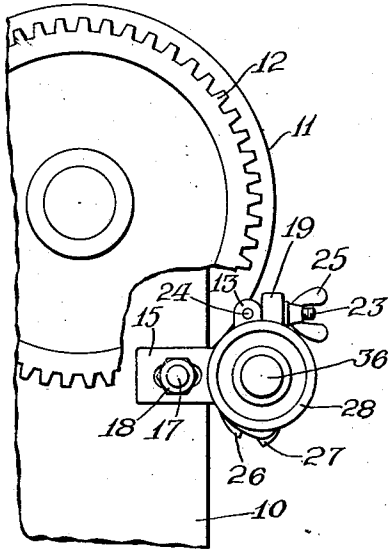


Fig. 2.

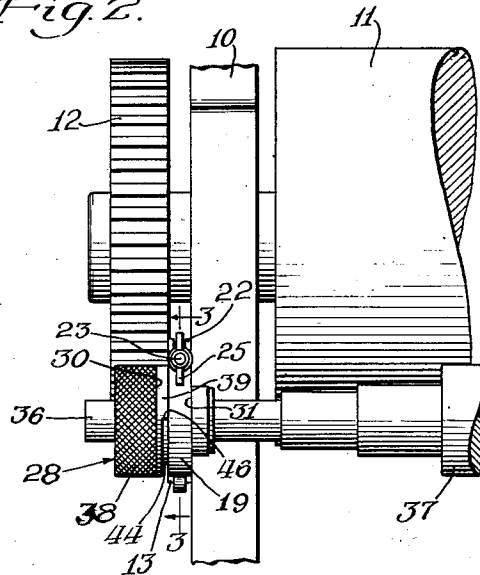


Fig. 3.

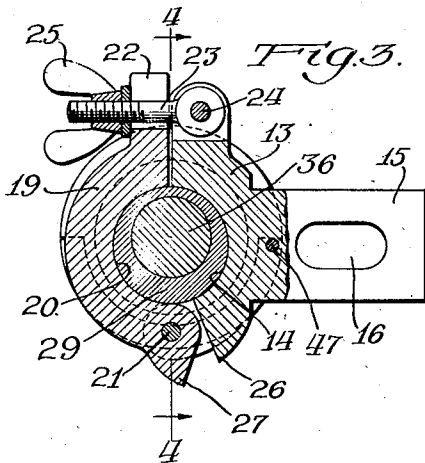


Fig. 4.

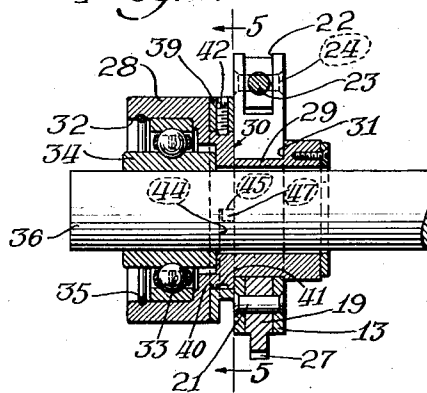
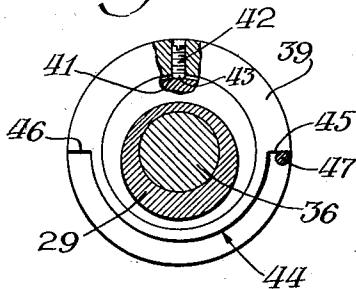


Fig. 5.



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PRINTING PRESS ROLLER SOCKET

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5 Claims. (Cl. 101—348)

It is well known that rollers of this character are constructed of composition which, after being in use for some 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 one of the objects 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 its bearings, and for maintaining them in such position to permit cooling of the rollers as well as maintain the roller in the proper shape.

A further object is to provide improved means whereby the roller may be quickly thrown back and away from the cylinder to permit ready cleaning.

A further object is to provide improved means adapted to be set and locked so that a proper positioning of the roller may be obtained and assured, rendering the same, so to speak, "fool-proof" and thereby prevent injury to any of the parts of the structure.

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 an end elevation of Figure 1.

Figure 3 is a detail sectional view taken on line 3—3, Figure 2.

Figure 4 is a detail sectional view taken on line 4—4, Figure 3.

Figure 5 is a detail sectional view, with parts broken away, taken on line 5—5, Figure 4.

Referring more particularly to the drawing, the numeral 10 designates generally the supporting structure of a printing press, 11 the printing cylinder and 12 one of the operating gears therefor, all of the ordinary and well known construction.

The numeral 13 designates one member of a supporting bearing or bracket provided with a semi-circular bearing or seat 14, and this bracket or member 13 may be secured in position to a 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 15 in which is provided a slot 16, and through which slot a fastening bolt 17 passes, a nut 18 being provided on the bolt for securing the bracket in position.

A co-operating member 19 having a semi-circular recess or seat 20 therein is pivotally connected as at 21 to the bearing member 13 and is provided with a bifurcated portion 22 in which a bolt 23 is adapted to be positioned, and which bolt is pivotally connected as at 24 to the member 13 and is provided on its free end with an adjustable thumb or wing nut 25.

The member 19 is adapted to be moved about its pivot 21 when the bolt 23 is disengaged therefrom, which latter may be accomplished by adjusting the thumb or wing nut 25 on the bolt so as to allow the bolt to swing about the pivot 24 and out of the bifurcation 22.

Stops 26—27 may be provided on the members 13 and 19 so as to limit the opening movement of the member 19 with respect to the member 13.

The numeral 28 designates generally a bearing having a reduced eccentric portion 29 shaped to form spaced shoulders 30—31. The bearing 28 is secured in position by means of the bracket so that the eccentric portion 29 will rest in the recesses 14—20 when the member 19 is closed with respect to the member 13 and so that the shoulders 30—31 will abut the lateral faces of the members 13—19 and thereby hold the bearing 28 against displacement.

The bearing 28 is provided with a socket 32 opening through one face thereof and within this socket roller or ball bearings 33 are arranged to encompass a sleeve portion 34. The roller or ball bearings 33 are held against displacement with respect to the socket 32 in any suitable manner such as by means of a split ring 35 seated in the wall of the socket 32.

The extremity of the axle or shaft 36 of the printing or inking roller 37, is inserted into the sleeve 34 and projects through the eccentric portion 29 of the bearing member 28, and the axle 36 frictionally fits within the sleeve 34, so that upon rotation of the axle the sleeve will also be rotated.

Obviously, one of the bearings and supporting socket is provided on each end of the inking roller.

It will be manifest that with this improved construction there is provided a roller bearing socket in which the ends of the axle of the printing roller are journaled and by reason of these

roller or ball bearings the friction between the printing rollers and the bearings will be materially reduced, and less power will be required to operate the machine.

5 It has been found that by reason of the fact that these printing rollers 37 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, 10 if the rollers are allowed to remain in contact with the cylinder or printing surface as and when they become cooled, flat portions will be formed in the rollers or the surfaces thereof and they will become distorted. Therefore, in order 15 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 bearings 28 have been mounted eccentrically. 20 By loosening the thumb nuts 25 and rotating the bearings 28 in the brackets, by grasping the periphery of the sockets 28, which latter are preferably knurled as at 38, it will be manifest that the roller 37 will be bodily moved away from 25 the cylinder and may be maintained in such position to permit it to cool. When it is desired to again employ the rollers, the bearings or sockets 28 are again rotated in the brackets to properly position the inking roller with respect to the cylinder. Obviously, this means may be utilized in 30 order to obtain the desired pressure of the inking roller upon the cylinders. When the roller is adjusted into a printing position it may be secured in such position by tightening the wing or thumb nut 25. 35

It has been found, however, in structures of this character, that when the inking roller is thrust backwardly away from the cylinder after the thumb or wing nuts 25 have been loosened, 40 the roller when it is thrown back into position is not always accurately positioned. In some instances the roller may be thrown against the cylinder to exert too much pressure thereupon, and in other instances perhaps may not be thrown 45 back far enough into operative position. Therefore, in order to provide a means which will insure the accurate positioning of the roller with respect to the cylinder and to limit the extent of its movement backwardly and away from the roller, means are provided so as to render the device 50 to be what might be termed "fool-proof", and at the same time insure a proper positioning of the roller.

To that end there may be provided an annular member 39 preferably in the form of a collar which encompasses a reduced portion 55 on the socket or bearing 28, so as to preferably be flush with the periphery of the socket or bearing and to stand between the socket or bearing 60 and the proximate faces of the members 13-19 of a supporting bracket. The reduced portion of the socket or bearing 28 may be provided with a circumferential groove 41 opening through the periphery thereof, and extending through the collar or member 39 transverse to the axis thereof, is a fastening screw 42, the end 43 of which is 65 shaped to enter the groove 41. A portion of the periphery of the collar or member 39 is reduced as at 44 to form spaced shoulders 45-46. Projecting laterally from the bracket is a pin or 70 extension 47 disposed between the shoulders 45 and 46 and in a position to be engaged by such shoulders.

When the collar 39 is secured to the socket or 75 bearing 28 for rotation therewith by adjusting

the screw 42 so that the extremity 43 thereof will project into the groove 41 and bind against the bottom of the groove, it will be manifest that when the thumb or nut 25 is loosened, the operator by grasping the periphery 38 of the bearing or socket 28 may rotate the bearing within 80 the bracket and the eccentric portion of the bearing will cause the roller 37 to be moved toward or away from the periphery of the cylinder or printing surface 11, according to the direction 85 of rotation of the bearing or socket 28. This rotary movement of the bearing or socket 28 with respect to the supporting bracket in one direction will be limited by means of one of the shoulders 45-46, engaging the pin or projection 90 47 and will likewise be limited in its rotation in the opposite direction by reason of the other of the shoulders 45-46 contacting with the pin or projection 47.

It will therefore be manifest that after the 95 collar or member 39 is adjusted and secured in a set position with respect to the socket or bearing 28, the extent of movement of the printing roller toward and away from the printing surface or cylinder, will be controlled and it will not be necessary to adjust the bearing or any part thereof 100 after the roller has been moved away from the cylinder or printing surface and back again into printing position, to insure a proper positioning of the inking roller. 105

By loosening the screw 42 a relative adjustment of the collar 39 with respect to the bearing or socket 28 may be obtained and the shoulders 45-46 may be positioned with respect to the axis of the eccentric portion 29 and the shaft 36, as 110 may be desired.

It will also be manifest that by reason of the slot and bolt connection 16-17 between the bracket and the frame of the press, the position of the inking roller 37 with respect to the cylinder 115 may also be varied, that is the bracket may be adjusted to cause the roller to move towards and away from the cylinder, or the bracket may be adjusted about the bolt 17 as a pivot.

While the preferred form of the invention has 120 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 125 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 130 hinged together to form a bearing seat, a bearing in the seat for the roller, a portion of the bearing being eccentrically mounted between the said members of the bracket, means for clamping the bracket members together to frictionally bind 135 said eccentric portion of the bearing against rotation in said bracket, said eccentric portion being freely rotatable in said bracket when the clamping effect of the bracket members is released, to permit the roller to be moved laterally 140 away from said cylinder, a collar carried with the said eccentric portion, and co-operating means on the collar and said bracket for limiting the extent of rotation of the eccentric in said bearing, the last said means embodying a fixed stop on one 145 of the parts and spaced shoulders on the other of the parts and between which shoulders the said stop operates.

2. In combination, in a printing press, a printing cylinder, an inking roller, a supporting bracket 150

for the roller, said bracket embodying two members hinged together to form a bearing seat, a bearing in the seat for the roller, a portion of the bearing being eccentrically mounted between the said members of the bracket, means for clamping the bracket members together to frictionally bind said eccentric portion of the bearing against rotation in said bracket, said eccentric portion being freely rotatable in said bracket when the clamping effect of the bracket members is released, to permit the roller to be moved laterally away from said cylinder, a collar carried with the said eccentric portion, and adapted for relative adjustment with respect thereto and with respect to the supporting bracket, means for locking the collar in its adjusted position with respect to the eccentric, and co-operating means on the collar and said bracket for limiting the extent of rotation of the eccentric in said bearing, the last said means embodying a fixed stop on one of the parts and spaced shoulders on the other of the parts and between which shoulders the said stop operates.

3. In a printing press, an inking roller, sockets in which the ends of the inking roller are journaled, brackets in which the sockets are rotatably and eccentrically mounted whereby said roller may be moved towards and away from the printing surface by rotating the sockets in the brackets, means for limiting the extent of such rotation of the sockets in the brackets, said means embodying a collar carried with said eccentric portion and co-operating means on the collar and said bracket for limiting the extent of rotation of the eccentric in said bearing, the last said means embodying a fixed stop on one of the parts and spaced shoulders on the other of the parts and

between which shoulders said stop operates, and means mounting the brackets for adjustment in planes intersecting each other.

4. In a printing press, an inking roller, sockets in which the ends of the inking roller are journaled, brackets in which the sockets are rotatably and eccentrically mounted whereby said roller may be moved towards and away from the printing surface by rotating the sockets in the brackets, means for limiting the extent of such rotation of the sockets in the brackets, said means embodying a collar carried with said eccentric portion and co-operating means on the collar and said bracket for limiting the extent of rotation of the eccentric in said bearing, the last said means embodying a fixed stop on one of the parts and spaced shoulders on the other of the parts and between which shoulders said stop operates.

5. In a printing press, an inking roller, sockets in which the ends of the inking roller are journaled, brackets in which the sockets are rotatably and eccentrically mounted whereby said roller may be moved towards and away from the printing surface by rotating the sockets in the brackets, means for limiting the extent of such rotation of the sockets in the brackets, said means embodying a collar carried with said eccentric portion and co-operating means on the collar and said bracket for limiting the extent of rotation of the eccentric in said bearing, the last said means embodying a fixed stop on one of the parts and spaced shoulders on the other of the parts and between which shoulders said stop operates, and means for securing the collar to said eccentric portion for relative rotative adjustment with respect thereto.

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