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WATER FEED FOR PLANOGRAPHIC AND ANALOGOUS PRESSES

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2 Sheets-Sheet 1

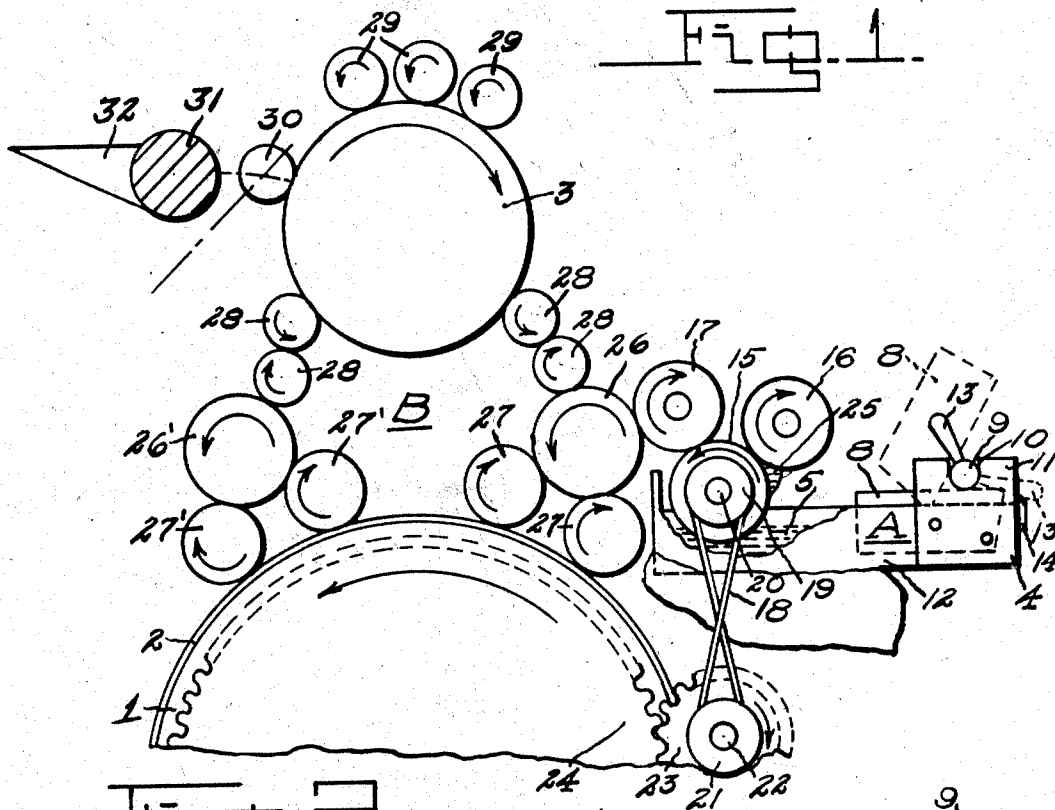
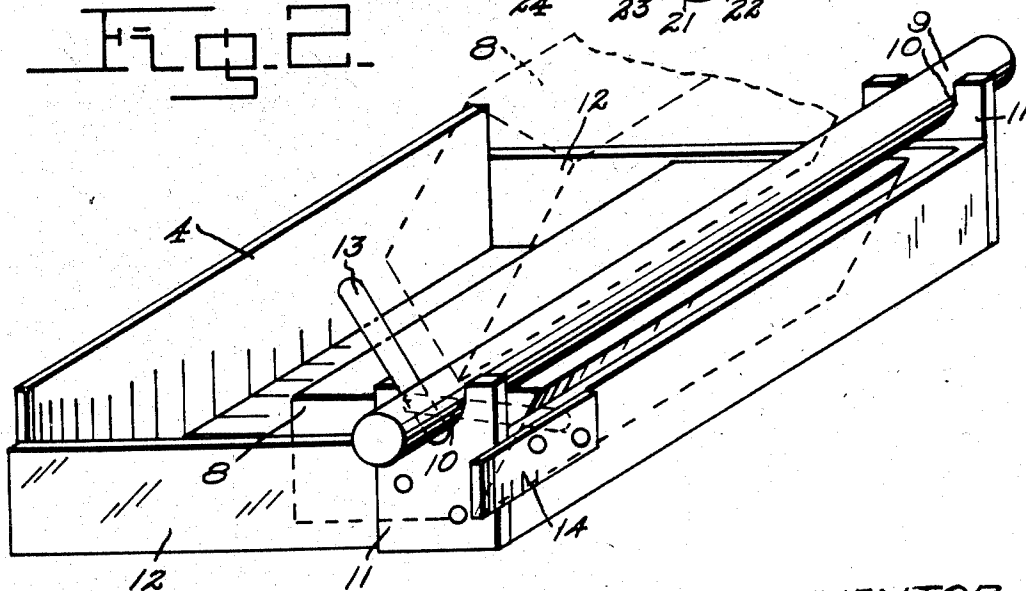


Fig. 2.



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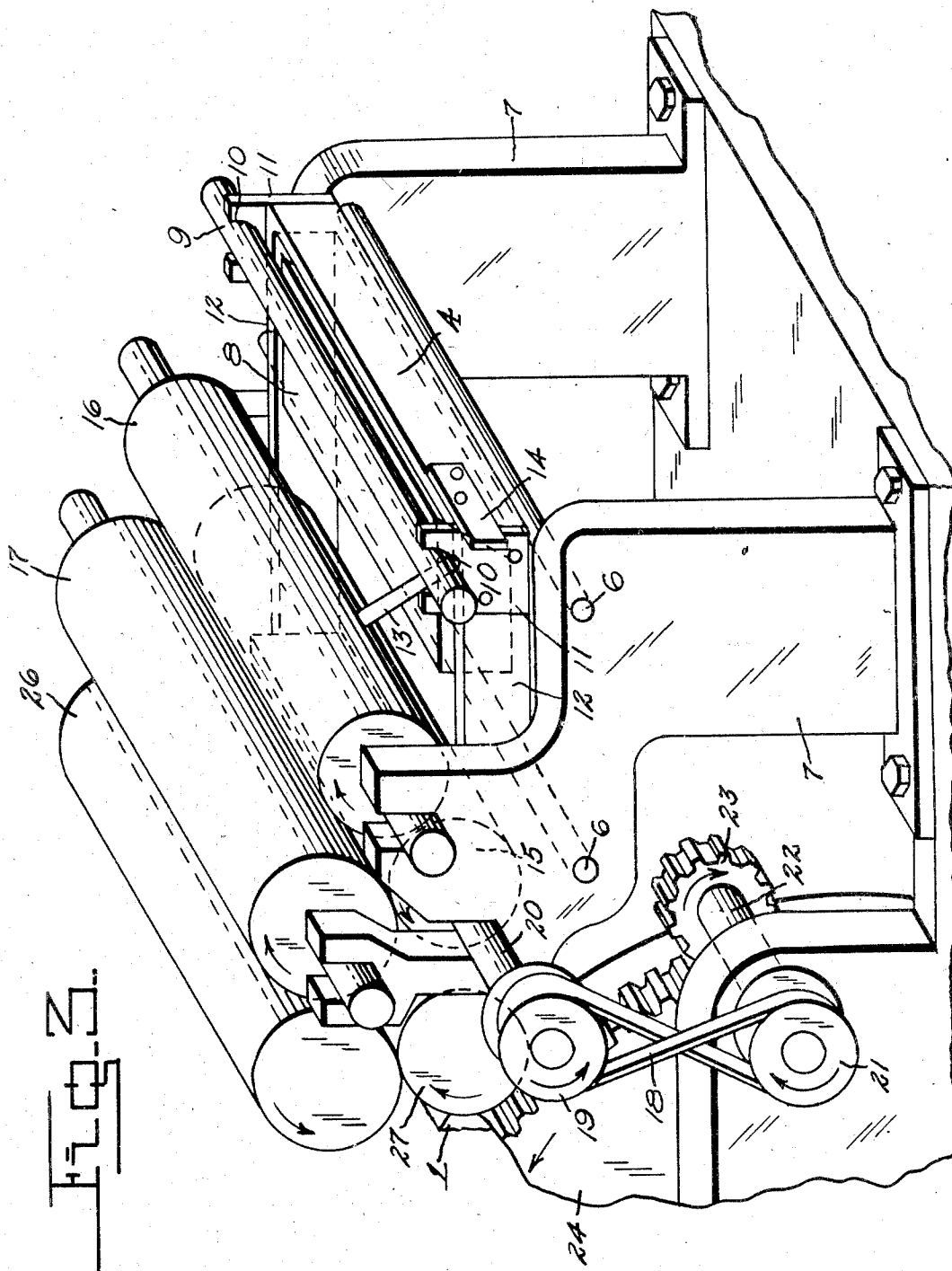
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WATER FEED FOR PLANOGRAPHIC AND
ANALOGOUS PRESSES

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6 Claims. (Cl. 101-148)

(Granted under the act of March 3, 1883, as
amended April 30, 1928; 370 O. G. 757)

This invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates generally to the art of planography and particularly to the feed of an ink repellent substance, such as water to the distribution system of planographic and other analogous presses.

The object of the invention is to provide a water feed to supply water to the distribution system of a planographic or other analogous press, including water carrying rollers adapted to be set in a solid immovable rest and means including a control member adapted to engage a source of water supply in such a manner as to displace the water supply into contact with one of said water carrying rollers and to cut off the water supply to said last mentioned water carrying rollers.

All planographic and analogous presses are equipped with a water feed that is separate from the ink feed and it is general to have a water distributing system that is separate from the ink distributing system. Regardless of the system of distribution in effect on a press, the ultimate objective is a constant supply of water at a certain point in the distribution system and the maintenance of an even film of water on the surfaces of the rollers of the distribution system to be transmitted by the distribution system to a plate cylinder for dampening purposes.

Heretofore, to cut off or place the water supply in engagement with the distribution system of the press, it was necessary to disconnect one of the rollers from the distribution system by means of a movable roller rest, whereby the water feed rollers of the distribution system were liable to get out of alignment unless constantly adjusted, and the rollers were not in a position to be cleaned with the cleaning operation of the distribution system.

It is therefore the aim and purpose of this invention to provide a water feed for planographic and analogous presses, including water contact rollers of the distribution system, which are adapted to be permanently set in their proper working position in a solid immovable rest and to remain set when water is being fed thereto, or when the water is cut off therefrom, which water contact rollers are liable to remain in true alignment without the necessity for constant adjustment and which are always in a position to be cleaned with the cleaning operation of the distribution system of the press.

With the above and other objects and advantages in view, the invention consists in certain features of construction and operation of parts which will hereinafter appear, and in which—

Fig. 1 is a fragmentary diagrammatic view of a planographic or analogous press to which my invention may be applied;

Fig. 2 is an enlarged perspective view of a water trough, having a part of my invention applied thereto; and

Fig. 3 is an enlarged fragmentary perspective view of a portion of a planographic or analogous press, embodying my invention.

In the illustrated embodiment characterizing the invention, A indicates generally my improved displacement control water feed system for use on a planographic or analogous press indicated generally by B, and including a plate cylinder 1 containing the design 2 to be printed and an ink and water distributing system, including an ink distributing drum or roller 3.

The displacement control water feed system A, which may be applied at any convenient point in the distribution system of the press, comprises a pan or trough 4 adapted to contain a dampening fluid 5, such as water, and which is supported on pins 6, transversely mounted in solid immovable rests 7 of the press, as illustrated in Fig. 3. Pivotaly mounted on the outer end of the pan or trough 4 is a water displacement control member 8 in the form of a substantially rectangular-shaped block made of any suitable material, such as wood or hollow metal, and secured at one side thereof in any suitable manner to a rod 9. The rod 9 extends transversely across the pan or trough 4 and is pivotally mounted in grooves 10, formed in frame members 11 which are secured to the opposite side walls 12 of the trough 4 and pivotally support the rod 9 slightly above the side walls 12 of the trough. In order to rotate the rod 9, to thus raise or lower the water displacement control member 8 into or out of the trough 4, a handle member 13 is mounted in one end of the rod 9. A stop member 14 is secured to the trough 4 on which the handle member 13 may rest when the water displacement control member 8 is removed from the trough.

Rotatably mounted on the solid immovable rests 7 is a water contact roller 15, a ductor roller 16, and an intermediate roller 17. The water contact roller 15 is so mounted on the immovable rests 7 that the lower surface thereof extends part way into the trough and is revolved at the required speed by means of a belt 18,

mounted at its upper end in a pulley 19, which is secured to the outer end of a spindle 20 provided on the water contact roller 15. The belt 18 is driven by a pulley 21 mounted on a shaft 22, which is rotatably mounted in a part of the frame of the press and driven by a pinion 23 which is in turn driven by gear 24, provided on the plate cylinder 1.

In operation, assuming that the water displacement control member 8 has been moved out of the trough 4 by means of the handle member 13 to the position as indicated in dotted outline in Figs. 1 and 2, with the handle member 13 lying against the upper surface of the stop member 14, and that a predetermined amount of water or other dampening fluid 5 has been placed in the trough so that the water will be out of contact with the lower surface of the water contact roller 15, upon taking hold of the handle member 13 and pulling it to the left or in a counter-clockwise direction, the rod 9 is rotated in the same direction, whereby the water displacement control member 8 is caused to enter the trough and contact with the water therein which causes the level of the water 5 to be brought up sufficiently to contact with the lower surface of the water contact roller 15, which as it revolves carries the water up to the line of close contact with the roller 16, and a head of water or reservoir 25 is formed at this line. The roller 16, which is a ductor roller, allows only the necessary film of water to pass and reach the intermediate roller 17 upon the surface of which it is carried to a rider 26 and continues through the train of distributing rollers to the plate cylinder 1 for dampening the plate cylinder. Upon returning the displacement control member 8 to its inoperative position the depth of the water in the trough is reduced thereby cutting off the water from the water contact roller 15.

It is readily understood that the displacement control water feed system can be applied to any type of distribution system of a planographic or other analogous press. In the present case, it is illustrated as being applied to a dual water and ink distribution system in which the water is carried from rider 26 to form rollers 27, which contact with the plate surface 2 on the plate cylinder, and as the system revolves in the direction as indicated by the arrows, the film of water charges the surface of the entire distribution system, such as form rollers 27 and 27', riders 26 and 26', connecting rollers 28 and drum 3, distributing rollers 29 and when the water film reaches ductor roller 30, it is so fine it permits the ductor roller to deposit ink on drum 3 from ink fountain roller 31, which turns on ink fountain 32.

It will thus be seen that there is herein provided a novel displacement control water feed system, which is well adapted for all the purposes indicated. Even though there has been herein described certain features of construction and operation of parts, it is nevertheless to be understood that various changes may be made therein, if the changes do not depart from the spirit or scope of the claims.

Having described my invention, what I claim as new and wish to secure by Letters Patent is—

1. In a printing press, the combination of a printing member, mechanism for applying a dampening fluid to said member, said mechanism comprising a dampening roller system, a source of dampening fluid and means including a control member adapted to be submerged into

said source of dampening fluid to increase the depth of said source of dampening fluid whereby said dampening fluid at its increased depth contacts with said dampening roller system.

2. In a printing press the combination of a printing member, mechanism for applying a dampening fluid to said member, said mechanism comprising a dampening system including contact rollers, a source of dampening fluid and means including a control member adapted to be submerged into said source of dampening fluid for increasing the depth of the dampening fluid whereby said dampening fluid is raised into contact with one of said contact rollers of said dampening system.

3. In a printing press the combination of a printing member, mechanism for applying a dampening fluid to said member, said mechanism comprising a dampening system including rollers mounted on an immovable rest, a source of dampening fluid and means including a control member adapted to be submerged into said source of dampening fluid for increasing the depth of said dampening fluid, whereby said dampening fluid at its increased depth contacts with one of said rollers of said dampening system.

4. In a printing press, the combination with a printing member, mechanism for applying a dampening fluid to said member, said mechanism comprising a dampening system including dampening fluid carrying rollers mounted on an immovable rest, printing member dampening rollers contacting with said printing member and one of said dampening fluid carrying rollers, a dampening fluid control roller contacting with another of said dampening fluid carrying rollers, a source of dampening fluid and means including a dampening fluid control member connected to be submerged into said dampening fluid for increasing the depth of the dampening fluid, whereby said dampening fluid at its increased depth contacts with said last mentioned dampening fluid carrying roller.

5. In a printing press, the combination of a printing member, mechanism for applying a dampening fluid to said member, said mechanism comprising a dampening system including a dampening fluid contact roller, a trough containing a dampening fluid and a dampening fluid control member mounted on said trough and adapted to be operated into engagement with the dampening fluid to increase the depth thereof, whereby the dampening fluid in said trough at its increased depth is forced into contact with said dampening fluid contact roller.

6. In a printing press the combination of a printing member, mechanism for applying a dampening fluid to said member, said mechanism comprising a dampening system including dampening fluid carrying rollers mounted on an immovable rest, a trough containing a dampening fluid and a dampening fluid control member rotatably mounted on said trough and adapted to be moved into said trough for engagement with said dampening fluid to increase the depth thereof, whereby said dampening fluid is raised into contact with one of said dampening fluid carrying rollers, said control member being also adapted to be moved out of said trough for decreasing the depth of the dampening fluid whereby the dampening fluid is lowered out of contact from said last mentioned dampening fluid carrying roller.

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