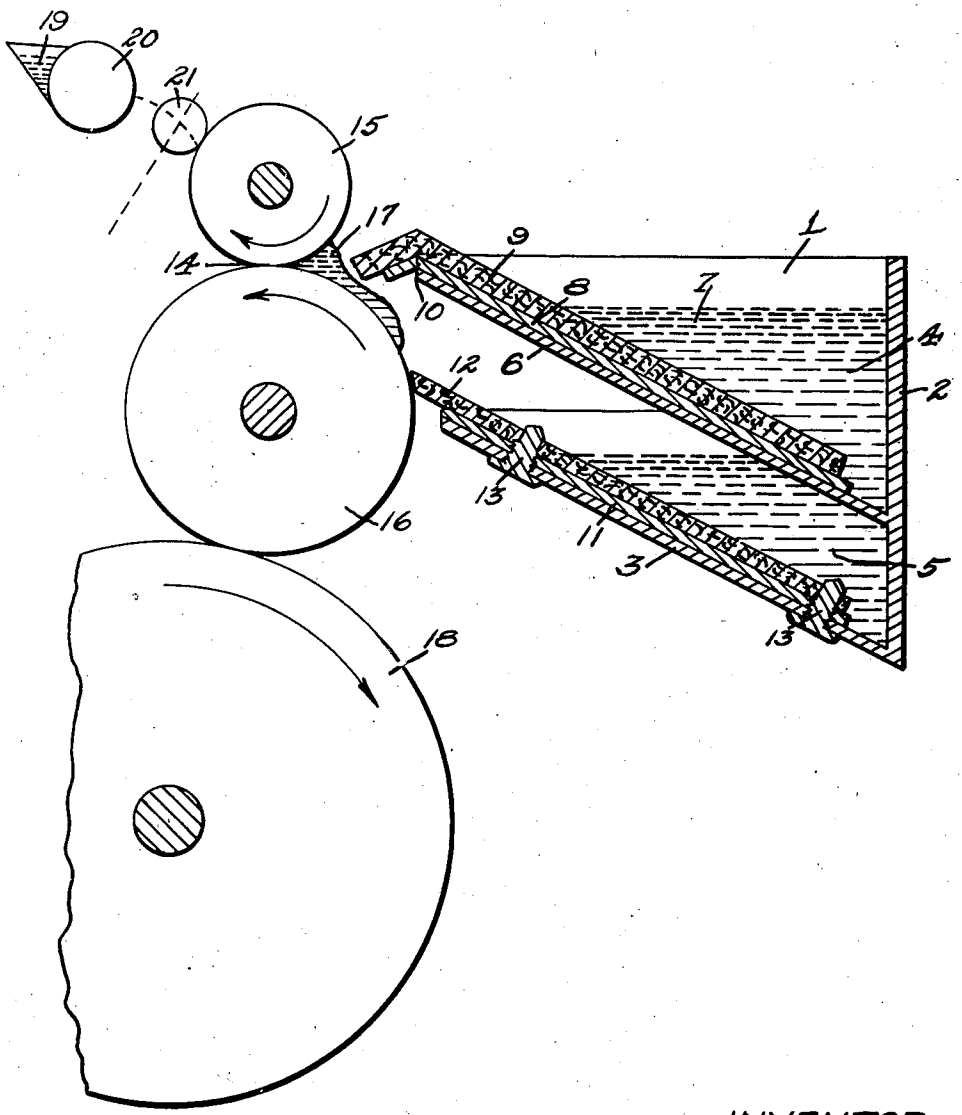
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WATER FEED FOR ROTARY OFFSET AND LITHOGRAPHIC PRESSES

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WATER FEED FOR ROTARY OFFSET AND LITHOGRAPHIC PRESSES

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This invention described herein 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 lithography and particularly to a water feed for offset and other lithographic presses.

The object of the invention is to provide a water feed system to supply water to a dual purpose distributing roller system, including dual ink covered rollers of an offset or other lithographic press, whereby the mutually repellent substances, lithographic offset ink and water, are distributed simultaneously on the surface of the ink covered rollers of the distributing system into a suitable film for application to the plate surface of the press by the plate rollers.

All lithographic and analogous presses are equipped with a water feed that is separate to the ink feed and it is general to have a water distributing system that is separate to 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 and the maintenance of an even film of water on the surfaces of the rollers of the distributing system.

It is therefore the aim and purpose of this invention to provide a water feed for a dual purpose ink and water distributing system, including dual rollers of offset and analogous presses, which is adapted to feed water to the surfaces of the dual rollers that are charged with ink in such a manner that the required amount of water is on the surface of the rollers continually.

With the above and other objects and advantages in view, the invention consists of features of construction and operation of parts which are illustrated in the accompanying drawing.

In carrying out the invention, (1) indicates a dual trough structure which comprises a vertically extending rear wall portion (2) and an inclined base portion (3). The dual trough structure (1) is divided into an upper and lower compartment or trough (4) and (5) respectively by means of an inclined partition (6). The upper trough (4) is adapted to contain a source of water supply (7) and is provided with a plate (8) on which is mounted a wick (9) made of any suitable water conducting material. The plate (8) and wick (9) are freely mounted on the partition (6) and are adapted to be slid back and forth within the trough (4) when it is desired to cut off or on the water feed. In order to limit the inner movement of the plate (8) and to provide a support for a bent outer end of the wick (9) whereby the water may be suitably directed, the plate (8) is bent at (10). The lower trough (5) is provided with a plate (11) on which is mounted a wick (12), both of which are fixably secured to the base portion (3) of the dual trough structure (1) by pins (13), or the like.

The wick (9) in the trough (4) is adapted to feed water from the source of the water supply (7) to the line of contact (14) of a dual set of rapidly rotating contacting rollers (15) and (16) of the distributing system of a press. The rollers (15) and (16) are adapted to be covered with ink in a manner hereinafter described and are set one above the other in true vertical alignment. The water which is fed by the wick (9) from the upper trough (4) to the line of contact (14) of the rollers (15) and (16) is formed into a visible water bead (17) which is maintained at the line of contact of the rollers by the surface tension of the water and the friction of the surfaces of the rapidly rotating rollers.

The rollers (15) and (16) rotate in the direction as indicated by the arrows, and cause the water to be rolled into an even film at the line of contact (14) of the rollers. The water on the roller (16) is carried to the surface of a drum or roller (18) in contact therewith, and which may be any suitable roller at any point of a distributing system of an offset press.

The wick (12) in the trough (5) extends out of the trough closely adjacent to the ink covered surface of the roller (16) and is adapted to prevent enlargement of the water bead (17), which gradually enlarges until gravity overcomes the action of friction from the surface of the roller (16) and water touches the outer end of the wick, whereby it is drawn into the trough (5), thereby reducing the size of the water bead, which rises again on the revolving surface of the roller (16). This action continues while the press is in motion. If desired, the wick (12) could be replaced by a metal plate providing the outer edge thereof was set within .020 of an inch from the surface of the roller (16).

The ink covered rollers (15) and (16) are maintained covered with ink by means of an ink fountain (19) containing ink and having a fountain roller (20) rotatably mounted therein. The ink on the fountain roller (20) is conveyed from the fountain roller to the roller (15) by means of a ductor roller (21), the ink on the roller (15) being in turn transferred to the roller (16) in

contact therewith and thence to the surface of the drum or roller (18).

It will thus be seen that I have invented a highly novel and useful form of water feed for offset and other lithographic presses. Even though I have herein described my invention as comprising certain details of construction and operation of parts, it is nevertheless to be understood that various changes may be made therein without departing from the spirit or scope of my invention.

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 water feed and a distributing system including dual ink covered rollers, means for maintaining said rollers covered with ink and means for feeding water to said rollers and collecting any excess of water therefrom, said last mentioned means comprising a dual trough structure, a source of water supply in one of the troughs of said dual structure and means for drawing any excess of water from said rollers into the other trough of said structure.

2. In a printing press, the combination of a water feed and a distributing system including dual ink covered rollers in contact with each other, means for maintaining said rollers covered with ink and means for feeding water to said ink covered rollers and collecting any excess of water therefrom, said means comprising a dual trough structure, a source of water supply in one of the troughs of said dual structure, a wick for feeding water from said water supply to the contacting portions of said rollers and depositing it thereon, and means in the other trough of said dual trough structure for collecting any excess of water deposited on said rollers.

3. In a printing press, the combination of a water feed and distributing system including dual high speed vertically aligned ink covered rollers in contact with each other, means for maintaining said rollers covered with ink and means for feeding water to the line of contact of said rollers and collecting any excess of water thereon, said last mentioned means comprising an upper and lower trough, a water supply in said upper trough, a plate movably mounted therein, a wick mounted on said plate and adapted to feed water from said upper trough to the line of contact of said rollers whereby a visible bead of water is provided thereon and a film of water is adapted to pass at the line of contact of said rollers, a plate and wick fixably secured in said lower trough, said last mentioned wick adapted to pick up by surface contact any excess of water from one of the ink covered rollers of said distributing system when the water bead becomes too great and to conduct it into said lower trough.

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