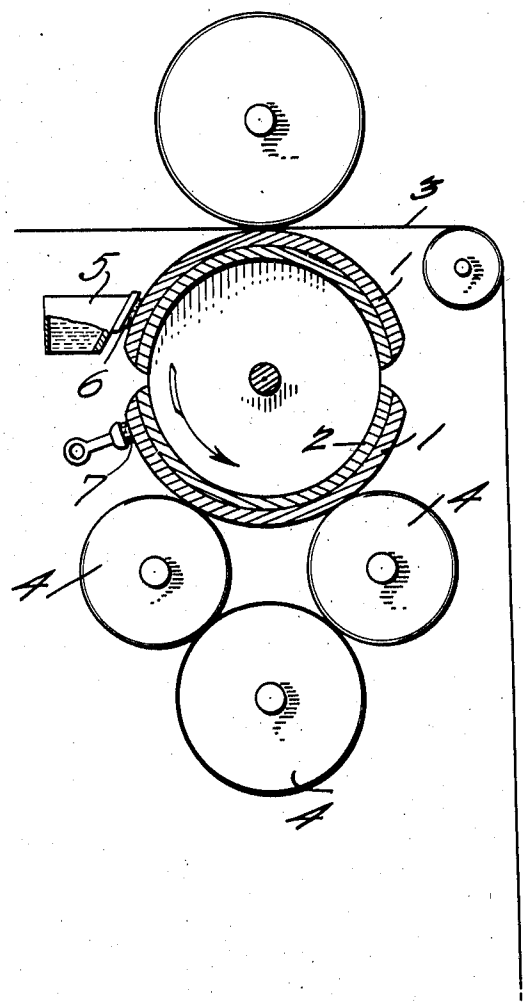
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METHOD AND MEANS FOR RENEWING INK REPELLENT SURFACES ON MERCURY PRINTING PLATES

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METHOD AND MEANS FOR RENEWING INK-REPELLENT SURFACES ON MERCURY PRINTING PLATES

Original application filed February 15, 1930, Serial No. 428,723, and in Germany November 26, 1929. Divided and this application filed May 5, 1931. Serial No. 535,273.

This invention is directed to a method of retaining the ink-repelling effects of mercury printing plates during the process of printing, and particularly where such plates are constructed according to the method described in my companion application, filed February 15, 1930, Serial #428,723, of which this application is a division.

The method forming the subject-matter of the present invention is designed to retain the ink-repelling effects of a mercury printing plate involving primarily the slight moistening of the plate during the printing operation with a watery solution containing small quantities of mercuric salts, with the property of precipitating the contained metallic mercury onto the printing plate as a result of contact.

In carrying out the method, and in the absence of provision for counteracting such effect, there is a liability of the formation of globules on the plate which would result in an unequal distribution of pressure and, therefore, the method contemplates as an additional step the wiping off of the printing plate previous to the contact of such plate with the inking rollers of any and all traces of water in the solution so that when the plate is brought into contact with the inking rollers nothing, so far as the solution is concerned, remains on the plate but the dry metallic precipitate.

In carrying out the method, the mercury printing plate is subjected during the printing operation to a moistening device for delivering onto the surface of the plate a watery solution containing small quantities of mercuric salts of a nature to permit the precipitation of metallic mercury onto the printing plate through contact. Immediately following the deposit of the solution on the plate, the plate is subjected to the action of a wiping device of a character to remove all watery content of the solution before the plate is subjected to the action of the inking rolls, so that when subjected to the action of the inking rolls the ink-repellent surface of the plate is provided with a dry, metallic, mercury precipitate.

The method not only provides for a continuous and convenient renewal of the mercury or ink-repellent surface of the plate, but is of a character that readily lends itself to use continuously or intermittently as desired during the printing process, thus insuring a proper printing effect of the plate notwithstanding its continuous use, as in printing large editions of newspapers and the like.

The method is illustrated in the accompanying drawing, in which:—

The figure illustrates the use of mercury printing plates on the drum and the position of the inking rollers, together with the application of the mechanism for carrying out the improved method.

As illustrated, the plates 1 are secured in the usual manner to the rotary drum 2 for printing on the sheet 3. The inking rolls, supplied with ink from the usual font in any improved or desired manner, are indicated at 4 for inking the plates.

Previous to the application of the ink to the plates for printing, the plates are supplied from a font 5 and an applicator 6 with a watery solution containing small quantities of mercuric salts and having the property of precipitating the metallic mercury on the printing plate or on the ink-repellent portions of such plate to renew the ink-repellent effect thereof. Immediately beyond the applicator 6, a wiping off device 7, of brush or other form, is arranged to act on the surface of the plate after the deposit of the solution thereon and before the plate is subjected to contact with the inking rolls. This wiping off device removes the watery content of the solution from the plate so that as the plate reaches the inking rolls, the ink-repellent surfaces thereof are provided with a dry, metallic, mercury precipitate extracted from the solution to thus renew the ink-repellent surfaces immediately preceding the inking and without in any way affecting the continuous use and operation of the plates in the printing process.

The method involved consists in delivering onto the printing plate the appropriate solution in which water forms the carrier and

immediately removing from the surface of the plate the water carrier after the plate has performed a previous printing operation and before it is subjected to a reinking operation for further printing. The mechanical details of the method are unimportant. The solution applicator may be in any convenient, well known form and designed either for continuous use or capable of separation from the plate at will to provide for intermittent use. The mechanical element for wiping the water content from the plate following the use of the applicator may be in any desired form and consistent with the similar function of the applicator designed for continuous cooperation with the plates or for intermittent cooperation therewith at will.

I claim:—

1. A method of renewing the amalgam-coated surface of mercury printing plates during the printing process consisting in applying to the plate prior to its being inked a watery solution of mercury salts, and immediately thereafter wiping the watery content of such solution from the surface of the plate.

2. A method of renewing the amalgam-coated surface of mercury printing plates during the printing operation consisting in delivering onto the surface of the plate prior to its being inked a watery solution containing a mercuric salt capable of precipitating as metallic mercury on contact with the plate, and thereafter removing the watery content of such solution from the surface of the plate prior to the inking of the plate.

3. A means for renewing the amalgam-coated surface of a printing plate during the printing operation comprising an applicator arranged in contact with the plate to deliver thereto a watery solution of a mercury salt capable of precipitating metallic mercury on contact with the plate, and a wiper intermediate the applicator and inking roll to contact with the plate for wiping therefrom the watery content of such solution.

In testimony whereof I affix my signature.

HEINRICH RENCK. [L. S.]