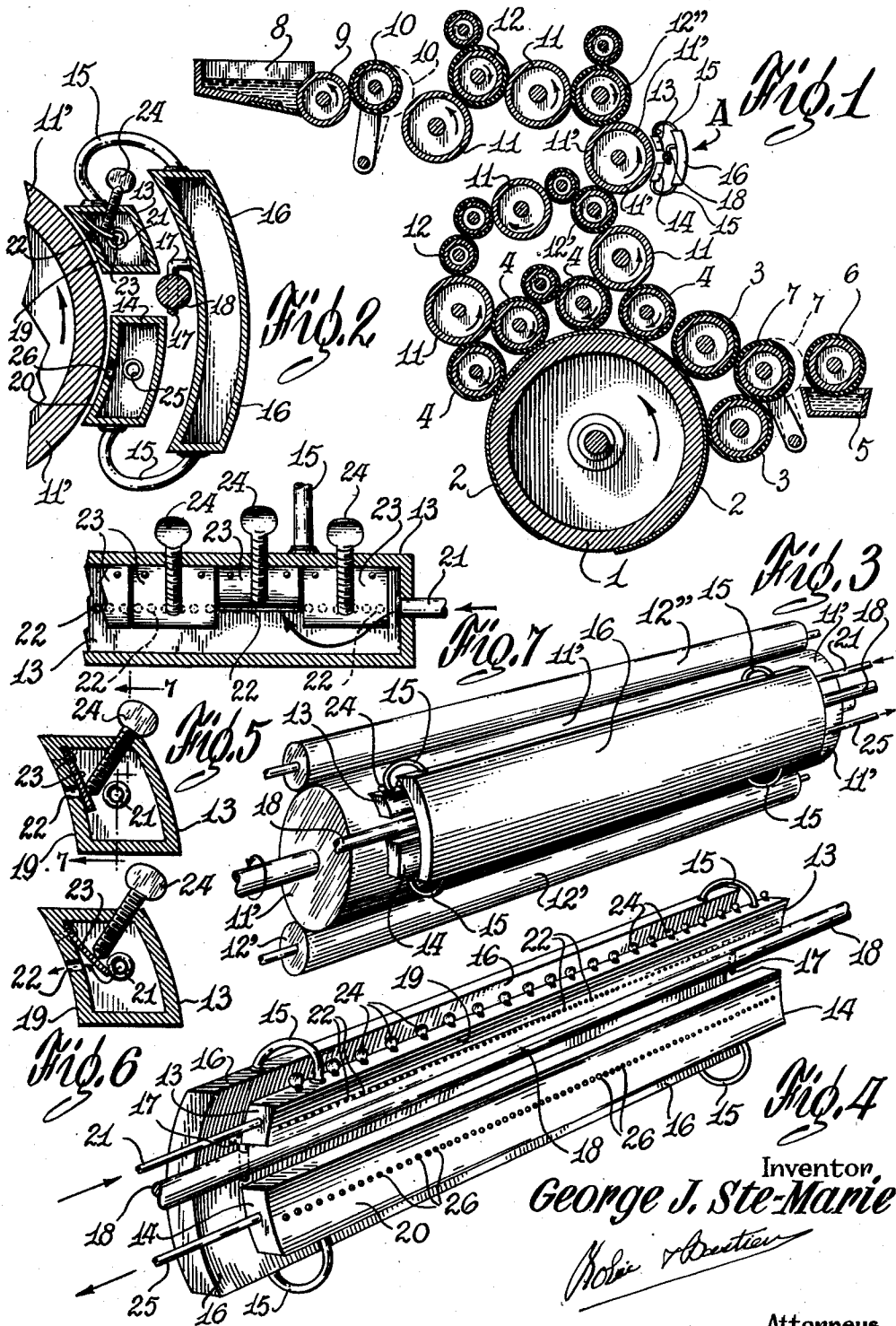


April 27, 1954

G. J. STE-MARIE  
DRYING MEANS FOR THE INKING ROLLERS OF LITHOGRAPHIC  
AND THE LIKE PRINTING PRESSES  
Filed May 4, 1953

2,676,536



Inventor,  
**George J. Ste-Marie**

*Robert A. Dreyfus*

Attorneys

# UNITED STATES PATENT OFFICE

2,676,536

## DRYING MEANS FOR THE INKING ROLLERS OF LITHOGRAPHIC AND THE LIKE PRINT- ING PRESSES

George J. Ste-Marie, Montreal, Quebec, Canada

Refiled for abandoned application Serial No.  
171,664, July 1, 1950. This application May 4,  
1953, Serial No. 352,853

1 Claim. (Cl. 101—141)

1

This is a refile of application for patent Serial Number 171,664 filed July 1st, 1950, and entitled: "Drying Means for the Inking Rollers of Lithographic and the Like Printing Presses," now abandoned.

The present invention relates to drying means for the inking rollers of a lithographic or like printing press, especially adapted to eliminate at least to a substantial degree, the very common defective phenomenon called "roller stripping."

Roller stripping is a problem which manifests itself in the appearance of blank spots or streaks on the ink distributing rollers and consequently on the printing plate of a lithographic or like press when the latter is in operation.

In lithographic, offset and like printing presses, the plate is continuously in contact with dampening rollers in order to form thereon a water film which adheres to the areas of the plate which are not covered by the ink. During operation of the press, the wet plate cylinder will gradually impart some water to the inking rollers of the inking mechanism.

The ink at the surface of the inking rollers being somewhat hygroscopic, a water film will gradually be formed at the surface of said inking rollers thereby preventing addition of a fresh film of ink. This will finally cause blank spots and generally bad inking of the printing plate of the press.

Accordingly, the main object of the present invention is the provision of drying means for the inking rollers of lithographic or the like printing press which will prevent the accumulation of a water film on said inking rollers.

Another important object according to the present invention is the provision of drying means of the character above mentioned comprising the combination of air blowing and air suction means in close proximity to one another and to one or more of said inking rollers in order to create a very fast air stream moving tangentially of the peripheral surface of said inking rollers for water drying the same.

Another important object according to the present invention is the provision of drying means of the character described comprising means to create an air stream at the surface of at least one of said inking rollers arranged in such a manner that said air stream will not hinder the even distribution of the ink onto the inking rollers.

Another important object according to the present invention is the provision in drying means of the character described, of selective

2

means to selectively control the air stream above mentioned in order to locally adjust the rate of drying of the inking rollers.

Still another important object according to the present invention is the provision of drying means of the character above mentioned in the form of an attachment which may be easily applied to standard lithographic, offset and like printing presses.

The foregoing and other important objects according to the present invention will become more apparent during the following disclosure and by referring to the drawings in which:

Fig. 1 is a schematic view of a conventional lithographic printing press showing more particularly the inking and the water dampening mechanism associated with the printing plate cylinder and showing the attachment, according to the invention, in position adjacent one of the inking rollers;

Fig. 2 is a cross section of the attachment according to the present invention;

Fig. 3 is a perspective view of the same in relation with one of the inking rollers of the press;

Fig. 4 is a perspective view of the attachment according to the present invention seen from the side which will normally be adjacent to the inking roller of the printing press;

Fig. 5 is a cross section of the air blowing member of the attachment according to the invention, showing the valve means in closed position;

Fig. 6 is a cross section similar to that of Fig. 5 showing the valve means in open position; and

Fig. 7 is a longitudinal section along the broken line 7—7 of Fig. 5.

Referring now more particularly to the drawings in which like reference characters indicate like elements throughout, the numeral 1 indicates a plate cylinder of a printing press on which is secured the printing plate 2 which is in rolling contact with the dampening composition rollers 3 on the one hand and with the inking composition rollers 4 on the other hand.

The dampening rollers 3 are part of the dampening mechanism which includes the water fountain 5, the roller 6, and the oscillating roller 7 which transfers the water from the rollers 6 onto the rollers 3.

The inking rollers 4 are part of the inking mechanism which further includes an inking fountain 8, a feeding roller 9, an oscillating ductor roller 10 and a series of intermediate metal rollers 11 and composition rollers 12.

The attachment according to the invention is

3

shown at A in Fig. 1 adjacent to one of the metal rollers 11 hereafter denoted as roller 11'.

It is obvious that the water fed onto the printing plate 2 by means of the dampening rollers 3 will tend to wet the rollers 4 of the inking mechanism, which rollers 4 will in turn dampen the intermediate rollers 11 and 12 thereby causing the roller stripping phenomenon previously described.

The attachment A comprises two parallel hollow elongated closed members 12 and 14, secured by means of the bent rods 15 to a curved shield 16 which may be hollow as shown in Fig. 2 or else in the form of a plate. The shield 16 is provided with dependent hooks 17 whereby the attachment, according to the invention, is preferably fastened to a member of the press such as the stay bar 18 which has been previously bored for that purpose. A stay bar 18 usually extends in close proximity to one of the inking rollers 11, such as roller 11', and it is therefore desirable that the shield member 16 extends on the outside of said stay bar 18 while the elongated members 13 and 14 will extend intermediate the same and the inking roller 11' in order to be positioned as close as possible to the latter.

Both the elongated members 13 and 14 and the shield 16 extend a substantial length of the inking roller 11' and in any case are of a length substantially equal to the width of the printing plate 2. The elongated members 13 and 14 have a cross section in the form of a parallelogram with two parallel sides thereof substantially curved transversely so as to cooperate with the peripheral surface of the inking roller 11'. More particularly, the curvature of at least the inner curved faces 19 and 20 of the members 13 and 14 respectively and the distance of said members from the inking roller 11' are such that the center of curvature of the faces 19 and 20 will lie substantially on the axis of the inking roller 11'.

The elongated member 13 is connected to a suitable source of compressed air through the tube 21 as shown in Fig. 3, and its curved face 19 is provided with perforations 22 along the entire length thereof, as shown in Fig. 4, in order to provide an air jet distributed substantially along the entire length of the peripheral surface of the inking roller 11'.

Inside the elongated member 13 is secured above the perforations 22, a series of independent leaf members 23 made of resilient material and each adapted to take under the action of its respective thumb-screw 24, a downward position for closing a few of said perforations 22 as shown in Fig. 5. The leaf members 23, being resilient, take a normal open position as shown in Fig. 6, when the thumbscrews 24 are released. Thus, the perforations 22 may be adjustably opened along the entire length of the elongated member 13 depending upon the rate of drying needed at the different locations of the inking roller 11'.

The elongated member 14 is connected by means of piping 25 to a suitable source of vacuum, and its inner curved face 20 is also provided with a plurality of perforations 26 extending along its entire length.

Thus, the air emitted by the elongated member 13 is sucked in by the member 14 thereby creating a very fast air stream, the direction of which will be substantially tangential to the peripheral surface of the inking roller 11' without creating an air disturbance around the ad-

4

acent rollers which would hinder the even distribution of the ink thereon. The shield 16 further serves to confine the air stream within desired limits.

In Fig. 1 the direction of rotation of the different inking rollers is indicated by arrows, and it is seen that the position of the attachment A, according to the present invention, is such that any water transmitted from the adjacent composition roller 12 to the metal roller 11' is dried up very quickly by means of the attachment A without having time to come into contact with the adjacent ink feeding composition roller 12', despite the high speed of rotation of the rollers.

It will also be noted that the direction of the air stream from the members 13 and 14 such as to flow counter-currently to the direction of the moving peripheral surface of the inking roller 11' thereby increasing the relative speed of said surface and said air stream. This counter-current effect will increase considerably the drying capacity of the attachment according to the invention.

Obviously the attachment A, according to the invention, which has been illustrated as associated with only one inking roller 11 could with advantage be disposed also in cooperation with the inking rollers 11 nearest to the printing cylinder 1, or even with the form rollers 4 for still better efficiency.

But it has, in general, been found sufficient to dispose the attachment as shown in Fig. 1.

While a preferred embodiment according to the present invention, has been illustrated and described, it is understood that various modifications may be resorted to without departing from the spirit and scope of the appended claim.

What I claim is:

As an attachment for an inking roller of a system of inking rollers for a printing press of the character described, a shield member securable to said press adjacent to one of said inking rollers, two parallel hollow elongated closed members secured to said shield member and extending on one side thereof and in cooperating relationship with the peripheral surface of said inking roller, said elongated members perforated along the entire length thereof at their face nearest to said inking roller, a source of compressed air connected to one of said elongated members and a source of vacuum connected to the other of said elongated members, and selective valve means to selectively close said perforations in said first mentioned elongated member, said valve means comprising a plurality of independent leaf spring members secured within said first mentioned elongated member and each extending over a few of said perforations, and thumb screws engaged in said same elongated member and each contacting one of said leaf spring members to press the same against said perforations.

#### References Cited in the file of this patent

Number	Name	Date
643,372	Cornwall	Feb. 13, 1900
1,504,409	Yetter et al.	Aug. 12, 1924
1,757,948	Hockley	May 6, 1930
2,065,032	Spooner	Dec. 22, 1936
2,141,403	Offen	Dec. 27, 1938
2,395,151	Sodomka	Feb. 19, 1946