

T. T. POPE.
VAPORIZING ATTACHMENT FOR PRINTING PRESSES.
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1,409,235.

Patented Mar. 14, 1922.

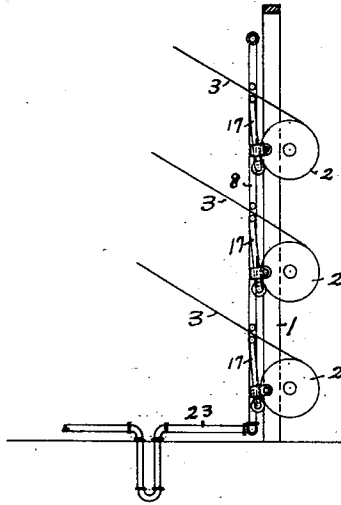


Fig. 2

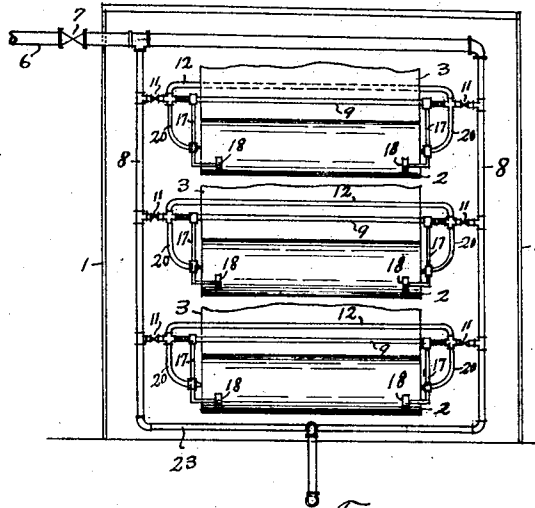


Fig. 1

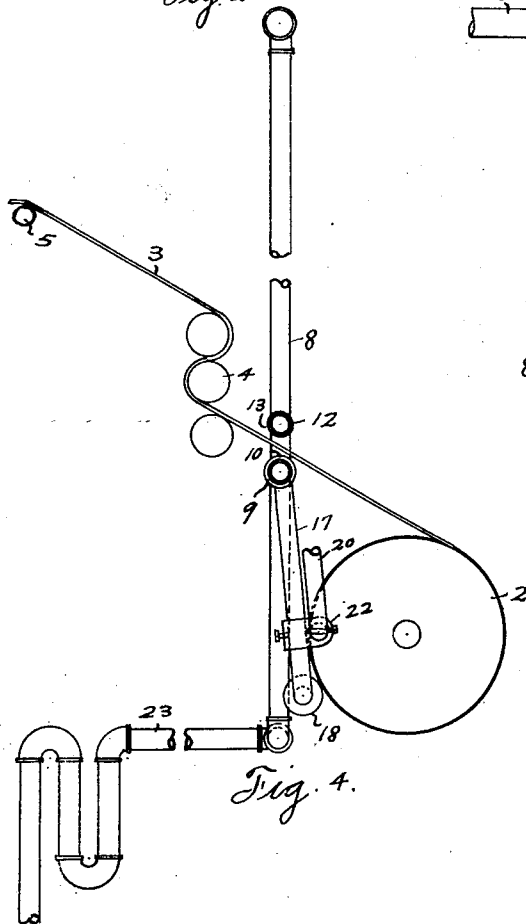


Fig. 4.

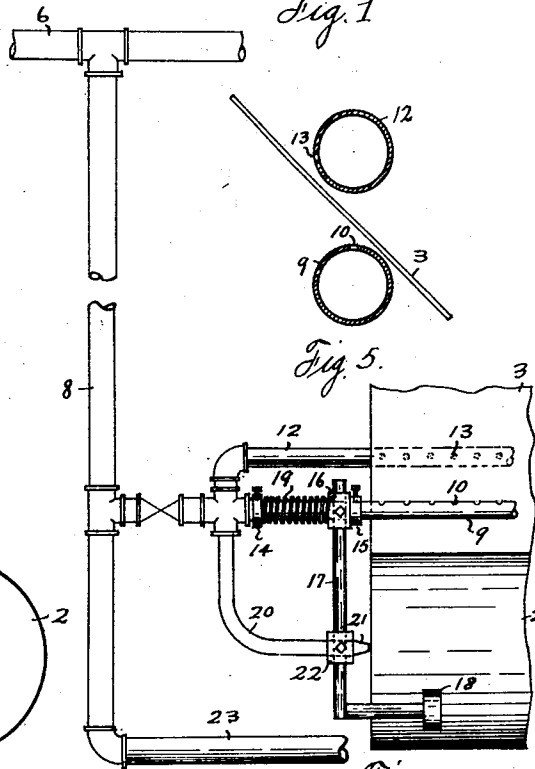


Fig. 3.

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VAPORIZING ATTACHMENT FOR PRINTING PRESSES.

1,409,235.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that TURNER T. POPE, citizen of the United States; residing at Houston, in the county of Harris and State of Texas, has invented certain new and useful Improvements in a Vaporizing Attachment for Printing Presses, of which the following is a specification.

This invention relates to new and useful improvements in a vaporizing attachment for printing presses.

The object of the invention is to provide an attachment of the character described by means of which vapor may be applied to the paper as it unwinds from the roll and before it passes through the press.

In printing presses now in common use, a number of rolls of paper are mounted in the press and the paper is unwound therefrom in the process of printing, said paper traveling at a very high rate of speed and in case the paper is too dry, it is very easily torn and should the sheet become mutilated at either edge or slightly weakened from any cause, it will tear in two in the process of printing, thus causing delay. Besides, the friction caused by the dry sheet of paper passing over the metallic rolls of the press and coming into contact with the other metallic parts at a high rate of speed generates static electricity which tends to cause the paper to adhere to the metal, thus making a considerable pull on the paper necessary in order to move it through the press at the required rate of speed, the resistance sometimes causing the paper to tear in two. If the paper is slightly moistened, it is not so liable to tear and the friction of the damp paper does not generate electricity, and for that reason, the attachment therein described has been provided for the purpose of applying steam to the paper just after it leaves the rolls and before it enters the press.

Furthermore in shipping paper rolls, the ends of the roll sometimes becomes dented or otherwise mutilated, and in unrolling the paper the edges are thereby caused to adhere together, thus causing the paper to tear in two. In order to cause the edges of the plies to separate at the ends of the roll, the device has been arranged to apply steam to the outer plies, at each end, just before the same is unwound, which softens the paper and causes the plies to separate so as to readily unwind without resistance.

The attachment is so constructed that steam may be applied to the ends of one or any number of rolls, as well as to the paper being unwound from the rolls.

In the application of steam to the paper it is essential that steam only be applied and not water in liquid form, as the latter would weaken the paper and cause it to tear. For that reason, I have provided an attachment whereby all condensed water will be drained out leaving only the steam in a state of vapor to be applied to the paper.

With the above and other objects in view, the invention has particular relation to certain novel figures of construction, arrangement of parts and use, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a front elevation.

Figure 2 is a side view.

Figure 3 is a fragmentary front elevation.

Figure 4 is a fragmentary side view, and

Figure 5 is a fragmentary transverse sectional view.

Referring now more particularly to the drawings wherein like numerals of reference designate similar parts in each of the figures, the numerals 1, 1 refer to the side members of the rear end of the printing press wherein a plurality of paper rolls 2 are rotatably mounted. The paper is unwound from these rolls forming sheets 3, 3, 3, each sheet passing around the respective idler rollers 4 and 5 before entering the press proper. The numeral 6 refers to a steam line which is controlled by the valve 7 and from which leads the two steam pipes 8, 8 arranged on opposite sides of the press and connected by the nozzle pipes 9, 9, 9, said last mentioned pipes passing under the respective sheets 3, and being provided with a row of perforations or outlets 10 in their upper sides through which steam is forced against the corresponding sheet 3 which dampens the underside thereof. Each nozzle pipe is controlled at each end by a valve 11, so that steam may enter each of said nozzle pipes from both ends so as to insure an even distribution therethrough. On the opposite side of the sheet 3 is a nozzle 12, connected at its respective ends to the corresponding nozzle pipes 9 and spaced therefrom, a sufficient distance to permit the sheet to pass through, and the front side of this nozzle is provided with a row of perforations 13

through which steam is forced against the upper side of the sheet.

Each nozzle pipe is provided with a pair of collars 14 and 15, on each side, said collars, 5 being spaced apart and adjustably secured to the nozzle pipes by means of suitable set bolts, and between the said collars are the bearings 16, which rest against the corresponding collars 15, and adjustably secured 10 to said bearings are the arms 17, whose lower ends are inwardly turned and are provided with the anti-friction rollers 18, which rest against the corresponding roll near its respective ends. These rollers are held yield- 15 ably against the roll of paper by means of coil springs 19, which surround the nozzle pipe 9, one end of each spring being attached to the corresponding collar 14, and the other end thereof being attached to the corresponding bearing 16. A flexible hose 20 20 leads from each end of each nozzle pipe within the valves 11, and terminates in a nozzle 21, arranged to project steam against the outer plies at each end of the roll. Each 25 nozzle is held in position by means of an adjustable bearing 22, carried by the corresponding arms 17. By means of this arrangement the outer plies of paper are dampened at the ends of the roll immediately before unrolling. The bearings 22 30 may be adjusted relative to the arms 17, so as to bring the nozzle 21 to the desired position and then said bearings secured in place and the collars 14 and 15 may be adjusted on the nozzle pipes 9 so as to accommodate the apparatus to rolls of any length. 35 The steam pipes 8, 8 converge together, and

are provided with a drain pipe 23 formed into a trap through which all condensed water will be drained from the pipes, thus 40 preventing any water in its liquid form from being forced against the paper.

What I claim is:—

1. An attachment for printing presses including a steam line, a transverse nozzle pipe 45 connected to said line at each end and provided with a steam outlet arranged to project steam against the paper being unwound from a roll, means for controlling the entrance of steam into said nozzle pipe at each 50 end, and a nozzle arranged to project steam against each end of said roll, said end nozzle being movable and aligning with the outer ply of the roll.

2. An attachment for printing presses including a steam line, a pair of transverse 55 nozzle pipes connected to said steam line and spaced apart, permitting a sheet of paper to pass between them, and provided with steam outlets arranged to project steam against 60 said sheet as it is unwound from a roll, and a nozzle arranged at each end of the roll and arranged to project steam against the outer plies of paper forming said roll, said 65 nozzle being movable and the position of the said end nozzle being controlled by the roll.

In testimony whereof TURNER T. POPE has signed his name to this specification in the presence of two subscribing witnesses.

TURNER T. POPE.

Witnesses:

J. W. WOODS,
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