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(54) **A spray dampening apparatus**
Sprühfeuchtwerk
Dispositif de mouillage par pulvérisation

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(56) References cited:
WO-A-97/27052 **US-A- 4 241 656**
US-A- 5 299 495

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Description

Field of the Invention

[0001] The present invention relates to a device for preventing clogging of spray nozzles and/or a screening plate in a spray casing of a spray dampening apparatus arranged at a printing press roller.

Technical Background

[0002] A spray dampening apparatus is arranged in the proximity of a printing press roller for spraying fountain solution thereon. This fountain solution is needed for obtaining the intended printing function in the printing press, as is well known in the art. (Other liquids than fountain solution could alternatively be sprayed.)

[0003] It is also well known in the art that at the high speed rotation of the different rollers in the printing press, it is difficult to obviate the formation of a mist of printing ink and other matters in and around the press. This printing ink mist causes certain problems in the operation of the press.

[0004] The printing ink mist causes clogging of the spray nozzles of the spray dampening apparatus, so that their intended spray function gradually deteriorates and the spray pattern of the spray dampening apparatus is changed.

[0005] In a special design of the spray dampening apparatus, as shown in US-A-5 299 495, a screening plate is provided in a spray casing in front of the spray nozzles. The screening plate is provided with openings for letting through to the printing press roller only a portion of the fountain solution sprayed by the spray nozzles. These screening plate openings may be clogged by the entering printing ink mist, so that the screening function of the screening plate is changed in a non-predictable way. This is obviated by maintaining a positive pressure behind the screening plate.

The Invention

[0006] This clogging may according to the invention be prevented in that means for emitting an air stream along spray cones from the spray nozzles towards the printing press roller are arranged at each side of the spray nozzles in the spray casing.

Brief Description of the Drawing

[0007] The invention will be further described below under reference to the accompanying drawing illustrating a spray dampening apparatus according to the invention at a printing press roller in a sectional and schematic side view.

Detailed Description of Embodiments

[0008] A spray dampening apparatus 1 of a generally conventional design is mounted in the vicinity of a printing press roller 2. It comprises a spray beam 3 in a longitudinal spray casing 4. Spray nozzles 5, preferably for spraying fountain solution, are arranged in the spray beam 3. They are preferably evenly distributed for obtaining an even spray pattern on the roller 2 from spray cones 6 emanating from the nozzles 5.

[0009] The spray casing 4 is generally closed except at its side facing the roller 2. As shown, the side walls of the spray casing 4 are curved in correspondence to the curvature of the roller 2, so that only a small circumferential gap appears between the roller 2 and the spray casing 4.

[0010] The environment in a printing press is comparatively harsh with for example a mist of printing ink and possibly other matters being formed in the region where the roller is situated.

[0011] The mist can enter into the spray casing 4 through said gap, as is illustrated by arrows 7. Conventionally, this mist causes problems with clogging of the interior of the spray casing 4, especially the spray nozzles 5 with a gradually deteriorating operation thereof as result.

[0012] In order to obviate this problem, there is shown an arrangement creating an air stream towards the roller 2 in the spray casing 4. In the shown case the arrangement comprises two longitudinal slitted air tubes 8 one at each side of the row of spray nozzles 5. These slitted tubes direct air streams 8' obliquely forwards in the spray casing 4. The purpose of these air streams 8' is to prevent the intrusion of the printing ink mist into the spray casing 4 and to create an overpressure therein.

[0013] As a special case and as shown in the drawing, a screening plate 9 provided with openings for letting through only a certain portion of the fountain solution from the spray nozzles 5 may be arranged in the spray casing 4. The screening plate openings are gradually clogged by the printing ink mist, which may be prevented by the air streams 8'.

[0014] It is an increased tendency in the art to use a spray dampening apparatus without a spray casing and with the spray nozzles arranged as hitherto on a spray beam. The discussed problem with clogged spray nozzles may also appear at such a construction. In order to obviate this problem by air streams according to the invention, it is of importance to position the slitted air tubes 8 at the spray nozzles in an optimal way. It appears advantageous to place the air tubes 8 close to the row of spray nozzles 5 and to direct the air streams along the borders of the spray cones 6 from the nozzles.

[0015] As an alternative to emitting the air streams from slitted air tubes 8, it is possible to make use of air nozzles.

Claims**ce que** lesdits moyens sont des buses d'air.

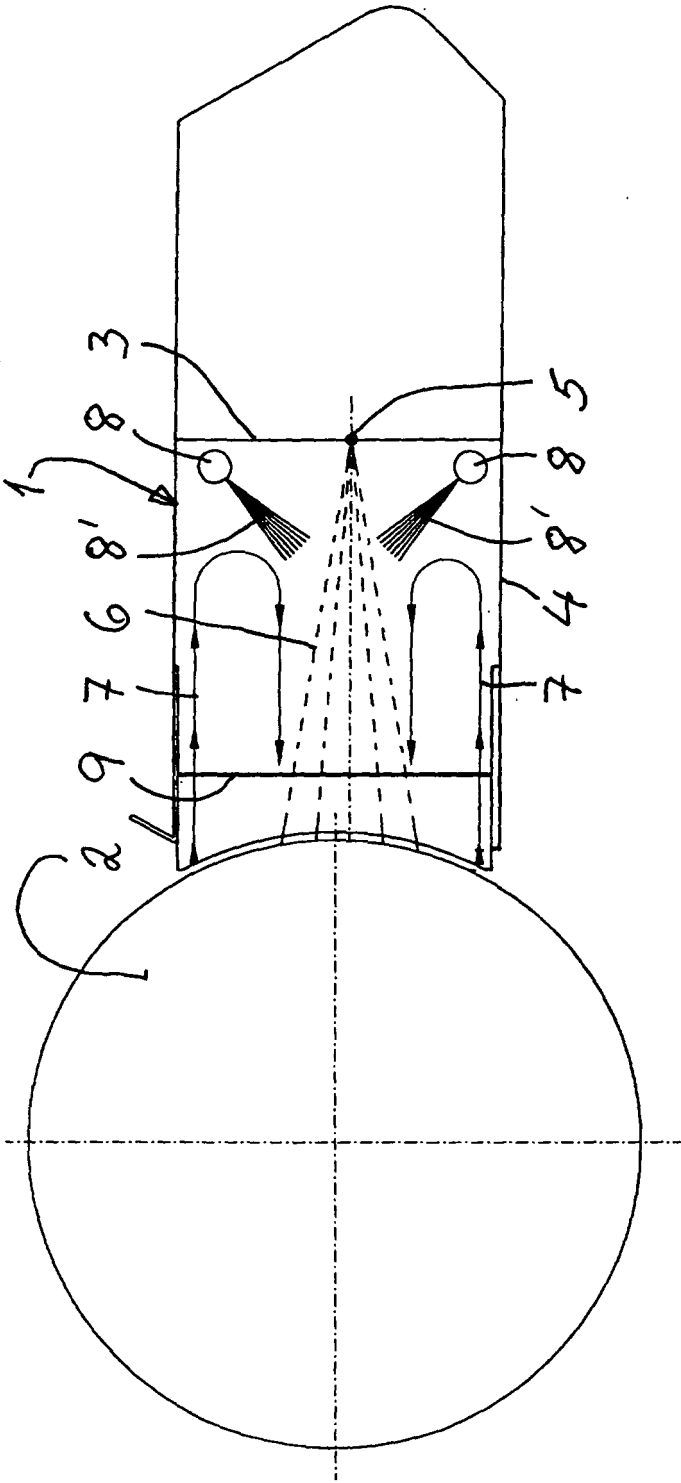
1. A device for preventing clogging of spray nozzles (5) and/or a screening plate (9) in a spray casing (4) of a spray dampening apparatus (1) arranged at a printing press roller (2), **characterized in that** means (8) for emitting an air stream (8') along spray cones (6) from the spray nozzles (5) towards the printing press roller (2) are arranged at each side of the spray nozzles (5) in the spray casing (4). 5 10
2. A device according to claim 1, **character-ized in that** said means is a slitted air tube (8).
3. A device according to claim 1, **character-ized in that** said means are air nozzles. 15

Patentansprüche

1. Vorrichtung zum Verhindern einer Verstopfung von Sprühdüsen (5) und/oder einer Siebplatte (9) in einem Sprühgehäuse (4) einer Sprühanfeuchtungs-
vorrichtung (1), die an einer Druckpressenwalze (2) angeordnet ist, **dadurch gekennzeichnet, dass** Mittel (8) zum Aussenden eines Luftstroms (8') entlang Spraykegeln (6) von den Sprühdüsen (5) in Richtung der Druckpressenwalze (2) auf jeder Seite der Sprühdüsen (5) im Sprühgehäuse (4) angeordnet sind. 20 25 30
2. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Mittel eine geschlitzte Luftleitung (8) sind. 35
3. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Mittel Luftdüsen sind. 40

Revendications

1. Dispositif destiné à empêcher l'obstruction de buses de pulvérisation (5) et/ou d'une plaque de criblage (9) dans un boîtier de pulvérisation (4) d'un appareil de mouillage par pulvérisation (1) agencé au niveau d'un rouleau de presse d'impression (2), **caractérisé en ce que** des moyens (8) destinés à émettre un courant d'air (8') le long de cônes de pulvérisation (6) depuis les buses de pulvérisation (5) vers le rouleau de presse d'impression (2) sont agencés de chaque côté des buses de pulvérisation (5) dans le boîtier de pulvérisation (4). 45 50
2. Dispositif selon la revendication 1, **caractérisé en ce que** lesdits moyens sont des tubes à air fendus (8). 55
3. Dispositif selon la revendication 1, **caractérisé en**



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 5299495 A [0005]