

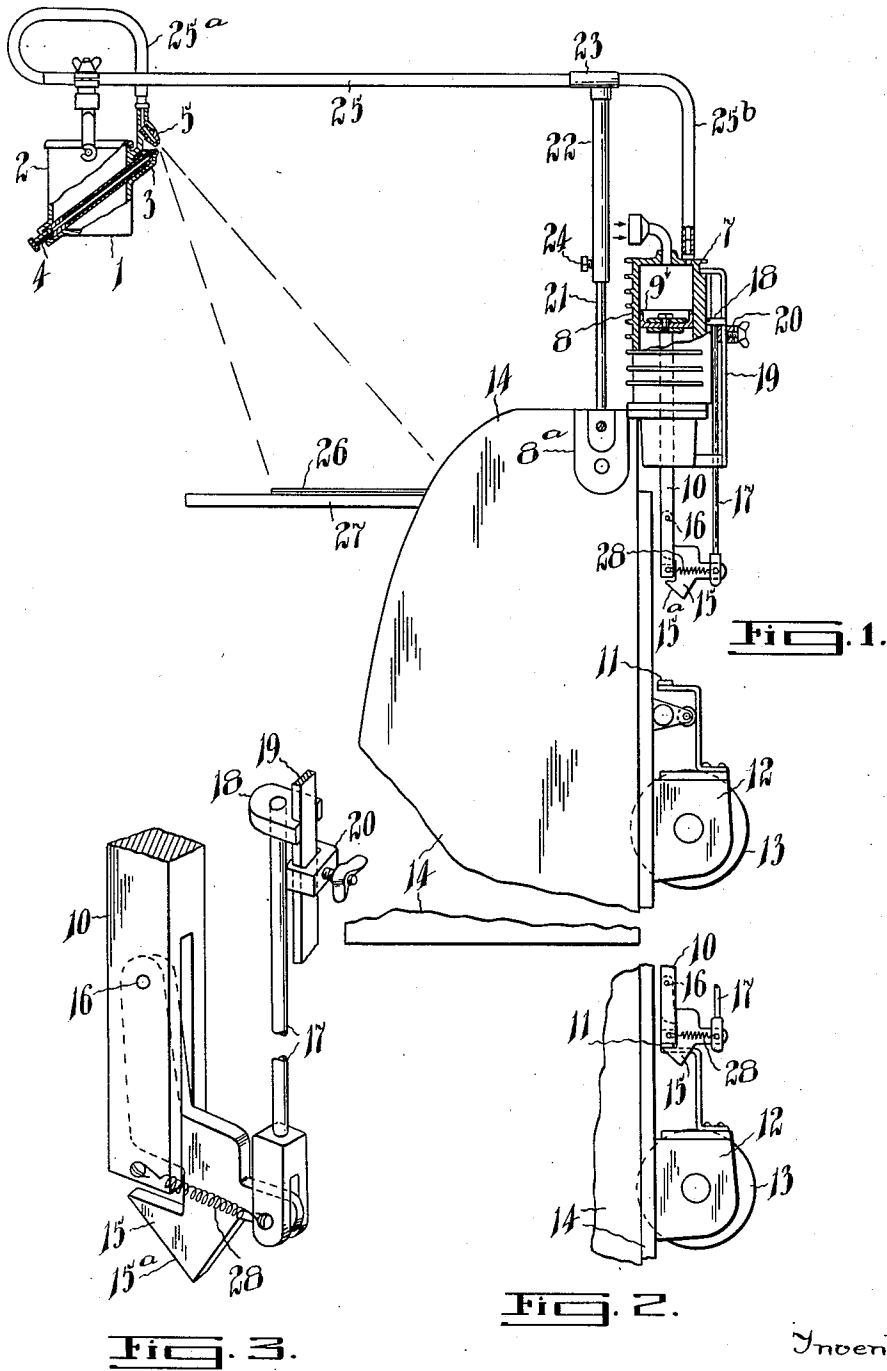
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SPRAYING DEVICE

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SPRAYING DEVICE

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This invention relates to spraying devices and more particularly to such devices used in connection with printing presses for spraying freshly printed sheets to prevent offset. Heretofore such devices have been used on large printing presses but these well known types of spraying equipment are so very complicated and costly that they are not suitable for use on small printing presses. The object of the present invention is to devise suitable equipment of this character which is very simple in construction, which can be made cheaply and yet be durable and efficient, which may be readily and easily attached to existing printing presses, and which may be readily adjusted to produce any desired amount of spray.

I attain my object by connecting air operated spraying apparatus with a pump or compressor which is connected with the frame of the press. The pump is so actuated from a moving part of the press that its stroke may be varied to vary the amount of air supplied to the apparatus. The constructions are hereinafter more fully described and are illustrated in the accompanying drawing in which

Fig. 1 is a side elevation of part of a vertical printing press showing my spraying device attached thereto;

Fig. 2 a detail showing the latch engaged with a moving part of the press; and

Fig. 3 a detail in perspective on an enlarged scale of the plunger rod and latch mechanism.

1 is an atomizer which includes a chamber 2 for receiving the spraying material which is preferably a liquid adapted when sprayed to be converted into a fine powder which settles on the freshly printed sheet being sprayed to prevent offset. The chamber is provided with a spray jet 3 which may have a needle valve controlled by an adjusting screw 4 for regulating the volume of the flow of the spraying material through said jet. The air jet 5 of the atomizer is connected as hereinafter described with a pump or compressor 7.

The pump 7 includes a cylinder 8 in which a plunger 9 is reciprocated. The plunger is provided with a plunger rod 10 which projects through the lower end of the cylinder 8 and is adapted to be engaged by a part 11 which is secured to any suitable moving member, such as a reciprocating cylinder frame 12, of a printing press. The frame 12, in the vertical printing press shown, carries the oscillating cylinder 13 for presenting the sheet to be printed to the type (not shown) and is reciprocally guided on

the stationary frame 14 of the press. The cylinder 8 is also suitably secured to said frame 14 and is so positioned thereon that the moving part 11 will engage the lower end of the plunger rod 10 during the upward stroke of the cylinder frame 12.

The plunger 9 is moved downwardly, on the return stroke of the cylinder frame 12 by means of a latch 15 pivoted at 16 on the plunger rod 10. During the upward stroke of the plunger rod, the latch 15 engages the underside of the moving part 11 which thus serves as a keeper to withdraw the plunger on the succeeding downstroke of the part 11 when the cylinder frame 12 descends.

To the end of the latch remote from its pivot 16 is pivotally connected a link 17 having a slide 18 secured thereto. The slide 18 is slidably engaged with a guide 19 which is carried by the pump cylinder 8. A stop 20, adjustably secured to the guide, is adapted to be engaged by the slide 18 on the downward stroke thereof to cause the latch 15 to be tripped and thus released from engagement with the moving part 11. By adjusting the stop 20 on the guide 19, the stroke of the pump plunger 9 may be varied to vary the amount of air supplied to the air jet 5 of the atomizer 1.

To the base 8^a of the pump cylinder 8 is secured a standard 21 on which the stem 22 of a T shaped tube support 23 is vertically adjustable. The stem is releasably locked, as adjusted, by means of a set screw 24. The cross portion of the T support is tubular for receiving a tube 25 on which the atomizer 1 is slidably mounted so that it may be adjusted longitudinally of the tube. Vertical adjustment of the atomizer is effected by moving the stem 22 on the standard 21. The air jet 5 is connected by tubing 25^a with the tube 25 and the latter is connected by tubing 25^b with the pump cylinder 8.

Each sheet 26 is printed on the upstroke of the cylinder frame 12 and each printed sheet is piled on a platform 27 of the press in the usual manner during the downstroke of the cylinder frame. It will thus be seen that as each sheet is being printed, the previously printed sheet, which is the uppermost sheet of the pile on the platform 27, is being sprayed. The amount of spraying material used on each sheet is regulated by adjusting the stop 20 to vary the amount of air supplied to the atomizer. The underside of the latch 15 is bevelled or tapered at 15^a to permit the moving part 11 to swing the latch clear of the part as the latter moves past the

latch to engage the lower end of the plunger rod 10. Immediately the part 11 engages the rod 10, a spring 28 connected with the rod and the latch moves the latter into its operative position beneath the part 11. During the continued upward movement of the part 11, the link 17 and the slide 18 move upwardly with the latch and plunger rod. On the following downward stroke of the cylinder frame 12, the part 11 engages the latch to move the plunger rod downwardly until the slide 18 engages the stop 20 whereupon the latch is tripped. The downstroke of the plunger 9 is thus stopped before the cylinder frame, with its part 11, completes its downstroke.

What I claim as my invention is:

1. A spraying device comprising an atomizer for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the atomizer, the pump including a reciprocating plunger adapted to be engaged by the said moving part to move the plunger in one direction; means carried by the plunger for releasable engagement with the said moving part to cause the plunger to be moved in the other direction; and means for releasing the engaging means to limit the stroke of the plunger relative to the movement of the moving part.

2. A spraying device comprising an atomizer for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the atomizer, the pump including a reciprocating plunger adapted to be engaged by the said moving part to move the plunger in one direction; means carried by the plunger for releasable engagement with the said moving part to cause the plunger to be moved in the other direction; and adjustable means for releasing the engaging means to vary the stroke of the plunger.

3. A spraying device comprising an atomizer for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the atomizer, the pump including a reciprocating plunger adapted to be engaged by the said moving part to move the plunger in one direction; a latch carried by the plunger for releasably engaging the said moving part to cause the plunger to be moved in the other direction; and means for tripping the latch to release it from engagement with the moving part.

4. A spraying device comprising an atomizer for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the atomizer, the pump including a reciprocating plunger adapted to be engaged by the said moving part to move the plunger in one direction; a latch pivoted on the plunger for releasably engaging the said moving

part to cause the plunger to be moved in the other direction; a stationary guide; a slide guided by the guide and connected with the latch; and a stop adjustably carried by one of said guide and slide parts for engaging the other of said parts to trip the latch and release it from engagement with the said moving part.

5. A device of the class described comprising air operated spraying apparatus for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the said spraying apparatus; means including a latch for releasably connecting the said moving part with the pump to actuate the latter; and means for tripping the latch to release the connecting means from the moving part.

6. A device of the class described comprising air operated spraying apparatus for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the said spraying apparatus; and means including a latch for releasably connecting the said moving part with the pump to actuate the latter; a stationary guide; a slide movable on said guide and connected with the latch; and a stop carried by one of said guide and slide parts for engaging the other of said parts to trip the latch and release the connecting means from the said moving part of the printing machine.

7. A spraying device comprising an atomizer for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the atomizer, the pump including a cylinder; a plunger in said cylinder provided with a depending rod adapted to be engaged by the said moving part to move the plunger in one direction; a latch pivoted on the plunger rod for releasably engaging the side of the said part remote from that engaged by the plunger rod to cause the plunger to be moved in the other direction; a guide carried by the pump cylinder; a stop adjustably mounted on said guide; a slide guided on the guide and adapted to engage the stop; and a link connecting the slide and the latch to cause the latter to be swung to release it from engagement with the said part when the slide engages the stop.

8. A spraying device comprising an atomizer for spraying sheets after they have been printed by a printing machine having a moving part; a pump for supplying air to the atomizer; means for releasably connecting the pump and the moving part to effect operation of the pump; and means for releasing the connecting means to limit the operation of the pump relative to the movement of the moving part.

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