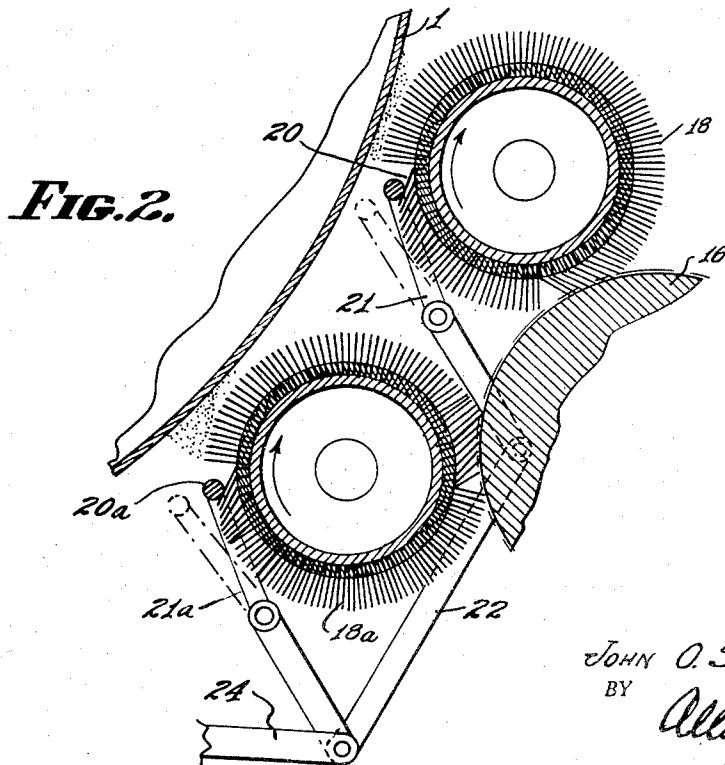
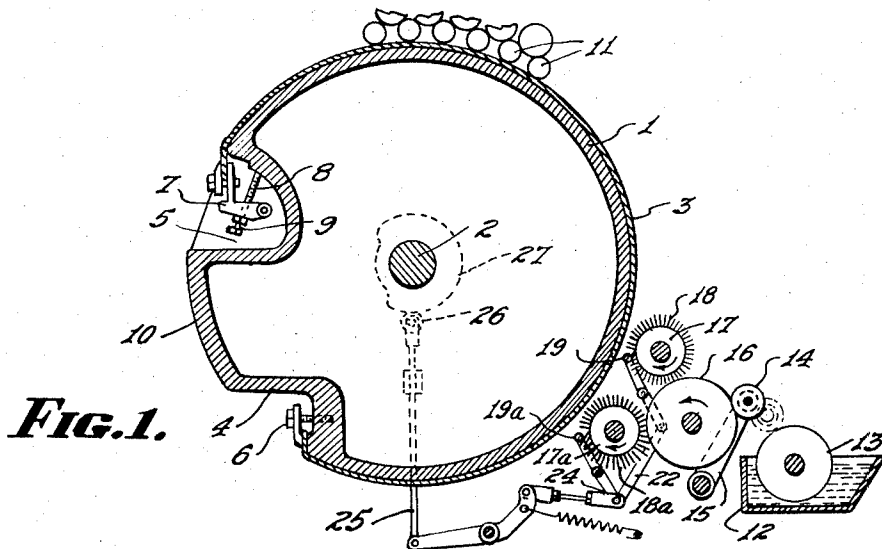


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LITHOGRAPHIC PRESS DAMPENING MECHANISM FOR SPRAYING
DESENSITIZING LIQUID ON LITHOGRAPHIC PLATES
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LITHOGRAPHIC PRESS DAMPENING MECHANISM FOR SPRAYING DESENSITIZING LIQUID ON LITHOGRAPHIC PLATES

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3 Claims. (Cl. 101—148)

My invention relates to lithographic presses and to apparatus and a method for spraying desensitizing fluid onto the printing plates of said presses.

It is normal in lithographic press construction to have a rotatable cylinder which carries the printing or lithographic plates and since the plates require etching, to arrange what are called dampening or damping rollers in peripheral contact with the plates to apply a film of desensitizing fluid from the surface of the dampening rollers to the surface of the plate.

These presses run at very high speeds and normally the fabric surfaces of the dampening rollers pick up spots of ink from the plates. These ink spots gradually increase in size and as a final result do not apply an even coating of desensitizing fluid. This causes ink to adhere to unetched areas of the lithographic plate and the printed impression becomes smudged and an inferior quality of lithographic reproduction results.

It is the object of my invention to keep the dampening rollers clean by mounting them so that they are spaced from peripheral contact with the lithographic plates and by a novel method to cause the desensitizing fluid to be ejected in a fine spray against the plates. This I accomplish by forming the dampening rollers with the peripheral surfaces formed by a series of radially projecting fibers or nap. This nap is similar to certain grades of carpeting particularly nylon carpeting.

It is my object to provide a bar bearing against the nap of the dampening roller to bend down the nap as it passes under the bar. After emerging from contact with the bar the fibers spring back to their normal radial arrangement and in this snapping back of the individual fibers there is ejected a fine spray of liquid against the printing plate.

As the surface of the cylinder passes the dampening rollers there are certain arcs of the cylinders which do not require a film of desensitizing fluid and accordingly I avoid spraying at this position by moving the spray bars out of contact with the nap of the dampening rollers. This can be readily accomplished by a cam action.

The foregoing objects and other objects to which I will refer in the ensuing description, I accomplish by that certain combination and arrangement of parts of which I have shown one typical arrangement.

In the drawings:

Figure 1 is a diagrammatic sectional view of the printing rollers, inking rollers and dampening roller mechanism of a lithographic press.

Figure 2 is an enlarged sectional view showing details of the dampening rollers.

As shown in Figure 1, the press cylinder 1 is mounted on a rotatable shaft 2 and carries a lithographic plate 3 bolted into position on the cylinder. The cylinder has recessed portions 4, 5, and normally is bolted at one end as with fixed bolts 6. The other end is adjustable by means of a clamp 7 which secures the end of the plate and has a threaded adjustment screw 8 held in position by lock nuts 9.

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Between the recessed portions there may be an inking plate 10 which, during rotation of the cylinder, bears against the ink distributing rollers 11 smoothing out the films of ink carried by the rollers so that the ink will be applied in an even coat to the design areas of the plate.

The dampening mechanism consists of a pan or tank 12 within which a metal roller 13 revolves carrying up with it a film of desensitizing solution from the pan. A doctor roll 14 is mounted on a rocker 15 which alternately moves the roll 14 into peripheral contact with the roll 13 and then moves it into peripheral contact with the distributing roll 16.

It was to the metallurgical composition of the roll 16 that my invention as set forth in my Patent 1,612,061 granted December 28, 1926 related. The distributing roller 16 is in constant peripheral contact with the dampening rollers 17, 17a.

Referring to the enlarged Figure 2, the surface of the dampening rollers 17, 17a, is covered with radially extending fibers 18, 18a. These fibers, when they pass under the spray bars 19, 19a, are bent down as indicated at 20, 20a. As soon as they pass along out of contact with the bars 19, 19a, they spring back to their radially erect position and during this movement eject or snap fine particles of desensitizing solution onto the plate.

The spray bars 19, 19a are mounted on lever arms 21, 21a which are actuated by a link 22 and adjustment rod 23 connected to a pivoted crank 24. The pivoted crank is connected to a link 25 which is adjustable and carries a cam wheel 27 carried by the shaft 2.

It will be noted that the mechanical arrangement illustrated for moving the spray bars 19, 19a out of contact with the nap surfaces of the dampening rollers 17, 17a is primarily diagrammatic and is merely one arrangement for inhibiting the spray controlling effect of the spray bars. Other arrangements may be used to accomplish this same result.

The method which I have discovered for flattening down the nap of the dampening rollers and permitting the nap to spring back ejecting a fine spray against the plates is new as far as I am advised.

As I have explained, the complete avoidance of smudging the dampening rollers with splashes of ink and the consequent avoidance of smudging of the lithographic design on the printed sheet brings about an important improvement in the clean cut printing of the plate.

The inhibiting of the spray distributing operation, as for example when the inking plate 10 is passing by the dampening rollers, may be accurately controlled to avoid depositing the desensitizing solution on the cylinder in the areas where the solution would cause damaging results.

I have further found that by my new spraying arrangement I can deposit the desensitizing solution in a more uniform film on the lithographic plate.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a lithographic press the combination of a rotatable cylinder carrying a printing plate and which plate requires the application thereto of desensitizing solution, a supply receptacle for desensitizing solution, a metal roller fed by emergence in the desensitizing solution, a doctor roller mounted to engage said metal roller, a distributing roller adapted to receive a film of desensitizing solution from said doctor roller and a dampening roller provided with means for rotating the same, said dampening roller composed of radially extending fibers, said metal roller, doctor roller, distributing roller and dampening roller being operable as a unit independent of said rotatable cylinder and means for bending over said fibers and releasing them to cause them to spray desensitizing fluid onto the plate, and means for inhibiting the action of said fiber

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bending over and releasing means timed for intermittent action with the rotatable cylinder mechanism to inhibit spraying at predetermined intervals of cylinder rotation.

2. In a lithographic press the combination of a rotatable cylinder carrying a printing plate and which plate requires the application thereto of desensitizing solution, a supply receptacle for desensitizing solution, a metal roller fed by emergence in the desensitizing solution, a doctor roller mounted to engage said metal roller, a distributing roller adapted to receive a film of desensitizing solution from said doctor roller and a dampening roller provided with means for rotating the same, said dampening roller composed of radially extending fibers, said metal roller, doctor roller, distributing roller and dampening roller being operable as a unit independent of said rotatable cylinder, and means for bending over said fibers and releasing them to cause them to spray desensitizing fluid onto the plate, and means for inhibiting the action of said fiber bending over and releasing means timed for intermittent action with the rotatable cylinder mechanism to inhibit spraying

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at predetermined intervals of cylinder rotation, said means for bending over and releasing the fibers comprising a bar normally bearing against side fibers.

3. In the combination of parts as recited in claim 1 wherein an additional dampening roller is arranged to operate in series with the one dampening roller for spraying onto a different area of the rotatable cylinder.

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