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DAMPENING APPARATUS FOR ROTARY PRINTING PRESSES

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Fig. 1.

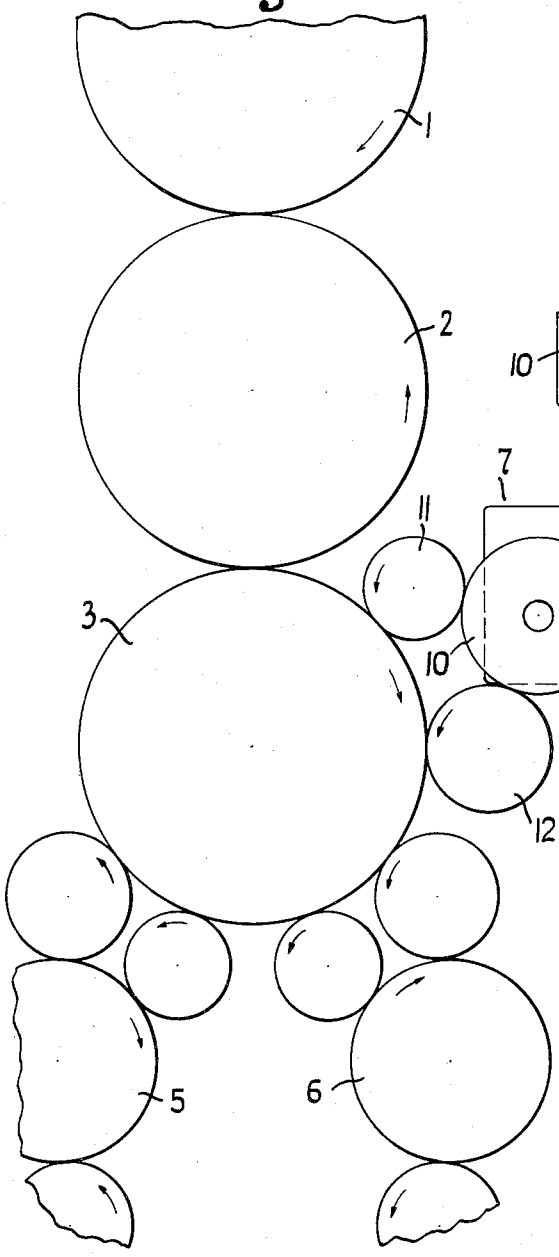
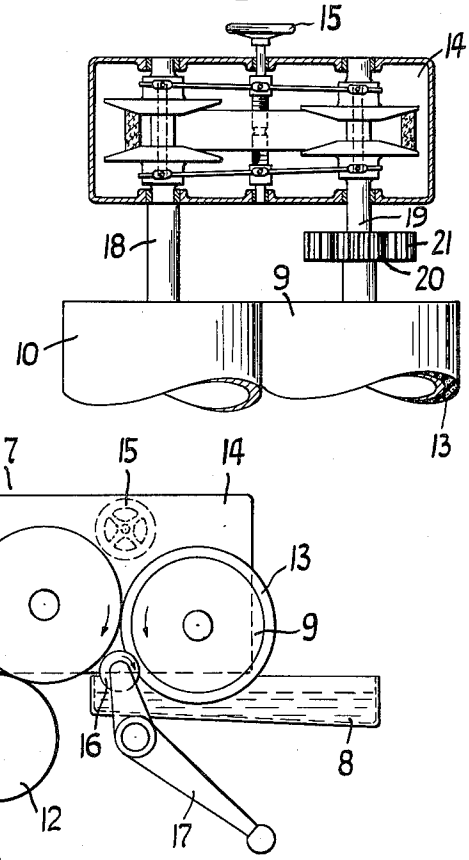


Fig. 2.



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DAMPENING APPARATUS FOR ROTARY PRINTING PRESSES

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This invention relates to a dampening apparatus for rotary printing presses. In particular, the invention is directed to the transfer of the liquid i.e. water from the well to the dampening rolls.

Dampening rolls for printing presses composed of rubber or sponge rubber or coated with such material are known. Such rolls do not permit the regulation of the liquid laid on the plate cylinder. Furthermore, the so-called lifting rolls which are intermittently dipped into the liquid with a swinging movement do not permit an effective regulation of the amount of water applied. Another apparatus uses a revolving roll for regulating the liquid supply. This roll has a number of lamellas on its mantle surface. These lamellas have a moisture absorbing coating which takes up liquid during the rotation of a roll and then comes in contact with a distributor roll. However, such rolls are so detailed as to be expensively produced and do not give a continuous running supply of the liquid in the same manner as in the other described apparatus.

The object of this invention is to avoid the disadvantage of the prior art apparatus. In general, the object is accomplished by having a ductor roll coated with foam rubber immersed and continuously rotating in the liquid and contacted with the distributor roll, with the ductor roll rotating at a slower speed than the moist distributor roll. By reason of this arrangement, the liquid taken from the well on the foam rubber surface of the ductor roll is removed from the ductor roll and applied to the distributor roll in accordance with the difference in the r.p.m. therebetween as a more or less thick uniform film on the distributor roll. An adjustable squeeze roll or the like applied to the ductor roll is used for additionally controlling the amount of transferred water.

The means by which the object of the invention is obtained is disclosed more fully with respect to the accompanying schematic drawings, in which:

FIGURE 1 is a side elevational view of the damping apparatus; and

FIGURE 2 is a plan view of the ductor and distributor rolls.

In FIGURE 1, the usual offset printing press contains a printing cylinder **1**, rubber cylinder **2** and plate cylinder **3**, the latter being contacted by the ink rolls **5** and **6**. A dampening device **7** is added by this invention to the above combination. Device **7** is composed of a well **8** in which the ductor roll **9** is partially immersed. Roll **9** continuously contacts distributor roll **10** which in turn contacts rolls **11** and **12** for applying the water to the plate cylinder **3**. According to the invention, ductor roll **9** is surfaced with a foam rubber layer **13** having a rough

imperforate surface skin which continuously bears against roll **10**. Roll **10** is friction-operated by the rolls **11**, **12** and its axle forms the driving shaft **18** of an infinitely variable speed control unit **14**, the driven shaft **19** of which is connected with roll **9** by toothed gears **20**, **21**, so that the rotational speed of roll **9** is less than that of roll **10**. Handwheel **15** for control unit **14** is for adjusting the proportional rotational speeds between rolls **9** and **10**. The rolls **9** and **10** are mounted so as to be adjustable with respect to each other.

The squeeze roll **16** is mounted above the level of the liquid in well **8** and can be adjusted against the ductor roll **9** by means of lever **17**.

Having now described the means by which the object of the invention is obtained,

I claim:

1. In a rotary printing press having a plate carrying cylinder, means for applying dampening liquid to said cylinder comprising a liquid well, a foam rubber coated ductor roll partially immersed in said well, a moist distributor roll continuously contacting said ductor roll for receiving liquid from said ductor roll, and driving means for rotating each roll with the ductor roll rotating at less speed than the distributor roll.

2. In a rotary printing press as in claim 1, further comprising an adjustable squeeze roll mounted above the liquid level in said well and contacting said ductor roll.

3. In a rotary printing press as in claim 1, said driving means further including a variable speed control unit.

4. In a rotary printing press as in claim 1, said foam rubber being in the form of a closed pores, nonabsorbable material.

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