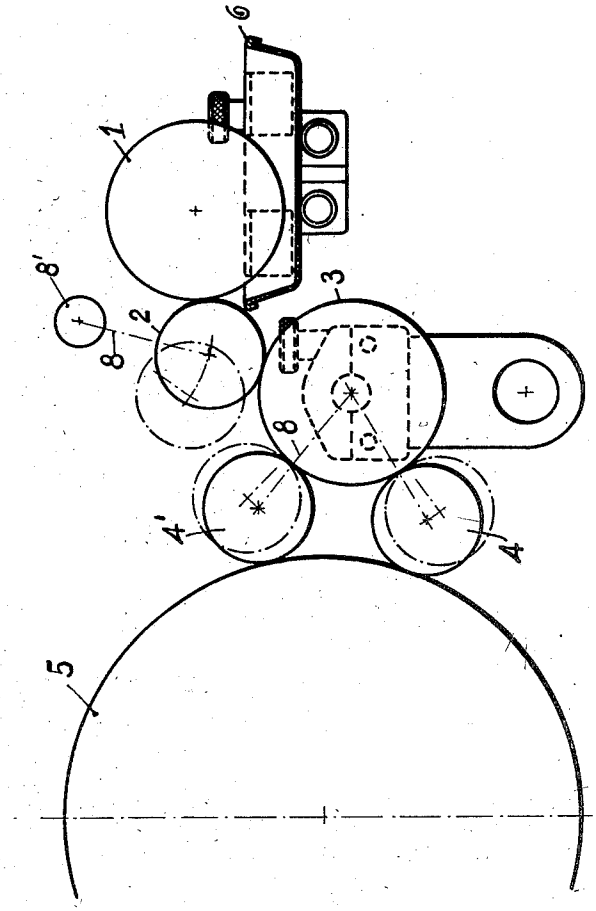
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DAMPING ROLLER FOR OFFSET PRINTING MACHINES

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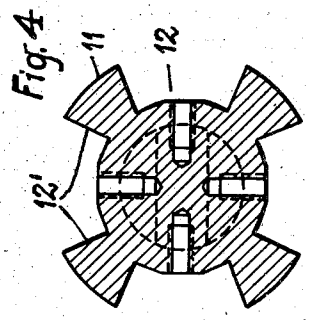
Fig. 1

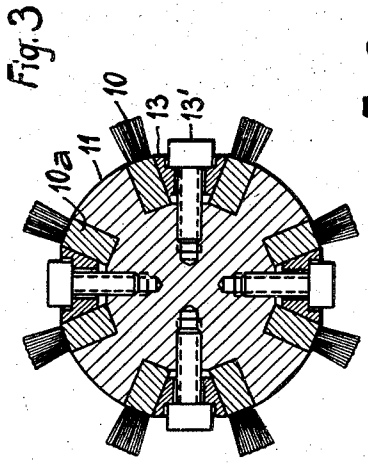


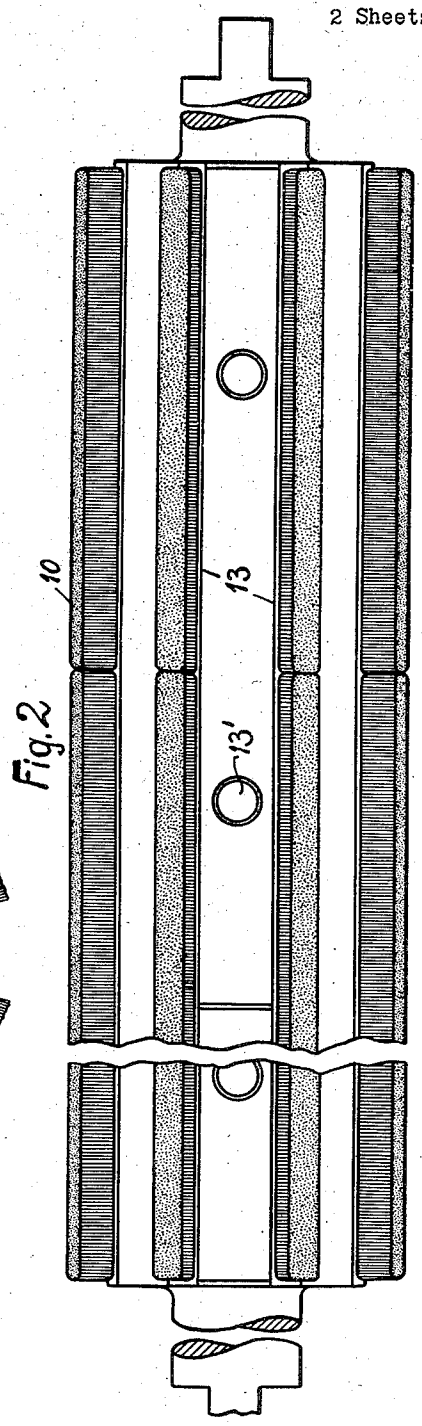
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DAMPING ROLLER FOR OFFSET PRINTING MACHINES

Filed Jan. 5, 1954 2 Sheets-Sheet 2







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DAMPING ROLLER FOR OFFSET PRINTING MACHINES

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8 Claims. (Cl. 101—148)

The damping device of an offset printing machine encounters the problem that the damping medium for example water located in a container must be finely divided and applied in the smallest possible amounts to the printing plate. This function was previously performed by a ductor roller coated with a fabric layer. The ductor roller moved by a ratchet device transfers the water to a vibratory distributor roller which in turn moistens the brass rollers. From this point the further transfer to the printing plate is effected by the damping rollers. Since the speed of the machines and thus the output thereof tends continuously to increase the reciprocatory movement of the distributor roller has proved to be mechanically disadvantageous. From the printing angle there is the disadvantage that the feed of water occurs irregularly for changing rotary speeds. There is further the difficulty that the water is limited in the axial direction to certain part zones.

The present invention makes it possible to provide a damping system which no longer incorporates the aforesaid disadvantages. The construction according to the invention consists in the fact that the damping medium ductor comprises a cylindrical arrangement of brush components lying parallel to the rotary axis. Several such rows are provided spaced in the peripheral direction one from the other and the brush components of the arrangement are removably mounted, in order that the position and number thereof shall correspond to the necessary feed of moisture to the plate cylinder in such a way that the damping system is constructed without the vibratory distributor roller. The movement in the peripheral direction can be effected by an adjustable pawl and ratchet feed or by continuous movement.

The invention is further described on the basis of an example of construction shown on the accompanying drawings:

Fig. 1 shows a diagrammatic arrangement of the rollers of a damping system in which the ductor roller otherwise commonly employed consists of a cylindrical arrangement of brush components.

Fig. 2 shows a view of a brush arrangement of a cylindrical roller which hereinafter is termed the brush roller.

Fig. 3 is a cross section of a brush roller according to Fig. 2.

Fig. 4 shows also in section the construction of the roller without the brush components mounted thereon.

In the roller diagram of Fig. 1 **1** represents the brush roller. The roller **2** is rotatably mounted so that its surface is brushed by the bristles of the brushes **10**. **3** is the brass roller. **4** and **4'** are the damping rollers, and **5** is the plate cylinder. A reservoir **6** with the moistening medium or water used in conjunction with the brush roller **1** extends over the length of the brushes. The dash-dotted lines show the position of the rollers **2**, **4** and **4'** in the disconnected position of the damping device. The adjustment of these rollers **2**, **4** and **4'** for putting the damping device out of action is effected by

levers **8** mounted on shafts **8'**. The roller **2** rotates between the brush roller **1** and the brass roller **3** without making a reciprocatory movement for each impression. In a modified arrangement the brush roller **1** can be in direct contact with the brass roller **3**. From the brass roller **3** onwards the damping medium is applied to the plate cylinder **5** by means of damping rollers **4**, **4'** as in the known damping devices.

In Figs. 2 to 4 a rotating cylindrical arrangement of brush components **10** positioned successively parallel to the rotary axis is shown. Several brush components are positioned longitudinally in the axial direction. The rows positioned at distances one from the other are distributed around the periphery of the roller body **11** and are mounted in an easily removable manner so that the position and number of the brush components per row can be adjusted according to the required degree of application of the damping medium. The reciprocatory distributor roller previously used is here replaced by the rotating roller **2**, Fig. 1. Grooves **12** are provided in the roll body **11**, Fig. 3. The brush components are secured along the radially directed groove walls **12'** and lying successively one after the other, being retained by means of a clamp strip **13** and screws **13'**. According to the present constructional example the wedge shaped flanks of the clamp strip are pressed by the screws **13'** on to the brush shanks **10*a*** and the clamp strips are releasably screwed to the roller body. All the brush components comprise brush surfaces of the same width. The joints between two brush components can lie askew to the cylinder axis whereby interruption of the transfer of the damping medium to the roller **2** can be definitely avoided. The brushes may be bristled with nylon.

What I claim is:

1. Damping roller for offset printing machines comprising a cylindrical body part and centric extensions for rotatable support, grooved outer surface portions in said body part extending axially, brush components consisting of bristles and supporting means therefor, a wedge type clamp strip to secure said brush components in the grooves of said outer surface portions, said grooves having side walls lying in a plane parallel to the axis of rotation, the supporting means of said bristles placed between said side walls and said clamp strip, and releasable pressure means cooperating with said wedge type clamp strip to clamp at least one supporting means for said bristles releasably in between of one side wall of said grooves and said wedge type clamp strip, said side walls substantially radially disposed with respect to said cylindrical body part whereby said bristles extend substantially radially beyond said body part.

2. Damping roller for offset printing machines according to claim 1, wherein the length of one of said brush components is a fraction of the total length of said grooves.

3. Damping roller for offset printing machines according to claim 1, wherein said releasable pressure means consist of screw bolts extending through said wedge type clamp strip and screw threaded tap-holes in the bottom of said grooves, and the depth of said tap-holes and the length of the screw bolts being such as to permit releasing of the clamp strip while said screw bolt is still engaged in said screw threaded tap-hole, permitting thereby of quick exchange or removal of any one of the brush components arranged along the side walls of said grooves.

4. Damping roller for offset printing machines according to claim 1, wherein said cylindrical body contains four grooves angularly displaced by 90°, each groove and each wedge type clamp strip therefor affording to clamp brush components on to each side wall of every one of the grooves, and said grooves so dimensioned in

circumferential direction that the rows of brush components are uniformly angularly displaced by 45°.

5. Damping roller for offset printing machines according to claim 1, wherein a pawl and ratchet arrangement is used to rotate each row of brush components step by step over the brushing working area to transfer moisture to the adjacent distributor roll.

6. Damping roller for offset printing machines comprising a cylindrical body part and centric extensions for rotatable support, grooved outer surface portions in said body part extending axially, brush components consisting of bristles and supporting means therefor, a wedge type clamp strip to secure said brush components in the grooves of said outer surface portions, said grooves having side walls lying in a plane parallel to the axis of rotation, the supporting means of said bristles placed between said side walls and said clamp strip, and releasable pressure means cooperating with said wedge type clamp strip to clamp at least one supporting means for said bristles releasably in between of one side wall of said grooves and said wedge type clamp strip, said side walls substantially radially disposed with respect to said

cylindrical body part whereby said bristles extend substantially radially beyond said body part, and the free length of all the bristles projecting beyond said supporting means is equal and between ⅛" and ½" long.

7. Damping roller for offset printing machines according to claim 6, wherein said bristles consist of synthetic material such as nylon.

8. Damping roller for offset printing machines according to claim 6 wherein the width measured over the tips of the bristles rectangular to said supporting means is between 1/16" and ¼".

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