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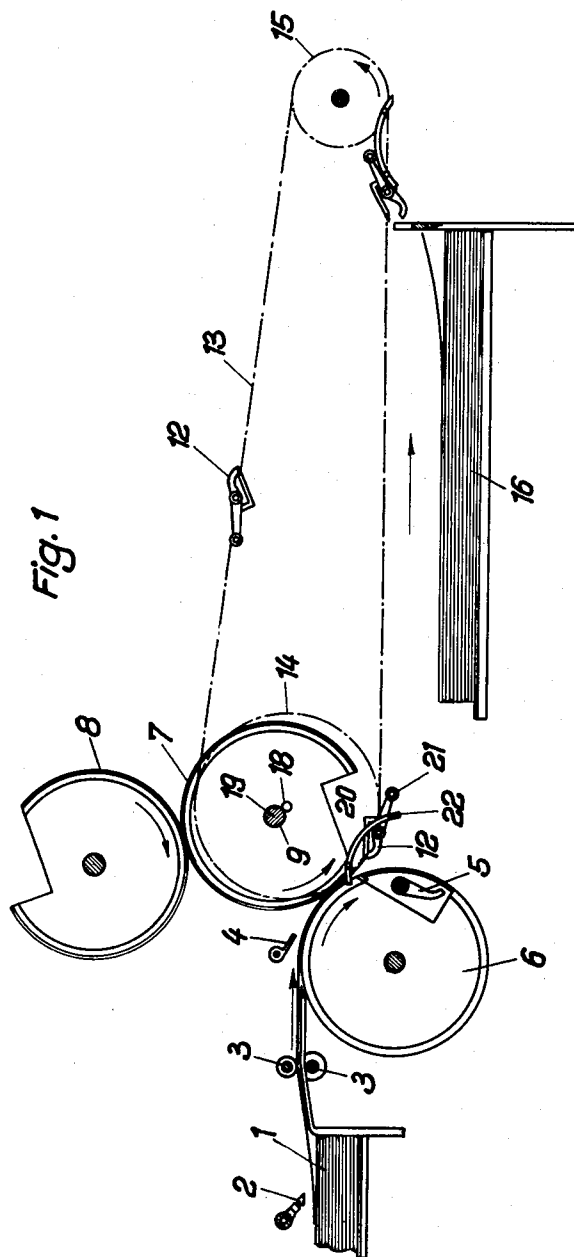
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FLYER SHEET DELIVERER FOR OFFSET MACHINES

Filed Oct. 23, 1952

3 Sheets-Sheet 1



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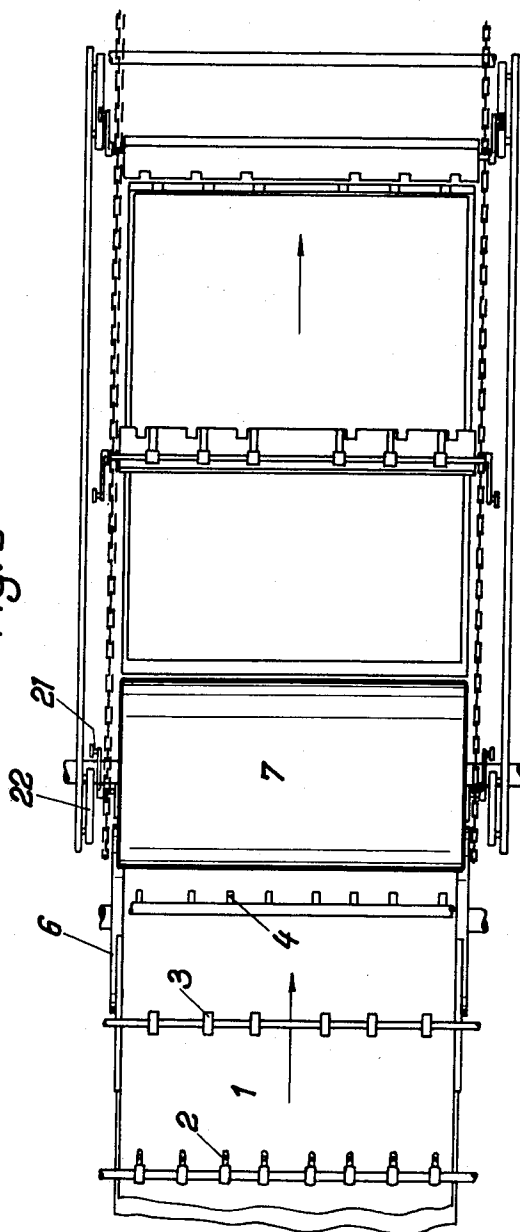
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FLYER SHEET DELIVERER FOR OFFSET MACHINES

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3 Sheets-Sheet 2

Fig. 2



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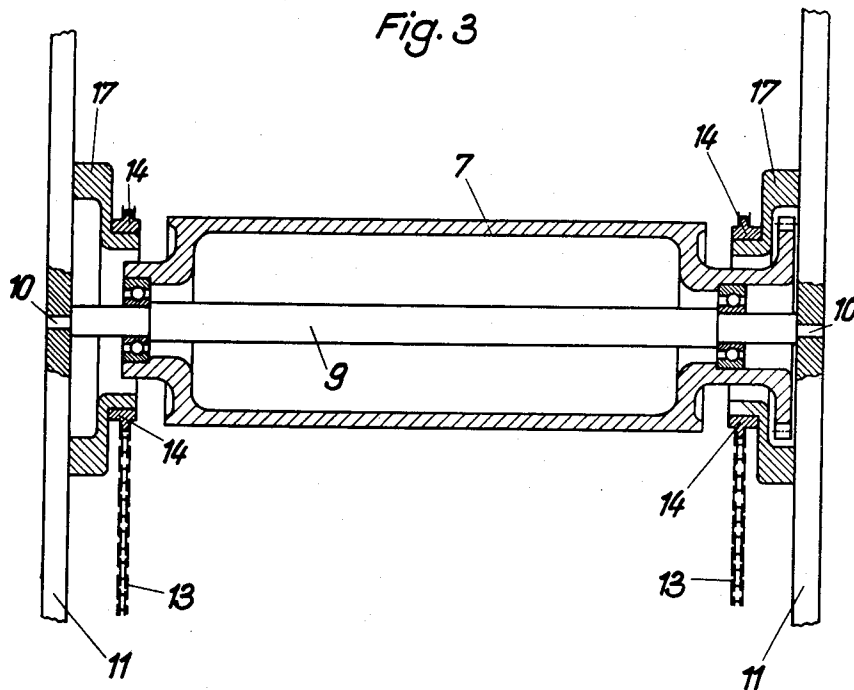
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FLYER SHEET DELIVERER FOR OFFSET MACHINES

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3 Sheets-Sheet 3



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FLYER SHEET DELIVERER FOR OFFSET MACHINES

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2 Claims. (Cl. 101—232)

The subject matter of the invention is a flyer sheet deliverer for offset machines, the depositing grippers of which run round the axis of the offset cylinder.

In flyer sheet deliverers, it is usual to carry out the depositing of the sheets by means of revolving chains with grippers mounted on the chains. The chains run over chain wheels, the graduated circles of which touch the web of paper at a position arranged after that of the printing operation. The sheet to be deposited must run through an S-shaped path, since it passes from the shell of the pressing cylinder to the graduated circle of the depositing chain wheel. Since only the front edge of the sheet is guided on this S-shaped path by the grippers of the depositing chain, but not the sheet itself, there must be provided, on the axle of the chain wheels, guiding discs which force the sheets into this path. Such a depositing method tends to produce smearing, since the freshly printed matter comes into contact with the guiding discs.

In order to obviate this drawback, it has already been proposed to cause the chain to run, with the centre of its web, in the plane of the shell of the offset cylinder, over chain wheels which are fixed on the offset axle. The depositing chains, in this case, pull the sheet off the rubber blanket without any appreciable bending. The disadvantage of this construction is, however, that the chains, which carry the grippers and are under a certain amount of tension, pass, at a number of positions of their path, positions where the grippers open and close. The jolts produced in this way are transmitted to the printed matter by the direct fixing of the chain wheels to the offset cylinder.

A further disadvantage of this construction is to be seen in the fact that the chain grippers, which must grip the front edge of the sheet in the peripheral plane of the offset cylinder without buckling it, have always to project beyond the periphery of the cylinder. This is possible only when the gap of the form cylinder registers with the grippers. Consequently, the form cylinder cannot be advanced or returned for the purpose of shifting the printed matter on its axle, because, in that case, the grippers strike the form.

A further disadvantage occurs in the machines in which the offset cylinder is moved to and fro in relation to the form and printing cylinder for the purpose of shifting it. In order, when shifting, to keep the chain at the same tension, all the chain wheels have, in these cases, had to carry out the same movements as the offset cylinder, for which purpose a complicated shifting linkage would be necessary which made the construction expensive.

The existing defects are obviated by the flyer sheet deliverer according to the invention, the characteristic feature of which is that the chain wheels are mounted independently of the offset cylinder. In this case, the axis of the offset cylinder is offset in such a manner in relation to the axis of the chain wheels that the peripheral parts of the offset cylinder and of the chain wheels carry out a radial movement in relation to one another. Owing to this movement of the bridges for the grippers, which

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bridges lie within the gap of the offset cylinder, the grippers come to lie in the peripheral plane of the offset cylinder and thus grip the sheet without buckling it.

The invention is illustrated by the accompanying drawings, of which

Figure 1 is a side elevation of the flyer sheet deliverer;

Figure 2 is a plan of the flyer sheet deliverer; and

Figure 3 is a section through a bearing of the offset cylinder.

The top sheet of the pile of paper is grasped by a sucker 2, is fed to the conveying rollers 3 and is, in the known manner, brought to the front mark 4 and justified. The sheet is then grasped by the grippers 5 of the pressing roller 6 which rotates in the direction of the arrow. The offset or rubber cylinder 7 is printed on from the form cylinder 8.

The mounting of the offset cylinder 7 is effected, in the known manner, on the axle 9, the eccentric journal 10 of which is mounted in the stand 11 of the machine. By rotating the shaft 9 about its eccentric journal 10, the offset cylinder 7 is brought into contact with the form cylinder 8 and the pressing roller 6.

The grippers 12 are, in the known manner, carried by chains 13 which are passed round chain wheels 14 and reversing wheels 15 in such a manner that the part of the chain 13 that guides the sheet is approximately parallel to the depositing table 16.

Now, according to the invention, the chain wheels 14 are rotatably mounted, independently of the offset cylinder 7, on flanges 17 which are fixed to the stand 11. The axle 18 of each chain wheel 14 lies near the axis 19 of the shaft 9 of the offset cylinder 7.

Owing to the separate mounting of the chain wheels 14 independently of the offset cylinder 7, no shock is transmitted to the printed matter. The eccentric positioning of the axle 18 in relation to the axis 19 is effected in such a direction that, as shown in Fig. 1, the grippers 12, on passing through the point of contact existing between the form cylinder 8 and the offset cylinder 7, move into the gap between the form cylinder 8 and the chain wheels 14 and, at the same time, enter the gap 20 in the offset cylinder. Consequently, notwithstanding their projection beyond the chain 13, the grippers never come into contact with the form cylinder 8. The amount of shifting of the axle 18 in relation to the axis 19 is such that the grippers, by reason of the eccentric position of the axis 19 of the offset cylinder in relation to the chain-wheel 18, carry out, within the gap 20, an outwardly directed radial movement by means of which they lie, in the peripheral line of the offset cylinder, at the position of contact between the offset cylinder and the pressing roller, i. e., at the position at which they seize and grip the paper. On its relative movement in the gap 20, the gripper 12 runs, with its gripping castor 21, on to the rolling plate 22, so that the gripper 12 opens, grasps the sheet of paper, removes it from the pressing cylinder without buckling it and feeds it to the depositing table.

In order to keep the tension of the chains uniform, they are put under spring tension in the known manner.

What I claim is:

1. A flyer sheet deliverer for an offset machine comprising a frame, a pressing roller mounted in said frame, a form cylinder mounted in said frame, an offset cylinder mounted in said frame cooperating with said pressing roller and said form cylinder, chain sprockets eccentrically mounted on said frame with respect to the offset cylinder axis independently of said offset cylinder, said offset cylinder having a gap in its periphery, gripping means on said pressing roller, a chain carried by said sprocket wheels having gripping means thereon, the axis of said offset cylinder being offset in relation to the axis of said sprocket wheels, so that, when the offset cylinder and

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sprocket wheels rotate, the peripheral part of the offset cylinder carries out a radial movement in relation to the peripheral parts of said sprocket wheels and said relative movement being such that said gripping means on said chain, moving in said offset-cylinder gap, touch the peripheral plane of said pressing roller with the web of their gripping surfaces.

2. A flyer sheet deliverer for an offset machine comprising a frame, a pressing roller mounted in said frame, a form cylinder mounted in said frame, an offset cylinder mounted in said frame cooperating with said pressing roller and said form cylinder, chain sprockets eccentrically mounted on said frame with respect to the offset cylinder axis independently of said offset cylinder, said offset cylinder having a gap in its periphery, a chain carried by said sprockets, spring means for tensioning said chain, to keep the tension of said chain uniform, gripping means on said pressing roller, gripping means on said

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chain, the axis of said offset cylinder being offset in relation to the axis of said sprockets, so that, when the offset cylinder and said sprockets rotate, the peripheral part of said offset cylinder carries out a radial movement in relation to the peripheral parts of said sprockets and said relative movement being such that said gripping means on said chain, moving in said offset cylinder gap, touch the peripheral plane of said pressing roller with the web of their gripping surface.

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