

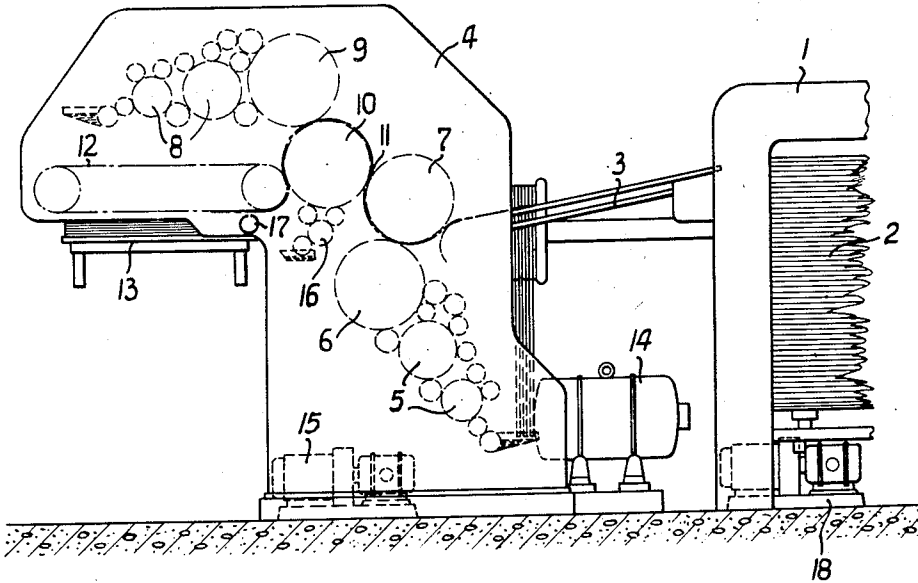
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P. DIETRICH

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ROTARY PERFECTING PRINTING PRESSES

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INVENTOR:

Paul Dietrich

By *Bailey, Stephens and Lattin*
Attorneys

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ROTARY PERFECTING PRINTING PRESSES

Paul Dietrich, Augsburg, Germany, assignor to Maschinenfabrik Augsburg-Nürnberg A. G., Augsburg, Germany, a corporation of Germany

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3 Claims. (Cl. 101-229)

This invention relates to a first impression and counter-impression sheet rotation printing press.

Heretofore, first and counterimpression rotary printing presses were fed from paper rolls. The objects of the instant invention are to construct such a press so that it can be fed individual blank sheets, and to construct such a machine in which the plate cylinders are readily accessible, and which is of simple construction and requires little floor space.

In general, these objects are achieved by arranging the center planes of the two inking mechanisms, respectively, at substantially a right angle to one another, with the inking mechanism for the counterimpression cylinders mounted parallel to and directly above a horizontal delivery conveyor, which is in turn mounted above the table for receiving the pile of printed sheets. As a consequence, the inking mechanism for the first impression cylinders is mounted substantially vertically and faces the magazine holding the pile of blank sheets. This arrangement of the inking mechanism produces the advantage that, in spite of the small length of the printing press, the mechanical parts of the press are easily and readily accessible. At the delivery end of the press the chain conveyor contains only two grabbers or rods directly beneath the inking mechanism for the counterimpression cylinders and provides space therebelow for a large pile delivery table. The arrangement of the inking mechanism further permits the inclusion of wiping cylinders underneath the printing cylinder of the counterimpression cylinders without impairing the accessibility of the first impression cylinders.

The invention is described more fully with reference to the accompanying drawing which diagrammatically shows the arrangement of the cylinders in one embodiment of the invention.

The magazine 1 contains a pile of individual blank sheets 2. The sheets are delivered from the magazine to a feed-board 3 and to a turning mechanism not shown into a printing press 4. The inking elements for both the first impression and counterimpression cylinders are arranged in planes which are substantially at a right angle to one another within press 4. The first impression member is composed of the inking rolls 5, the plate cylinder 6, and the printing cylinder 7, these elements generally extending in a vertical plane. The counterimpression member is composed of the inking rolls 8, plate cylinder 9, and printing cylinder 10, substantially horizontally arranged. The plane through the axes of cylinders 6 and 7 is inclined and forms an acute V with

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the plane through the axes of cylinders 9 and 10, and the axis of each printing cylinder 7 and 10 is offset in a vertical direction from the axis of the other printing cylinder by a distance substantially one half of the diameter of the printing cylinders.

The blank sheet 11 follows the path indicated by the dotted lines, and after having passed through the two printing members, and after having been printed on both sides, it is delivered to the conveyor 12 which is mounted directly beneath the counterimpression inking rolls 8. The printed sheet is then carried on to the delivery table 13. The position of the inking rolls 8 results in that only a simple chain conveyor mechanism with only two grabbers is needed. The printed sheets are collected beneath the printing press 4.

The printing press is driven by a motor 14. The brake suction air for the delivery mechanism is obtained from a pump 15 driven by a separate electric motor.

A wiping or cleaning member 16 is mounted beneath printing cylinder 10 in a manner which does not interfere with the accessibility to a cylinder, this wiping member serving to remove residual ink transferred to cylinder 10 by the sheet 11 coming from the cylinder 6.

A vacuum roll or cylinder 17 is associated in a conventional manner with the chain conveyor 12, and is connected to pump 15. The air for the feed magazine 1 is obtained from a separate pump 18.

Having now described the means by which the objects of the invention are obtained, I claim:

1. A one color first and counterimpression printing press comprising first inking rolls, first plate cylinder, and first printing cylinder all extending in that order in a generally vertical direction; a counterprinting cylinder cooperating with said first printing cylinder, a counterimpression plate cylinder, and inking rolls extending laterally from said counterplate cylinder; the plane through the axes of said first plate and said first printing cylinders being inclined and forming an acute V with the plane through the axes of the counterimpression and printing cylinders; the axis of each printing cylinder being vertically offset from the axis of its cooperating printing cylinder by a distance substantially one half the diameter of the printing cylinders; said first inking rolls and said counterinking rolls being arranged in planes which are substantially at a right angle to one another; and a horizontal delivery conveyor positioned beneath said counterinking rolls.

2. A printing press as in claim 1, further comprising a blank sheet magazine positioned adjacent to and spaced from said first plate and printing cylinders.

3. A printing press as in claim 2, further comprising a wiping member mounted beneath said counterprinting cylinder.

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