INKING APPARATUS OF PRINTING MACHINES
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Fig. 1.

Fig. 2.

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This invention relates to improvements in the inking apparatus of printing machines such as combined ticket printing and issuing machines in which the process of distribution of the ink and the inking of the platen has of necessity to be in as simple a form as possible owing to lack of space.

The method employed in the ordinary form of printing machine of breaking up and distributing the ink through the medium of a number of composition rollers, some of which are provided with a lateral oscillating movement in order to obtain the fine distribution necessary in the ordinary form of printing, is incapable of application to these machines owing to limitations of space.

The method employed of conveying the ink from the ink duct to the type face by means of one or more rollers has hitherto only yielded comparatively poor results and the object of my invention is to provide means for improving the inking effect obtained by the above means. To this end, according to the invention, I arrange the inking roller and the ink duct roller which are formed of or coated with the usual resilient composition and are of comparatively short length, in such a manner that they contact obliquely with one another, the effect of this oblique contact giving to the inking roller a somewhat similar distribution to that obtained with the lateral oscillating roller in the ordinary form of inking train.

I am aware that in a machine for manufacturing and printing cigarette tubes in which an intermediate roller is arranged between the ink duct roller and the distributing roller, it has been proposed to mount such intermediate roller on an axis at an angle to the printing cylinder. The present arrangement occupies more space than can conveniently be provided in printing machines of the type to which my invention is applied.

In a suitable arrangement for carrying out the invention, the inking roller is carried on a pivot beneath the fixed revolving ink duct roller, the movement of the said inking roller being controlled by a cam, secured to the shaft of the platen or printing cylinder, and rotating therewith, which operates one end of a bell-crank lever, the free end of the inking roller shaft being carried in a slot provided in the other end of the said bell-crank lever.

The method of operation is as follows:—

Normally, the inking roller is in oblique fractional contact with the ink duct roller and revolves therewith. The cam secured to the shaft of the printing cylinders bears against the end of the bell-crank lever during rotation and forces it downwards, thus drawing the inking roller, carried in the slot in the end thereof, into contact with the said printing cylinder. This contact is maintained until the bearing surface of the cam is rotated out of contact with the said lever, when the lever is returned to its normal position by means of a spring.

In order that the invention may be fully understood, I will now describe it by reference to the accompanying drawings, in which:

Figure 1 is a sectional elevation of one method of applying the invention, and

Figure 2 is a plan view thereof.

a is the ink duct roller, revolving on its spindle b, and c is the ink reservoir. d is the inking roller which revolves on the spindle c, normally arranged obliquely to the spindle b. One end of this spindle c is pivoted at f to the framing of the device and the other end thereof rides in a slot f of the framing. g is the printing cylinder carrying type to be inked and which is mounted on the spindle h. j is the cam secured to the said spindle h and revolving therewith and k is the bell-crank lever, in a slot in one end of which the free end of the spindle e engages, and which is pivoted at m and carries at its other end the roller a against which the cam j bears to bring the inking roller d into contact with the printing cylinder g. p is the spring provided for returning the said roller d to its normal position.

The operation of the arrangement is as follows:—

The roller d is normally held by the spring p in oblique fractional contact with the roller a, as shown by the dotted lines in Figures 1 and 2. As the cylinder g rotates the cam j depresses the bell-crank lever k thereby...
swinging the inking roller $d$ on its pivot $f$
out of contact with the roller $a$ and into con-
tact with the printing cylinder $g$. This con-
tact is maintained until the bearing surface
of the cam $j$ is rotated out of contact with the
said lever $k$ when the roller $d$ is automatically
returned to its normal position by the
spring $p$.

It will be understood that as the rolls $a$ and
$d$ are formed of, or coated with the usual
resilient composition, and are of compara-
tively short length, surface contact over their
entire length is ensured.

Claims:

1. An inking device for printing machines,
comprising a printing cylinder, an ink duct
roller and an inking roller, said rollers be-
ing so mounted with respect to one another
that an oblique contact is obtained, and
means for oscillating one of said rollers to
bring the same out of engagement with the
other, and into parallel engagement with
said cylinder.

2. In a ticket printing and issuing machine,
a printing cylinder, an ink duct roller, an
inking roller, mechanism synchronized with
the rotation of said printing cylinder for
causing said inking roller to alternately en-
gage said ink duct roller in oblique contact,
and said printing cylinder in parallel con-
tact.

3. An inking device for printing machines,
comprising a printing cylinder mounted on
a shaft; an ink duct roller and an inking
roller, the latter being mounted on a shaft
pivoted at one end, a bell crank lever slotted
at one end to receive the free end of said
pivoted shaft, and a cam mounted on said
printing cylinder shaft and revolving ther-
with for operating the opposite end of said
bell crank lever, said rollers being so mount-
ed with respect to one another that when
said bell crank lever is in operation, the roller
mounted on said pivoted shaft will be oscil-
lated and intermittently brought into oblique
contact with the other roller.

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