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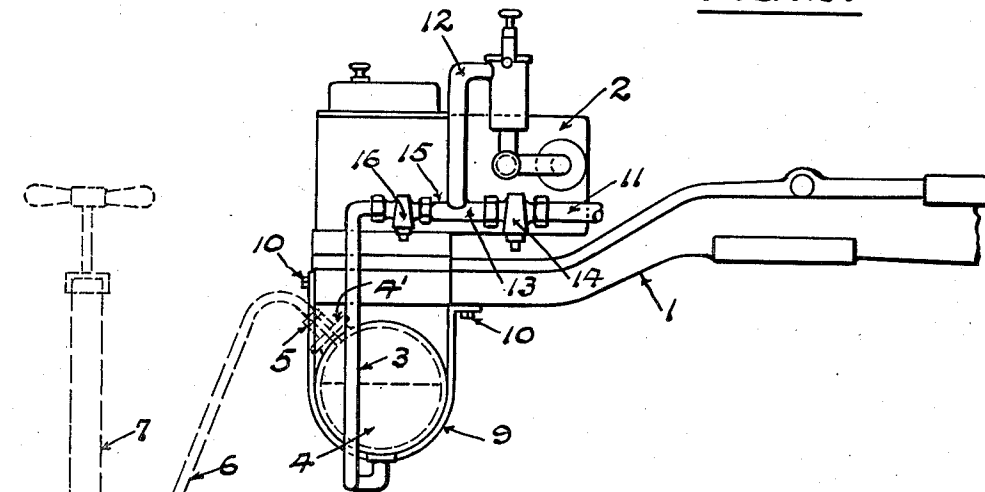
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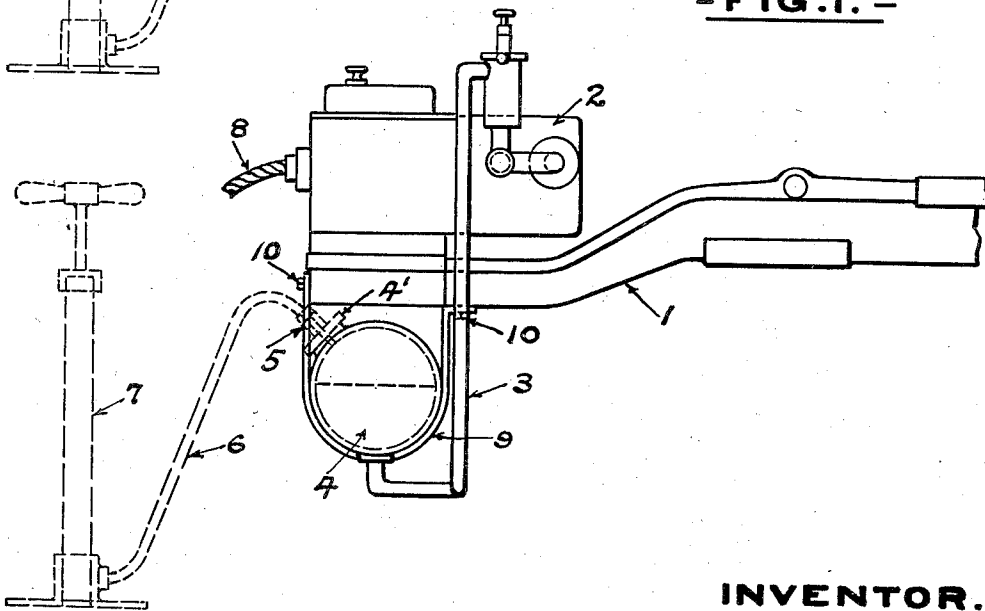
INKING MECHANISM FOR PRINTING MACHINES

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- FIG. 2. -



- FIG. 1. -



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## UNITED STATES PATENT OFFICE

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INKING MECHANISM FOR PRINTING  
MACHINES

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8 Claims. (Cl. 101—366)

This invention relates to improvements in inking mechanism for printing machines.

The main object of the present invention is to provide an arrangement which will enable a printing machine which is designed normally to print in one color, usually black, to be adapted cheaply and easily to print in some other color or colors.

According to the present invention there is provided an ink feeding device which is movable so that it can be located in ink feeding position with respect to the usual ink distribution system of any printing couple of a printing machine or with respect to any page section of the distribution system. For example, if the printing machine be designed normally to print in black and it be desired to print on one page say in red, the transportable feeding device would be supplied with red ink and would be placed in feeding position with respect to the distribution system or section thereof corresponding to that page.

The invention is illustrated in the accompanying drawing in which

Figure 1 is a diagrammatic elevation of one form of construction, and

Figure 2 is a similar view of a modified form of construction.

Referring more particularly to Figure 1, 1 is a transportable ink rail, preferably formed of a light metal such as duralumin, and is provided in the usual way with ink distributing pipes and nozzles for feeding ink to the ink distributing device or cylinder to which the ink is normally fed, the ink being fed under pressure to the pipes and nozzles by individual pumps contained in a pump box 2 carried by the rail: ink is fed to the pump box through a pipe 3 in communication with the lower part of a reservoir 4 carried by the ink rail the reservoir being provided with a filling orifice having a closure cap 4'. The ink of the reservoir is forced up to the pump box by subjecting the upper surface of the ink to pressure this being effected by providing the reservoir with a connector 5 adapted for connection to a flexible pipe 6 in turn connected to an air pump 7 which may, as shown, be of the portable type, or to an existing pressure air supply.

The ink rail is so arranged in any convenient manner as to be detachably secured in position on the frame of the printing machine with its nozzles in feeding relationship with respect to the existing ink distribution cylinder for the selected printing cylinder.

The drive to the pumps in the pump box is effected through a flexible shaft 8 which may be

driven by any convenient means connected with a driven member of the press.

It will be seen that when it is desired to change over from printing in black to printing in another color, red, for example, it is merely necessary to render inoperative the existing black ink supply for the selected cylinder and to locate the transportable ink rail 1 and its associated parts in feeding position whereupon red ink will be supplied.

The arrangement may be such that the whole width of the cylinder to be inked is fed with color, but obviously color may be fed to selected parts of the cylinder (e. g. different page sections) either by employing a full length ink rail as shown in Figure 1 and rendering inoperative different sections as is required by rendering inoperative the corresponding individual pumps, or by the use of a short transportable ink rail and its associated parts which can be located in different positions corresponding to different page sections of the printing cylinder, the pumps for the existing ink rail being correspondingly and similarly retained operative for use. In the latter case the short transportable ink rail could be arranged to slide on the existing ink rail and be driven by a flexible drive.

In the modification shown in Figure 2 the reservoir 4 is arranged to be detachably connected to the usual fixed ink rail, this is effected by slinging the reservoir in a sling 9 which can be detachably secured, as by bolts 10, from the ink rail to which the pump box is secured in the usual manner. In this case, in order to enable the pumps, pipes and nozzles to be adapted to be changed over from the existing ink supply through a pipe 11 to the ink supply from the reservoir 4, the ink feed pipe 12 to the pump box is connected to a branch one side 13 of which is arranged to be connected to and disconnected from the pipe 11 by a cock 14 while the other side 15 is arranged to be connected to and disconnected from the pipe 3 by a cock 16. With this arrangement it is merely necessary to transport the reservoir 4 (and its pump if such be employed) to the ink rail of the selected distribution system, to couple the pipe 3 to the pipe 15 and to reverse the cocks to change over the ink supply from the pipe 11 to the pipe 3.

The fountain type of transportable inking apparatus can obviously be employed either in connection with an existing fountain type of ink feed or with an existing pump type of feed, and can in the latter case be arranged to replace a section of the ink rail feed as has been described in connection with a transportable ink pump by

providing a stretcher on the frame of the present invention on which the portable fountain and its lifting roller can be placed and slid to any described position corresponding to different sections of the printing cylinder.

It will be seen that with the transportable ink feeding mechanism of the present invention a printing machine can readily be adapted to print some color other than that for which it is normally equipped and that such adaptation can easily and cheaply be effected.

It will be understood that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and it is therefore desired the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

What I claim is:

1. In an inking mechanism for printing machines having printing couples and ink supplying source therefor, a portable ink reservoir, and means operably interposed between the reservoir and a selected printing couple for forcibly supplying a film of ink to the selected printing couple independently of the said ink supplying source.

2. In an inking mechanism for printing machines, a portable ink supplying unit including an ink reservoir, an ink rail, means for subjecting the ink reservoir to fluid pressure, ink pumps operably interposed between the reservoir and the ink rail, the ink rail being constructed and arranged to supply ink to the ink cylinder of a printing couple of the printing machine.

3. In an inking mechanism for printing machines, a portable ink supplying unit, including an ink reservoir, an ink rail, ink pumps operably interposed between the reservoir and the ink rail, flexible means interposed between a driven member of the printing machine and the ink pumps for driving the pumps, the ink rail being constructed and arranged to supply ink to the ink cylinder of a printing couple of the printing machine.

4. In an inking mechanism for printing machines, a portable ink supplying unit including an ink reservoir, an ink rail, ink pumps operably communicating with the ink rail, a conduit communicating the ink reservoir with the ink pumps, means for driving the pumps from a driven member of the printing machine, means for subjecting the ink reservoir to fluid pressure, the ink rail being constructed and arranged to supply ink to a printing couple of the printing machine.

5. In an inking mechanism for printing machines, a portable ink reservoir, portable means for subjecting the ink reservoir to fluid pressure, an ink rail, ink pumps operably interposed between the reservoir and the ink rail, the ink rail being constructed and arranged to convey ink to the ink cylinder of a printing couple of the printing machine.

6. In an inking mechanism for printing machines having a source of ink supply, a portable ink reservoir, an ink rail, ink pumps, a conduit leading from the source of ink supply to the pumps, a conduit leading from the portable ink reservoir to the pumps, means for selectively communicating either the source of ink supply or the portable ink reservoir with the pumps, the ink rail being constructed and arranged to convey ink to a printing couple of the printing machine.

7. In an inking mechanism for use in printing machines having printing couples and ink supplying source therefor, a portable ink supplying unit including an ink reservoir independent of the said ink supplying source, an ink rail, ink pumps operably interposed between the reservoir and the ink rail, the ink rail being constructed and arranged to supply ink to the ink cylinder of a printing couple of the printing machine.

8. In an inking mechanism for use in printing machines having printing couples, ink supplying source and inking apparatus, a portable ink reservoir independent of the ink supplying source, an ink rail, ink pumps operably interposed between the reservoir and the ink rail, the ink rail being constructed and arranged to convey ink to an ink cylinder of the printing couple.

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