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DISPOSABLE CONTAINER FOR PRINTING INK FOUNTAINS

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2 Claims. (Cl. 101-210)

The invention relates to a container for printing inks which is inserted in the fountain of the printing machine and, more particularly, to a disposable container for such fountains which previously had been filled with the printing ink.

In printing machines, such as letterpress and offset machines, the fountain is arranged in such a manner that it is formed of the ink roller, the doctor blade and its extensions, and of two side plates. Into the hollow space thus provided, the ink is poured. This leads to contamination of the parts in contact with the ink and to grave cleaning problems any time the printing process is terminated or when the ink is changed to a different color. It is well known that the clean-up requires much labor and time since all traces of the printing ink must carefully be removed from all the parts. This is particularly true in instances of changes from one color to another, and in cases of drying of the ink.

It had been previously proposed to line the doctor blade, or at least its extension, and the sides with paper so that these parts of the fountain are protected. By removing the paper liner, a certain amount of contamination is averted albeit an extensive clean-up still is required.

It is one object of the instant invention to eliminate such contamination. Accordingly, a fully enclosed container, previous to sealing, is filled with printing ink. The container, or liner, is made of a disposable material, e.g., thin sheet metal or of a plastic, and is inserted in the fountain of a printing machine, such as offset or letterpress machines.

The disposable container or liner has a shape conforming to the contours of the fountain, except that it is not limited in height so that the ink content can be chosen at will within certain limits. The side walls and the front wall may correspond in their shape to the curvature of the printing roll or may be straight, and the doctor blade lies close to the lower end of the liner. Solely a small amount of ink thus leaves this liner or container when the latter is opened at its bottom. This quantity of ink also can be governed by the adjustment of the doctor blade in its relative position to the container in the conventional manner.

In order to release the ink from the container, the latter is provided, at its lower end where it is in close proximity to the doctor blade, with a removable strip. The latter is set in the liner in any conventional manner, e.g., soldered in, and can be removed by pulling an extension of this strip, i.e., a tab, across the surface of the liner, either by hand or by means of a key, very much in the same manner in which, e.g., a vacuum coffee can is opened.

As stated above, the container or liner can have any desired height. The extension of the walls can be in the wedge shape of the cross section of the liner, depending on space available and on the construction of the printing machine, or else, a trough-like extension can be provided. The advantage, in any event, resides in the fact that the printer can replenish the ink supply without ever soiling the fountain itself.

The liner or container, however, is delivered to the printer filled with ink and sealed. In one embodiment of the invention, the upper part is provided with a strip close to the outer edge, i.e., the edge away from the printing roll, with a removable strip which is constructed in the same manner as the afore-mentioned bottom strip. This, however, means that the liner has to be filled by

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means of a gun, i.e., under pressure, through a small opening which then is sealed.

In a preferred embodiment, the upper part, i.e., the cover, simply is bent open, and the ink filled in, whereafter the cover is bent back and is sealed to the remainder of the liner or container by means of a strip of adhesive tape.

Both embodiments insure a prevention of ink drying in storage and of its contamination by paperdust and other dirt. The upper outer edge of the container is shaped in bead form throughout its length. This bead serves to guide the ink agitator which has a handle wherein a hollow or groove appears of a size corresponding to the bead. The ink agitator is moved back and forth along the bead-shaped edge in order to stir up the ink, which is of importance especially in instances when more pigment or more vehicle is added or when the entire ink supply is replenished. In order to facilitate agitation, the ink agitator blade is provided with a turn similar to a propeller blade.

A preferred embodiment of the invention now will be more fully explained with reference to the accompanying drawing. However, it should be understood that this is given merely by way of explanation, not of limitation, and that numerous changes may be made in the details without departing from the spirit and the scope of the invention as hereinafter claimed.

In the drawings,

FIG. 1 is a side cross section of the ink container or liner as inserted in the fountain of a printing machine.

FIG. 2 is a front elevation of the container or liner taken through lines 2-2 of FIG. 1.

FIG. 3 is a perspective view of the ink agitator.

Referring now to these drawings, the container 12 is suspended in the fountain by a suitable hanging device, e.g., the hangers 22. The front wall 13 of the container 12 is curved and has essentially the same curvature as the ink roll 11, from which it has a slight distance or clearance in order to avoid a take-up of ink from ink roll 11. On both sides of front wall 13, there are side walls 15 and 16, respectively. These also are connected to the rear wall 14 which is connected to front wall 13 at an acute angle. Thus the liner or container is formed. Rear wall 14 has a beaded upper edge 14a. The liner is totally covered by a cover 19. The latter is rigidly connected to front wall 13 and also is connected rigidly to the preponderant part of the upper edges of side walls 15 and 16, respectively. However, for opening the cover in accordance with either of the embodiments named above, stripping means 20 are provided which may consist of a metal strip integrally but removably embedded in cover 19 near the beaded edge of rear wall 15, or else of a strip of adhesive tape. In either event, a tab or extension 22 is provided to remove the sealing means from the cover and opening the liner.

Close to the lower edge of front wall 13, there also is a removable strip 17 embedded in said wall which is furnished with an extension or tab 18 to open the container at the bottom and to allow a flow of ink. The tab 22 can be operated manually or by means of a key. The flow of the ink is regulated not only by the width of the slit formed by the removal of the strip 17, but also by the position of the doctor blade 26 which, in turn, is positioned by the conventional adjusting means 27.

The ink agitator 23, in its upper or handle part, has a groove or hollow 24 which fits the beaded edge 14a of rear wall 14. The blade part 25 of the agitator is turned in the form of a propeller to facilitate agitation. The agitator is moved by guidance on beaded edge 14a across the entire surface of edge 14a, either manually or mechanically, e.g. by means of a motor, or driven by the

printing machine, and the propeller blade 25 stirs up the contents of the liner.

The printing ink container or fountain liner is used in the following manner:

Prior to the insertion in the fountain, the sealed liner which previously had been filled with ink is turned upside down, and the bottom strip 17 is removed by pulling the tab 18. The liner then is inverted and carefully inserted in the fountain. If a little ink should emerge from the container, this ink adheres to the ink roll 11 and/or doctor blade 26, machine parts which are to be exposed to printing ink in any event. After suspension of the liner 12 in the fountain, the top cover 19 is opened by pulling tab 21 and actuating the stripping means 20. If the stripping means is an adhesive tape, cover 19 is bent up slightly. If the stripping means is identical to that on the bottom, i.e., strip 17, it is torn off. This results in an opening on top of the container, and the ink agitator 23 is inserted through that opening in the container and the ink, while simultaneously setting the groove 24 on the beaded edge 14a for holding and guiding purposes. The agitator then can be slid along edge 14a, and the propeller-shaped blade provides the required agitation.

After use, the empty container is discarded.

I claim as my invention:

1. A disposable liner for insertion in the fountain of a printing machine equipped with an ink roll, which comprises, in combination, a container having a front wall nearest to said ink roll; one side wall connected to each side of said front wall; a rear wall opposite said front wall and connected to the lower edge thereof, also connected on each side to said side walls, said rear wall having a beaded upper edge throughout its length; a cover rigidly connected to said front wall, removably connected to said rear wall and at least partly removably connected to said side walls; an ink agitator attached to said beaded edge removably and slidably thereon and extending into

said container when said cover is opened; a removable strip near the lower edge of said front wall to allow the egress of ink from said liner; and means for suspending said liner in said fountain.

2. A disposable liner and ink supply for insertion in the fountain of a printing machine equipped with an ink roll and a doctor blade, which comprises, in combination, a container having a front wall of a curvature essentially the same as that of said roll and curving in the same direction as said roll; a removable strip disposed near the lower end of said front wall forming a slit therein upon removal, for the egress of ink which then is distributed to said roll by said doctor blade, said strip ending in an extension tab as stripping means; a rear wall connected to the lower edge of said front wall at an acute angle and having a beaded upper edge throughout its length; a side wall on each side connected edge to edge to said front wall and to said rear wall; a cover rigidly connected to said front wall, removably connected to said rear wall near said beaded edge, and at least partly removably connected to said side walls; sealing means for said cover to allow transportation of ink; an ink agitator comprising a handle having a hollow corresponding to said beaded edge, and propeller-shaped blade, said ink agitator being attached removably from, and slidably on, said beaded edge and extending into said container when said cover is opened; and means for suspending said container in said fountain.

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