Nov. 12, 1968 J. P. DORR 3,410,206

INK SEPARATOR

Filed Nov. 28, 1966

FIG. 1

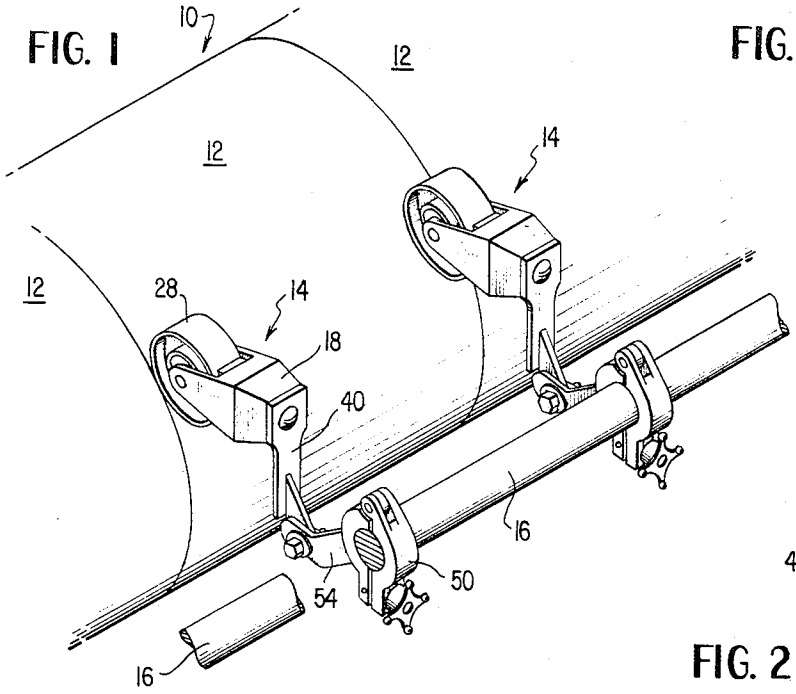


FIG. 5

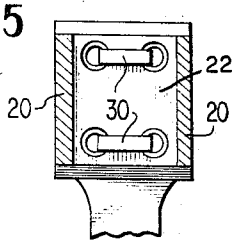


FIG. 2

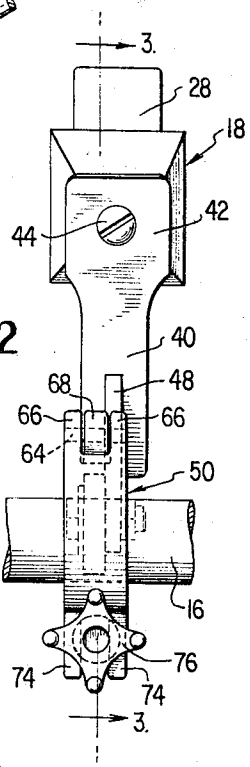


FIG. 3

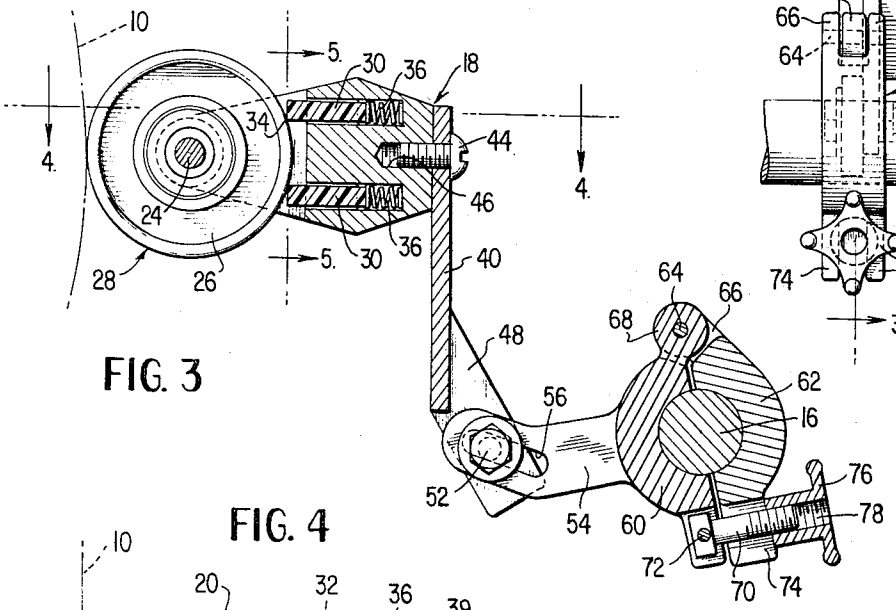
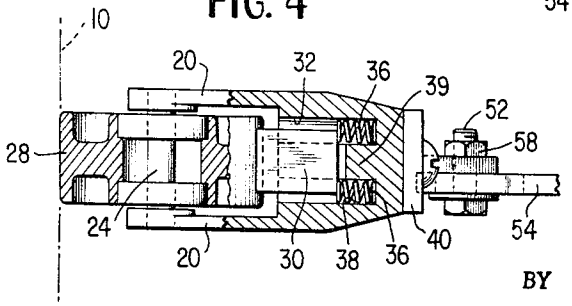


FIG. 4



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INK SEPARATOR

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ABSTRACT OF THE DISCLOSURE

An ink separator including a body having rotatably mounted therein a hard-surfaced roller for engaging an ink cylinder to remove ink therefrom, a pair of spring loaded scraper blades slidably mounted in the body in engagement with the roller to remove ink therefrom, and a mounting strap projecting from the body for securing the assembly with respect to a fixed support.

This invention is a new and improved ink separator for removing ink between adjacent peripheral portions of an ink roller in a printing press or the like. The present invention is particularly suitable in color printing to insure that different colors on adjacent portions of a press ink cylinder will be segregated so as not to intermingle, although the present invention is not limited to this latter use.

One of the objects of the present invention is to provide a new and improved ink separator which will effectively remove ink from an ink roller or cylinder without damaging the latter even when the ink roller or cylinder is made from relatively soft material.

A further and more specific object of the present invention is to provide such an ink separator which employs a hard surfaced roller to remove ink from the ink cylinder but which has an improved means for mounting the ink removing roller and for removing the ink from the latter.

A further object of the present invention is to provide such an ink separator which is highly suitable for commercial use such as in newspaper printing and which may be easily and quickly installed or removed without special tools and with a minimum of skill. Included herein is the provision of such an ink separator which may be economically manufactured and will provide dependable service over long periods of continuous and rugged use during which little, if any, maintenance is required.

Other objects and advantages of the present invention will become apparent from the following more detailed description and the accompanying drawings, in which:

FIGURE 1 is a fragmental perspective view of an ink cylinder in a printing press with two installed ink separators embodying the present invention;

FIGURE 2 is an enlarged rear elevational view of one of the ink separators shown in FIGURE 1;

FIGURE 3 is a cross-sectional view taken generally along lines 3—3 of FIGURE 2, and additionally showing in phantom, a portion of an ink cylinder;

FIGURE 4 is a cross-sectional view taken generally along lines 4—4 of FIGURE 3; and

FIGURE 5 is a fragmental cross-sectional view taken generally along lines 5—5 of FIGURE 3.

Referring to the drawings in detail FIGURE 1 shows a printing press ink roller or cylinder **10** whose periphery is divided into several sections 12 which for example may bear ink of different colors, by means of ink separators **14** embodying the present invention. As will be subsequently described in greater detail, separators **14** are mounted in operative position relative to ink cylinder **10** by a support bar **16** extending alongside ink cylinder **10**, the support bar being fixed at its opposite ends to supporting structure (not shown) of the press.

In the illustrated embodiment ink separator **14** includes a yoke body **18** comprised of parallel mounting arms **20** interconnected by a cross piece **22**, the yoke body being made from any suitable material preferably aluminum. Mounted in yoke arms **20** in generally parallel relation to cross piece **22**, is a shaft **24** on which is rotatably mounted an ink removing roller **26** preferably made from aluminum and having a smooth, cylindrical peripheral surface **28**. Ink removing roller **26** functions to engage the ink cylinder **10**, of the press to remove ink between sections **12** to thereby segregate the sections and prevent intermingling of their inks.

Ink removed from cylinder **10** and deposited upon ink roller surface **28**, is removed from the latter by a pair of scraping blades **30** preferably having a thickness of approximately $\frac{3}{16}$ of an inch. Additionally the shown scraper blades are preferably made from nylon or polytetrafluoroethylene (Teflon) and have a generally rectangular shape and cross-section, the width being approximately $\frac{3}{4}$ of an inch and the length $1\frac{1}{8}$ inches. Scraper blades **30** are mounted in the cross-piece **22** of the yoke body by rectangular passages **32** formed in the cross-piece and opening into the space between mounting arms **20** of the yoke body. Passages **32** are dimensioned to receive scraper blades **30** with the outer edges **34** of the scraper blades extending across ink removing roller **26** as shown in FIGURES 3 and 4.

To resiliently urge scraper blades **30** into engagement with the ink removing roller, springs **36** are provided to act on the rear edge of the scraper blades. In the particular form of the invention shown, two compression coil springs **36** are provided to engage the opposite ends of the rear edge of the scraper blades as shown in FIGURE 4. Additionally for locating springs **36** and to maintain them in proper alignment, a pair of cylindrical passage **38** having a slightly greater diameter than springs **36** are formed in cross-piece **22** to open into each enlarged passage **32**. Spring receiving passages **38** are separated by portions **39** of the cross-piece as shown in FIGURE 4.

Mounting of roller **26** and blades **30** with respect to support bar **16** is accomplished by a strap generally designated **40** adjustably fastened to a clamp generally designated **50**, which in turn is clamped about support bar **16**. Strap **40** is preferably made from aluminum and has a generally planar body portion, the upper end **42** of which fits flatly against the front end of the yoke body. Strap **40** is removably fastened with respect to the yoke body by a threaded stud or screw **44** received through an aperture in strap portion **42** and ultimately in a threaded passage **46** formed in yoke cross-piece **22** between passages **38** at the level of the roller supporting shaft **24**. The opposite or lower end of strap **40** has projecting from the plane thereof at an obtuse angle a mounting arm **48** which has formed therein an aperture for receiving a bolt or screw **52** for connection to clamp **50**. The latter has a mounting arm **54** formed with an elongated slot **56** which receives bolt **52** and a nut **58** is provided on the bolt to complete this connection. It will be seen that the relative angle between the clamp and the strap and consequently the yoke body may be adjusted through the provision of elongated slot **56** in clamp mounting arm **54**.

Clamp **50** in the shown embodiment, includes a pair of generally C-shaped members **60**, **62** which are hinged together at one end by a pin **64** received through a pair of mounting ears **66** formed on clamp member **62** and a single mounting ear **68** formed on clamp member **60** and located between mounting ears **66**. Clamp members **60**, **62** have semi-cylindrical intermediate surface por-

tions dimensioned to engage around support bar **16** to be clamped thereto as shown in FIGURE 3.

On the free ends of clamping members **60, 62** is a locking device for clamping members **60, 62** together about support bar **16** and for loosening them for adjustment or removal purposes. The illustrated locking device includes a bolt **70** which is suitably fixed by pin **72** to clamping member **60** and extends through a bifurcated portion **74** of the opposite clamping member **62**. On bolt **70** is a hand knob **76** having an internal threaded passage **78** engaged on the threads of bolt **74**. By advancing hand knob **76** on bolt **74** pressure from the hand knob is transmitted to clamping member **62** to force the clamping members against the support bar to thus secure the separator in fixed position. Rotation of hand knob **76** in the opposite direction loosens clamping members **60, 62** with respect to support bar **16** to permit adjustment along the latter or removal.

Modifications and adaptations of the present invention readily apparent from the foregoing description and associated drawings, although not specifically mentioned herein, will nevertheless be included within the scope of the present invention as indicated in the appended claims.

I claim:

1. An ink separator for removing ink between axially spaced peripheral portions of an ink roller or the like; the separator comprising in combination, a yoke body having a pair of spaced mounting arms and a cross-piece extending between said mounting arms, a shaft mounted in said mounting arms, an ink removal roller rotatably mounted on said shaft between said arms to be engageable with an ink roller to remove ink therefrom, a pair of passages formed in the cross-piece in generally overlying relationship, a pair of generally rectangular scraper blades freely mounted in said passages respectively for slidable movement, compression coil spring means in each of said passages resiliently urging said scraper blades into simultaneous engagement with said ink removal roller to scrape ink therefrom, and means projecting from said body for securing said body with respect to a fixed support.

2. The ink separator defined in claim **1** wherein said ink removal roller has a hard and smooth metallic peripheral surface adapted to contact the ink roller to remove ink therefrom.

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