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Sills et al.

[11] **3,763,778**

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[54] **METHOD FOR SURFACE MAINTENANCE OF PRINTING PRESS BLANKET CYLINDERS**

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[52] **U.S. Cl.** **101/426,** 15/256.52, 101/423, 101/425

[51] **Int. Cl.** **B41f 35/06**

[58] **Field of Search** 101/423–425

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[57] **ABSTRACT**

A movable brush, preferably in the form of a rotatable brush roller, is positioned with its peripheral portions in contact with the surface of the blanket cylinder of an offset printing press during the printing operation. The speed of the brush may be controlled by various means disclosed so that the surface speed of the brush differs from the surface speed of the blanket cylinder.

5 Claims, 6 Drawing Figures

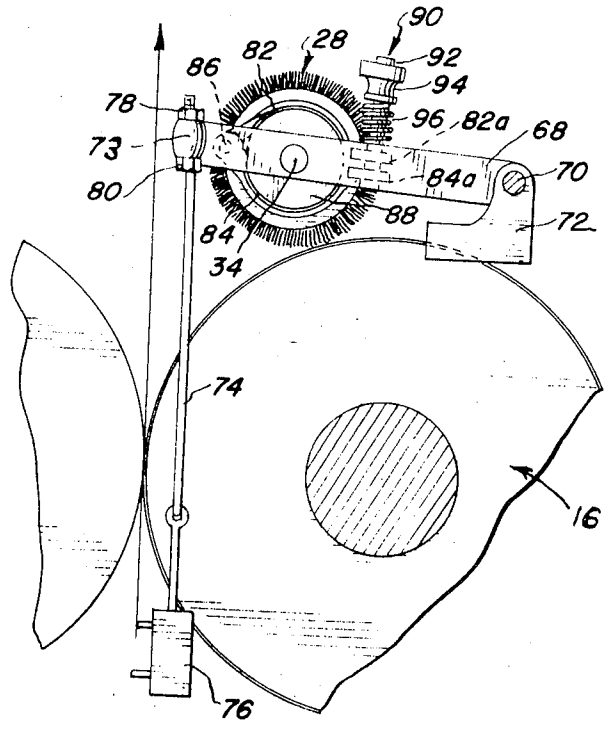


FIG. 1

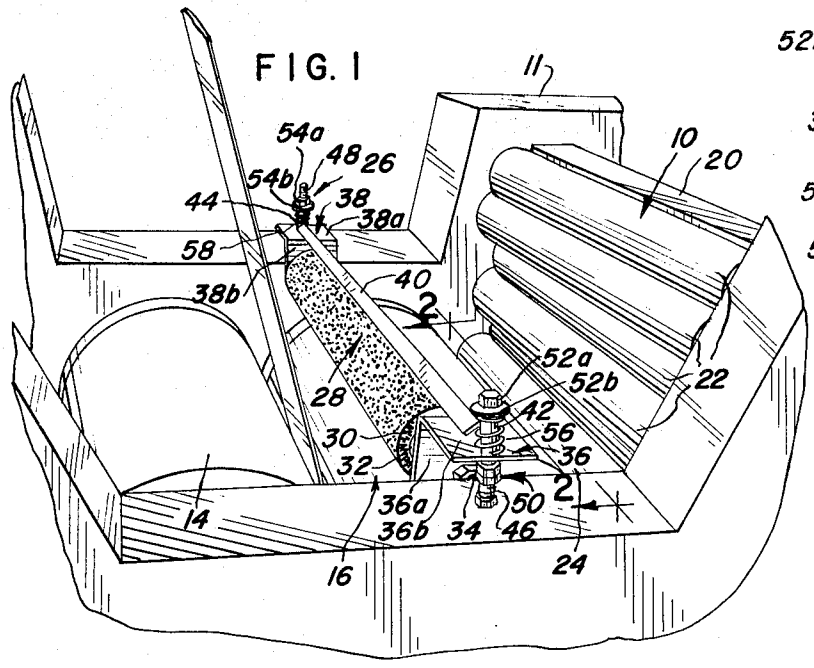


FIG. 2

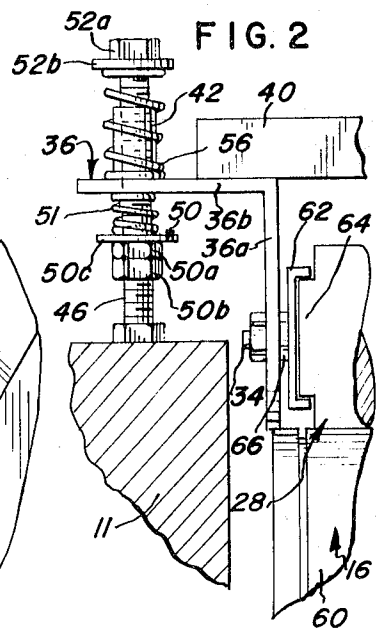


FIG. 3

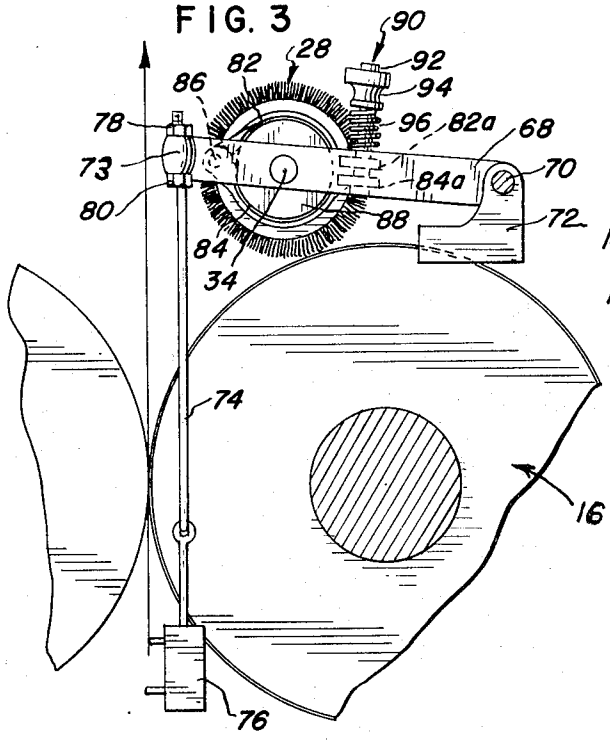


FIG. 5

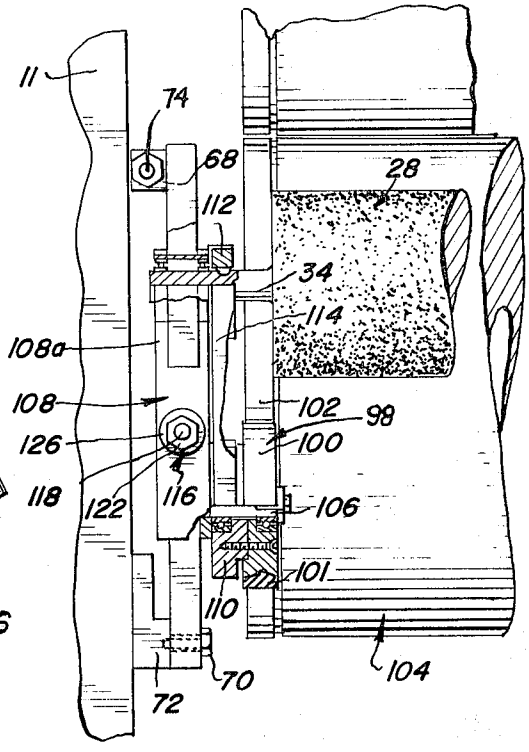


FIG. 4

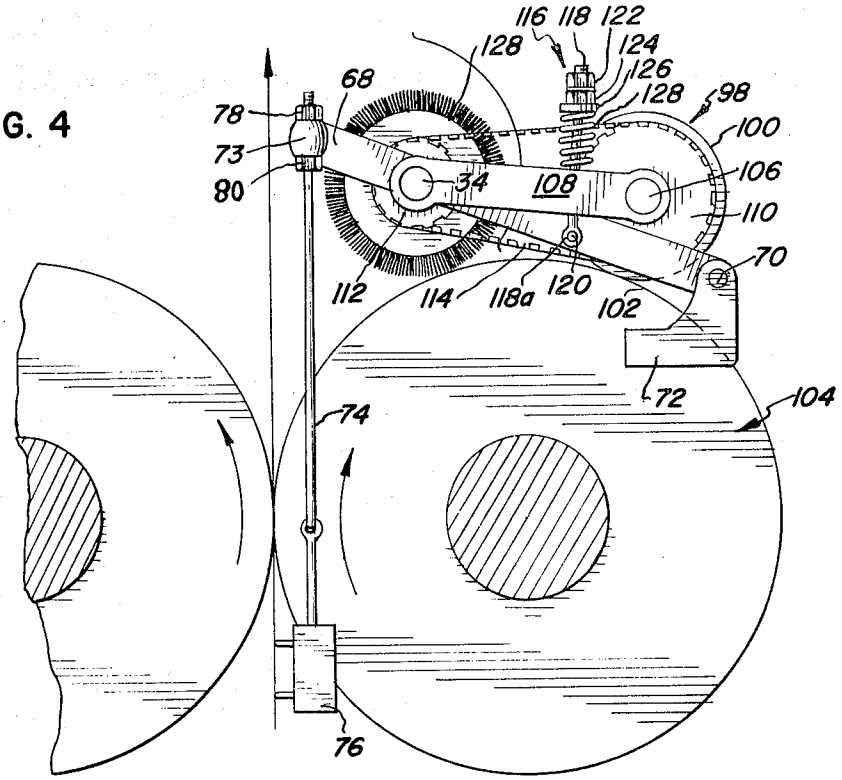
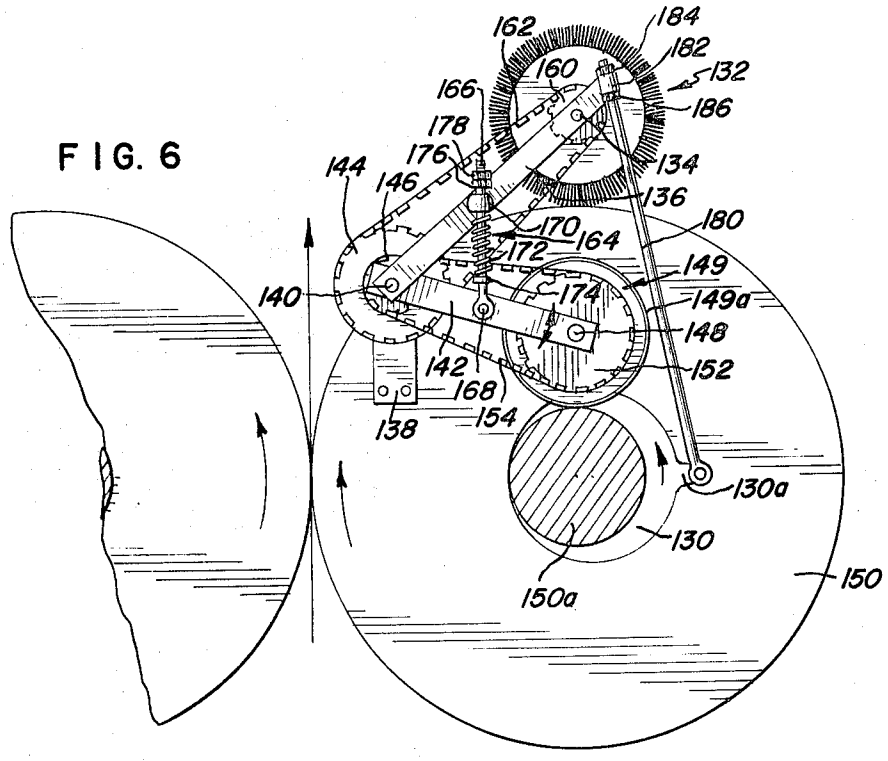

116
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FIG. 6


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150
150a

METHOD FOR SURFACE MAINTENANCE OF PRINTING PRESS BLANKET CYLINDERS

BACKGROUND OF THE INVENTION

This invention relates to a method and apparatus for maintaining a clean printing surface on a blanket cylinder of a printing press, such as a web offset press, a letter press or a gravure press, during the printing operation. The blanket cylinders of these presses tend to rapidly accumulate foreign material such as lint, dust and ink on their peripheral surface portions, and the cylinders must, therefore, be cleaned in order to remove this foreign material. One way of cleaning these cylinders has been to periodically discontinue printing and manually wash off the rotating blanket cylinders with a solvent soaked rag. This operation can be extremely dangerous, and it is additionally undesirable because of the press shutdown time required. Other methods and apparatuses for cleaning blanket cylinders are disclosed in Switall U.S. Pat. No. 3,508,711 and Anderson et al. U.S. Pat. No. 3,486,448. In accordance with these patents, the cleaning is accomplished by spraying solvent onto the blanket cylinders and onto the paper web while the press is running. The foreign material is thus washed from the blanket cylinder surface and adheres to the paper web which is moving through the press. While this type of an arrangement is a significant improvement over manual washing of the blanket cylinder, it still requires the utilization of volatile solvents, and the actual printing operation must be interrupted during the cleaning operation.

The present invention is intended to eliminate these problems by cleaning the foreign material from the surface of the blanket cylinders without solvent and by effecting this cleaning operation continuously while the press is printing. The invention provides a constant, effective and relatively inexpensive method and apparatus for maintaining the surface quality of the blanket cylinders, minimizing the need for cleaning solvents and reducing the waste of paper stock which previously was used to blot the solvent from blanket rolls.

SUMMARY OF THE INVENTION

In accordance with one aspect of the invention, the method comprises the steps of contacting the surface of a rotating blanket cylinder of the press with a moving, preferably rotating, brush and controlling the surface speed of the brush so that it differs from the surface speed of the blanket cylinder, whereby foreign material will be swept from the surface of the blanket cylinder.

The brush is preferably rotated at a greater speed than the blanket cylinder, although in one embodiment the brush is operated at a slower speed. The speed of the brush and the blanket cylinder should, however, be nearly the same, and the brush should be rotating with sufficient speed to dislodge the foreign material and sweep it from the surface of the blanket cylinder.

In accordance with another aspect of the invention the apparatus comprises a brush mounted for movement relative to the blanket cylinder and positioned for contact with the surface portions of the blanket cylinder during printing, and control means for controlling the speed of movement of the brush with respect to the blanket cylinder. The brush is preferably a brush roller, and it is positioned so that its peripheral portions will

contact the peripheral portions of the blanket cylinder after the portions of the blanket cylinder have completed printing and prior to their re-inking. In one embodiment, the peripheral speed of the brush is retarded with respect to the peripheral speed of the blanket cylinder, and in another embodiment the brush roller is driven at a peripheral speed which is greater than that of the blanket cylinder.

It is preferred that the control means include a drive assembly operatively driving the brush roller from the blanket cylinder, and selectively operable means may be provided for moving the drive assembly and the brush roller into and out of engagement with the blanket cylinder.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a portion of an apparatus constructed in accordance with this invention, showing the manner in which the apparatus may be employed in cleaning one of the blanket cylinders of a web offset printing press;

FIG. **2** is an enlarged cross-sectional view of the apparatus illustrated in FIG. **1** taken substantially along line **2—2** of that figure.

FIG. **3** is a sectional side elevational view of a slightly modified apparatus;

FIG. **4** is a sectional side elevational view also of still a further modification of the apparatus.

FIG. **5** is a top plan view of a portion of the apparatus illustrated in FIG. **4**; and

FIG. **6** is a sectional side elevational view of still another modification of the apparatus.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The method and apparatus of this invention are adapted to be used with a web offset printing press **10,** a portion of which is illustrated in FIG. **1.** The press has a frame **11** on which the parts of the press are mounted. As shown, the web of paper **12** is moved upwardly through the press in the direction of the arrow between a pair of blanket cylinders **14** and **16.** Ink is transferred from a reservoir **20,** onto a series of ink rollers **22,** and then onto a plate cylinder **24.** The image from the plate cylinder **24** is transferred in ink to the blanket cylinder **16.** A similar ink reservoir, set of ink rollers, and a plate cylinder are provided for the blanket cylinder **14,** although these are not shown in FIG. **1.** The paper **12** moves between the blanket cylinders **14** and **16,** and the image is transferred to the paper on both sides at the nip of the blanket cylinders.

In a web offset printing press the blanket cylinders tend to pick up dust and lint from the paper **12,** and ink tends to build up on the surface of these cylinders. Heretofore these blanket cylinders have been periodically cleaned by applying a solvent to the blanket cylinders as the cylinders were rotating and as the paper web was moving through the press. This has proved to be not only a dangerous operation, particularly if handled manually, but it employs a quantity of paper to blot up the excess solvent, and thus a portion of the paper web was scrapped during the cleaning operation. In accordance with this invention the cleaning of the surface of the blanket cylinders is accomplished continuously during the printing operation, so that there is little or no shutdown time of the presses due to cleaning, and there is no substantial buildup of foreign material on

the surface of the blanket cylinders. The quality of the printing is thus improved, and production is increased. The method and apparatus of this invention will be described with like numbers being given to like parts of each embodiment of the apparatus.

The invention may be embodied in the apparatus **26**, illustrated in FIGS. **1** and **2**. The apparatus **26** includes a brush roller **28**, having bristles **30**, a core **32** and an axle **34**, the opposite ends of the axle being journaled for rotation in a respective pair of mounting brackets **36** and **38**. The mounting bracket **36** has a vertical flange portion **36***a* and a horizontal flange portion **36***b*, and the mounting bracket **38** has a corresponding vertical flange portion **38***a* and a horizontal flange portion **38***b*. The ends of the axle of the brush roller **28** are journaled for rotation in the vertical flange portions **36***a* and **38***a*, respectively. For stability, an angle brace **40** extends horizontally between and is welded to the horizontal flange portions **36***b* and **38***b* of the mounting brackets **36** and **38**, as best illustrated in FIG. **1**. The joined mounting brackets thus form a mounting bracket assembly. The horizontal flange portions **36***b* and **38***b* are apertured, and sleeves **42** and **44**, respectively, are welded thereto. Each of these sleeves is aligned with the aperture in its mounting bracket flange portion, and these sleeves serve as vertical guides for the mounting bracket assembly.

Extending upwardly from the frame of the web offset printing press **10** are two bolts **46** and **48**. These bolts are adapted to be received within the sleeves **42** and **44** of the mounting bracket assembly so that the assembly may move upwardly and downwardly on the bolts **46** and **48**. The downward movement of the mounting bracket assembly is limited by a pair of adjustable bottom stop members **50**, which may be in the form of a pair of nuts **50***a* and **50***b* and a washer **50***c* on each of the bolts **46** and **48** (see FIG. **2**). A coil spring **51** acting between the washer **50***c* and the underside of the mounting bracket horizontal flange portion **36***b* resiliently supports the mounting bracket **36** and urges it upwardly. A similar spring (not shown) acts between the washer **50***c* and the underside of the horizontal flange portion **38***b* to resiliently support the mounting bracket and urge it upwardly. A pair of adjustable top stop members **52** and **54** are also provided, which as illustrated, may consist of a nut **52***a* and a washer **52***b* on the bolt **46** and a nut **54***a* and a washer **54***b* on the bolt **48**. A coil spring **56** surrounding the sleeve **42** acts between the washer **52***b* and the top side of the horizontal flange portion **36***b* to urge the mounting bracket **36** resiliently downwardly on the bolt **46**. A corresponding coil spring **58** surrounding the sleeve **44** acts between the washer **54***b* and the horizontal flange portion **38***b* to urge the mounting bracket **38** downwardly. The mounting bracket assembly is thus resiliently mounted on the press frame **11**.

The brush roller **28** is adapted to engage and sweep foreign material from the printing blanket **60** on the peripheral surface of the blanket cylinder **16**. Means is also provided for controlling the speed of the movement of the brush, i.e., the rotation of the brush with respect to the blanket cylinder so that the surface speed or peripheral speed of the brush is different from the surface speed of the blanket cylinder. In the embodiment illustrated in FIGS. **1** and **2**, this control means is in the form of a single friction element or brake shoe **62** (see FIG. **2**) which engages a drum **64** on the brush roller axle **34**, providing a drag and thus permitting the blanket cylinder to rotate at a faster surface or peripheral speed than the brush roller. This brake may be adjusted by means of an adjustment nut **66**. It is preferred that a brake shoe and an adjustment nut be provided on each side of the brush roller so that the drag at the two ends of the brush roller is equal, although, if desired, the mechanism may be constructed with the brake located only at one side of the brush roller.

In the embodiment of FIGS. **1** and **2**, the brush roller, although resiliently mounted, remains in fixed position with respect to the frame of the printing press, and thus the brush roller **28** is in continual engagement with the surface of the printing blanket on the blanket cylinder, at least while the blanket cylinder is in its printing position as illustrated. It may be desirable to provide means for moving the brush roller selectively into and out of contact with the surface of the printing cylinder. This type of an arrangement is illustrated in FIG. **3**.

In the embodiment of FIG. **3** the brush roller **28** has its axle **34** journaled for rotation in a pair of parallel arms disposed adjacent the opposite sides of the press, one of the arms **68** being illustrated in FIG. **3**. The arm **68** is mounted for pivotal movement on a pin **70** extending from a bracket **72** affixed to the printing press frame. A corresponding arm is pivotally mounted on a corresponding bracket affixed to the opposite side of the frame, although this is not shown in FIG. **3**. Pivotal movement of the arm **68** about the pin **70** in the clockwise direction as viewed in FIG. **3** will result in movement of the brush roller **28** away from the surface of the blanket cylinder **14**, whereas movement of the arm **68** in the opposite or counterclockwise direction will move the brush roller toward contact with the surface of the blanket cylinder **14**. An operating rod **74** is pivotally connected to the free end of the arm **68** by means of a swivel eye connector **75**, so that movement of this rod will effect corresponding pivotal movement of the arm **68** about the pin **70** and corresponding movement of the brush roller **28** toward and away from the blanket cylinder. The movement of the arm **68** may be controlled by means of an air cylinder **76**, although it will be understood that this is only one form of an operating mechanism which could be employed for this purpose. Adjustment nuts **78** and **80** located at the upper end of the operating rod **74** on either side of the swivel eye connector **75** provide for suitable adjustment of the arm **68** with respect to the operating rod **74**. A similar operating rod and air cylinder arrangement may be provided on the opposite side of the brush roller, or the two arms may be interconnected by means of suitable bracing or the like.

In the embodiment illustrated in FIG. **3**, the control means for controlling the speed of rotation of the brush roller **28** is in the form of a pair of brake shoes **82** and **84** pivotally connected together at one side by means of a pin **86**. The shoes bear against a drum **88**, and the amount of braking is regulated by a tension adjustment mechanism **90** consisting of a bolt **92**, a tension adjustment knob **94**, and a coil spring **96**. The coil spring **96** acts between the tension adjustment knob **94** and the end portion **82***a* of the brake shoe **82** to resiliently urge the end portions **84***a* and **82***a* of the brake shoes toward each other. The more the tension adjustment knob **94** is drawn downwardly on the bolt **92**, the harder the spring **96** will bear against the end portion **82***a* of the

shoe 82, and the more will be the bearing pressure of the shoes 82 and 84 against the drum 88.

In the embodiment illustrated in FIGS. 1 and 2 and in the embodiment illustrated in FIG. 3, the brush roller 28 is rotated by frictional engagement between the brush roller and the blanket cylinder, with the rotation of the brush roller being retarded by braking control means. It may be desirable, however, to drive the brush roller at a greater peripheral or surface speed than the blanket cylinder. An arrangement for accomplishing this is illustrated in FIGS. 4 and 5.

In the embodiment of FIGS. 4 and 5 the brush roller 28 is mounted in substantially the same way as the embodiment of FIG. 3 with each end of the brush roller axle 34 being journaled for free rotation in an arm 68. One end of each arm 68 (only one is shown in FIG. 4) is pivotally connected to a respective bracket 72 by means of a pin 70, each bracket 72 being affixed to the frame 11 of the printing press. An operating rod 74 is pivotally connected by means of a swivel eye connector 73 to the free end of the arm 68, and the lower end of the operating rod is connected to a power operated mechanism 76 such as, for example, an air cylinder of the type described in connection with the embodiment of FIG. 3. The upper end of the rod 74 is adjustable by means of a pair of adjustment nuts 78 and 80.

In the embodiment of FIGS. 4 and 5, however, the brush roller 28 is not driven by the frictional engagement of the bristles with the surface of the blanket cylinder. Instead, a drive assembly 98 interconnects the brush roller 28 and the blanket cylinder so that the brush roller may be driven in the same tangential direction but at a peripheral speed which is greater than that of the blanket cylinder.

The drive assembly 98 includes brush drive wheel 100 preferably having a surface of a resilient rubberlike material 101 for engagement with a bearing surface 102 at the extreme end of the blanket cylinder 104 (see FIG. 5). The drive wheel 100 is mounted for rotation on an axle 106 affixed to an arm 108, the other end of which carries a yoke formation 108*a* which is pivotally connected to the arm 68 on the axle 34 of the brush roller 28. Affixed to the brush drive wheel 100 for rotation therewith is a timing belt pulley 110, and another timing belt pulley 112 is keyed or otherwise affixed to the axle 34 of the brush roller 28. A timing belt 114 extends around the timing belt pulleys 110 and 112, so that rotation of the brush drive wheel 100 will result in the rotation of the timing belt pulley 110, the timing belt 114, the timing belt pulley 112 and the brush roller 28.

A drive wheel pressure adjustment mechanism 116 is provided for adjusting the pressure of the drive wheel against the bearing surface 102 of the blanket cylinder 104. This adjustment mechanism 116, best illustrated in FIG. 4, may include a rod 118, the lower end of which carries an eye formation 118*a* and is pivotally connected to the arm 68 by means of a pin 120. The rod extends upwardly through the arm 108, and at its upper end this rod carries a pair of lock nuts 122 and 134 and a washer 126. A coil spring 128 acting between the arm 108 and the underside of the washer 126 urges the arm 108 in a clockwise direction about the brush roller axle 34 that also pivotally connects the arm 108 to the arm 68. Thus the wheel 100 is urged into engagement with the bearing surface 102 of the blanket cylinder.

When the operating rod 74 is moved downwardly by the air cylinders 76, the bristles of the brush roller 28 will engage the surface of the blanket cylinder, and the drive wheel 100 will be urged resiliently into engagement with the bearing surface 102 of the blanket cylinder by the spring 128 of the drive wheel pressure adjustment mechanism 116.

In the embodiment of FIGS. 4 and 5, the brush roller 28 is driven in the same tangential direction but at a faster peripheral speed than the blanket cylinder 104. To accomplish this the timing belt pulley 110 of the drive wheel 100 is of greater diameter than the timing belt pulley 112 of the brush roller 28, whereas the diameter of the brush roller is at least as great and of preferably greater diameter than the drive wheel 100. Thus the brush roller 28 will be rotated at a slightly faster rate (rpm) than the drive wheel 100, and the peripheral or surface speed of the brush roller will be slightly greater than that of the drive wheel, which has the same surface speed as the blanket cylinder.

In some presses the blanket cylinders are moved into and out of their printing position by means of an eccentric bearing member 130, which is rotated in one direction to effect movement of the web into its printing position, as illustrated in FIG. 6, and in the opposite direction to effect movement of the blanket cylinder out of its printing position. The apparatus illustrated in FIG. 6 includes means for moving the drive assembly and brush roller into and out of engagement with the blanket cylinder in synchronization with the movement of the blanket cylinder into and out of its printing position.

In the embodiment of FIG. 6 the brush roller 132 is mounted with each end of its axle 134 journaled for rotation in an arm 136, as was the case with the embodiments of FIGS. 3, 4 and 5. One end of each arm 136 (only one is shown in FIG. 6) is pivotally connected to a respective bracket 138 by means of an axle pin 140. The brackets 138 are affixed to opposite sides of the frame of the printing press, only one bracket 138 being shown in FIG. 6.

Also pivotally carried on the axle pin 140 of the bracket 138 (on one side of the printing press) is an arm 142, and a pair of concentric timing belt pulleys 144 and 146 are mounted for free rotation on this axle pin. The pulleys 144 and 146 are joined together by suitable fastener means so that these pulleys will rotate together on the axle pin 140. The pulley 146 is smaller in diameter than the pulley 144 for reasons which will be more fully hereinafter explained.

Carried on the free end of arm 142 on a horizontal axle pin 148 is a drive wheel 149, preferably having a rubber surface 149*a* which is adapted to engage a peripheral surface of the axle 150*a* of the blanket cylinder 150. Joined to the drive wheel 149 for rotation therewith about the axle pin 148 is a timing belt pulley 152, and a timing belt 154 extends about this timing belt pulley 152 and about the timing belt pulley 146. Mounted on and keyed to the axle 134 for rotation with the brush roller 132 is a timing belt pulley 160. A timing belt 162 extends around this timing belt pulley 160 and around the timing belt pulley 144. Thus, power from the axle 150*a* of the blanket cylinder 150 is transmitted to the brush roller 132 by the brush roller drive assembly consisting of the drive wheel 149, the timing belt pulleys 152, 146, 144 and 160 and the timing belts 154 and 162.

A drive wheel pressure adjustment mechanism **164** is provided for resiliently urging the drive wheel **149** into frictional driving engagement with the axle **148** of the blanket cylinder **150** at the same time that the brush roller **132** is brought into contact with the surface of the blanket cylinder **150.** This drive wheel pressure adjustment mechanism **164** includes a rod **166,** the lower end of which is connected to the central portion of the arm **142** by means of a pin **168.** The upper end of the rod **166** extends through a swivel eye connection **170** pivotally connected to the central portion of the arm **136.** A coil spring **172** acts between this connection **170** and a stop member **174** which may be either fixed or adjustable on the lower end of the rod **166.** The spring **172** resiliently resists pivotal movement of the free ends of the two arms **136** and **142** toward each other, and a pair of stop nuts **176** and **178** on the upper portion of the rod **166** above the swivel eye connection **170** limit the pivotal movement of the free ends of the two arms **136** and **142** away from each other. When the arm **136** is moved downwardly, i.e., in a clockwise direction as viewed in FIG. **6,** the spring **172** acts against the stop member **174** to urge the rod **166** and the arm **142** downwardly, i.e., in a clockwise direction as viewed in FIG. **6,** and thus the drive wheel **149** is urged into frictional driving engagement with the rotating axle of the blanket cylinder **150.** When the arm **136** is moved upwardly, i.e., in a counterclockwise direction, the swivel eye connection **170** will engage the lower of the two stop nuts, and the arm **142** will be moved in a counterclockwise direction, drawing the drive wheel **149** out of driving engagement with the rotating axle **150***a* of the blanket cylinder.

In the FIG. **6** embodiment the brush roller and drive assembly are moved into and out of their operative positions simultaneously with the movement of the blanket cylinder **150** into and out of its printing position by the eccentric member **130.** To accomplish this, a rod **180** is pivotally connected to an extension **130***a* on the eccentric member **130.** The rod **180** extends upwardly through a swivel eye connection **182** pivotally connected to the upper end of the arm **136.** A pair of adjustment nuts **184** and **186** threaded on the end of the operating rod **180** provide an adjustment between the eccentric member **130** and the arm **136.**

In FIG. **6** the blanket cylinder **150** is shown in its printing position. In this position the eccentric member has been moved to its limit in the clockwise direction, and the rod **180** has been moved downwardly to swing the brush roller **132** into engagement with the blanket cylinder and the drive wheel **149** into engagement with the axle **150***a* of the blanket cylinder. In order to move the blanket cylinder out of its printing position the eccentric member **130** is rotated in the counterclockwise direction (as indicated by the arrow) until the extension **130***a* is disposed vertically upwardly as viewed in FIG. **6.** This movement causes upward movement of the rod **180** and forces the arm **136** carrying the brush roller **132** upwardly and away from the surface of the blanket cylinder **150.** Since the arm **136** is interconnected to the arm **142** by the drive wheel pressure adjustment mechanism **164,** counterclockwise movement of the arm **136** will cause corresponding counterclockwise movement of the arm **142,** and the drive wheel **149** will be swung out of engagement with the surface of the rotating axle **150***a* of the blanket cylinder. In this way the movement of the eccentric member **130** to effect movement of the blanket cylinder **150** into and out of its printing position will effect corresponding movement of the brush roller **132** into and out of engagement with the surface of the blanket cylinder and also movement of the brush roller drive wheel **149** into and out of engagement with the axle **150***a* of the blanket cylinder **150.**

The apparatus described herein may be conveniently utilized to practice the method of this invention by contacting the printing surface of a rotating blanket cylinder of the press with a rotating brush and controlling the surface speed of the brush so that it differs from the surface speed of the blanket cylinder. Thus foreign material which normally would be attracted to and accumulate on the surface of the blanket cylinder is swept therefrom by the brush.

The brush has been disclosed in its preferred form as a brush roller, and various means have been disclosed herein for driving or braking the brush roller so that the peripheral speed thereof differs from that of the blanket cylinder. The surface or peripheral speed of the brush roller should sufficiently differ from that of the blanket cylinder so that the foreign material will be swept from the surface of the blanket cylinder. This speed differential should, however, not be so great that the image on the blanket cylinder will be smeared. The speed of the brush roller nevertheless should be sufficient to flick the foreign materials such as dust, lint or excess ink into the air. This foreign material is usually attracted to and picked up by the printed paper stock as it moves through the press, and this material usually has a particle size which is not noticeable to the naked eye in viewing the printed paper. It has been found that with a blanket cylinder operating at a surface speed of 1,900 feet per minute, the brush roller operates quite well at a surface speed of one to two hundred feet per minute less than the surface speed of the blanket, i.e., at 1,700 to 1,800 feet per minute. Alternatively, the brush roller may be operating at a speed of 1 to 200 feet a minute greater than that of the blanket cylinder; i.e., at from 2,000 to 2,100 feet per minute.

The brush may vary in its composition and structure, however, one brush that has been found to be quite satisfactory is one having a diameter of 4⅜ inches with ¾ inch long nylon bristles, each bristle being on the order of 0.010 inch in diameter and being densely packed on the brush roller core which is affixed to the axle of the brush roller.

It is to be understood that the present disclosure has been made only by way of example and that many additional modifications and changes in various details may be resorted to without departing from the invention.

What is claimed is:

1. A method of removing lint from the printing surface portions of a blanket cylinder of a web offset printing press during printing without using solvent and without removing a substantial amount of ink, said method comprising the steps of continually contacting during normal printing operation the printing surface portions of the rotating blanket cylinder of the press with a brush after those surface portions of the blanket cylinder have printed and before they have been reinked, rotating the brush in the same tangential direction as the blanket cylinder, controlling the surface speed of the brush so that it differs from the surface speed of the blanket cylinder, and controlling the pressure of the brush against the printing surface portions

of the blanket cylinder so that it is sufficient to remove lint but it is insufficient to remove a substantial amount of ink from those portions of the blanket cylinder.

2. The method according to claim 1 wherein the controlling of the surface speed of the brush is such that it is less than the surface speed of the blanket cylinder.

3. The method according to claim 1 wherein the controlling of the surface speed of the brush is such that it is greater than the surface speed of the blanket cylinder.

4. The method according to claim 1 wherein the controlling of the surface speed of the brush and the controlling of the pressure of the brush against the surface of the blanket cylinder are such that lint will be swept from the surface of the blanket cylinder without substantially smearing the image on the blanket cylinder.

5. A method of removing lint from the surface of a blanket cylinder of a web offset printing press during printing without a substantial amount of ink and without using solvent, said method comprising the steps of contacting the surface of a rotating blanket cylinder of the press with a brush moving in the same tangential direction as the blanket cylinder during normal printing operation and with pressure sufficient to remove lint but insufficient to remove a substantial amount of ink, and controlling the surface speed of the brush so that it differs from the surface speed of the blanket cylinder, whereby the lint will be swept from the surface of the cylinder.

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