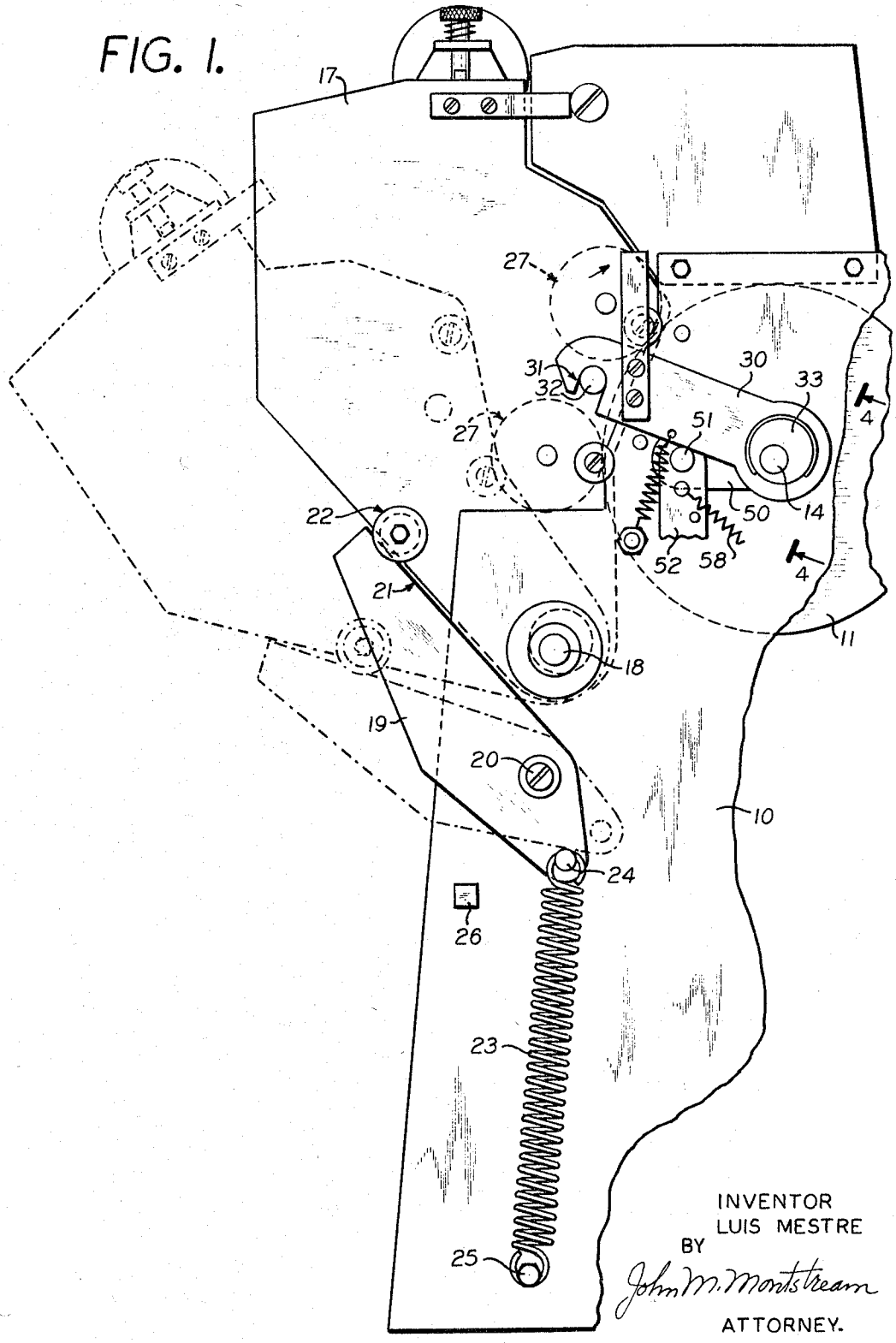
Nov. 22, 1966 L. MESTRE 3,286,622

MOUNTING AND OPERATING MEANS FOR INKING UNIT AND PLATE CYLINDER OF A PRESS

Filed March 23, 1964 3 Sheets-Sheet 1

FIG. 1.



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MOUNTING AND OPERATING MEANS FOR INKING UNIT AND PLATE CYLINDER OF A PRESS

Filed March 23, 1964 3 Sheets-Sheet 2

FIG. 2.

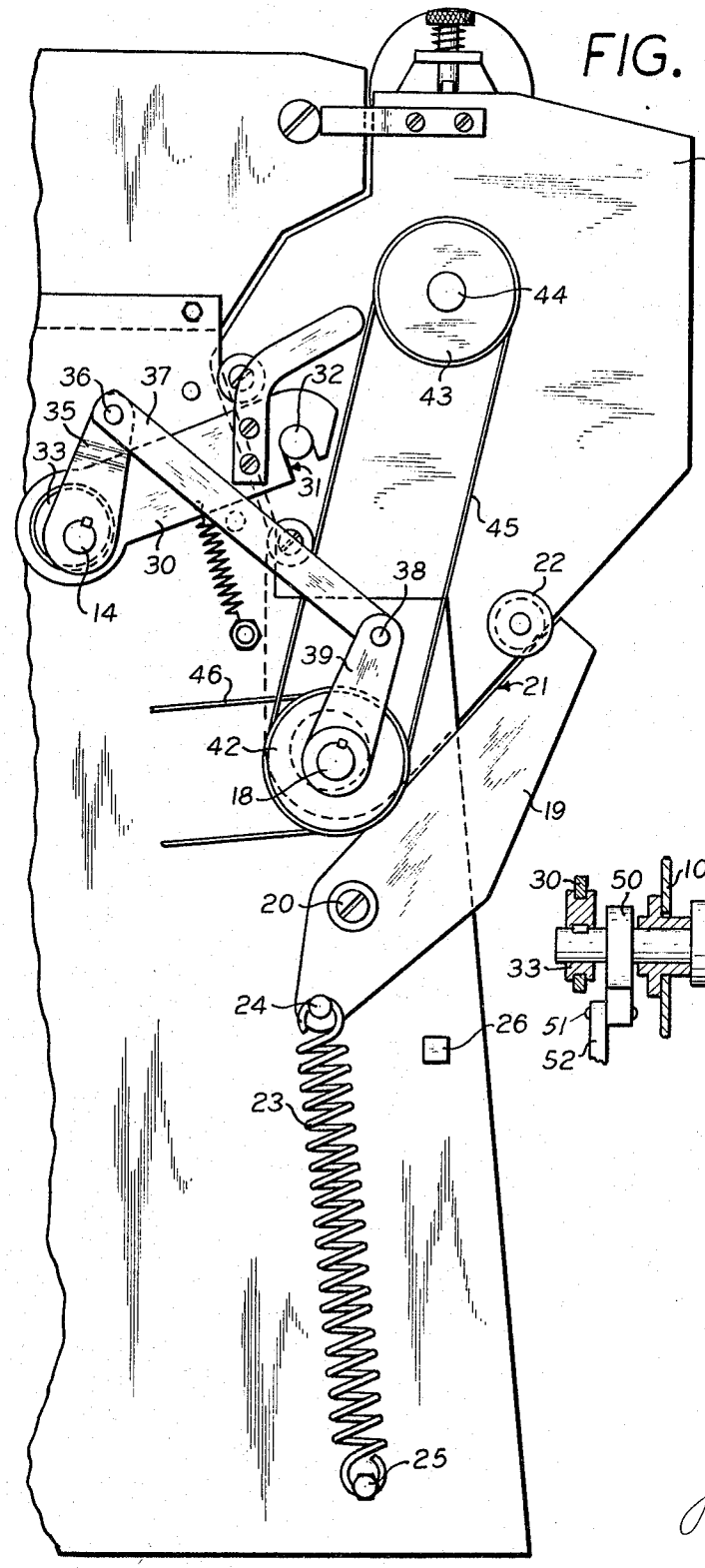
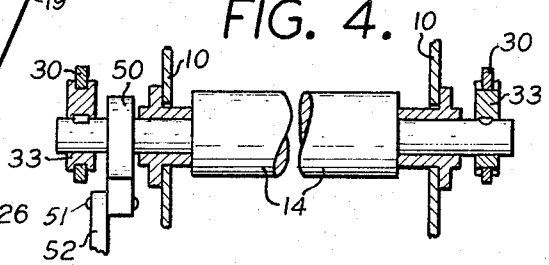


FIG. 4.



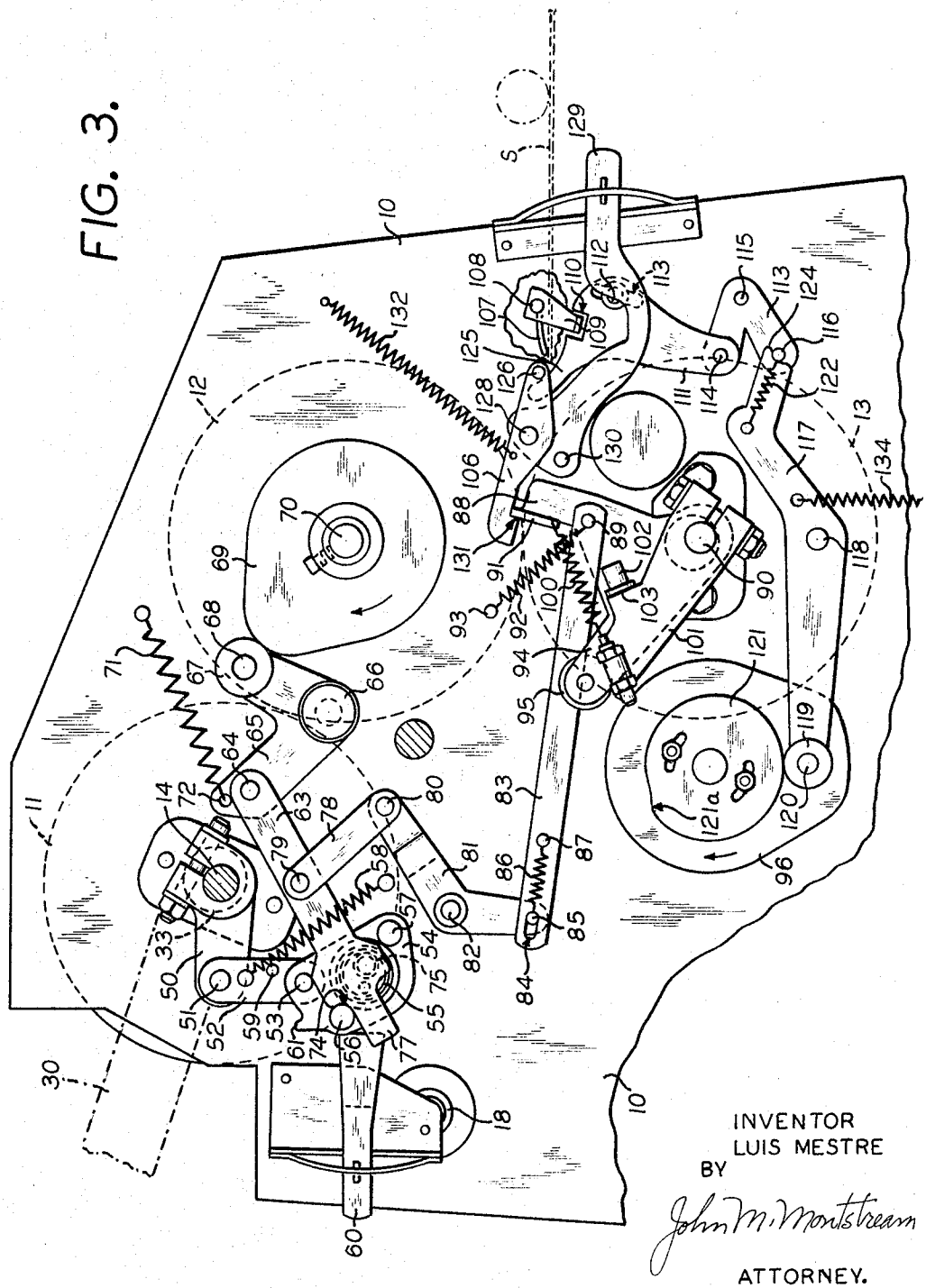
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MOUNTING AND OPERATING MEANS FOR INKING UNIT AND PLATE CYLINDER OF A PRESS

Filed March 23, 1964 3 Sheets-Sheet 3

FIG. 3.



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3,286,622

MOUNTING AND OPERATING MEANS FOR INKING UNIT AND PLATE CYLINDER OF A PRESS

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Filed Mar. 23, 1964, Ser. No. 360,158
19 Claims. (Cl. 101—218)

The invention relates to a printing press, such as an off-set printing press having a plate cylinder, a blanket cylinder and an impression cylinder with an inking unit for feeding ink to the plate cylinder. Such presses also have a water or fluid unit. Off-set printing presses shift one or more cylinders in order to separate the same when a sheet is not fed into the press. The press herein is one which shifts the plate cylinder away from the blanket cylinder and one of the other cylinders is not moved or shifted. The press particularly illustrated shifts the impression cylinder as well and does not shift the blanket cylinder. In the event that a sheet is not fed to the press either intentionally or by failure of the sheet feeding means to function, the inking unit is shifted with the plate cylinder with the ink transfer or former rolls of the inking unit continuing to engage the plate cylinder.

An object of the invention is to construct a press with a plate cylinder which is shifted when a sheet is not fed to the press and having an inking unit which is shifted with the plate cylinder.

Another object of the invention is to construct a press as above in which the inking unit is shifted at two spaced points.

Another object of the invention is to construct a press having a shiftable plate cylinder and which mounts the inking unit for two types of movement, (1) for substantial movement to open the same well away from the plate cylinder and the water or fluid unit and also (2) to shift or move the inking unit with shifting of the plate cylinder of the press to inoperative position for separating this cylinder from the blanket cylinder, by shifting the inking unit a short distance corresponding with the shifting of the plate cylinder so that the inking unit is moved an equal amount and the former rolls of the inking unit remain in contact with the plate cylinder.

A still further object of the invention is to construct a press as in the preceding paragraph with the inking unit pivotally mounted on the press frame so that the entire inking unit may be pivoted away from inking position to a full open position with latching means for retaining the inking unit in closed position and in which position the inking unit is shiftable with the plate cylinder through the latching means when the plate cylinder is separated from the blanket cylinder.

Another object is as set forth in the preceding paragraph and in addition thereto the inking unit pivot participates in moving or shifting of the inking unit with the plate cylinder to and from its two positions namely operative position and inoperative position.

A still further object is to construct a press as above with a new and novel operating mechanism for effecting the movement of the plate cylinder and the inking unit.

Another object is to construct an adjusting means for adjusting the position of the plate cylinder and inking unit.

Another object is to construct an inking unit for use with a press having an opening movement and also the shifting or separation movement of the plate cylinder to and from operative or inoperative positions.

Other objects of the invention will be more apparent from the following descriptions when taken in connection with the accompanying drawings illustrating a preferred embodiment thereof in which:

FIG. 1 is a side view of the inking unit of the press mounted on a pivot and latched in operating position and shown in partially open position as well in dot dash lines.

FIG. 2 shows a shift connection between the eccentric shaft of the plate cylinder to the eccentric pivot of the inking unit.

FIG. 3 shows the operating mechanism for automatically shifting the plate cylinder and the inking unit to and from operative or inoperative position as well as the impression cylinder controlled by a sheet fed to the press or lack of a sheet being fed and with the inking unit latch removed.

FIG. 4 is a side view of the eccentric means for the latching mechanism for the inking unit.

The press has a frame **10** of suitable construction. The press shown is an off-set press having a plate cylinder **11**, a blanket cylinder **12**, and an impression cylinder **13**. These three cylinders are connected together by gears (not shown) in known manner to rotate the cylinders at the same speed. In this type of press, the plate on the plate cylinder picks up ink from an inking unit for an impression which ink is transferred to the blanket cylinder and then transferred to a sheet of paper as it passes between the blanket cylinder and the impression cylinder. The cylinders rotate one revolution for each cycle and each sheet to be printed. The plate cylinder is rotatably mounted on an eccentric shaft **14** (FIG. 4) which shaft is shifted or turned in order to separate this cylinder from the blanket cylinder. When the press is printing, the plate cylinder is in operative position to transfer ink to the blanket cylinder but in the event that a sheet, is purposely or inadvertently not fed to the press, the plate cylinder is shifted away or separated from ink transferring position with respect to the blanket cylinder which is accomplished by turning the eccentric shaft sufficiently to effect this separation. A press having a shiftable plate cylinder also shifts one of the two other cylinders which is also rotatably mounted on such eccentric shaft in order to effect cylinder separation between blanket and impression cylinders. For a press which separates the plate cylinder from the blanket cylinder, as herein, the blanket or the impression cylinder may be given a separation movement with respect to the other, and the press illustrated shifts the impression cylinder away from the blanket cylinder with the latter cylinder being fixed in position.

An inking unit is mounted on the press frame so that it may be opened to a position well away from the plate cylinder. The inking unit includes an inking unit frame **17** mounted on the press frame through mounting means which enables it to be opened widely and exposes the plate cylinder and other press parts such as the water or fluid unit. The mounting means particularly shown is an inking unit pivot **18** so that the inking unit may be pivoted to open, out of the way position. Suitable counter balancing means may be provided for the inking unit that shown including a counter balancing lever **19** which is pivotally mounting on the press frame on a pivot **20** adjacent to the inking unit pivot and having an edge **21** which engages a roll **22** carried by the inking frame. A counter-balancing lever spring **23** is connected with a pin **24** on this lever and the other end is secured to a pin **25** carried by the press frame. This counter balancing means is duplicated on the other side of the press frame. A stop **26** restricts pivotal opening of the inking unit to a generally horizontal position. Ink is transferred from the inking unit to the plate of the plate cylinder by form or transfer rolls **27** which form part of the inking unit.

Latching mechanism is provided to latch the inking unit in position with respect to the plate cylinder and to

shift the inking unit to and from operative position with the shifting of the plate cylinder and controlled by a sheet or lack of a sheet as will appear. The latching mechanism includes a latching lever 30 pivotally mounted on one of the frames including the inking unit frame and the press frame and interengaging means carried by the latching lever and the other frame which means is easily releaseable. Since the plate cylinder is shifted to the left, as viewed in FIG. 1, to and from the blanket cylinder 11, the inking unit is shifted therewith so that the former rolls 27 have not unusual or excessive pressure applied thereto when the plate cylinder is shifted to its inoperative position, that is a position separated from the blanket cylinder. At least part of the shifting of the inking unit takes place through the latching mechanism.

The latching mechanism includes a latching lever 30, one being provided on each side of the press. One end of each lever preferably is pivotally mounted and the other end carries one part of an interengaging means with the other part of which interengaging means being mounted on one of the frames. The interengaging means shown is a notch 31 on the latching lever in which is received a latching rod 32 shown as carried by the inking frame. Actually the rod 32 is a rod for control of the former rolls, although the rod may be a pin having no other function other than latching. One end of the latching lever means is mounted on or connected with an eccentric means. This latching lever is shown as pivotally mounted on an eccentric pivot 33 which may be suitably mounted, however, a convenient and economical point is to mount this eccentric pivot on an eccentric shaft for one of the cylinders which is separated from its adjacent cylinder. Since the plate cylinder is so mounted and it is the nearest to the inking unit, the plate cylinder eccentric shaft 14 is used as the point of attachment or mounting for the latching lever eccentric pivot to shift the inking unit with the plate cylinder and also to release the inking unit so that it may be opened or particularly pivoted to open position for cleaning, inspection or other purposes. When the plate cylinder 11 is moved away from contact with the blanket cylinder by turning of its eccentric cylinder shaft 14 this movement also projects or shifts the latching lever to the left, as viewed in FIG. 1, which shifts the inking unit with this cylinder to and from operative and inoperative position so that the ink transfer rolls remain in contact with the plate cylinder when the latter is separated from the blanket cylinder and no undue pressure is applied to the form rolls 27.

Although merely pivoting the inking unit to inoperative position secures shifting of the unit with shifting of the plate cylinder, it is desirable to effect an additional movement or shifting of the inking unit to noperative position with the shifting of the plate cylinder. This is accomplished by making the pivot 18 for the inking unit eccentric and providing a shift operating connection to turn this pivot so that the lower portion of the inking unit is also shifted with shifting of the plate cylinder and at the same time in a parallel type of movement. The inking unit is pivotally mounted on the pivot 18. This shift connection may extend from any one of the eccentric shafts on which one of the cylinders is mounted however, since the plate cylinder shaft is nearest to the inking unit pivot it is convenient that the connection be made from the plate cylinder eccentric shaft 14, as illustrated in FIG. 2. The shifting connection comprises lever 35 secured to the eccentric shaft 18. This lever carries a pivot pin 36 on which a connecting link 37 is mounted at one end thereof and the other end is mounted on a pivot pin 38 carried by a second lever 39 which is secured to the eccentric inking unit pivot 18. With the levers being of equal length and the eccentric pivot having the same eccentricity as the plate cylinder shaft 14, the lower portion of the inking unit is shifted an amount equal to the shifting of the plate cylinder and the upper portion of the inking unit.

When the eccentric plate cylinder shaft is turned to separate the cylinder from the blanket cylinder, the turning of this shaft is transmitted through the lever 35, link 37 and lever 39 to turn the eccentric inking unit pivot 18. It will be observed therefore that when a sheet is not fed to the press the upper portion of the inking unit is shifted from operative position to inoperative position by the latch mechanism and the bottom portion of the inking unit is shifted also by turning of the eccentric inking unit pivot. The inking unit is given a parallel movement to and from operative position with the shifting of the plate cylinder to and from operative position. This shift connection between the eccentric cylinder shaft 14 and the pivot shaft 18 for the inking unit is on the opposite side of the press from the operating mechanism of FIG. 3 which automatically secures the separation.

A driving connection is provided between the press and the inking unit through a driving pulley 42 which is rotatably mounted on the pivot 18 for the inking unit and a driven pulley 43 secured to a shaft 44 of the inking unit and a belt 45 connecting these two pulleys. The driving pulley is connected with the press mechanism through a driving connection including a belt 46 but otherwise not shown. Since the driving connection for the inking unit is from a pulley mounted on the pivot for the inking unit, this drive connection need not be disconnected at any time that the inking unit is pivoted away to open position although there will be some slack in the belt which can be kept taut with a known belt tightener.

Operating mechanism is provided to pivot the eccentric shaft 14 on which the plate cylinder 11 is rotatably mounted so that this cylinder is separated from the blanket cylinder 12 whenever a sheet is not fed into the press. As will appear, this operating mechanism also shifts the impression cylinder to separate the same from the blanket cylinder with a delay in the separation of the plate cylinder with respect to the shifting of the impression cylinder so that a complete transfer of the ink impression of the plate onto the blanket cylinder occurs. This operating mechanism comprises a lever 50 secured to the eccentric shaft 14 and having a pivot 51 which receives a connecting link 52. The other end of this connecting link is connected through a pivot 53 with an oscillating lever 54 which is mounted on a pivot 55 carried by the frame. This oscillating lever carriers a pair of push pins 56 and 57 equally spaced from the axis of the pivot 55 for the oscillating lever and on opposite sides of the axis. A spring 58 is connected with the link 52 to propel the lever 50 in a counter-clockwise direction which in turn tends to propel the eccentric shaft 14 to a position separating the plate cylinder 10 from the blanket cylinder 11. A stop 59 on the link 52 is engaged by a nub 61 to retain the lever 54 in its limiting position clockwise. The pivot 55 preferably is an eccentric pivot so that the operative position of the eccentric pivot and the operative position of the plate cylinder with respect to the blanket cylinder and the inking unit may be adjusted through a handle 60 connected with the eccentric as will appear.

The operating mechanism includes a push rod 63 which is pivotally mounted on a pin carried by a cam lever 65 which lever is pivotally mounted on the frame on a pivot 66. This cam lever has a cam follower 67 rotatably mounted on a pin 68 which cam follower engages a cam 69 which is secured to a shaft which rotates at the same speed as the cylinders, such as the shaft 70 to which the blanket cylinder 11 is secured so that the cam rotates once for each cycle of the press with the blanket cylinder. This cam oscillates the push rod once for each cycle of the press. A spring 71 connected to the cam lever such as by a hole 72, keeps the cam follower in contact with the cam. The push rod has an upper shoulder 74 on one or the upper edge thereof for engagement with the push pin 56 and a similar lower shoulder 75 provided on the other or lower edge of the push

rod for engagement with the lower push pin **57**. A tongue **77** is provided therebetween. In the position shown, the eccentric shaft **14** and hence the plate cylinder is in operative position for transferring ink from the plate to the blanket cylinder. If a sheet is not fed to the press, means are provided to lower the push rod **63** so that in its next oscillation, the lower shoulder **75** engages the push pin **57** and turns the oscillating lever **54** through about 60 degrees and through the connecting link **52** and lever **50** pivots the eccentric shaft **14** for the plate cylinder in a counter-clockwise direction, as viewed in FIG. 3, so that the plate cylinder is separated from the blanket cylinder.

The push rod **63** is shifted from up or operating position for the plate cylinder to down or inoperative position through a push rod connection including a connecting link **78** mounted on a pivot **79** carried by the push rod and the other end of this link is connected by a pivot **80** to a lever **81** which is mounted on a pivot **82** carried by the frame. This lever is oscillated by a connecting link **83** having a slot **84** which receives a pin **85** carried by the lever **81**. A spring **86** between the pin **85** and a pin **87** on the link provides a yieldable operating connection. The other end of this connecting link **83** is pivotally mounted on a locking lever **88** by a pivot **89** which locking lever is mounted and freely movable on the shaft **90** of the impression cylinder. A flange **91** is provided on the end of the locking lever and a spring **92** secured to the locking lever such as the pivot **89** and a pin **93** on the frame propels the locking lever in a counter-clockwise direction. A cam arm **94** is carried by the locking lever **88** which arm has a cam follower **95** engaging a cam **96** secured to a shaft **97** which is connected with the cylinder drive means to rotate at the same speed as the three cylinders or one revolution for each cycle. When the link **83** moves to the right to raise the push rod, the connection is through the spring **86** so that if and when the tongue **77** engages the push pin **56**, the spring **86** may yield. Precise manufacture is avoided thereby.

The locking lever **88** is connected with the eccentric shaft **90** through a heavy spring **100** between the locking lever and a safety arm **101** which is secured to the eccentric shaft **90**. A stop **102** on the locking lever and a flange **103** on the safety arm **101** limits the relative position of the lever and arm in one direction. If too many sheets should happen to be fed to the press, the spring **100** is stretched thereby and safety against any jamming is assured.

If a sheet is not fed to the press, the locking lever **88** oscillates freely when the high point of the cam **96** engages the cam follower **95**. At the low land of this cam, the link is moved to the left which pivots the lever **81** clockwise and this lowers the push rod **63** to its down position whereupon the cam **69** pushes the push rod to the left and the shoulder **75** engages the push pin **57** to shift the eccentric shaft **14** to inoperative position.

A locking latch **106** engages the locking lever **88** and is controlled by a sheet sensing means **107** located in the sheet path between the pile of sheets to be fed and the impression cylinder so that the sensing means is raised by a sheet being fed. The sensing means includes a sensor pivot **108** mounted in the press frame to which is secured a sensor lever **109**. When a sheet operates the sensing means, the end of this lever is then in a position to enter a notch **110** in a control or lift lever **111** which is mounted for vertical movement on a pin **112** engaging in a slot **113** in the control lever. This control lever is raised for each cycle of operation of the press when a sheet is fed to the press, through a linkage including a bell crank **113** which is connected with the lever by a pivot **114**. This bell crank is pivoted on the frame on a pivot **115**. The other arm of the bell crank carries a pin **116** which is engaged by a cam lever **117** pivotally mounted on the frame on a pivot **118** and propelled clockwise by a spring **134**. This cam lever carries a cam follower **119** mounted on a pin **120** which cam follower engages a cam **121** also mounted on a shaft such as the shaft **97** which rotates once for each cycle of operation. A spring **122** has one end fixed to a pin **123** on the cam lever and the other end is attached to the bell crank **113** or particularly the pin **116** thereon so that a yieldable connection is provided for the up movement of the control lever **111** or the pin is releaseably retained in a notch **124** in the end of the cam lever. When a sheet is fed to the press, the short rise **121***a* of this cam **121**, therefore, lifts the control lever **111** once for each cycle of operation of the press and in timed sequence with the high land of cam **96** when the sheet sensing means has positioned the sensor lever **109** in alignment with the notch **110**. The control or lift lever **111** has a finger **125** which engages a pin **126** on the locking latch **106** and holds this latch in locking position for the extent of the long high land of the cam **121** which extends about 200 degrees of the periphery of this cam. The locking latch is mounted on a pivot **128** carried by a manual lever **129** and this manual lever is pivoted on the frame by a pivot **130** as will appear. The locking lever **88** has a catch shoulder **131** for the locking latch. A spring **132** is attached to the locking latch for propelling the same in a clockwise direction or away from latching position.

If a sheet is not fed to the press, the sensor lever **109** does not enter the slot **110** and the lift or control lever **111** is held down by the lever **109** engaging the edge of **111** and the locking latch is not pivoted to engage the locking lever **88**. The spring **122** stretches when the control lever **111** is blocked or held. The locking lever **88** pivots counter clockwise past the catch shoulder **131** and the push rod **63** moves to its lower position until the cam **69** oscillates the push rod so that the lower shoulder engages the lower push pin **57** to pivot the oscillating lever **54** in a clockwise direction which shifts the eccentric shaft **14** for the plate cylinder to inoperative position away from the blanket cylinder and this in turn also shifts the inking unit to the left (FIG. 1) or to inoperative position with the former rolls **27** remaining in contact with the plate cylinder. If a second sheet is not fed to the press, the oscillating lever **54** remains in inoperative position for the cylinder.

As previously described, on the other side of the press frame, a linkage is provided between the eccentric shaft **14** for the plate cylinder and the eccentric pivot **18** for the inking unit so that the lower portion of the unit is also shifted so that the entire inking unit is moved with the plate cylinder in a parallel movement whenever the latter is shifted to inoperative position. When the eccentric plate cylinder shaft is turned to operative position, the eccentric pivot of the inking unit is turned an equal amount so that the inking unit is moved therewith, simultaneously to maintain constant contact of the former rolls with the plate cylinder.

It will be noted that the shifting of the plate cylinder and the inking unit is delayed for a sufficient period after the impression cylinder has been shifted to inoperative position so that a complete impression has been transferred to the blanket cylinder ready to be printed on the next sheet to be fed to the press.

The operation of the press for a cycle when a sheet is fed to the press will be described. The sheet S fed to the press, lifts the sensor finger **107** and swings the sensor lever **109** to the position as shown (FIG. 3) in alignment with the notch **110** in the lift lever **111**. This means that the control or lift lever **111** is not blocked when propelled upwardly by the cam **121**. When the high portion of cam **121** propels cam lever **117** in a counter-clockwise direction, the spring **122** pulls lever **113** in a clockwise direction to propel the control lever **111** upwardly. Therefore, the finger **125** engages the pin **126** on the locking latch **106** and holds the locking latch in locking posi-

tion. Previously thereto, the cam 96 has pivoted the locking lever 88 to the right and holds it there for a period whereupon the locking latch is tilted to latch position. The cam follower 95 then rides off of the high portion or land of the cam and the flange 91 moves a short distance to the left and engages the latching shoulder 131 to hold the locking lever 88, the eccentric shaft 90 and the impression cylinder 13 in operative position. Note that in this position, the cam follower 95 is held away from contact with the low portion of the cam 96.

In this operative position of the locking lever 88, the link 83 is retained in the position to the right, as shown, which through the linkage 81 and 78 holds the push rod 63 in its up position. Now when the high point of the cam 69 engages the cam follower 67 the push rod 63 is pushed to the left and the upper shoulder 74 engages the push pin 56 and swings the oscillating lever 54 in a counter clockwise direction to the position shown. This turns the eccentric shaft 14 in a clockwise direction through the linkage 52 and 50 and brings the plate cylinder 11 into operative position with respect to the blanket cylinder 12. As previously described the inking unit is shifted with the plate cylinder. If, however, in the previous cycle a sheet was fed to the press, the oscillating lever 54 and eccentric shaft 14 are already in operative position as shown so that the push rod 63 in moving to the left does not operatively engage the push pin 56. Note, too, that when the high portion of the cam 96 engages the lifted cam follower 95, the locking lever 88 and its flange 91 moves to the right a relatively short distance of its total movement which releases the locking latch 106, however, this latch is reset shortly thereafter by cam 121, connecting linkage 117, 113 and 111 under the control of the second sheet so that when the locking lever and its flange 91 moves to the left, it and the locking lever is again latched in operative position.

The operation of the press for a cycle when a sheet is not fed to the press is as follows. Without a sheet to hold the sheet sensor 107 in up position, the sensor lever 109 pivots to the right to a position where this lever is not in alignment with the notch 110. When the high portion of the cam 121 engages the cam follower 119, the cam lever 117 swings counter-clockwise but the sensor lever now engages the upper edge of the control or lift lever 111 and blocks its upward movement so that it is held in down position. The spring connection 122 yields or stretches. The spring 132 retains the catch shoulder 131 of the locking latch 127 in up or unlatched position. While the locking latch is held in unlatched position the high-land of the cam 96 engages the cam follower 95, and the locking lever 88 pivots to the right and then back to the left and since the locking latch 127 is raised above latching position, the locking lever 88 moves to the left without engaging the latching shoulder 131. The locking lever, therefore, moves its full movement to the left and separates the impression cylinder from the blanket cylinder. This pushes the connecting link 83 to the left which turns the lever 81 clockwise and shifts the push rod 63 to its lower position so that when the high-point of the cam 69 engages the cam follower 67, the push rod is moved to the left, the lower shoulder 75 engages the push pin 57 to swing the oscillating lever 54 in a clockwise direction and through the link 52 shifts the eccentric shaft lever 50 and the eccentric shaft 33 in a counter-clockwise direction to separate the plate cylinder 11 from the blanket cylinder 12. As previously described the inking unit is moved to the left with movement of the plate cylinder.

It has been mentioned that the oscillating lever 54 is mounted on an eccentric pivot 55 in order to adjust the position of the plate cylinder with respect to the blanket cylinder for operative position. By moving the position of the manual lever 60, the eccentric pivot 55 is turned and the position of the oscillating lever 54 is adjusted which through the linkage 52 and 50 adjusts the position of the eccentric shaft 14 and hence the position of the plate cylinder 11, in relation to the blanket cylinder 12.

An adjustment may also be made as to the position of the impression cylinder 13 with respect to the fixed blanket cylinder 12. This is accomplished by adjusting the position of the manual lever 129 which pivots on the pivot 130 and shifts the location of the locking latch pivot 128 to the left or right which in turn shifts the location of the catch shoulder 131. A change in the location of the catch shoulder effects a change in the position of the locking lever 88 in locked position when a sheet is fed to the press, hence changes the position of the eccentric shaft 90 in latched position and therefore adjusts the position of the impression cylinder 13 with respect to the blanket cylinder when the impression cylinder is in operative or printing position.

This invention is presented to fill a need for improvements in mounting and operating means for inking unit and plate cylinder of a press. It is understood that various modifications in structure, as well as changes in mode of operation, assembly, and manner of use, may and often do occur to those skiled in the art, especially after benefiting from the teachings of an invention. This disclosure illustrates the preferred means of embodying the invention in useful form.

What is claimed is:

1. A printing press comprising a press frame; printing mechanism mounted on the frame including a plate cylinder, an eccentric shaft carried by the press frame and mounting the plate cylinder for rotation and the press frame mounting the eccentric shaft for pivotal movement, a blanket cylinder, a blanket cylinder shaft, an impression cylinder, an impression cylinder shaft, and one of said blanket cylinder shaft and impression cylinder shaft being eccentric to provide a second eccentric shaft and mounted in the frame for pivotal movement; an inking unit mounted on the press frame to feed ink to a plate on the plate cylinder including an inking unit frame, inking means mounted on the inking unit frame, mounting means carried by the press frame and mounting the inking unit for movement to and from open and closed positions and also to and from operative and inoperative positions; latching mechanism carried by the press frame and the inking unit frame releaseably securing the inking unit frame to the press frame to retain the inking unit in closed position with respect to the press frame including releaseable latching lever means havings ends, interengaging means carried by one end of the latching lever means and one of the frames, a latching lever eccentric means mounted on one of the frames and operatively connected with the other end of the latching lever means; and operating mechanism carried by the press frame and operatively connected with the eccentric shaft for the plate cylinder and the latch lever eccentric means to turn the same and shift the inking unit and the plate cylinder to and from operating position including sheet sensing means controlling the operating mechanism and located to be operated by a sheet being fed to the press.

2. A printing press as in claim 1 in which the interengaging means is carried by the inking unit frame and the latching lever eccentric means is mounted on the press frame.

3. A printing press as in claim 2 in which the latching mechanism includes pivot means pivotally mounting the latching lever means at one end thereof and including releasable interengaging means at the other end of the latching lever means.

4. A printing press as in claim 2 in which the latching lever eccentric means is secured to the eccentric cylinder shaft.

5. A printing press as in claim 3 in which the latching lever means is pivotally mounted on the latching lever eccentric means, and the interengaging means includes pin means carried by the inking unit frame and slot means in the latching lever means to engage the pin means.

6. A printing press as in claim 5 in which the latching lever eccentric means is secured to the eccentric cylinder shaft.

7. A printing press as in claim 2 in which the mounting means for the inking unit is an inking unit pivot, and the latching mechanism being spaced from the inking unit pivot.

8. A printing press as in claim 7 in which the latching lever means is pivotally mounted on the latching lever eccentric means, and in which the releasable interengaging means includes pin means carried by the inking unit frame and slot means in the latching lever means to receive the pin means.

9. A printing press as in claim 8 in which the latching lever eccentric means is secured to the eccentric shaft for the plate cylinder.

10. A printing press as in claim 7 in which the inking unit pivot is eccentric and pivotally mounted on the press frame and the inking unit is pivotally mounted on the eccentric pivot the latching lever eccentric means and the inking unit eccentric pivot forming inking unit eccentric means, and including an operating connection between the plate cylinder eccentric shaft and the eccentric inking unit pivot to turn the latter with the turning of the eccentric shaft to give parallel movement of the inking unit to and from operative position with movement of the plate cylinder.

11. A printing press as in claim 10 in which the latching lever eccentric means is secured to the eccentric cylinder shaft for the plate cylinder, and in which the latching lever means includes at least one latching lever pivotally mounted on the latching lever eccentric means, and in which the releasable interengaging means for said latching lever includes pin means carried by the inking unit frame and slot means carried by said latching lever to engage the pin means.

12. A printing press as in claim 10 in which the operating mechanism includes a locking lever secured to the second eccentric shaft, operating means connected with the locking lever to shift the same and the second eccentric shaft and the cylinder mounted on the latter to and from operating position including a cam rotating once for each cycle of the press, a locking latch mounted on the press frame and located to latch the locking lever in operative position, a locking latch operating means connected with the locking latch to move the same to locking position, a sensing means connection between the sensing means and the locking latch operating means controlling the latter and preventing movement of the locking latch to latching position, shift means connected with the eccentric shaft for the plate cylinder and connected with the latch lever eccentric means and having two positions to shift said plate eccentric shaft and the inking unit eccentric means to operative and inoperative position, and an operating connection between the locking lever and the shift means to move the latter to and from its two positions.

13. A printing press as in claim 12 in which the shift means includes an oscillating member having a pair of spaced push pins and connected with the plate cylinder eccentric shaft, a push rod having a pair of spaced shoulders one shoulder located to engage one push pin and the other shoulder located to engage the other push pin, means mounting the push rod for oscillating movement and locating movement to engage one of the push pins, the connecting means between the locking lever and the shift means being connected with the push rod to shift the same to locate the push rod to engage one of the push pins, and a push rod cam connected with the push rod to oscillate the latter.

14. A printing press as in claim 13 in which the second eccentric shaft is the shaft on which the impression cylinder is mounted, the blanket cylinder being secured to its shaft, and the push rod cam is mounted on the shaft for the blanket cylinder.

15. A printing press as in claim 12 in which the locking latch operating means includes a control lever engaging the locking latch to move the latter to locking position, a notch in the control lever, the sensing means having a sensor lever in alignment with the notch when a sheet is engaged and blocking movement of the control lever when a sheet is not engaged by the sensing means, and control lever operating means connected with control lever to move the same once for each cycle of the press.

16. A printing press as in claim 13 in which the oscillating member is mounted on an oscillating member pivot carried by the press frame, a connection between the oscillating member and the eccentric shaft for the plate cylinder, and the oscillating member pivot being eccentric to adjust the operative position of the plate cylinder eccentric shaft and the inking unit.

17. A printing press as in claim 13 including a pivoted adjusting lever mounting the locking latch to adjust the position of the locking lever in locked position and the operative position of the second eccentric shaft and its cylinder.

18. A printing press comprising a press frame; printing mechanism mounted on the frame including a plate cylinder, an eccentric shaft carried by the press frame and mounting the plate cylinder for rotation and the press frame mounting the eccentric shaft for pivotal movement; an inking unit frame, inking means carried by the inking unit frame including form rolls, an eccentric inking unit pivot pivotally mounting the inking unit frame a releasable latching mechanism connected with the inking unit frame to retain the same in operative position on the press frame including a latching lever means having ends, interengaging means carried by one end of the latching lever means, latching lever eccentric means connected with the other end of the latching lever means to shift the inking unit frame, and one of said interengaging means and the latching lever eccentric means being mounted on the inking unit frame and the other being mounted on the press frame, the releasable latching mechanism being spaced from said inking unit pivot; and an operating connection between the eccentric plate cylinder shaft and the eccentric inking unit pivot and the latching lever eccentric means such that the inking unit pivot and the latching lever eccentric means are pivoted with the pivotal movement of the eccentric plate cylinder shaft.

19. An inking unit as in claim 18 in which the interengaging means is on the end of the latching lever means for connection with the inking unit frame, and the latching lever eccentric means is mounted on the press frame.

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