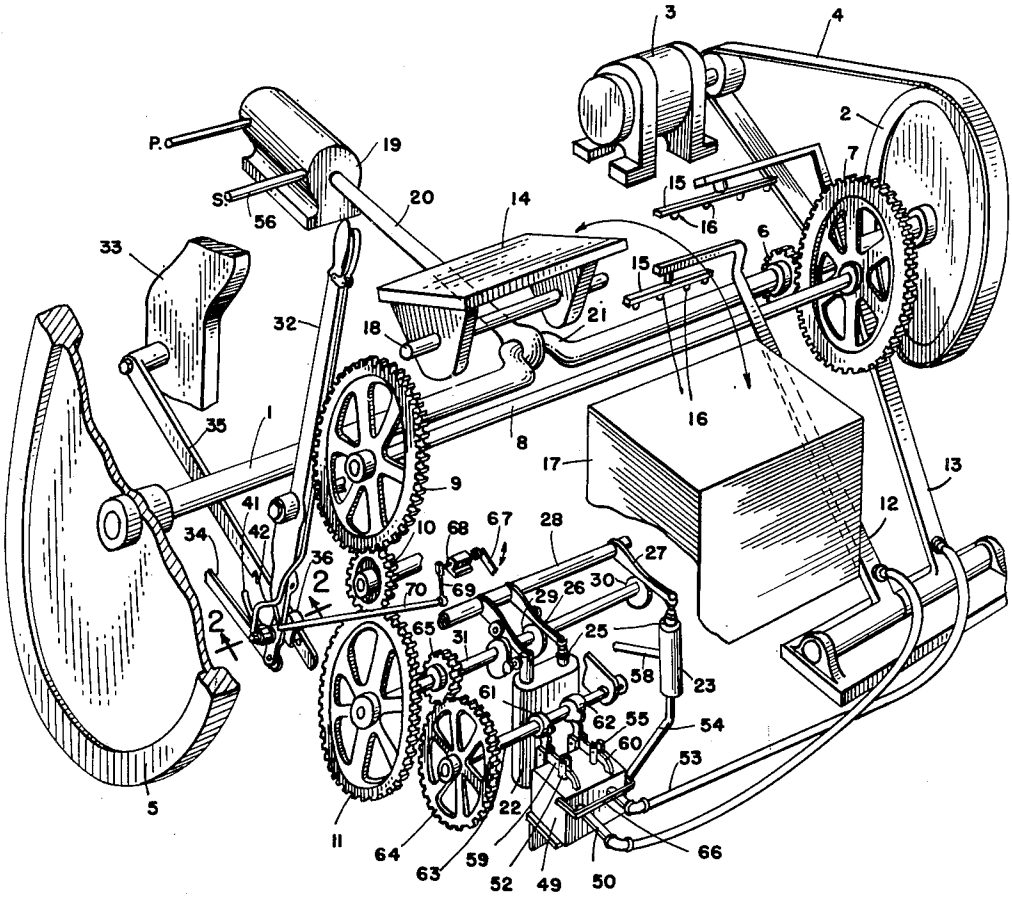
Dec. 23, 1952 R. L. FRIEL 2,622,524

PRINTING PRESS CONTROL MEANS

Filed Sept. 26, 1950 3 Sheets-Sheet 1

FIG. 1



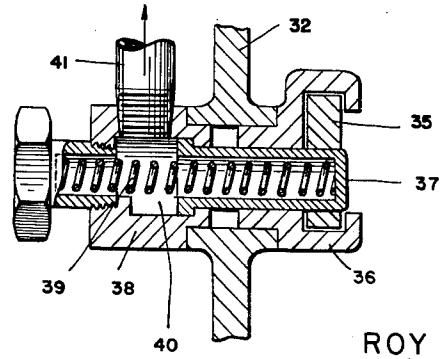


FIG. 2

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PRINTING PRESS CONTROL MEANS

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FIG. 3

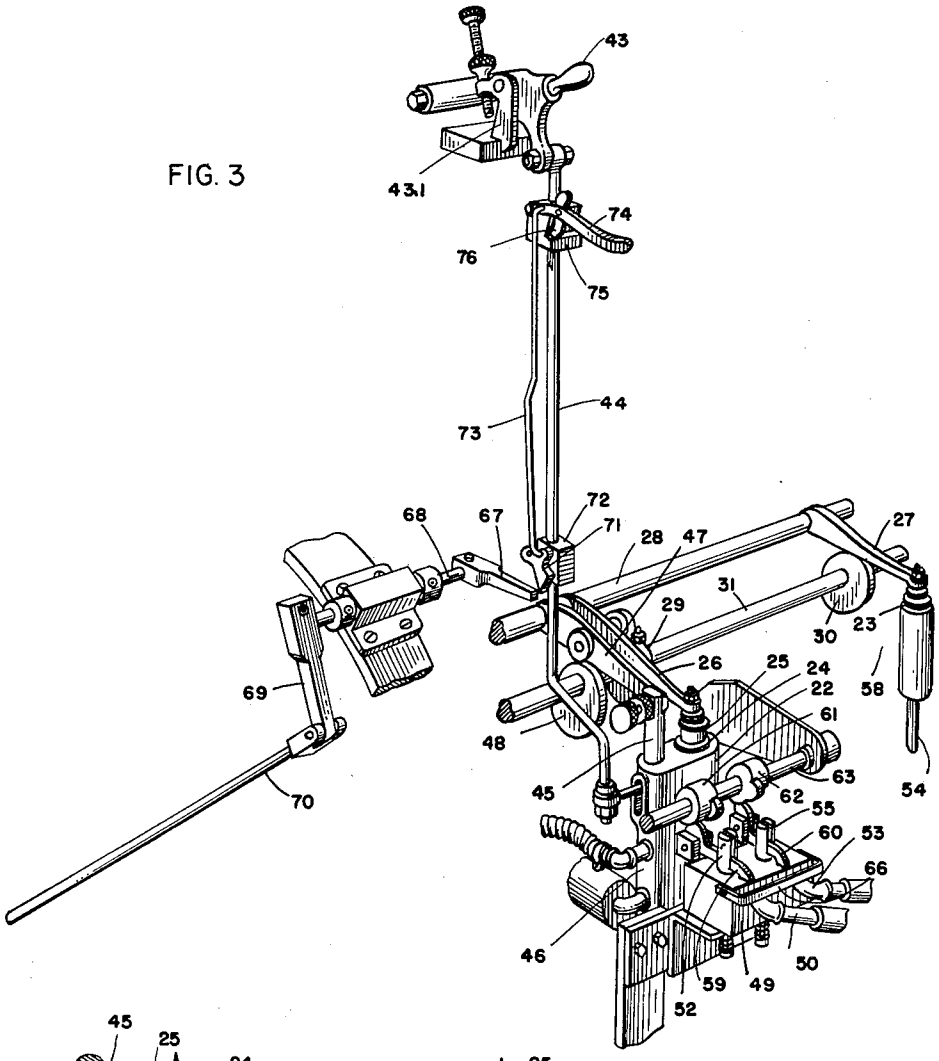
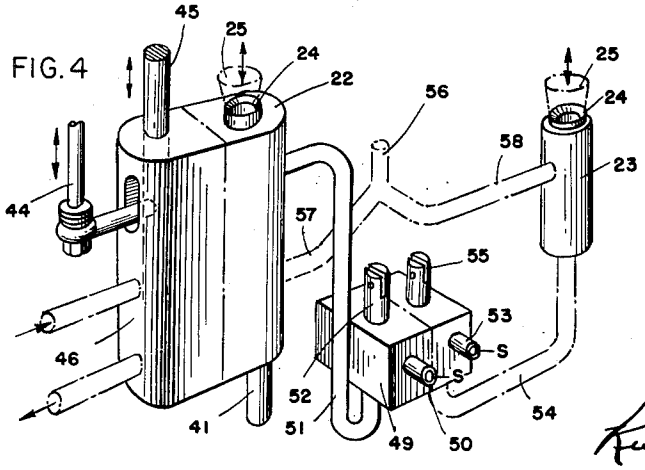


FIG. 4



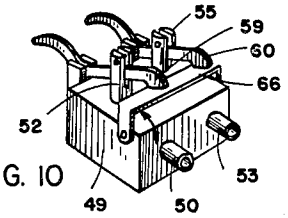


FIG. 10

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PRINTING PRESS CONTROL MEANS

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FIG. 9

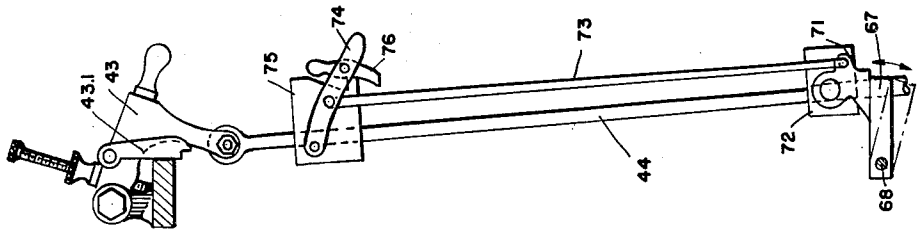


FIG. 8

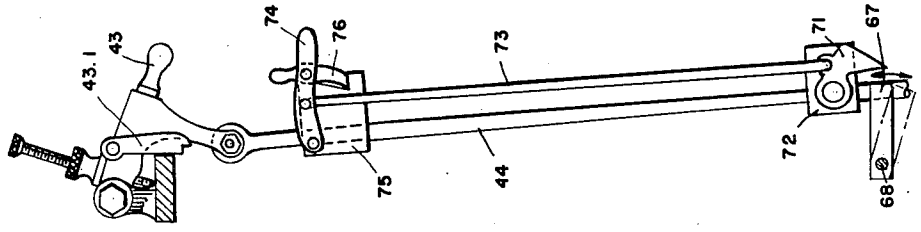


FIG. 7

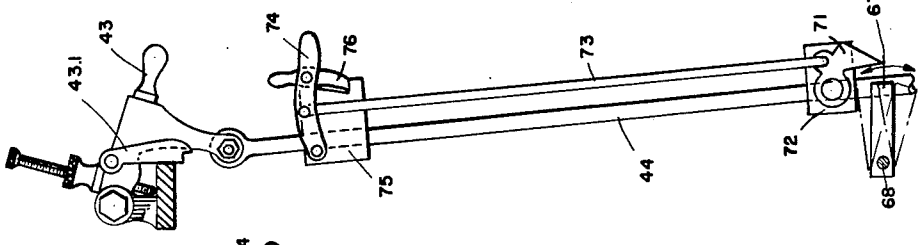


FIG. 6

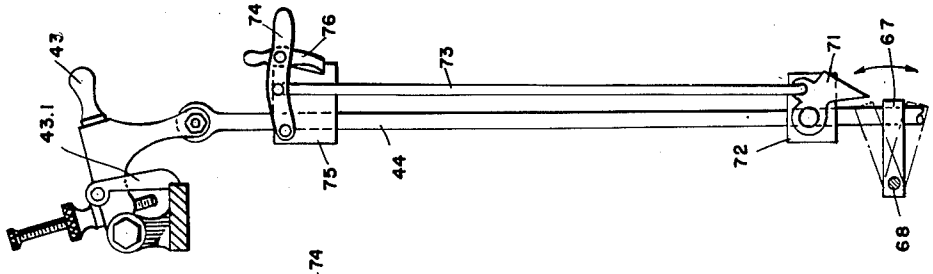
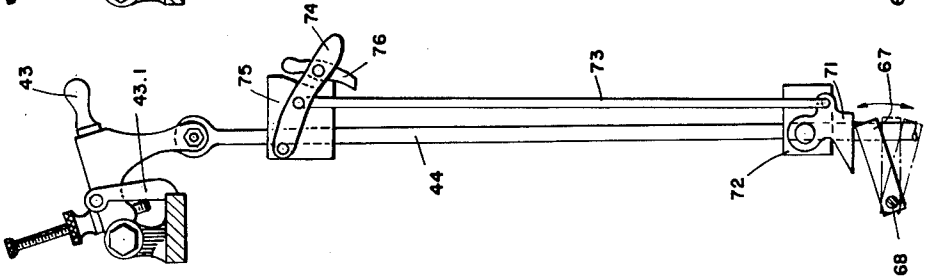


FIG. 5



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2,622,524

UNITED STATES PATENT OFFICE

2,622,524

PRINTING PRESS CONTROL MEANS

Roy L. Friel, Chicago, Ill.

Application September 26, 1950, Serial No. 186,792

14 Claims. (Cl. 101—237)

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This invention relates to control means for the paper feed and printing operation of automatic printing presses; and particularly to improvements in the means for regulating the feed and removal of paper stock to and from the printing platen, and automatically locking out the paper feeding operation of the press upon any failure of the paper pick-up means, in printing presses of the Gordon type wherein a multiple position chase is employed to make a series of separate impressions on each sheet of paper fed to the platen.

Such a press is shown and described in my Patent No. 2,429,874 issued October 28, 1947 and the present invention is for an improvement in the operational control means in printing presses of that nature.

The main objects of this invention are to provide an improved automatic paper feed control means for printing presses adapted to make a plurality of independent printing impressions on each sheet of paper stock supplied to the printing platen; to provide such a control means that will automatically regulate the paper feed and removal devices so that they will function only after completion of a predetermined number of separate printing impressions; to provide such a control means that will automatically lock out the feeding operation of the press, upon any failure of the paper feeding mechanism, until the lock out means has been manually released by the operator; and to provide such a control means that can be readily applied to existing multiple-impression presses.

Further objects of this invention are to provide an improved automatic control means which can be applied as an accessory for existing presses to convert them to multiple impression operation; to provide such a means which will utilize the automatic feeder control equipment usually supplied with presses of the Gordon type; and to provide such a control means which can be readily inactivated to render the press operable for ordinary single impression printing operation.

A specific embodiment of this invention is shown in the accompanying drawings in which:

Figure 1 is a schematic perspective view showing the paper feed control means of a Gordon type printing press, and its connection with the press drive, and illustrating the manner in which the improved auxiliary control means is connected therewith.

Fig. 2 is a sectional view, as taken on line 2—2 of Fig. 1, showing the arrangement of the

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means for automatically actuating the throw-off lever of the press.

Fig. 3 is a schematic perspective view showing the improved automatic paper feed control means in greater detail.

Fig. 4 is a diagrammatic view showing the air piping connections to the paper feed control valves.

Fig. 5 is an elevational view showing the improved paper feed lock out mechanism, the parts being shown in the locked out position to which they are automatically set upon failure of the pneumatic paper pick-up means.

Fig. 6 is a similar view showing the parts in the intermediate position with operating dog manually set to inoperative position as the first step toward restoring normal feeding operation.

Fig. 7 is a similar view showing the paper feed lock out lever in manually released position for normal paper feed, and showing how the automatic tripping arm will clear the operating dog while the latter is in inoperative position.

Fig. 8 is a similar view showing the limited movement of the trip arm or lever relative to the lock out mechanism in normal feeding operation.

Fig. 9 is a similar view showing the parts in normal feed operating position, with the operating dog in released operative position, and

Fig. 10 is a perspective view showing how the auxiliary control valve may be rendered inoperative to permit single impression operation of the press.

In the form shown the improved automatic feed control means for multiple impression presses is shown associated with the Rice automatic feeder mechanism for a Chandler and Price Company platen press of the Gordon type. Since the invention concerns only the paper feeding and feed control mechanism the details of the press itself have been omitted and only those parts of the press construction with which the feeder mechanism cooperates have been indicated. The press itself and the feeder mechanism are of an old and well known construction and those skilled in the art will readily understand from the following description, how the improved automatic feeder control means is applied and utilized.

As before mentioned the invention is concerned with controlling the paper feed so that a fresh sheet of paper is fed to the platen only after a predetermined number of separate printing impressions have been made on the sheet previously fed; and with the automatic locking out

of the feeding mechanism whenever there is a failure to feed a fresh sheet at the proper time. Referring to Fig. 1 it will be seen that the feed control mechanism is actuated, by a chain of gears, directly from the main press drive shaft 1, which extends from side to side of the usual press structure. This main shaft is driven by means of a pulley 2, which is connected to a motor 3, by a belt 4 and a flywheel 5 is mounted on the opposite end of the shaft to provide inertia for a smooth press operation. The drive from the main shaft 1 is taken from a pinion 6, by a gear 7 mounted fast on one end of a countershaft 8, and the power is transmitted by a gear 9, on the opposite end of the countershaft, through an idler gear 10, to the main gear 11 which actuates the feed control mechanism.

The automatic feeding and delivery means, which is regulated by the feed control mechanism, is of the usual and well known pneumatic type and is therefore not shown in complete detail. The usual feeding bar 12, and delivery bar 13, are shown in Fig. 1 and it will be seen that these are upwardly extending members pivotally mounted at their lower ends, on suitable bearings so as to be swingable in parallel vertical planes toward and away from the press platen 14. As shown the feeder bar and delivery bar are tubular members each of which terminates at its upper end in a header 15 which carries a plurality of suction tips 16. The suction tips 16 communicate with the tubular feeder and delivery bars and these members are connected to a suction pump, as will be later described.

In operation the feeder bar 12 oscillates back and forth between the platen 14 and the fresh paper supply stack 17, being driven by suitable means, not shown, actuated by the main drive shaft 1. Likewise the delivery bar 13 is oscillated between the platen 14 and a delivery table, not shown, usually located above the fresh paper supply stack. The feeding bar and delivery bar are each operated in timed relation with the movement of the platen 14, which in turn is oscillated in the vertical plane on its horizontal axis 18 by a suitable drive connection, not shown, actuated by the main drive shaft 1. Thus, as will be readily understood by those having knowledge of this art, the delivery bar functions to remove a printed sheet from the platen by means of the suction tips 16, and the feeder bar functions in the same manner to transfer a fresh sheet from the supply stack 17 to the platen.

The vacuum or suction for the suction tips 16 is created by a suitable pump 19, which in turn is also driven from the main shaft 1 by a suitable connecting rod 20 operated by a crank 21 on the main shaft, and the suction side of the pump is connected to the feeder and delivery bars through the feed control mechanism.

The feed control mechanism usually supplied with the automatic feeder means by the manufacturer thereof, and which is amplified by the present invention, is designed for single impression press operation wherein a fresh sheet is delivered to the platen at each operation of the printing bed. This mechanism ordinarily comprises two valves 22 and 23 respectively located in the air lines from the suction side of the pump which lead to the feeder and delivery bars 12 and 13. These valves are actually vacuum breaking devices and function to open the air lines of the feeder and delivery bars to atmosphere so that the sheets of paper may be released from the suction tips 16 at the proper time. In the form shown each of the valves 22 and 23 has a top opening 24, normally closed by a self-sealing plug 25, see Fig. 4, and each of the plugs is connected to the free end of a respective one of a pair of lifting levers 26 and 27, which in turn are pivoted at their opposite ends on a fixed shaft 28. These lifting levers are operated in timed relation with the press by means of a pair of cams 29 and 30, mounted fast on a timing shaft 31 which is driven directly by the gear 11, which in turn is positively driven by the main press shaft 1 through the countershaft 8. The cams 29 and 30 are, of course, set to operate the lifting levers 26 and 27 when the feeder and delivery bars 12 and 13 are respectively in the proper position, in their cycle of operation, to release a sheet that has been picked up by the respective suction tips 16. Thus the feeder and delivery bars are normally directly connected with the suction side of the pump 19 when the suction tips are operative; and when the control valve plugs 25 are lifted to open the valves to atmosphere the suction of the pump is short-circuited and the suction tips 16 are rendered inoperative. This feeder and delivery operation and control is old and well known in the art.

Also, the presses to which the present invention is applied are ordinarily provided with an automatic throw-off means, not shown, to prevent printing on the tympan when the feeder bar fails to deliver a fresh sheet to be printed. This throw-off means is manually operated by a throw-off lever 32, suitably pivoted on a fixed stationary portion of the press frame, and automatically operated by a latch means which connects the throw-off lever to the printing bed frame 33 so that the lever is actuated by the oscillating motion of the bed. As shown in Fig. 1 the throw-off lever 32 has a suitable connecting link 34 at its bottom end, by which the lever is operatively tied to the throw-off means; and a slide bar 35, which has its rearward end pivotally connected to the bed frame 33 and its forward end slidably engaged in a guide bracket 36, fixed on the bottom end of the lever 32, is provided for automatic actuation of the lever.

In the form shown in Fig. 2 the latch means, for connecting the lever 32 with the slide bar 35, comprises a latch pin 37, mounted within a fitting 38 carried on the throw-off lever 32, and normally urged, by a spring 39, into engagement with the slide bar 35. The pin 37 is a hollow member and its outer end opens into a chamber 40, in the fitting 38, which chamber is provided with a connection 41 leading to the valve 22 which controls the suction line of the feeder bar 12. Thus when the press is in operation, and the feeder bar 12 is functioning normally to deliver sheets of paper to the platen, the suction created by the pump 19 also acts, through the connection 41, to pull a vacuum on the latch pin chamber 40 and to pull the latch pin 37 inwardly to clear the slide bar 35 so that it will slide freely in the bracket 36. However, when the suction tips of the feeder bar fail to pick up a fresh sheet of paper, the suction on the feeder bar and the valve 22 is broken and the latch pin is released to engage the slide bar 35. As shown in Fig. 1, the slide bar 35 is provided with a suitable notch 42 adapted to engage the latch pin 37 and when so engaged the slide bar, under the influence of the moving bed frame 33, will cause operation of the throw-off lever 32.

The location of the notch 42, along the slide

bar 35, is such as to engage the latch pin 37 only during the period when the suction line should be closed by a sheet of paper engaged by the suction tips 16 of the feeder bar. At all other times the movement of the slide bar in the bracket 36 will place the notch beyond the axis of the latch pin so that opening of the suction line by the valve 22, to deposit a sheet on the platen, will not cause operation of the throw-off mechanism.

As shown in Fig. 3, the automatic feeder control means is also provided with a manual feed cut-off lever 43, mounted at a convenient location on the press frame, which, through a suitable link rod 44, controls the operation of the valve 22. In the form shown the link rod 44 acts directly on the valve stem 45 of an air pressure control valve, which is built into an independent section 46 of the body of the valve 22, which valve stem is actuated by a lift lever 47, mounted on the pivot shaft 28 and actuated by a cam 48 driven by the timing shaft 31. The lift lever 47 is disposed along side of the suction valve lift lever 26, and in its normal operation by the cam 48 it does not affect the operation of the lever 26. However, when the manual control lever 43 is operated the pressure control valve stem 45 is raised considerably beyond its normal stroke, which raises the lift lever 47 beyond the reach of the cam 48, and a laterally projecting lug, not shown, on the lever 47, which extends beneath the lever 26, engages the lever 26 to lift it sufficiently to open the valve port 24. This de-energizes the feeder suction system and renders the suction tips of the feeder bar inoperative. Also this de-energizing of the suction system causes the latch pin 37 to operate and keeps the throw-off lever operative to prevent printing on the tympan.

The pressure valve 46 is connected to the pressure side of the pump 19 and functions to control an air blast directed against the edge of the upper sheets on the supply stack 17. This feature is old and well known and since it does not concern the present invention it is not shown.

The present invention is directed to an auxiliary system which can readily be applied to the before described feeder control means whereby the usual single impression press control can be modified for multiple impression operation, as for example, in the printing of bank checks where each sheet is printed with a plurality of like impressions.

As shown, the invention comprises a special valve, interposed between the standard suction control valves and the feeder and delivery bars; a means for operating the special valve in accordance with the number of impressions desired on each sheet; and a means for automatically operating the manual feed control lever and locking out the automatic paper feed operation.

In the form shown, the auxiliary valve 49 is mounted on a suitable fixed support directly in front of the main feeder valve 22, and is formed with two identical valving sections. The first section has an intake connection 50, leading from the feeder bar 12, and an outlet connection 51 leading directly to the intake of the valve 22, communication between the intake 50 and outlet 51 being controlled by a valve stem 52. The second section has an intake connection 53 leading from the delivery bar 13, and an outlet connection 54 which leads directly to the intake side of the delivery control valve 23, communication between the connection 53 and 54 being controlled by a valve stem 55. The outlet sides of the valves 22 and 23 are respectively, connected to the suction line 56 of the pump 19 by branch lines 57 and 58.

The valve stems 52 and 55 are operated by respective rock levers 59 and 60, which are pivotally mounted on the body of the valve 49, at its rear side, and which extend through suitable slots in the respective valve stems. The rock levers have extensions which project rearwardly of their pivots for engagement with respective cams 61 and 62 mounted fast on a shaft 63, suitably supported on the press frame, which shaft is driven, in timed relation with the press operation, by means of a gear 64 meshed with a driving pinion 65 fast on the timing shaft 31. The ratio between the gear 64 and the pinion 65 is determined by the number of impressions to be made on a single sheet before that sheet is removed from the platen and a fresh sheet is fed to the platen. Thus, if three impressions are to be made on each sheet fed to the platen, the gear ratio will be 3 to 1 and the valves 52 and 55, which are normally closed, will be opened by the cams 61 and 62 during every third cycle of normal, single impression, press operation.

The rock levers 59 and 60, and the operating cams 61 and 62 are designed and arranged to open the valves 52 and 55 in advance of the time when the respective feeder and delivery arms are in pick-up position, and to hold the valves open until after the said arms are in paper releasing position, during the last of each series of press operation cycles. In this manner the auxiliary valve 49 blocks off the feeder and delivery arms from the influence of the main control valves 22 and 23 during all but the last one of the predetermined number of press operation cycles that are to be completed for each sheet of paper fed to the platen; and during the last cycle the valve 49 opens the air lines 50 and 53 and returns them to the control of the main valves 22 and 23 which then function in their normal way to cause a normal paper feeding and delivery operation.

As shown in Figs. 1, 3 and 10, the auxiliary valve 49 is provided with a cut-out means comprising a swinging arm 66, pivotally mounted on the valve body, adapted to be disposed beneath the forward ends of the rock levers 59 and 60 to hold them in raised or valve opening, position. This renders the auxiliary valve inoperative and leaves the air lines 50 and 53 open to direct control by the main valves 22 and 23 so that the feeder mechanism can be utilized for ordinary single impression printing operation of the press.

Since paper is fed to the platen only once in each series of press operations, when under the control of the auxiliary valve, it is necessary to provide coacting means to keep the press throw-off mechanism in operation, after failure of the feeder, until the operator can attend the press and restore normal feeding sequence. Otherwise, if the feeder fails, the throw-off will operate for only one press cycle and will permit printing on the tympan during all of the remaining cycles in the predetermined series. Such a coacting means is illustrated in Figs. 3 and 5 to 9, inclusive, and comprises a trip arm 67, mounted on one end of a rock shaft 68 which is suitably journaled on a fixed portion of the press frame and has a second arm 69 connected to a push rod 70 disposed to be actuated by movement of the throw-off lever 32. The trip arm 67 is disposed to swing in a plane parallel with the plane of the link-rod 44 and has its free end overlapping the link-rod so as to

engage a dog 71 carried thereon. The dog 71 is pivoted on a mounting block 72, clamped onto the link-rod, and is swingable, into and out of position to be engaged by the trip arm, by means of a rod 73 operated by a latch lever 74, also mounted on the link-rod adjacent its upper end. The latch lever is pivoted on a block 75, clamped to the link-rod 44, and is provided with a gravity latch dog 76 adapted to engage on a shoulder on the block 75 to hold the latch lever in raised position wherein the dog 71 is swung to a position beyond the reach of the trip arm 67. Normally the latch lever is in disengaged or lowered position and the dog 71 is in position to be engaged by the trip arm, as shown in Figs. 5 and 9.

The manual feed cut-off lever 43, at the upper end of the link-rod 44, is also provided with a gravity latch dog 43.1 which is adapted to engage a fixed part of the press frame and hold the cut-off lever in raised position.

When the feed cut-off lever 43 is in raised position it operates, through the link-rod 44 to raise the valve lift lever 26 for the valve 22 and thereby open the feeder control air line to atmosphere. This renders the feeder bar suction tips inoperative and also causes the operation of the throw-off lever, through failure of pump suction to retract the latch pin 37, so that the printing bed cannot contact the type form with the platen. The latch dog 43.1 automatically holds the cut-off lever in raised position, until it is manually released by the operator, whether the cut-off lever is raised manually or automatically.

Automatic raising of the feed cut-off lever 43 occurs whenever operation of the throw-off lever 32 takes place, the throw-off lever acting on the push rod 70 to turn the rock shaft 68 and lift the trip arm 67 so that it will engage the dog 71 and raise the link-rod 44. This happens immediately that there is failure of the feeder arm to properly pick up a sheet of paper under the control of the auxiliary valve 49, and the feed cut-off lever and its associated parts assume the position shown in Fig. 5 wherein continued swinging of the trip arm 67, under the influence of the throw-off lever 32, has no further effect.

The first step in restoring normal operation of the press and the automatic feeder mechanism is illustrated in Fig. 6 and consists in manually raising the latch lever 74 so as to swing the dog 71 to inoperative position, where it will clear the trip arm 67 upon manual lowering of the feed cut-off lever, and manually shifting the press throw-off lever 32 to the no print position. The latch lever is automatically locked in raised position by its dog 76. Then after the operator has checked the feeder mechanism, the paper supply, etc., the latch dog 43.1 is released and the feed cut-off lever is lowered manually to its normal position shown in Fig. 7 so that automatic feeder operation can begin. The dog 71, being in raised position, is not engaged by the trip arm 67.

As soon as it is observed that the paper feed is normal, the throw-off lever 32 is released and returned to its normal printing position. Since the paper feed is now normal, automatic operation of the throw-off lever does not occur and the oscillation of the trip arm 67 is insufficient to raise the feed cut-off lever, as shown in Fig. 8. The operator then observes the feeder and printing operation through several complete series of cycles and, when he is satisfied that all operations are normal, he then releases the latch lever 74 and drops the dog 71 into the operative position shown in Fig. 9. In this position all of the feeder cut-off elements are in normal condition for automatic feed cut-off immediately that failure of paper pick-up occurs.

The main advantages of this invention reside in the adaptation of automatic feeder control means to multiple impression operation of existing printing press constructions of the platen type; and in the adaptation of the usual automatic throw-off means into a coordinated self-operating throw-off lock out and feed cut-off mechanism which, in cooperation with the feed control means, provides complete control for automatic multiple impression press operations. Other principal advantages reside in the simple arrangement of the control devices whereby they may readily be adapted to existing press constructions without modification of the existing structure or interference with normal single impression operability; and in the simple construction of the auxiliary mechanism whereby manufacture and installation costs are relatively low.

Still further advantages of the improved control means reside in the certainty of its operation and the positive lock out provided for both the paper feed and printing functions whenever there is an interruption of normal paper feed; and in the improved auxiliary control arrangement which permits the feed operation to be actuated by the main control valves so that the timing of the auxiliary control will not be affected by the speed at which the press is operated.

Although but one specific embodiment of this invention is herein shown and described it will be understood that details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. In a printing press of the Gordon type having automatic paper feeding means and a control circuit including control means operated by said press for actuating said feeding means to pick up and release a sheet of paper at predetermined times in each cycle of press operation, an auxiliary control means connected in said circuit between the first control means and said feeding means and normally blocking the control connection therebetween, means actuated in timed relation with the operations of said press for operating the auxiliary control means to render said control circuit operative during the last only of a predetermined series of press operation cycles, and means for locking out the operation of said control circuit immediately upon failure of said feeding means to pick up a sheet of paper during operation of said auxiliary control means.

2. In a printing press of the Gordon type having automatic paper feeding means, and a control circuit including control means operated by said press for actuating said feeding means to pick up and release a sheet of paper at predetermined times in each cycle of press operation, an auxiliary control means connected in said circuit between the first control means and said feeding means and normally blocking the control connection therebetween, means actuated in timed relation with the operations of said press for operating the auxiliary control means to render said control circuit operative during the last only of a predetermined series of press operation cycles, an automatic throw-off on said press, means for actuating said throw-off immediately upon failure of said feeding means to

pick up a sheet of paper during operation of said auxiliary control means, self-locking lock out means for holding said throw-off in operation and simultaneously rendering said control circuit inoperative, and means actuated by said throw-off for operating said lock-out means.

3. In a printing press of the Gordon type having automatic paper feeding means, and a control circuit including control means operated by said press for actuating said feeding means to pick up and release a sheet of paper at predetermined times in each cycle of press operation, an auxiliary control means connected in said circuit between the first control means and said feeding means and normally blocking the control connection therebetween, means actuated in timed relation with the operations of said press for operating the auxiliary control means to render said control circuit operative during the last only of a predetermined series of press operation cycles, an automatic throw-off on said press, means for actuating said throw-off immediately upon failure of said feeding means to pick up a sheet of paper during operation of said auxiliary control means, and self-latching lock out means actuated by initial operation of said throw-off for holding said throw-off in continuous operation and simultaneously rendering said control circuit inoperative.

4. In a printing press of the Gordon type having automatic paper feeding means, and a control circuit including control means operated by said press for actuating said feeding means to pick up and release a sheet of paper at predetermined times in each cycle of press operation, an auxiliary control means connected in said circuit between the first control means and said feeding means and normally blocking the control connection therebetween, means actuated in timed relation with the operations of said press for operating the auxiliary control means to render said control circuit operative during the last only of a predetermined series of press operation cycles, an automatic throw-off on said press, means for actuating said throw-off upon failure of said feeding means to pick up a sheet of paper during operation of said auxiliary control means, self-latching lock out means actuated by initial operation of said throw-off for holding said throw-off in continuous operation and simultaneously rendering said control circuit inoperative, and means for disengaging said lock out means from the influence of said throw-off and permitting reset to restore normal operation of said control circuit.

5. In a printing press of the Gordon type having a platen movable to and from printing position, a pneumatic sheet-feeding means including a suction head for picking up and supplying printing sheets to said platen, and a control circuit including a suction pump and primary control means for activating said suction head in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction head and normally blocking said control circuit, means actuated in timed relation with the operation of said press for operating said auxiliary control means to open said circuit during the last only of a predetermined series of platen movement cycles, and self-latching lock out means for inactivating said primary control means immediately upon failure of said sheet-feeding means to pick up a printing sheet when said auxiliary control means has opened said circuit.

6. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means to prevent printing on said platen, a pneumatic sheet-feeding means including a suction head for picking up and delivering printing sheets to said platen, and a control circuit including a suction pump and a primary control means for activating said suction head in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction head and normally blocking said control circuit, means operated in timed relation with said platen for operating said auxiliary control means and opening said circuit during the last only of a predetermined series of platen movement cycles, means for actuating said throw-off means immediately upon failure of said feeding means to pick up a sheet during operation of said auxiliary control means, and self-latching lock out means for holding said throw-off means in continuous operation and simultaneously rendering said control circuit inoperative.

7. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means for preventing printing on said platen, a pneumatic sheet-feeding means including a suction head for picking up and delivering printing sheets to said platen, and a control circuit including a suction pump and a primary control means for activating said suction head in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction head and normally blocking said control circuit, means operated in timed relation with said platen for operating said auxiliary control means and opening said circuit during the last of a predetermined series of platen movement cycles, means for actuating said throw-off means immediately upon failure of said feeding means to pick up a sheet during operation of said auxiliary control means, and self-latching lock out means actuated by initial operation of said throw-off means for holding said throw-off in continuous operation and simultaneously rendering said control circuit inoperative.

8. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means for preventing printing on said platen, a pneumatic sheet-feeding means including a suction head for picking up and delivering printing sheets to said platen, and a control circuit including a suction pump and a primary control means for activating said suction head in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction head and normally blocking said control circuit, means operated in timed relation with said platen for operating said auxiliary control means and opening said circuit during the last only of a predetermined series of platen movement cycles, means for actuating said throw-off means immediately upon failure of said feeding means to pick up a sheet during operation of said auxiliary control means, self-latching lock out means for holding said throw-off means in continuous operation and simultaneously inactivating said control circuit, and means for operating said lock out means automatically open actuation of said throw-off means.

9. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means for preventing printing on said platen, a pneumatic sheet-feeding means including a suction head for picking up and delivering printing sheets to said platen, and a control circuit including a suction pump and a primary control means for activating said suction head in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction head and normally blocking said control circuit, means operated in timed relation with said platen for operating said auxiliary control means and opening said circuit during the last only of a predetermined series of platen movement cycles, means for actuating said throw-off means immediately upon failure of said feeding means to pick up a sheet during operation of said auxiliary control means, self-latching lock out means operable to inactivate said control circuit and simultaneously cause continuous operation of said throw-off means, means actuated by said throw-off means for operating said lock out means, and means for disengaging the last named means from the influence of said throw-off means and permitting manual reset of the lock out means for normal activation of said control circuit.

10. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means for preventing printing on said platen, a pneumatic sheet-feeding means including a suction head for picking up and delivering printing sheets to said platen, and a control circuit including a suction pump and a primary control means for activating said suction head in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction head and normally blocking said control circuit, means operated in timed relation with said platen for operating said auxiliary control means and opening said circuit during the last of a predetermined series of platen movement cycles, means for actuating said throw-off means upon failure of said feeding means to pick up a sheet during operation of said auxiliary control means, a lock out means having an operating rod connected with said primary control means for rendering the same inoperative, a trip arm adjacent said operating rod actuated by said throw-off means and movable to lift said operating rod, a shiftable dog on said operating rod disposed to engage said trip arm, and means for shifting said dog out of the path of said trip arm to permit manual reset of said lock out means.

11. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means for preventing printing on said platen, a pneumatic sheet-feeding means and a delivery means each including a suction head for picking up and delivering printing sheets to and from said platen, and a control circuit including a suction pump and primary controls means for activating said suction heads in timed relation with each operation of said platen, an auxiliary control means in said circuit between said primary control means and said suction heads and normally blocking the control circuit thereto, means operated in timed relation with said platen for operating said auxiliary control means and opening said circuit during the last of a predetermined series of platen movement cycles, means for actuating said throw-off means upon failure of said feeding means to pick up a sheet during operation of said auxiliary control means, a lock out means having an operating rod connected with said primary control means for rendering the same inoperative, a trip arm adjacent said operating rod actuated by said throw-off means and movable to lift said operating rod, a shiftable dog on said operating rod disposed to engage said trip arm, and means for shifting said dog out of the path of said trip arm to permit manual reset of said lock out means.

12. In a printing press of the Gordon type having a platen movable to and from printing position, and pneumatic paper feeding and delivery means including a suction pump and a control circuit having branches therefrom to each of said feeding and delivery means, said control circuit branches each having a primary control valve operated in timed relation with each cycle of platen movement for activating the respective feeding and delivery means during each said cycle, an auxiliary valve having a pair of separate passages therethrough and a valve element for each passage to open and close the same, each of said control circuit branches leading from its respective primary control valve to a respective passage in said auxiliary valve and thence to the respective feeding and delivery means, and each of said passages being normaly closed, means actuated by said press for operating the valve elements of the auxiliary valve to open the auxiliary valve passages during the last only of a predetermined series of cyclic movements of said platen, and manually operated means for locking said valve elements in open position as desired whereby said branch circuits are under the sole influence of said primary control valves.

13. An auxiliary control means for printing presses having a platen movable to and from printing position and automatic pneumatic sheet-feeding and delivery means operated in timed relation with said platen for feeding and delivering printing sheets to and from the platen at each cycle of its operation, said feeding and delivery means each having a suction control circuit including a primary control means operated in timed relation with said platen; said auxiliary control means comprising a valve body having a pair of passages therethrough each adapted for connection in a respective one of said control circuits, a valve element in each of said passages normally closing the same, an operating arm for each valve element for shifting said elements to valve opening position, cam means for actuating said operating arms once only in each predetermined series of cyclic platen operations, and means pivotally mounted on said valve body and shiftable to and from a position engaging said operating arms for holding them in valve opening position beyond the influence of said cam means.

14. In a printing press of the Gordon type having a platen movable to and from printing position, a throw-off means for preventing printing on said platen, a pneumatic sheet-feeding means including a suction head for picking up and delivering printing sheets to said platen, and a control circuit including a suction pump and a control means for activating said suction head in timed relation with the operation of said platen, means for actuating said throw-off means upon failure of said feeding means to pick up a sheet during operation of said control means, a

lock-out means having an operating rod connected with said control means for rendering the same inoperative, a trip arm adjacent said operating rod actuated by said throw-off means and movable for lifting said operating rod, a shiftable dog on said operating rod for engaging said trip arm, and means for shifting said dog out of the path of said trip arm to permit manual reset of said lock-out means.

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