Nov. 2, 1926. 1,605,504

C. BRADLEY

PRINTING PRESS DELIVERY BURNER

Filed Jan. 14, 1926

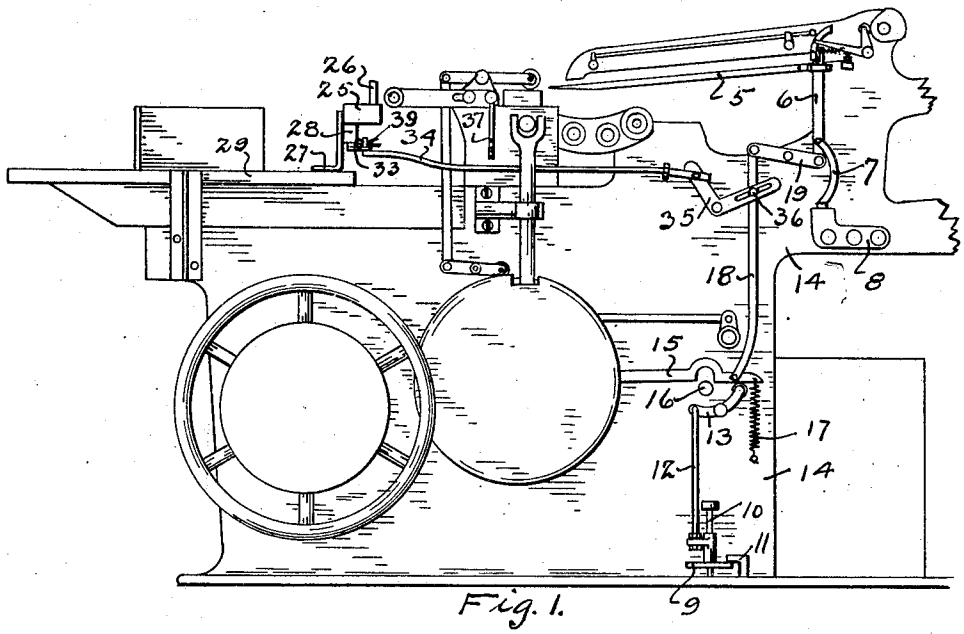


Fig. 1.

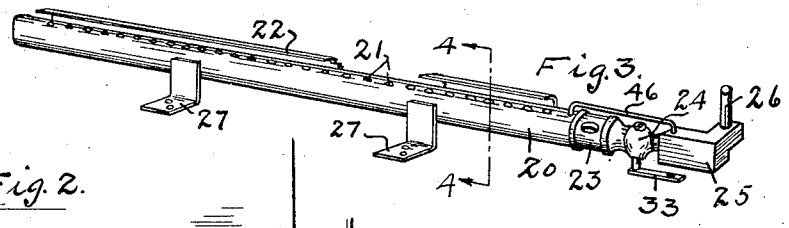
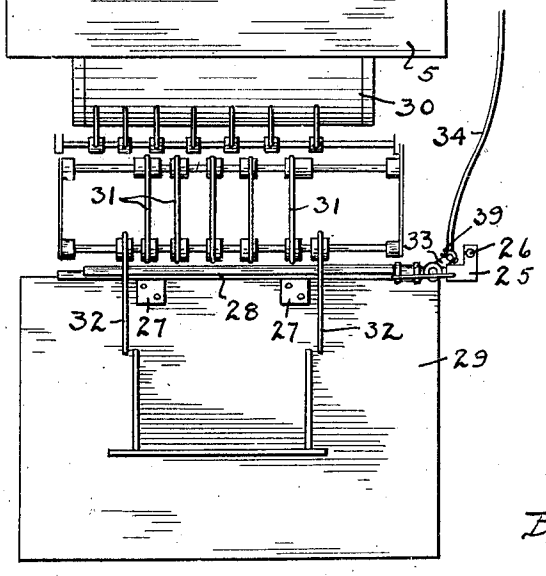


Fig. 3.

Fig. 2.



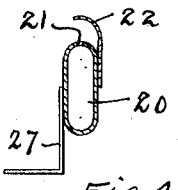


Fig. 4.

INVENTOR,
Charles Bradley,
By Minturn & Minturn,
Attorneys.

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UNITED STATES PATENT OFFICE.

CHARLES BRADLEY, OF INDIANAPOLIS, INDIANA.

PRINTING-PRESS-DELIVERY BURNER.

Application filed January 14, 1926. Serial No. 81,160.

This invention relates to means including a burner for heating printed sheets of paper as they come from a printing press for the purpose of enabling the fresh ink to be quickly absorbed in order that there will be a minimum of delay in making second runs or in the delivery of the finished job.

Other objects reside in the control of the burner in cooperation with the press control, the mounting of the burner so as to heat the sheets evenly as they pass over the burner without overheating the edges of the sheets, the selective operation of the burner, and the quick detachability of the burner from the press, and the means herein described is to be particularly distinguished from press heating burners heretofore employed in that the heating means included in this invention is employed at the delivery end of the press as opposed to a cylinder burner.

The invention will now be described in reference to the acompanying drawing, in which—

Fig. 1 is a side elevation of the forward or delivery end of a printing press;

Fig. 2, a fragmentary top plan view of the delivery mechanism of the press;

Fig. 3, an enlarged perspective view of the heating burner, and

Fig. 4, a vertical section through the burner on the line 4—4 in Fig. 3.

Similar characters of reference indicate similar parts in the several views of the drawing.

The press here shown being of the automatic type, is but one of a number to which this invention may be applied and is taken only as one example of the adaptation of the invention. This press has an automatic throw-off mechanism operative from the feed mechanism, the feed board 5 being thereunder, and this throw-off mechanism communicates through the impression throw-off rod 6 and the stop switch pawl 7 to the electrical control switch 8, the mechanism here shown in Fig. 1 as being in the off position whereby the pawl 7 is pressing down upon the button of the switch 8 to hold the switch open.

A foot control of the press is also provided through the foot pedal 9, sliding vertically on the guide 10, the pedal 9 being adapted to be pressed downwardly and turned to engage under the dog 11 to hold the press in an off position.

A rod 12 interconnects the pedal 9 and one end of the lever 13 which is pivotally carried on the press frame 14 to contact against the under side of the outer end of the lock bar 15 so as to raise the bar 15 to disengage it from the pin 16 upon pressing down the pedal 9. A spring 17 is secured to the end of the bar 15 and attached below to the frame 14 to normally position the bar 15 on the pin 16 and at the same time by means of the impression throw-off connection 18 and the rocker arm 19 to return the throw-off rod 6 and its pawl 7 to their upward positions to release the button of the switch 8 to permit operation of the press.

Having described the press control elements, the burner will now be described, and reference is particularly made to Figs. 3 and 4 of the drawing.

The burner is comprised of a tubular section 20 having a plurality of holes 21 therethrough in a line along its uppermost side, such that in operation, there is a series of upwardly directed jets of flaming gas. A baffle or shield 22 is secured to the back side of the section 20 substantially along its entire length so as to prevent the printed sheets from being contacted by the flames, as they pass over the burner in case of a "jam-up" of the sheets, otherwise the flames actually contact the sheets in runs where the ink impression is fairly heavy. The burner being closed on one end has a mixing valve 23 on the other end and a control valve 24 between the mixing valve 23 and the inlet chamber 25. A small tube 46 conducts gas past the control valve 24 and mixing valve 23 to a pilot jet which pilot jet is continuously lighted irrespective of the control valve 24. The inlet chamber 25 has the nipple 26 to receive a flexible tube as a means of conveying the gas to the burner from any appropriate source.

To the side of the burner section 20 opposite that of the baffle 22, are attached two mounting brackets 27 and by these brackets the burner generally designated by the numeral 28 is secured to the top side of the jogger board 29 near its back edge, or the edge nearest the press cylinder 30, see Figs. 1 and 2, such that the top of the baffle

22 is just in front of and substantially on the same line of the delivery bands 31, which bands carry the paper sheets from the cylinder 30 to deliver the sheets between the guides 32 and over the heated baffle 22 to drop onto the jogger board 29, the sheets receiving, during their passage over the baffle 22, sufficient heat to cause the ink impression thereon to be quickly absorbed.

To the burner control valve 24 is attached an operating lever 33 which lever is adapted to travel fore and aft of the press to turn on or turn off the gas entering the burner 28, and a control rod 34 is pivotally and detachably secured to the lever 33 to extend backwardly to the arm of a bell crank 35 pivotally carried on the press frame 14, and the other arm of the bell crank 35 is slotted and passes across the impression throw-off connection 18. A pin 36 passes through the slot in the bell crank arm to be secured in the connection 18 and rocks the bell crank 35 by vertical travel of the connection 18. The bell crank 35, Fig. 1, is here shown with the slotted member pulled up such that the valve lever 33 is pulled to an off position and no gas is burning from the holes 21. When the press is to be operated, the throw-off mechanism travels to pull the connection 18 downwardly whereby the bell crank 35 is rocked downwardly to pull the control lever 33 to the on position to permit the burner to light from the pilot jet.

The burner 28 being secured to the jogger board 29 is removed with the board 29 when the type or plates are to be changed, the tubing being slipped off the nipple 26, and the rod 34 is unhooked from the lever 33 by pulling out the cotter pin 39. The press may also be operated without the burner 28 in operation by leaving the rod 34 unhooked from the valve-lever 33, and a hook 37 is provided to carry the rod 34, when so unhooked from the lever 33.

In addition to the above indicated functions of the gas burner, the burner, by supplying heat at the point the printed sheets leave the press mechanism, is a most effective means of destroying the static charge on the sheets. Where the sheets retain the static charge they adhere one to the other most tenaciously and cause the fresh ink to flow or spread to create what is termed offset by the upper sheet pressing down on the fresh ink of the lower sheet in the pile of delivered sheets, and the heat applied to the sheets as above described eliminates all such troubles.

Having described my invention in one particular form, it is obvious that variations may enter in its application to various press forms without departing from the spirit of the invention, and I therefore do not want to be limited to the precise structure herein shown and described, nor any more than may be necessitated by the following claims.

I claim:

1. In a printing press, the combination with delivery bands, a jogger board, and a press trip mechanism, of a heater burner secured to the jogger board immediately at the delivery ends of the bands, said burner having a plurality of heat sources along its upper face and having a shield spaced therefrom, said burner being mounted on the jogger board to permit printed sheets to pass thereover in close proximity as delivered from the bands to the jogger board, valve means of cutting the heat off and on in the burner, and a detachable control between the said valve means and the press trip mechanism.

2. In a printing press, the combination with a detachable jogger board remaining stationary during the press operation, and an impression throw-off rod, of a burner secured to the jogger board, a shut off valve in the burner, and a connecting rod between said throw-off rod and said valve, whereby said valve is closed when the press is stopped.

3. In a printing press, the combination with a detachable jogger board which remains stationary during the operation of the press and an impression throw-off connection capable of being operated automatically and manually, of a burner carried on the jogger board, a valve in the burner, a valve operating lever, a connecting rod detachably secured by one end to said valve lever, and a crank cooperating between the other end of the connecting rod and the said throw-off connection to cause the valve to be opened and closed as the press starts and stops respectively.

In testimony whereof I affix my signature.

CHARLES BRADLEY.