Nov. 18, 1958 R. A. CONOVER 2,860,876

PAPER GUIDE FOR PRINTING PRESS

Filed April 16, 1956

Fig. 1

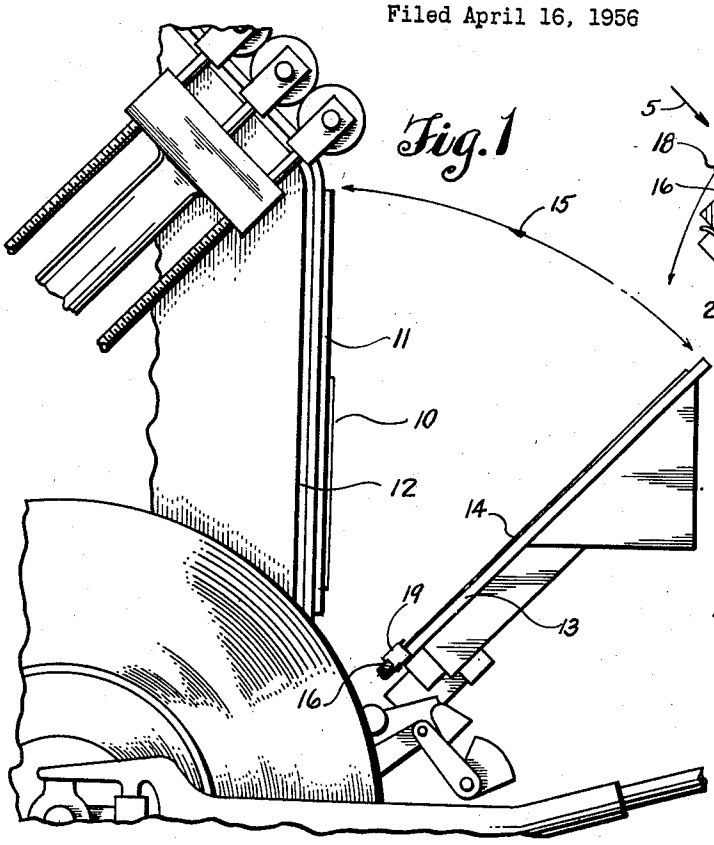


Fig. 2

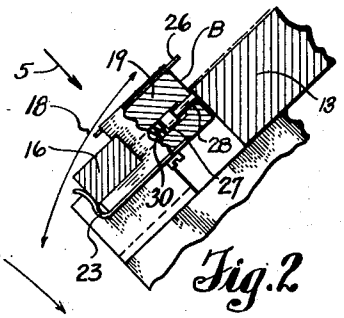


Fig. 8

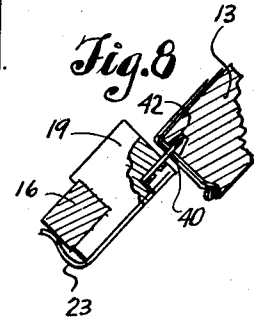


Fig. 5

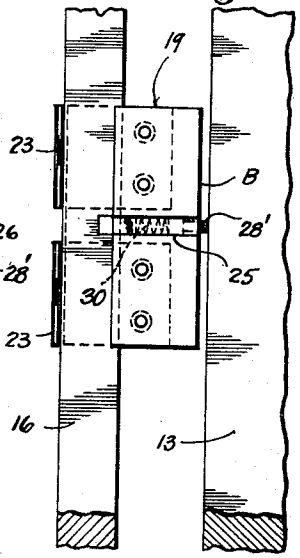


Fig. 3

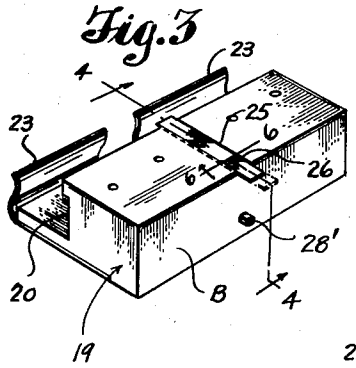


Fig. 4

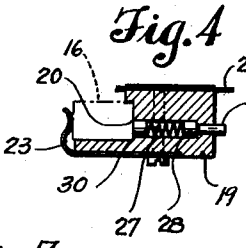


Fig. 7

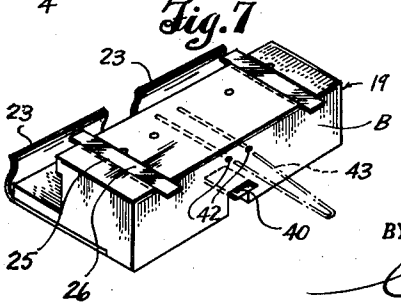
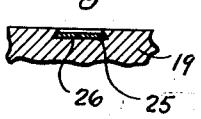


Fig. 6



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United States Patent Office

2,860,876

Patented Nov. 18, 1958

2,860,876

PAPER GUIDE FOR PRINTING PRESS

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Application April 16, 1956, Serial No. 578,477

5 Claims. (Cl. 271—60)

This invention relates to printing presses, and has reference more particularly to improvements in paper guides as used in presses of the "Original Heidelberg" types for the proper and accurate support of the paper sheets as individually placed on the platen to receive the impression of the inked form.

It is the principal object of the present invention to provide a guide that is adapted to be applied to the same supporting bar and used in the same manner as similar guides are now used but which is characterized by certain improvements which permits the printing or imprint made by the inked form to be brought down farther, that is, approximately to the edge of the paper sheet as supported by the guide.

It is a further object of the invention to provide a guide that is equipped with an inwardly yieldable stop projecting from its platen engaging edge for preventing the lower edge of any paper sheet on which printing is to be done from curling down between the guide and platen edge as the platen closes against the form.

Yet another object of the invention is to provide a guide of the above character that can be used with the same degree of satisfaction for paper of all kinds ranging from heavy card to sheets of thin "onion skin" thickness.

Further objects of the invention reside in the details of construction and in the combination of parts comprised in the guide, as will hereinafter be fully described.

In accomplishing the above mentioned and other objects of the present invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings wherein:

Fig. 1 is a view illustrating, in side elevation, a part of an "Original Heidelberg" printing press, showing the press platen, the paper guide mounting bar of the press, and a paper guide as applied to the bar; the press being shown in "open" position as for receiving a paper sheet on the platen.

Fig. 2 is an enlarged cross-sectional detail of the lower edge portion of the press platen, the guide carrying bar and a paper guide applied thereto and in its paper holding position relative to the platen.

Fig. 3 is a perspective view of one of the paper guides embodying the improvements of the present invention therein, the guide being shown as removed from the bar.

Fig. 4 is a cross-sectional view of the guide taken on the line 4—4 in Fig. 3.

Fig. 5 is a plan view looking toward the lower edge portion of the press platen and adjacent guide bar in the direction of arrow 5 in Fig. 2, showing a paper guide as applied to the bar.

Fig. 6 is a sectional detail taken on line 6—6 in Fig. 3.

Fig. 7 is a perspective view of a paper guide of an alternative form embodied by the present invention.

Fig. 8 is a sectional detail of the guide of Fig. 7 and the adjacent edge of the platen as grooved to accommodate the guide.

Referring more in detail to the drawings:

A portion of an "Original Heidelberg" press has been shown in Fig. 1 wherein 10 designates a form as applied to a chase 11 and locked in the press on the type bed 12 in the usual manner. 13 designates the press platen against which the paper sheets on which the printing is to be done, one of which is indicated at 14 in Fig. 1, are placed for closing thereby against the form. The oscillating travel of the platen 13 is indicated by the arrow 15 in Fig. 1.

Mounted along the bottom edge of the platen is the paper guide carrying bar 16. This is adapted to swing with the platen as it closes against the form, and it also is caused to swing from and toward the lower edge of the platen to receive and clear the paper sheets as indicated by the arrow 18 in Fig. 2. Mounted on the bar 16 in the manner shown in Fig. 5, is one or more paper guides 19 whereby the paper sheets are properly supported on the platen for receiving the imprint of the form.

It is to be understood that, in the operation of the press, the paper sheet 14 is placed, as the press is closing, in position against the face of the platen for receiving the imprint of the form. The guide which is supported from and moves with the platen, also swings from its dotted line position of Fig. 2 to its full line position to receive the paper sheet 14 thereagainst as the sheet is dropped into position on the platen. It is also to be understood that the bar 16 may have a slight endwise movement after the paper is received against the guide or guides 19 to cause the sheet to be moved thereby against an edge guide which has not been shown in this drawing as it forms no part of the present invention.

The paper guide 19 embodied by this invention, as shown in one of its embodiments in Figs. 3, 4 and 5, comprises a metal block approximately one and one-half inches long, three-fourths of an inch wide and three-eighths inch thick. However, such guides are not to be confined to any specific dimensions. Along one of its longitudinal side edges, the block is cut away to provide a seat 20 designed to receive the edge of the mounting bar 16 as indicated in Figs. 2 and 5, and fixed to the underside of the block and extending upwardly at the cut-away side, is a pair of spring clips 23—23 adapted to press against the bar, when the block is properly seated thereagainst, in such manner as to hold the guide 19 in functional position on the bar 16. When properly applied to the bar, the guide assumes a position as shown in Fig. 5 and when in paper holding position it assumes the relationship to the lower edge of the platen as shown in Fig. 2.

The resiliency of spring clips 23 holds the guide in place on the bar 16 and also permits the guide to be easily shifted or adjusted endwise along the bar.

Formed in the top surface of the guide block transversely thereof and midway of its ends, is a dovetailed groove or channel 25 in which a thin metal strip 26 is fitted for endwise adjustment. By adjustment of the strip, one end thereof can be caused to project to more or less extent as may be desired, beyond the paper engaging side surface of the block; which surface is designated in Figs. 2 and 3 by reference character B.

Contained in the block, within a hole 27 that is bored horizontally therethrough as seen in Fig. 4, is a paper stop member 28. This has a stem portion 28' of reduced diameter extended from the face 26 of the block through a bore outlet of reduced diameter, and has an inner end head portion contained within the bore. A spring 30 acts against the head to urge the stop to its extended position, as in Fig. 4.

When the bar 16 swings the guide 19 into proper position relative to the platen to receive the paper, the stop

28' engages the lower edge of the platen and is pressed back into the bore of the block as the parts closed together. This stop prevents thin flimsy sheets of paper from curling down and into the space between platen and guide.

In Fig. 7, I have shown a modified form of the present guide in which two of the paper retaining strips 26 are applied to the guide block; these being located adjacent opposite end portions of the block. Also, in this showing, the paper stop, which corresponds to the part 28 in the device of Fig. 4, is comprised by a short, flat projecting blade 40. This is adapted to cut through whatever packing may be applied over the platen and across its lower edge. Accordingly, the edge surface of the platen is grooved as shown at 42 in Fig. 8 to receive the blade. In use of this guide, the blade serves as the paper stop in the same manner as does the part 28 of the guide of Fig. 3 but the platen must be grooved so that the blade can properly function.

The blocks 19 as herein shown, may be bored as at 42—42 in Fig. 7 to receive extended clips 43 if such may be desired.

Guides of this kind, equipped as shown in Fig. 3 with the paper retaining strips 26 and stop 28', may be set to come close to or flatly against the lower edge of the platen, as in Fig. 2, and the strips 26 may be adjusted to permit the printing to come down approximately to the lower edge of the paper. Furthermore, by slight endwise shifting of guides on the bar, the strips can be cleared of the form material.

Guides as shown in Fig. 3 may be used in presses of the "Original Heidelberg" types without requiring any alteration in guide bar or platen. Guides as shown in Fig. 7, characterized by use of the blade 40, require that the platen be recessed to receive the blade after it has cut through the top sheet and packing. Guides of these kinds have the advantages which permit use of a cut-away chase on which, within practical limits, the inner edge of the chase is the inner edge of the paper, thereby simplifying and speeding up the lock-up operations. Also, the operation of a single set of guides which will not be removed from the press between jobs is permitted, eliminating one set of guides for narrow margin work and the accompanying changes in other adjustments. Due to the broader working face and closer normal position of the platen, these guides will handle curly paper and other unusual paper conditions better than presently employed guides.

What I claim as new is:

1. In a printing press of the character described having a platen against which paper sheets are disposed for printing, a guide mounting bar extended along the lower edge surface of the platen for limited movement toward and away from said lower edge surface with the closing and opening of the press and a paper guide mounted on the bar for support of the paper sheets as successively laid against the platen for printing; said paper guide comprising a block that is extended along the bar and which has a flat guiding surface parallel with the plane of the bottom edge surface of the platen, and against which surface the lower edge of each paper sheet is engaged as laid for printing on the platen, and having a top surface slightly above the plane of the paper as laid on the platen, a narrow paper retaining strip at the top edge of the block and extended beyond said flat guiding surface, and an inwardly yieldable paper stop element extended from said flat guiding surface of the block to engage with the bottom edge surface of the platen and to be depressed into the block as the bar moves toward the platen edge.

2. A combination as recited in claim 1 wherein the said paper retaining strip is contained in a channel formed in the top surface of said block and is adjustable endwise therein to cause it to extend to more or less extent beyond the said guiding surface of the block.

3. A combination as recited in claim 1 wherein said inwardly yieldable stop element is contained in a bore formed in the block, and a spring is contained under compression in said bore and bears against said stop element to urge it to and yieldingly retain it in its extended position.

4. In a printing press of the character described having a platen against which paper sheets are disposed for printing, a guide mounting bar extended along and parallel with the lower edge surface of the platen and supported for limited movement toward and away from the same with the closing and opening of the press, and a paper guide mounted on the bar for support of the paper sheets as successively laid against the platen for printing; said paper guide comprising a block that is extended along and is slidably adjustable on the bar and which has a flat paper guiding surface parallel with the plane of the bottom edge surface of the platen against which the lower edge of each paper sheet is engaged as laid for printing on the platen, and having a top surface that is slightly above the plane of the paper as laid on the platen, a norrow paper retaining strip at the top edge of the block, and extended beyond said flat guiding surface, and a blade mounted in the forward surface of the block and extended forwardly therefrom as a paper stop element; said platen having a recess formed thereon to receive the blade thereinto when the guide closes against the platen edge.

5. A paper guide for printing presses of the character described having a platen against which paper sheets are disposed for printing, a guide mounting bar extended along the lower edge surface of the platen for limited movement toward and away from said lower edge surface with the closing and opening of the press, a paper guide mounted on the bar for support of the paper sheets as successively laid against the platen for printing; said paper guide comprising a block that extends along the bar, said block having a flat guiding surface adapted to move into a position parallel with the plane of the bottom edge surface of the platen and adapted for engagement by the lower edge of each paper sheet as it is laid for printing on the platen, said block having a top surface slightly above the plane of the paper as laid on the platen, a narrow paper retaining strip adjustably mounted on the top surface of the block and extending beyond said flat guiding surface, and means extending from said flat guiding surface of the block to prevent paper from being disposed between the platen and the block.

References Cited in the file of this patent

UNITED STATES PATENTS

777,849	Falla et al.	Dec. 20, 1904
2,674,187	Kluge	Apr. 6, 1954