June 23, 1925. 1,543,388

C. M. KIRKLAND

SHEET POSITIONING DEVICE FOR PRINTING PRESSES

Filed March 2, 1923

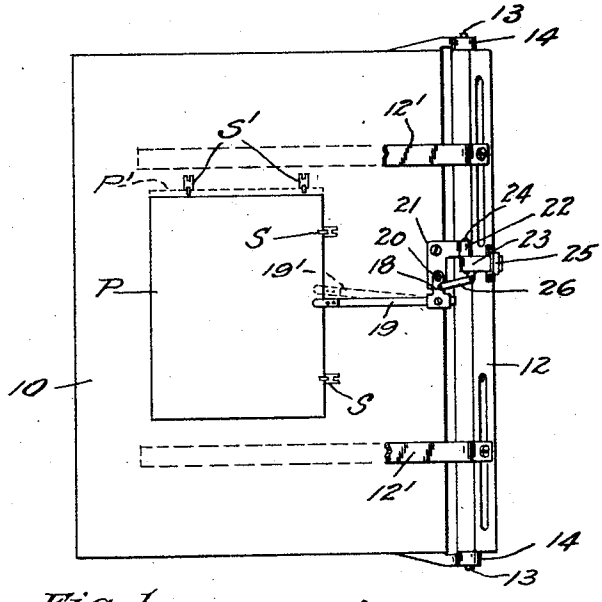


Fig. 1.

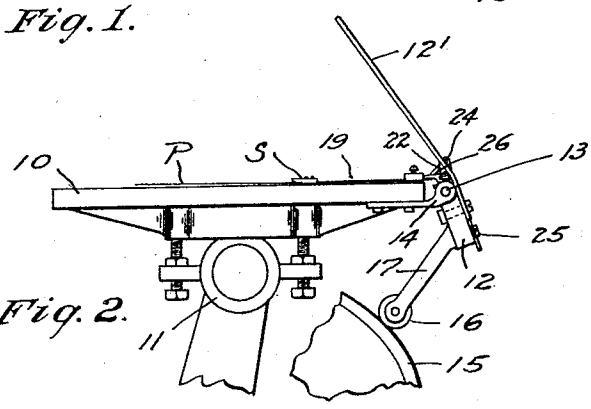


Fig. 2.

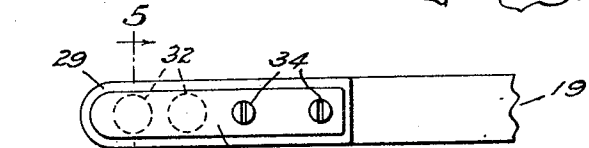


Fig. 3.

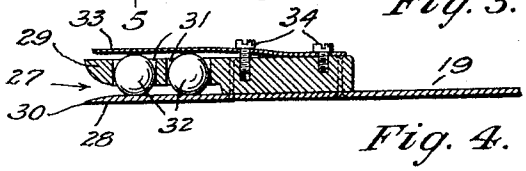


Fig. 4.

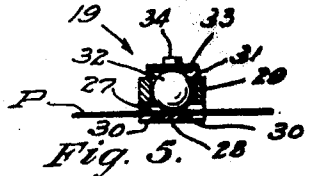


Fig. 5.

INVENTOR

Carroll M. Kirkland

BY

Pierre Barnes

ATTORNEY

Patented June 23, 1925. 1,543,388

UNITED STATES PATENT OFFICE.

CARROLL M. KIRKLAND, OF SEATTLE, WASHINGTON, ASSIGNOR TO MILLER SAW TRIMMER COMPANY, OF PITTSBURGH, PENNSYLVANIA.

SHEET-POSITIONING DEVICE FOR PRINTING PRESSES.

Application filed March 2, 1923. Serial No. 622,266.

To all whom it may concern:

Be it known that I, CARROLL M. KIRKLAND, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Sheet-Positioning Devices for Printing Presses, of which the following is a specification.

This invention relates to devices for laterally positioning sheets of paper into printing register upon the platen of a printing press.

The object of my improvements, generally, is the perfecting of devices of the character above mentioned whereby the lateral shifting of the paper may be accomplished with greater rapidity and without wrinkling the paper.

More specific objects and advantages of the invention will appear in the following description.

The invention consists in the novel construction, adaptation and combination of parts hereinafter described and claimed.

In the accompanying drawing,—

Figure 1 is a plan view of the platen and the gripper mechanism of a printing press with my improved paper positioning devices applied thereto. Fig. 2 is a side elevation of Fig. 1 and including portions of the platen rocker support and the gripper controlling cam. Fig. 3 is a fragmentary plan view to an enlarged scale of the paper carrier arm of the present invention. Fig. 4 is a longitudinal vertical section of Fig. 3. Fig. 5 is a transverse section on line 5—5 of Fig. 3 and illustrating a sheet of paper engaged by the device.

In said drawing, the reference numeral 10 represents a printing press platen which is supported for oscillatory movement by rocker boxes, such as 11, provided on the machine frame. 12 represents a gripper-bar carrying gripper members 12^1 and having at its ends axially aligned trunnions, such as 13 which are journaled in apertured brackets 14 provided on the platen.

The bar 12 is caused to swing about the axis of said trunnions by the oscillatory movement of said platen, a spring (not shown) and a cam 15 acting through the medium of a roller 16 which is attached to an arm 17 of the platen.

The above referred to parts are or may be similar to what are now employed upon known constructions of printing presses.

In carrying out my invention, I provide a paper shifter or carrier comprising a lever having arms 18 and 19 disposed substantially in rectangular relations with each other, the arm 18 being fulcrumed at 20 to an attachment 21 which is rigidly secured to the rear portion of the platen in proximity of its midwidth.

The lever arm 19 is disposed approximately longitudinally of the platen and has a plane under surface which is in juxtaposed relations with the top surface of the platen.

The attachment 21 is provided with a rearwardly extending ear 22 to which is pivotally connected a rod 23 by means of a pin 24. The rod 23 passes through a guide 25 provided therefor on the gripper bar 12 whereby vibratory motion is imparted to said rod by the relative movements of the platen and gripper bar. A link 26 connecting the rod 23 with the arm 18 of said lever transmits lateral reciprocatory movement to the lever arm 19 in each cycle of operation of the platen and gripper bar.

The forward end of the lever arm 19 is provided with a slot 27 between prong elements 28 and 29 hereinafter respectively designated as the blade and block.

As shown in Figs. 4 and 5 the upper surface of said blade is beveled to a sharp peripheral edge 30. The block 29 is provided with one or more holes 31, two being shown in Fig. 4, extending therethrough at right angles to the blade and serving to accommodate engaging elements 32, preferably balls, as shown.

Such elements extend from said blade to above the upper surface of the block 29 into contact with a resilient plate or spring 33 which is adjustably secured to said block as by means of headed screws 34.

For operation, front stops such as S are connected to the platen 10 in positions to permit a sheet of paper, as P, to be fed into the slot 27 of the arm 19 to be grasped between the blade element 28 thereof and the balls 32.

The paper is thus fed to the arm 19 when the platen is substantially horizontal and the arm occupies substantially the position in which it is represented by full lines in Fig. 1.

When the platen is being moved into printing position the rod is affected to transmit movement through link 26 to cause the

arm 19 to be moved into its dotted line 19^1 position thereby shifting the paper laterally until it encounters the side stops S^1 to position the paper in its P^1 position whereupon the arm continues to travel unaccompanied by the paper.

What I claim, is,—

1. A register device for a platen press comprising a sheet carrier disposed on the platen and arranged for reciprocatory movement laterally thereof, said carrier having a blade element engageable against the underside of a sheet of paper and a spring pressed ball engageable against the upper side of the sheet.

2. A sheet carrier for a platen register device comprising a lower member, an upper member disposed so as to receive the edge of a sheet therebetween and a resiliently mounted ball associated with said upper member and disposed to engage upon the sheet and thereby impositively retain the same.

3. A sheet carrier for a platen register device comprising lower and upper members disposed to receive the edge of a sheet therebetween, a ball movably mounted in the upper member, a spring engaging upon said ball, whereby said ball presses upon the sheet engaged between said members and impositively retains the same, and means for adjusting pressure applied by said spring.

Signed at Seattle, Washington, this 30th day of January 1923.

CARROLL M. KIRKLAND.

Witnesses:

PIERRE BARNES,

HEBER B. DILWORTH.