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SIDE LAY MECHANISM FOR PRINTING, RULING, FOLDING, AND LIKE MACHINES.

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1,092,912. Patented Apr. 14, 1914.

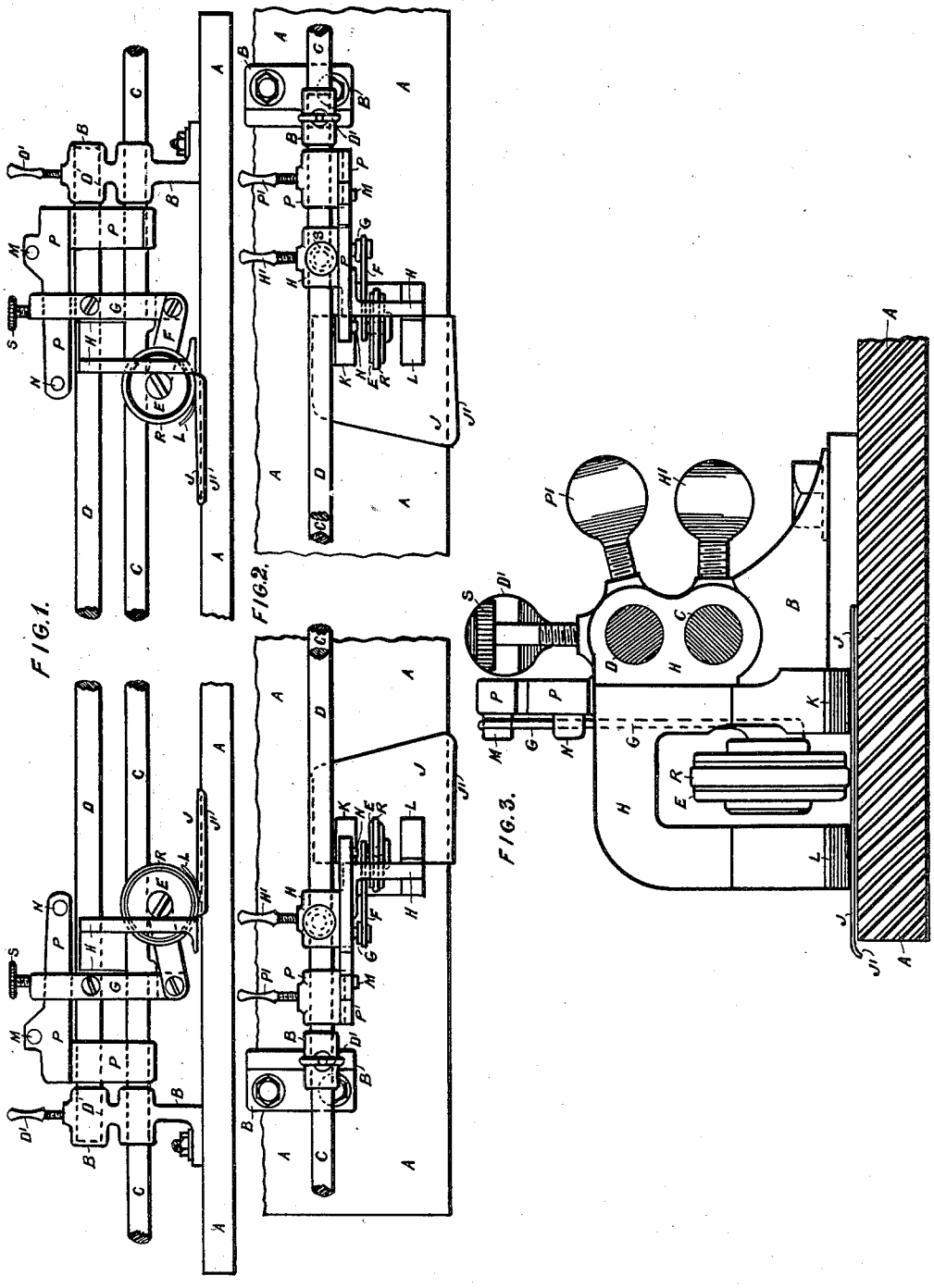


FIG. 1.

FIG. 2.

FIG. 3.

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SIDE-LAY MECHANISM FOR PRINTING, RULING, FOLDING, AND LIKE MACHINES.

1,092,912. Specification of Letters Patent. Patented Apr. 14, 1914.

Application filed July 22, 1913. Serial No. 780,423.

To all whom it may concern:

Be it known that I, HARRY HOLLINGS, a subject of the King of Great Britain and Ireland, residing at 23 Warrender Park Terrace, Edinburgh, Scotland, have invented new and useful Improvements in Side-Lay Mechanism for Printing, Ruling, Folding, and like Machines, of which the following is a specification.

The said invention relates to side-lay mechanism and has for its object to provide simple and effective mechanism which can be employed for side-laying sheets of any quality or thickness without the necessity, as at present, of adjusting the mechanism, and further to eliminate all risk of the edge of the sheet being damaged while in course of being positioned or registered.

In carrying out the invention there is fitted to the feed board a sliding rod carried in suitable bearings, and also a fixed or stationary rod. The side-laying mechanism which consists of a small roller, acting in conjunction with a plate, is carried on one end of a bar, the other end of the bar being pivoted to a lever, said lever being pivoted to a frame carried by the sliding rod, the fixed or stationary rod preferably serving as a guide for the frame. The plate which is also fixed to the frame, is arranged so that its outer edge is inclined toward and slightly overlaps the edge of the feed-board so as to allow of it readily passing underneath the sheet, the latter being guided between the plate and a pair of curved prongs or fingers, also fixed to the frame, these prongs being positioned one on each side of the roller, hereinbefore referred to, and slightly above the plate. The lever carrying the bar on one end of which the roller is mounted, is operated by coming in contact with stops on a bracket fixed to the stationary rod. A ring of rubber or other suitable resilient material is fitted to the periphery of the gripper-roller.

In order that the said invention and the manner of performing the same may be properly understood I hereunto append a sheet of explanatory drawings to be hereinafter referred to in describing the invention.

Figure 1, is a front elevation of the feed board of a printing machine to which the improved side-laying mechanism has been applied, in duplicate, so that the sheet may be laid to either side of the feed board. Fig. 2, is a plan. Fig. 3, is a transverse sectional elevation, drawn to a larger scale.

In these drawings the same reference letters are used to mark the same or like parts wherever they are repeated.

As shown in the drawings there is fixed to the feed board A, a frame B, and a sliding rod C, carried in suitable bearings therein, also a rod D, fixed or held in position by a pinching screw D′.

The side-laying mechanism consists of a small roller E, carried on one end of a bar F, the other end of the bar being pivoted to a lever G, said lever being pivoted to a frame H, carried by, and fixed to, the sliding rod C, by a pinching screw H′, the fixed or stationary rod D, preferably serving as a guide for the frame H. The small roller E, is adapted to work in conjunction with a plate J, which is also fixed to the frame H, and is arranged so that its outer edge J′, is inclined toward and slightly overlaps the edge of the feed board A, so as to allow of it readily passing underneath the sheet (not shown) the latter being guided between the plate J, and two curved prongs or fingers K, L, also fixed to the frame H, these prongs being positioned one on each side of the roller E, hereinbefore referred to, and slightly above the plate J. The lever G, carrying the bar F, on one end of which is mounted the roller E,—is operated by coming in contact with stops M, N, on a bracket P, fixed by a pinching screw P′, to the stationary rod D. A ring R, of rubber or other suitable material is fixed to the periphery of the gripper roller E. To enable the registering gripper, on one edge of the sheet, to remain inoperative while the sheet is registered by the opposite one, the pinching screw H′, is turned back so as to disengage the frame H, from the sliding rod C, and the pinching screw S, is screwed up so as to lock the frame H, to the fixed rod D. A sliding bar may be substituted for the plate J.

In operation the action of the improved mechanism is as follows: After a sheet has been fed forward in the ordinary way, the sliding rod C, carrying the gripper mechanism is made to travel inward or across the feed table A, until the plate J, passes underneath the sheet, and so that the sheet is guided between the plate J, and the prongs or fingers K, L, until it rests against the front of the frame H. The lever G,—carry-

ing the bar F, on one end of which the roller E, is mounted,—now comes in contact with the stop N, on the bracket P, thus forcing the roller E, forward, and as it is in contact with and now traveling at a higher speed than the plate J, a revolving motion is imparted to the roller which enables it to roll or pass over and grip the sheet without disturbing or altering its position. The travel of the sliding rod C, and gripper mechanism is now reversed and the lever G, carrying the roller E, encounters the stop M, on the bracket P, which forces the roller E, backward at a greater speed than the plate J, with the result that the roller E, rolls off the sheet, the latter being then removed by the ordinary grippers in the usual way. The sheet irrespective of its quality or thickness is gripped, positioned or registered, and released, without any risk of being torn or otherwise damaged, and as adjustment of the gripper mechanism is eliminated a great saving in time is effected. The sliding rod C, is reciprocated in any well known way.

What I claim is:—

1. In side lay mechanism of the character described, in combination, a reciprocatable gripping mechanism comprising two members between which the paper is adapted to be gripped, and means for moving one of said members relatively to the other member in the direction of travel of said mechanism.

2. In side lay mechanism of the character described, in combination, a reciprocatable gripping mechanism comprising two members between which the paper is adapted to be gripped, one of said members being a roller, and means for moving said roller relatively to the other of said members in the direction of travel of said reciprocatable mechanism.

3. In side lay mechanism of the character described, in combination, a reciprocatable gripping mechanism comprising two members between which the paper is adapted to be gripped, one of said members being a roller, and means for moving said roller relatively to the other of said members in the direction of travel of said reciprocatable mechanism during the forward movement thereof.

4. In side lay mechanism of the character described, in combination, a reciprocatable gripping mechanism comprising two members between which the paper is adapted to be gripped, one of said members being a roller, and means for moving said roller relatively to the other of said members in the direction of travel of said reciprocatable mechanism during the backward movement thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY HOLLINGS.

Witnesses:
GEORGE PATTERSON,
GEDDES WHITELAW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."