L. W. WHITTEN.

ENVELOP FEEDER FOR PRINTING PRESSES.

APPLICATION FILED MAR. 5, 1907.

915,140.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.

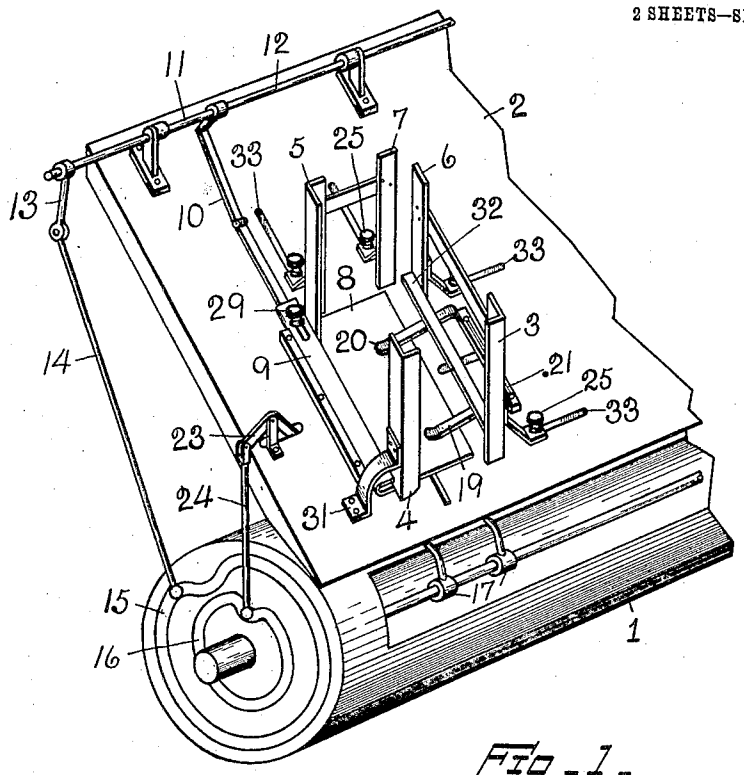


Fig - 1 -

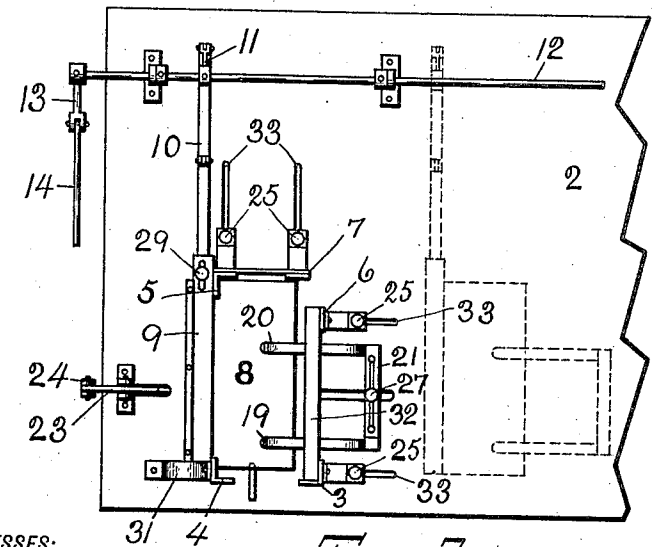


Fig - 2 -

WITNESSES:

John E. Heller.

F. H. Kappa.

INVENTOR

Lucien W. Whitten,

BY

Abraham Knobel,

ATTORNEY

L. W. WHITTEN.

ENVELOP FEEDER FOR PRINTING PRESSES.

APPLICATION FILED MAR. 5, 1907.

915,140.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 2.

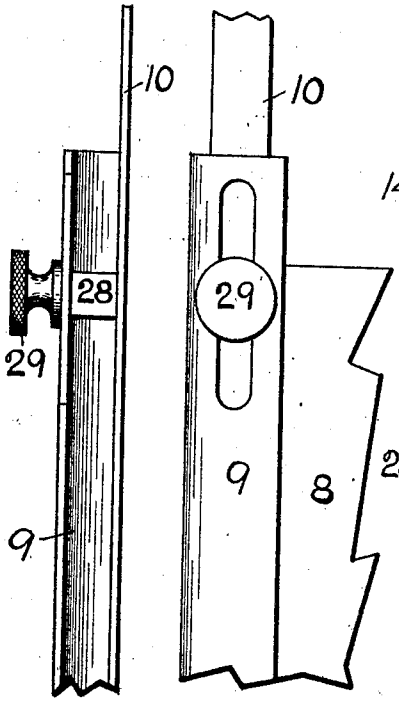


Fig. 5.

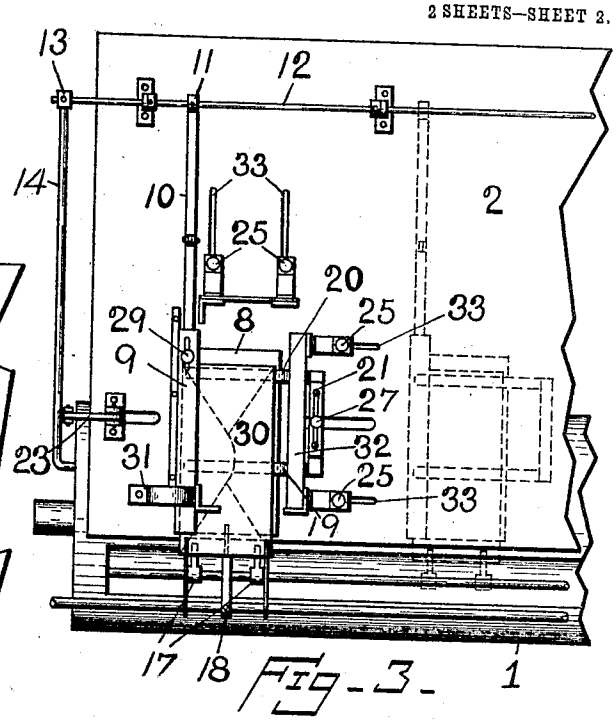


Fig. 3.

Fig. 6.

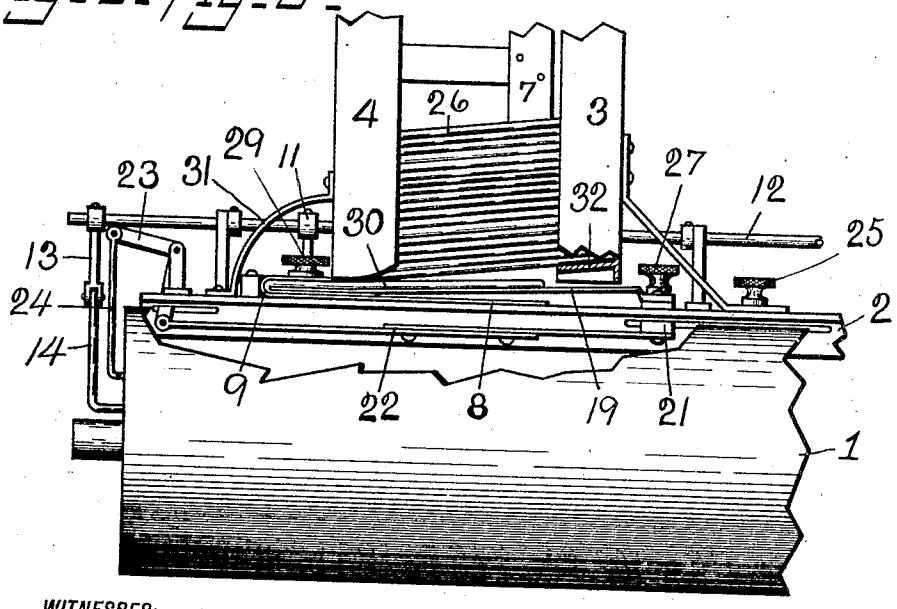


Fig. 4.

WITNESSES:

John E. Heller.

F. H. Kappa

INVENTOR

Lucien W. Whitten,

BY

Abraham Knobel,

ATTORNEY

UNITED STATES PATENT OFFICE.

LUCIEN W. WHITTEN, OF GREENVILLE, SOUTH CAROLINA, ASSIGNOR TO HIMSELF, AND LOUIS T. DAVIDSON, OF LOUISVILLE, KENTUCKY.

ENVELOP-FEEDER FOR PRINTING-PRESSES.

No. 915,140. Specification of Letters Patent. Patented March 16, 1909.

Application filed March 5, 1907. Serial No. 360,761.

To all whom it may concern:

Be it known that I, LUCIEN W. WHITTEN, a citizen of the United States, residing at Greenville, in the county of Greenville and State of South Carolina, have invented a new and useful Envelop-Feeder for Printing-Presses, of which the following is a specification.

This invention relates to feeding devices for printing presses, and the objects of my improvement are, to provide a feeding apparatus for the conventional printing and lithograph press for automatically feeding envelops from a hopper or a series of hoppers, simplicity of construction, comparative inexpensiveness of manufacture, durability, rapidity, and to provide such a device that may be readily duplicated and easily adjusted. These objects I attain by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view; Fig. 2, a plan view; Fig. 3, a plan view showing the device in position over the cylinder of the press; Fig. 4, a front elevation; Fig. 5, a detail edge view of the feed-plate showing the groove; and, Fig. 6, a detail plan view of the feed-slide.

Similar reference numerals refer to similar parts throughout the several views of the drawings.

A feed-board, 2, is adapted to be placed and operate on the conventional printing or lithograph press over the cylinder 1 of the press. The press is provided with grippers, 17, and drop gages, 18, as usual. Only a cam-disk, with cam slots, 15 and 16, or equivalent means for operating the slide and pusher, is necessary to be placed on the cylinder or the extension of its shaft or other part of the press adapted to actuate said members.

The feeding device is provided with hopper uprights 3, 4, 5, 6, and 7. Upright 4 is permanently fixed onto board 2 by a curved bracket 31 which holds its lower end at a suitable distance above the feed-board, while uprights 3, 5, 6, and 7 are adjustable by means of thumb-screws 25. Uprights 3—6, and 5—7 are connected together in pairs, so as to move in unison when adjusted. The envelops are piled in the hopper formed by the uprights with the closed flaps downward, the closed or pocket edge of the envelop resting upon the supporting-strip 32 at the right-hand side of the hopper, and the flap edge resting on a feed-slide, 8, on the left-hand side of the hopper. If longer envelops are to be printed, uprights 5—7 are adjusted backward to provide therfor, and if wider envelops are to be printed, uprights 3—6 are adjusted to the right to provide therefor. Upon the surface of feed-board 2 is placed a feed-slide, 8, formed of sheet metal, which forms a bottom for the hopper, and extends beyond the hopper to the left, where the metal is turned over to form a groove into which the flap edge of the envelops may be pushed side-wise, as shown at 9 (Fig. 5). The rear portion of the groove in part 9 is closed by a block, 28, provided with a set screw, 29, which in turn is moved in a slot in the top of part 9. Block 28 is adjustable to accommodate envelops of different lengths, and serves the purpose of pushing the envelops forward by their end edges when feed-slide 8 is advanced. Feed-slide 8 is given a reciprocatory motion transverse relative to cylinder 1, the motion being imparted through connecting-rod 10, crank 11, shaft 12, crank 13, and cam-rod 14, which is actuated by a cam-roller operating in slot 15 of the cam-disk.

Spring pusher-fingers 19 and 20 are provided, disposed over feed-slide 8, and connected at their fixed ends by a cross-bar, 21. A motion transverse to that of feed-slide 8 and longitudinal relative to cylinder 1 is imparted to the pusher-fingers 19 and 20 through a connecting-rod, 22, disposed under feed-board 2 and operated by a bell crank, 23, and cam-rod 24 which is actuated by a cam-roller working in cam-slot 16 in the cam-disk. Pusher-fingers 19 and 20, together with cross-bar 21, are adjustable on rod 22 by means of a set screw 27. One feeder element is illustrated in the drawings, but it is obvious that these elements may be duplicated and a series of them placed across the feed-board extending the entire length of cylinder 1, so that a number of envelops may be fed at the same cycle of the press. Shaft 12, in this instance, is extended entirely across the feed-board, and likewise connecting-rod 22, underneath the feed-board. A second element is illustrated in Fig. 2 by the dotted lines.

The operation of the device will now be readily understood. The hoppers are filled with envelops, as illustrated at 26, in Fig. 4,

the envelops being placed with the flap downward, closed, and extending toward the right, the closed edge of the bottom envelop 30 resting upon strip 32 on the right-hand side, so that it is somewhat elevated. (Figs. 1 and 5). The back of the envelop will now rest upon fingers 19 and 20, and these fingers are in position ready to enter between the back of the envelop and the flap. When the ends of fingers 19 and 20 reach the fold of the flap, they continue to advance and carry the envelop with them under and beyond the hopper uprights 4 and 5 and push it into the horizontal groove formed in part 9 of feed-slide 8. When the envelop is in this position, feed-slide 8 is advanced by its actuating mechanism, block 28 engages the rear end edge of the envelop and pushes it forward with the feed-slide until its front edge extends somewhat beyond the feed-board 2 and rests against drop-guide 18, ready to be grasped by grippers 17. As the cylinder revolves, the envelop is drawn off feed-slide 8 and printed in the usual way. The feed-slide and fingers 19 and 20 recede and advance, so as to perform a similar cycle.

With this apparatus, all that it is necessary for the operator to do is to keep the hoppers filled. When it is required to print a different size of envelops, the right-hand side and the rear end uprights of the hopper may be adjusted by loosening set-screws 25 and moving them backward or forward in slots 33 provided for the purpose in feed-board 2.

Having thus described the construction and operation of my invention so that any one skilled in the art pertaining thereto may make it and understand its use, I claim—

1. An envelop feeding attachment for printing presses for feeding closed-flap envelops, comprising a hopper, for holding a stack of envelops; means for engaging the flap and pushing the bottom envelop of the stack sidewise parallel with the axis of the cylinder of the press; and means for engaging the body of the bottom envelop and pushing said bottom envelop forward transversely to the axis of the cylinder of the press, into position to be grasped by the grippers.

2. In an envelop feeder for printing presses, an adjustable hopper, a transversely reciprocating feed-slide mounted under said hopper, provided with a lateral longitudinal slot for receiving the flap edge of an envelop, and an adjustable block in said slot for engaging the end edge of said envelop and pushing it forward, substantially as specified.

3. In an envelop feeder for printing presses, a feed-board; an adjustable hopper on said feed-board; a feed-plate, under said hopper, connected by mechanical means with moving parts of the press, to slide transversely relative to the axis of the press cylinder and carry an envelop to the cylinder grippers, and being provided at one edge with a horizontal slot facing toward the hopper and adapted to receive the flap-edge of the envelop; feed-fingers arranged and suitably connected with the mechanism of the press to move longitudinally relative to the axis of the press cylinder, engage the flap of the envelop, and push it into the slot of said feed-plate; and an adjustable block in the slot of said feed-plate for engaging the rear end edge of the envelop and pushing it forward into the path of the cylinder gripper.

LUCIEN W. WHITTEN.

Witnesses:
MILLER H. DANCY,
A. W. PALMER.