Jan. 23, 1923. 1,442,997.

J. BIVER ET AL.

FEEDING ATTACHMENT FOR PRINTING PRESSES.

FILED SEPT. 26, 1921. 2 SHEETS—SHEET 1.

Fig. 1.

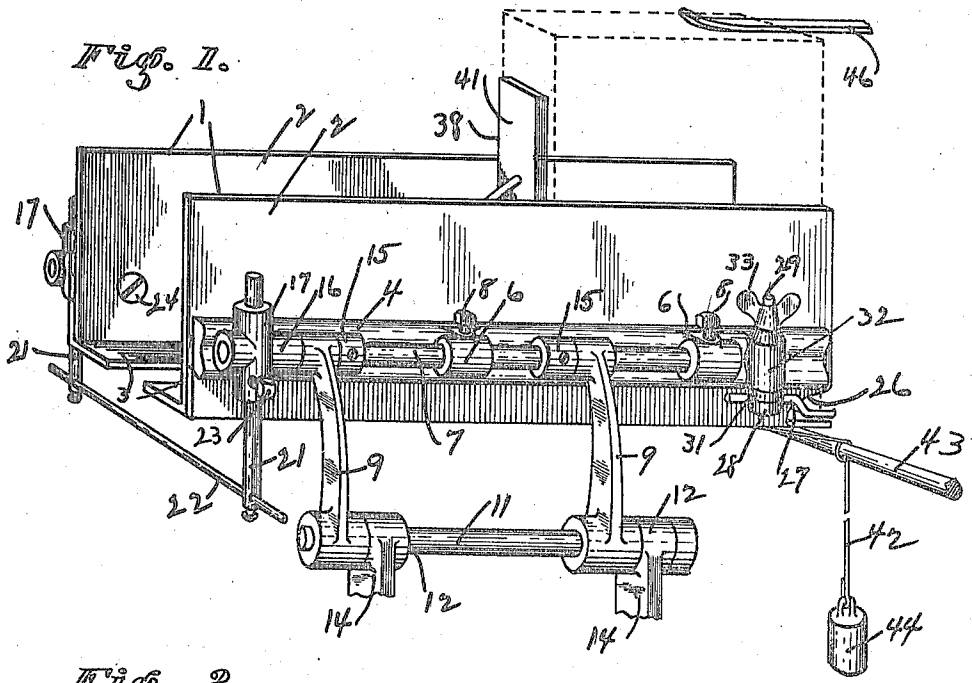


Fig. 2.

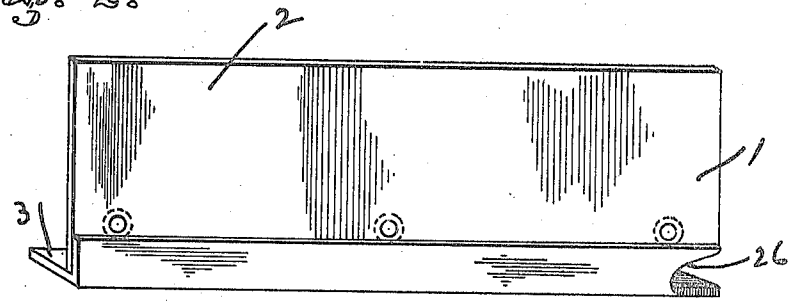


Fig. 3.

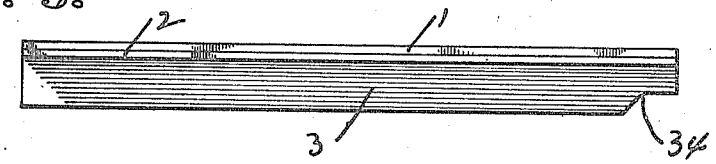
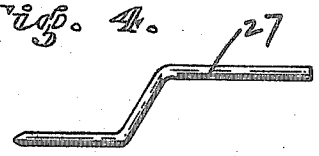


Fig. 4.



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FILED SEPT. 26, 1921. 2 SHEETS—SHEET 2.

Fig. 5.

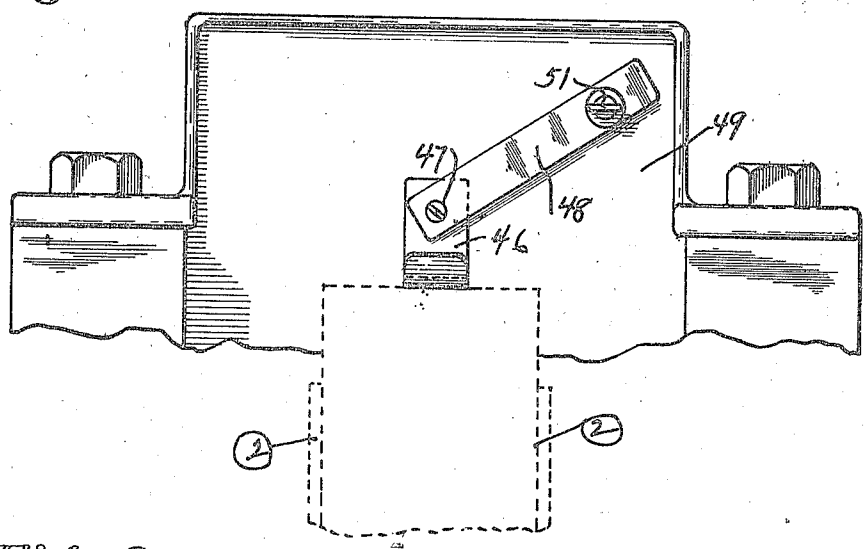


Fig. 6.

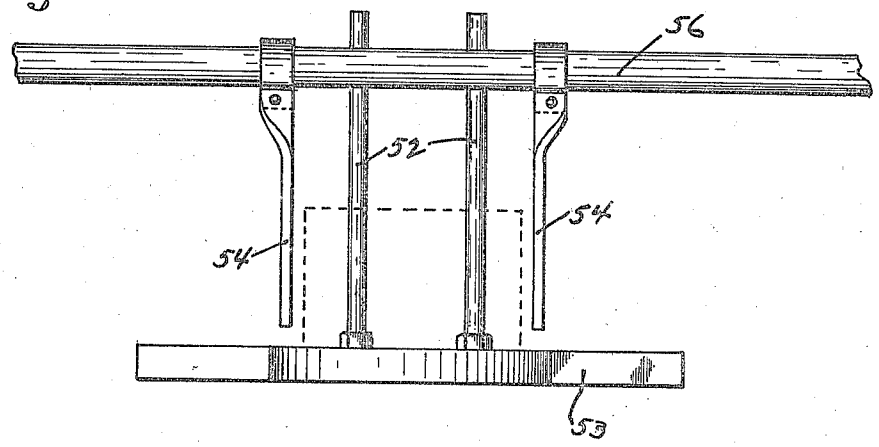
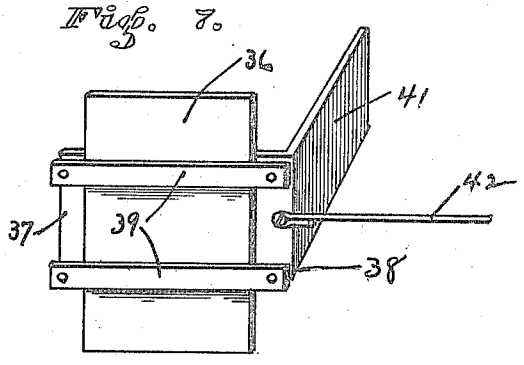


Fig. 7.



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UNITED STATES PATENT OFFICE.

JULIUS BIVER, OF ALAMEDA, AND JOHN S. KOSCH, OF SAN BRUNO, CALIFORNIA.

FEEDING ATTACHMENT FOR PRINTING PRESSES.

Application filed September 26, 1921. Serial No. 503,196.

To all whom it may concern:

Be it known that we, JULIUS BIVER and JOHN S. KOSCH, citizens of the United States, and residents respectively of Alameda, county of Alameda, and San Bruno, county of San Mateo, and State of California, have invented a new and useful Feeding Attachment for Printing Presses, of which the following is a specification.

The present invention relates to improvements in printing presses and its object is to provide a feeding attachment for a printing press which can adapt itself to a wide range of different sized objects and which can be easily adjusted to feed folded envelopes of any size as well as letterheads or other single sheet units of paper. The present press as now commonly used for the printing of envelopes has a feeding attachment adapted to handle unfolded envelopes only, the attachment consisting of a pair of horizontally spaced slides on which the bundles of unfolded envelopes rest so that the latter stand on edge, the body portion resting on the slides while the flaps extend downwardly between the slides and prevent the envelopes from moving laterally.

These slides cannot successfully be used for folded envelopes because the latter need a more substantial support to keep them alined and to prevent them from becoming dislocated laterally, and our attachment is designed with a view of accommodating those envelopes. Its advantages naturally extend to any units to be printed having a regular square or rectangular form which are little adapted to be satisfactorily supported on two flat slides.

The preferred form of our attachment is illustrated in the accompanying drawing, it being understood that slight changes or modifications might be made without deviating from the spirit of the invention. In the drawings, Figure 1 represents a perspective view of the attachment; Figure 2 a perspective view of one of the two wings forming the principal feature of the invention; Figure 3 a top plan view of the other wing; Figure 4 an enlarged detail view of a separating pin: Figure 5 a front elevation of the upper portion of the attachment, Figure 6 a receiving device for the discharged envelopes and Figure 7 a perspective bottom view of a pusher used to bring the envelopes into contact with the gripping device of the press.

Referring to the drawings in detail it will be seen that our attachment comprises two wings (1), angle shaped, each having one flange (2) extending upwardly in spaced relation to the corresponding flange of the other, and one flange (3) extending horizontally toward the corresponding flange of the other. These flanges are supported on the slides (4). The latter, which are a portion of the present day machine, are supported by means of sleeves (6) on the rods (7) and prevented from rotating on the same by the setscrews (8). The rods (7) are rotatably supported on two arms (9) rigidly secured to the rod (11) rotatably carried in the bearings (12) of rigid supporting members (14) forming part of the frame of the press not shown in the drawing. The slides have also rigidly secured thereto sleeves (16) rotatably supported on the rods (7) and provided with transverse sleeves (17) forming a rigid unit with the same. It will thus be seen that the two slides are adjustable relative to their distance from each other and can be swung away from or toward each other through the arms (9). In the present day press they are normally in a horizontal position so as to present their sliding faces on top by a rod (not shown in the drawing) extending through the transverse sleeves (17). The rods (7) are prevented from sliding longitudinally by the collars (15).

To use our attachment we rotate the slides a quarter of a turn so that the sliding surfaces face each other and they are held in this position by two vertical rods (21) extending through the sleeves (17) and held against rotary motion by the horizontal rod (22) which is slidably supported in the lower ends of the rods (21), the latter being held in the sleeves (17) by means of setscrews (23).

The wings are secured to the slides by means of screws (24) and can thus be moved away from each other or toward each other at will without changing the direction of its flanges, the arms (9) permitting of lateral movement and the rods (21) holding the flanges in their vertical and horizontal positions without interfering with the lateral movement.

The wings are provided at their rear ends with corresponding notches (26) through which the separator pins (27) extend adapted to engage the units to be fed into the press and to allow the same to be removed one by

one. They are secured to the outside of the slides by being pressed between the head (28) of the bolt (29) and the sleeve (31) supported in a lug (32) extending from each slide, a wing nut (33) being used to bring the bolt head and the sleeve in firm contact with the separator pin.

It will be noticed from Figure 3 that the inner edges of the horizontal flanges are cut away as shown at (34). This is done in order to prevent any collision between the attachment and the gripping apparatus of the particular machine for which this attachment was designed.

To forward the units to be fed into the machine we use the adjustable pusher shown in detail in Figure 7. It comprises a slide (36) secured between the lower side of one flange (37) of the angle-shaped pusher (38) and two strips (39) screwed to the flange. The other flange (41) presses against the envelopes and is held under continuous forward tension by the cord (42) wound around the transverse shaft (43) and provided at its free end with a weight (44). The shaft receives intermittent rotary motion from the machine in a manner not shown and at each motion exerts a slight pull on the cord (42), whereby the pusher is urged forward continuously. The slide (36) rests on the horizontal flanges, and we provide a plurality of slides of different sizes which may be interchangeably used to conform to the width of the space between the wings.

A leaf spring (46) is secured above the envelopes to hold the same down and is pivotally supported on the free end (47) of the arm (48), the other end of which is fastened to the plate (49) being part of the frame of the machine by the thumb screw (51) so that the height of the spring can be adjusted.

To catch the envelopes as they emanate from the discharge end of the machine we provide two posts (52) on the base (53) against which the envelopes are placed by the discharging device of the machine not shown in the drawing and two guides (54) depending from a transverse shaft (56) supported in the machine extending alongside the envelopes.

In operation a bunch of envelopes is placed on the horizontal flanges of the wings as shown in dotted lines in Figure 1, after the wings have been adjusted properly. The machine is provided with a gripping device not shown in the drawing which enables it to grip the envelopes one by one, the remaining ones being held back by the separators. The pusher is worked forwardly by the shaft (43) under the influence of the weight and slightly advances the bunch of envelopes each time one is taken up by the gripping device. The spring (46) lying on top of the envelopes presses down on the same and prevents the same from rising under the pressure and keeps them well arranged. At the discharge end the envelopes are placed by the discharge device against the rods (52), being prevented from sliding laterally by the grinder (54).

We claim:

1. A feeding attachment for a printing press, comprising a pair of angle-shaped wings toeing toward each other supported in operative proximity to a gripping device adapted to hold the material to be fed, a notch in the rear end of the heel of each wing and a pin associated with the wing extending through the notch to operatively engage the material so as to allow the same to be withdrawn one at a time.

2. A feeding attachment for a printing press, comprising a pair of angle-shaped wings toeing toward each other supported in operative proximity to a gripping device adapted to hold the material to be fed and a notch in the rear end of the toe of each wing for the admission of said gripping device.

3. A feeding attachment for a printing press, comprising a pair of angle-shaped wings toeing toward each other supported in operative proximity to a gripping device adapted to hold the material to be fed, and means supported on the wings for exerting forward pressure on the material, said means comprising a slide supported on the toes of the wing, a pusher secured thereon, an intermittently rotating shaft, and a cord secured to the pusher and wound around the shaft having a weight at its free end whereby a slight intermittent forward motion is imparted to the pusher.

4. In combination, a feeding attachment for a printing press comprising a pair of wings supported in operative proximity to a gripping device adapted to hold the material to be fed and a receiving attachment supported in operative proximity to the discharge end of the press comprising vertical members for supporting the discharged units and lateral members for guiding the same.

5. A feeding attachment for a printing press comprising a pair of angle-shaped wings toeing toward each other and means for supporting the same in adjustably spaced relation in operative proximity to a gripping device, comprising a horizontal rod for each wing, arms pivoting thereon pivotally engaging said wing for lateral adjustment, a vertical guide rod slidably engaging each wing, and a horizontal guide rod slidably engaging the two vertical guide rods for maintaining the same in parallel relation.

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