(No Model.) 2 Sheets—Sheet 1.

A. A. RHEUTAN.

FOLDER AND PRESSER FOR ENVELOPE MACHINES.

No. 453,390. Patented June 2, 1891.

Fig. 1.

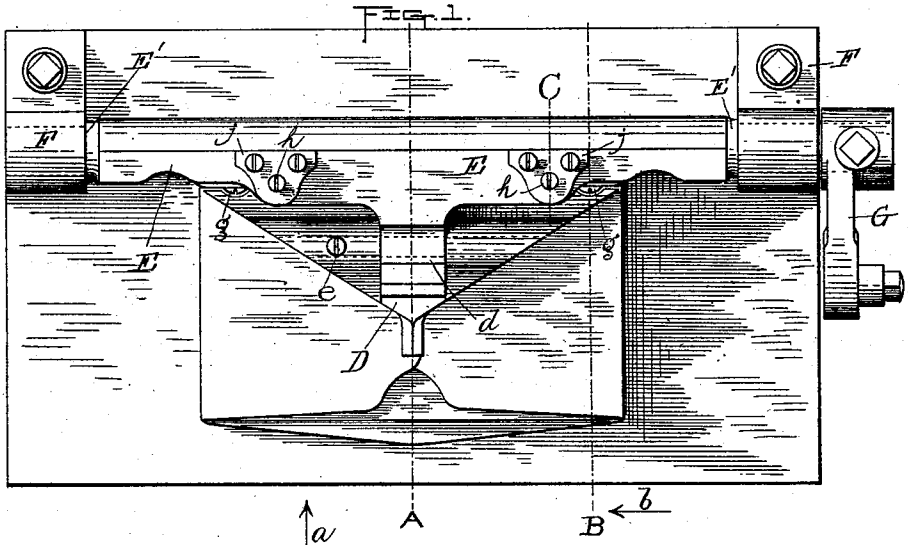


Fig. 2.

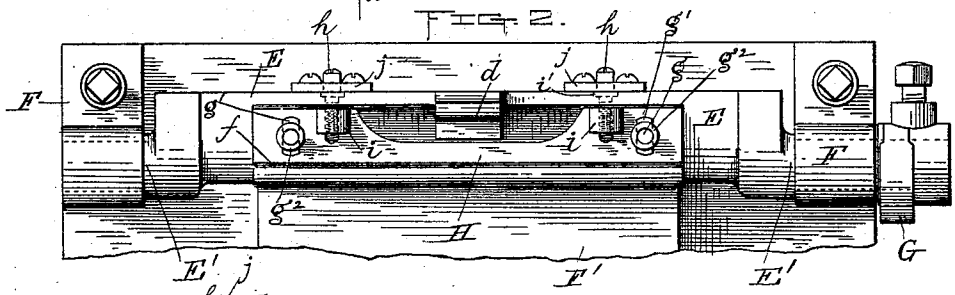


Fig. 6.

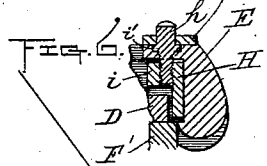


Fig. 5.

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By A. A. Barker Att'y

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

A. A. RHEUTAN.

FOLDER AND PRESSER FOR ENVELOPE MACHINES.

No. 453,390. Patented June 2, 1891.

Fig. 3.

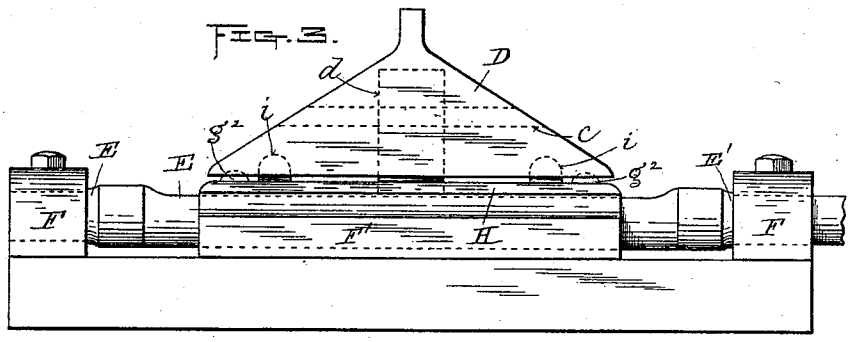
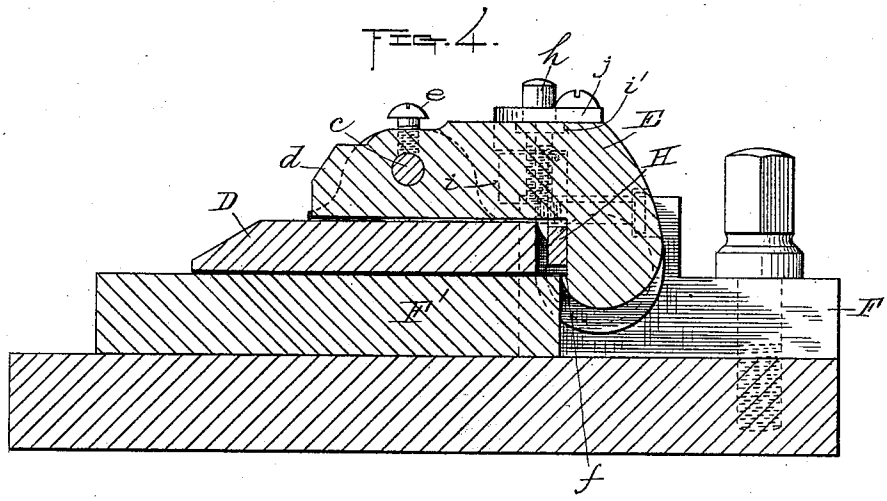


Fig. 4.



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UNITED STATES PATENT OFFICE.

ABRAM A. RHEUTAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO WADE H. HILL, OF SAME PLACE.

FOLDER AND PRESSER FOR ENVELOPE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 453,390, dated June 2, 1891.

Application filed May 23, 1890. Serial No. 352,899. (No model.)

To all whom it may concern:

Be it known that I, ABRAM A. RHEUTAN, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Folders and Pressers for Envelope-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a top or plan view of my improved folder and presser device, also part of the main bed of the envelope-machine and an envelope in position on the folding-bed. Fig. 2 is a similar view to that shown in Fig. 1, with part of the beds broken away and the device turned up to show a front view thereof, the presser being also removed in this figure to more fully illustrate my improved parts coming back of the same. Fig. 3 is a front view of the parts shown in Fig. 1, looking in the direction of arrow *a*, the presser in this figure being shown swung up to show the under side thereof. Figs. 4 and 5 represent upon an enlarged scale vertical transverse sections on lines A and B, respectively, Fig. 1, looking in the direction of arrow *b;* and Fig. 6 represents upon the same scale as Figs. 1, 2, and 3 a vertical transverse section on line C, Fig. 1.

My invention relates to folders and pressers for folding the back flaps of the envelopes in an envelope-machine, and to press upon said back flap and the side flaps to unite the gummed edges thereof, said edges having been previously gummed and the side flaps folded in the usual way.

The object of said invention is to produce a device having a combined swinging folder and presser, whereby the back flap may be folded and the gummed edges pressed at one operation, and also having adjustable means whereby any desired thickness of fold in the back flap may be produced independent of said combined folder and presser, as will be hereinafter more fully specified.

To enable others skilled in the art to which my invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more in detail.

In the drawings, D represents the combined folder and presser, which is pivotally attached to the upper forward end of the carrier E by means of the pintle *c*, passed through said combined folder and presser, and a lug *d* on said carrier E, said pintle being preferably held in position by a set-screw *e*. The combined folder and presser is so hung on its pivot as to freely vibrate or swing in and out. It therefore adapts itself to any variation in the thickness of paper, and consequently, when forced down thereon, produces a firm and positive pressure over the whole surface of the gummed edges to be united. I produce said combined folder and presser by dispensing with the usual separate folder and making the presser solid, (see Figs. 3 and 4,) so as to occupy the space usually taken up by the folder to within a short distance of the back-flap fold, as is shown in Figs. 4 and 5, thus by said construction embodying the two parts in one. Said combined presser and folder does not act upon the back-flap fold, but in front of it, a separate device, described further on, being employed for regulating the thickness of said fold.

The carrier E and its journals E′ E′ are in this instance formed in one part, the usual longitudinal shaft being dispensed with as it is unnecessary to my present device. Said journals E′ E′ are fitted to turn in suitable bearings F F, secured rigidly to the main bed, and to one of said journals is secured the usual crank G for rocking the device, which is in turn operated through suitable connections with the main shaft or other source of power in the machine. The thickness of fold is regulated by means of a presser-plate H, adjustably secured to the inner face of the carrier, between said carrier and the inner side of the combined folder and presser, as is best shown in Figs. 2, 5, and 6, sufficient space being allowed between the plate and combined folder and presser to permit the latter to swing freely, as previously described. For the purpose of convenience in adjusting said presser-plate H on the carrier the latter is preferably provided with a notch or gage *f* just under the plate and at the proper point to come upon a level or a trifle above the level of the top of the folding-bed F′ when the device is swung down into its normal position, as shown in

Figs. 4 and 5. By means of said gage-notch it is obvious that the plate may be readily adjusted to a nicety when the device is in any position.

In adjusting the presser-plate for a thin fold it is moved up close to the notch and in the opposite direction to produce a thick fold, the distance being of course regulated by the thickness of fold desired.

As various ways may be adopted for adjusting the plate, I do not limit myself to any special method. In this instance I accomplish said result by means of a pair of holding-screws *g g* and a pair of adjusting-screws *h h*. The holding-screws *g g* are passed through smooth openings in the carrier and transversely through slots *g' g'* in the plate, and are provided at their inner ends with nuts g^2 g^2, which fit in said slots and over the edges of the plate at each side of said slots, so that by turning the screws from their outer ends the plate may be clamped to the carrier or loosened, as desired, as will be obviously seen. The adjusting-screws *h h* are arranged at right angles to the screws *g*, and their inner ends are fitted to turn in threaded openings in lugs *i i*, formed on the face of the plate. They are fitted in smooth openings in the carrier E, and each provided with a lateral flange *i'* to hold them in position longitudinally, being held from inward movement by said flanges bearing on shoulders on the carriers, and against outward movement by the caps *j j*, secured to the outside of the carrier and fitted over the heads of the screws against their flanges, as shown in Figs. 2, 5, and 6. By this construction it will be apparent that on loosening the plate by turning the holding-screws thereof said plate may be easily adjusted to a nicety, in connection with the shoulder or gage *f* on the carrier, to obtain any desired thickness of fold in the back flap, and that, too, without in any way interfering with the folding and pressing of the other parts of the envelope. It will also be obvious that the construction being much simplified is stronger, more durable, and less liable to get out of order than the old form of devices employed for a similar purpose. Although in this instance I have shown and described said improved device as adapted for folding the back flap of an ordinary envelope, I do not limit myself to said application, as the same principle in construction may be employed for folding either of the other flaps.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In an envelope-machine, the carrier E, fitted to rock in stationary bearings at each end thereof, and the removable folder D, mounted thereon, in combination with the presser-plate H, adjustably secured thereto independent of the folder and adapted to press upon the fold of the envelope-flap when the carrier is rocked to perform the folding operation, substantially as and for the purpose set forth.

2. In an envelope-machine, the combination of a rocking carrier with an adjustable plate attached thereto, adapted to act on the fold of the flap of the envelope, and a combined folder and presser pivotally attached to said carrier, adapted to act on the envelope in front of the fold of the flap, substantially as and for the purpose set forth.

3. In an envelope-machine, the combination of the rigid bearings F F with carrier E, fitted to turn or rock in said bearings and provided with the gage-notch *f*, and the adjustable plate H, attached to the carrier at the proper point to act upon the fold of the flap of the envelope, substantially as and for the purpose set forth.

4. In an envelope-machine, the rigid bearings F F and carrier E, arranged between the same and fitted to rock therein, in combination with the presser-plate H, fitted and adjustably secured to the inner face of said carrier over the folding-bed F', the screws *h h*, having means for holding the same longitudinally in the carrier, whereby the plate H may be held and adjusted vertically, and the screws *g g*, arranged at right angles to screws *h h*, fitted to turn in the carrier, and having suitable nuts for clamping the plate to said carrier, substantially as shown and specified.

5. In an envelope-machine, the combination of the rigid bearings F F with carrier E, fitted to turn or rock in said bearings and provided with the gage-notch *f*, the adjustable plate H, attached to the carrier at the proper point to act upon the fold of the flap of the envelope, and the combined folder and presser D, pivotally attached to said carrier and adapted to act on said envelope in front of said fold, substantially as and for the purpose set forth.

ABRAM A. RHEUTAN.

Witnesses:
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W. B. NOURSE.