(No Model.) 2 Sheets—Sheet 1.

A. A. RHEUTAN.

ENVELOPE MACHINE.

No. 385,525. Patented July 3, 1888.

Fig. 1.

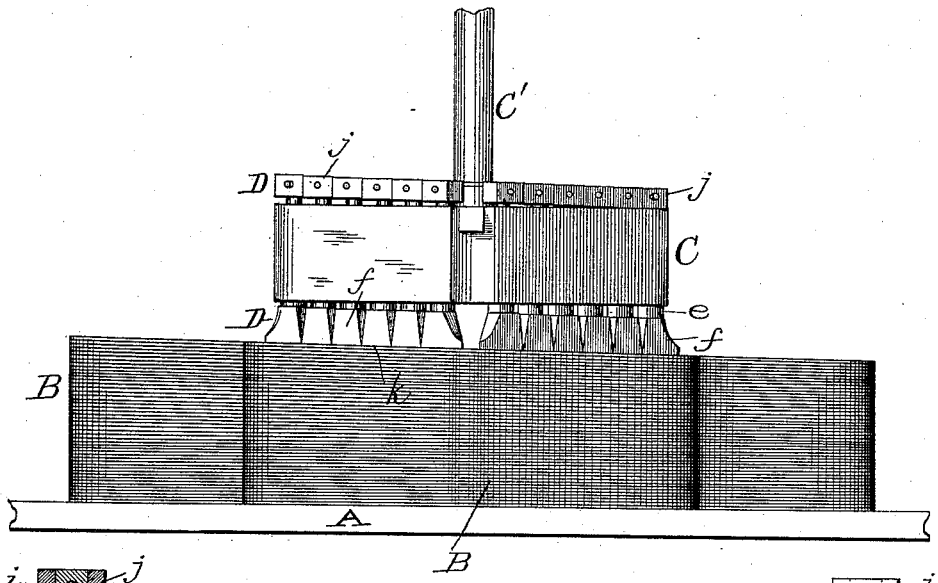


Fig. 9.

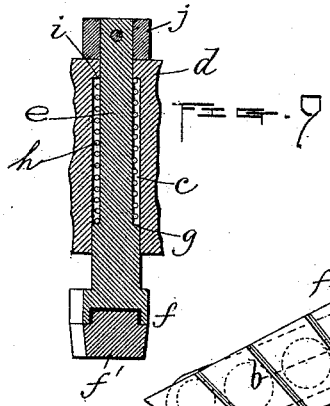


Fig. 8.

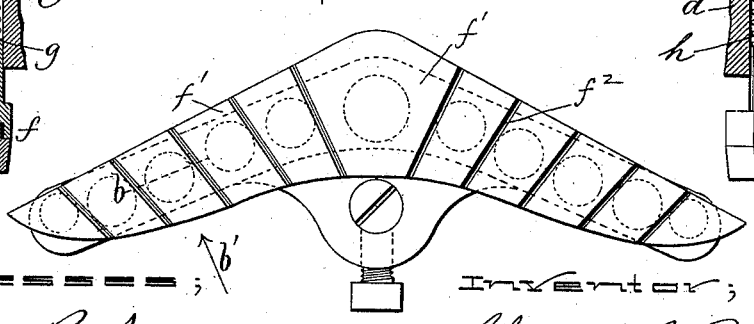
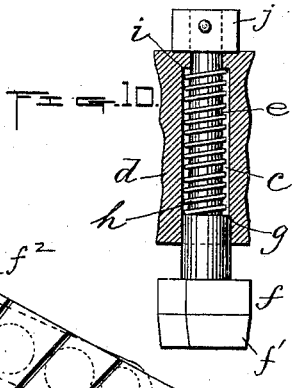


Fig. 10.



Witnesses;

Walter B. Nourse.

Lucius W. Briggs.

Inventor;

Abram A. Rheutan,

by A. A. Barker, Atty.

(No Model.) 2 Sheets—Sheet 2.

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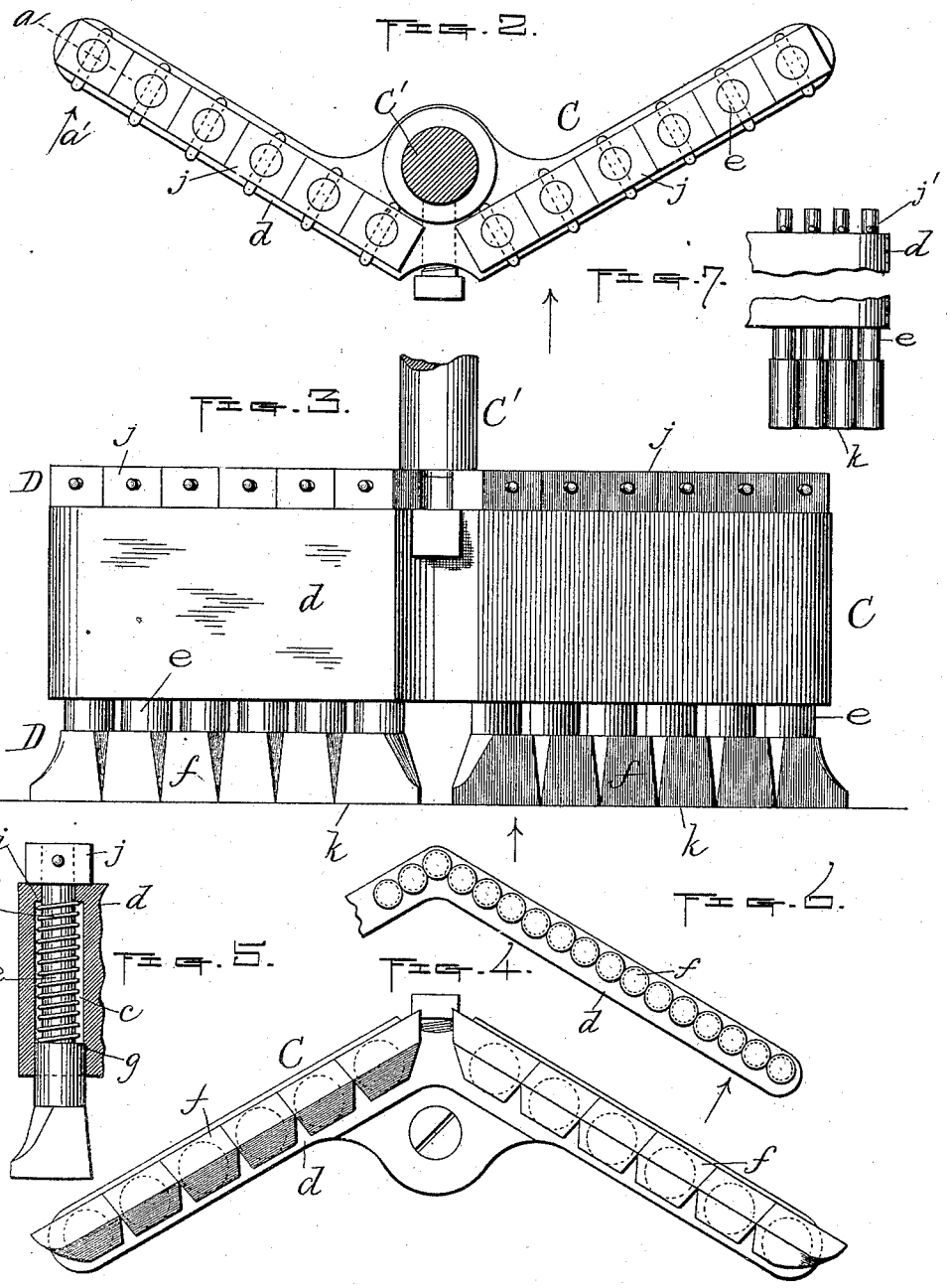

Witnesses:

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Lucius W. Briggs.

Inventor;

Abram A. Rheutan,

By A. A. Baker, Atty.

UNITED STATES PATENT OFFICE.

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

ENVELOPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,525, dated July 3, 1888.

Application filed May 26, 1887. Serial No. 239,469. (No model.)

To all whom it may concern:

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

Figure 1 represents a front view of an ordinary gummer for gumming and picking up envelope-blanks with my improvements applied thereto, said gummer being shown upon the top of a pile of envelope-blanks of unequal thicknesses to illustrate the purpose of my invention, hereinafter more fully described. Fig. 2 is a horizontal section through the gummer-supporting spindle, showing a top or plan view of my improved gummer, said figure, as well as all those following, being shown upon an enlarged scale. Fig. 3 is a front side view of the gummer similar to that shown in Fig. 1. Fig. 4 is a bottom view of said gummer. Fig. 5 is a vertical section through one end thereof, taken on line *a*, Fig. 2, looking in the direction of arrow *a'*, same figure; and Figs. 6 to 10, inclusive, represent modifications in the construction of the gummer which will be hereinafter more fully described, Fig. 9 being a vertical section at the point indicated by line *b*, Fig. 8, looking in the direction of arrow *b'*, and Fig. 10 a similar view showing the interior parts in elevation, the same as in Fig. 5.

The object of my invention is to provide a gummer for envelope-machines having an adjustable gumming-surface which adapts itself to any unevenness or inequality that may exist in the pile of envelope-blanks.

Said invention consists in combining with an ordinary gummer a series of spring devices arranged vertically therein, to produce a yielding gumming surface or surfaces, as hereinafter more fully set forth.

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

In the drawings, the part marked A represents part of the usual blank-elevator table, which may be raised and lowered as ordinarily in any well-known way. B represents a pile of envelope-blanks upon said table, and C is my improved gummer. Said envelope-blanks are shown as being of unequal thicknesses, with the top of the pile out of level, and in Fig. 1 the spring gumming devices D of the gummer are shown in the positions which they occupy when said gummer is applied to such a surface.

The gummer is secured to the lower end of a vertical shaft or spindle, C', (only a portion of which is shown,) which in practice may be moved up and down to elevate and lower said gummer in gumming and picking up the envelope-blanks in the usual way. The mechanisms for operating said shaft C' and bed A not constituting a part of my invention, it is deemed unnecessary to show or describe the same to make clear the nature and purpose of said invention.

The spring devices D are fitted in vertical openings *c* in the body *d* of the gummer, and consist, in this instance of the spindles *e*, having feet *f* at their lower ends adapted to bear upon the top of the pile of envelope-blanks when said gummer is lowered, and shoulders or projections *g*, against which the bottoms of spiral springs *h* bear. Said springs are fitted over the spindles above said shoulders *g*, and bear at their upper ends against the shoulders *i* on body *d* to force said spindles down. The spindles are prevented from being forced out of their respective openings by the springs by means of collars *j*, secured to the tops of said spindles, or by a pin, *j'*, only, as shown in the modification, Fig. 7. By thus constructing the gummer a firm and uniformly-yielding bottom surface, *k*, is produced, which adjusts itself in practice to any inequality or unevenness in the pile of envelope-blanks that may exist, thereby evenly gumming the whole edge where the gummer is applied to said envelope-blanks. Without such provision it will be apparent that when the top of the pile of blanks is not level the gummer, which works vertically, as before stated, must necessarily bear unevenly upon said pile of blanks, and in extreme cases the inequality being so great that the whole surface of the bottom of the gummer is not applied to

the blanks, in consequence of which they are unevenly gummed and the picking-up operation is improperly performed. Said objections are entirely overcome by my invention, as will at once be seen.

Various ways may be adopted in the construction of the gumming and picking-up feet *f*, as well as in the method of imparting a springing or yielding movement thereto when applied to the pile of envelope-blanks, and I therefore do not limit myself to the special construction shown and previously described.

By the construction shown in Figs. 1, 3, and 4 the shape adopted for the feet *f* necessitates the use of square collars at the upper ends of spindles *e* to keep said feet from turning out of their proper positions, owing to the irregular shape of the feet, which can be used in one position only, as shown in Fig. 4, whereas when said feet are circular in shape, as shown in Fig. 6, the same relative position always being maintained however much they may turn, it is necessary to use pins only at the upper ends of the spindles for the purpose previously described.

In Figs. 8, 9, and 10 the bottoms of the feet *f* are shown as being provided with cushions *f'*, made from rubber or similar material. This construction is preferably adopted upon the front-flap gummer. It is not essential, however, and I therefore do not limit myself thereto. It is also preferable to make the division-lines f^2 between the feet at an angle to the direction that the gummer is drawn off of the pile of blanks, so that when thus drawn off in the usual way every portion of the edge of the blank will be acted upon by one after the other of the feet, and thereby evenly gummed over its whole surface, which would not be the case if said division-lines were made in the same direction as the line of draft, as will at once be obviously seen. By making the feet round, as shown in Fig. 6, the aforesaid provision is unnecessary. If desired, the bottoms of the feet may be made slightly rounded, as indicated in Fig. 7, to better fit an uneven surface such as shown in Fig. 1.

I am aware that it is not new to provide the bottom face of a gummer with one solid piece of rubber or similar material, the same having long been in use on envelope machinery, and I therefore make no claim thereto in a broad sense.

Having described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

The gummer of an envelope-machine, having a series of yielding spring devices, constructed substantially as described and arranged side by side vertically therein, to produce a continuous flat yielding surface at the bottom adapted to bear upon the top of the pile of envelope-blanks and conform to any unevenness that may exist therein, substantially as set forth.

ABRAM A. RHEUTAN.

Witnesses:
A. A. BARKER,
WALTER B. NOURSE.