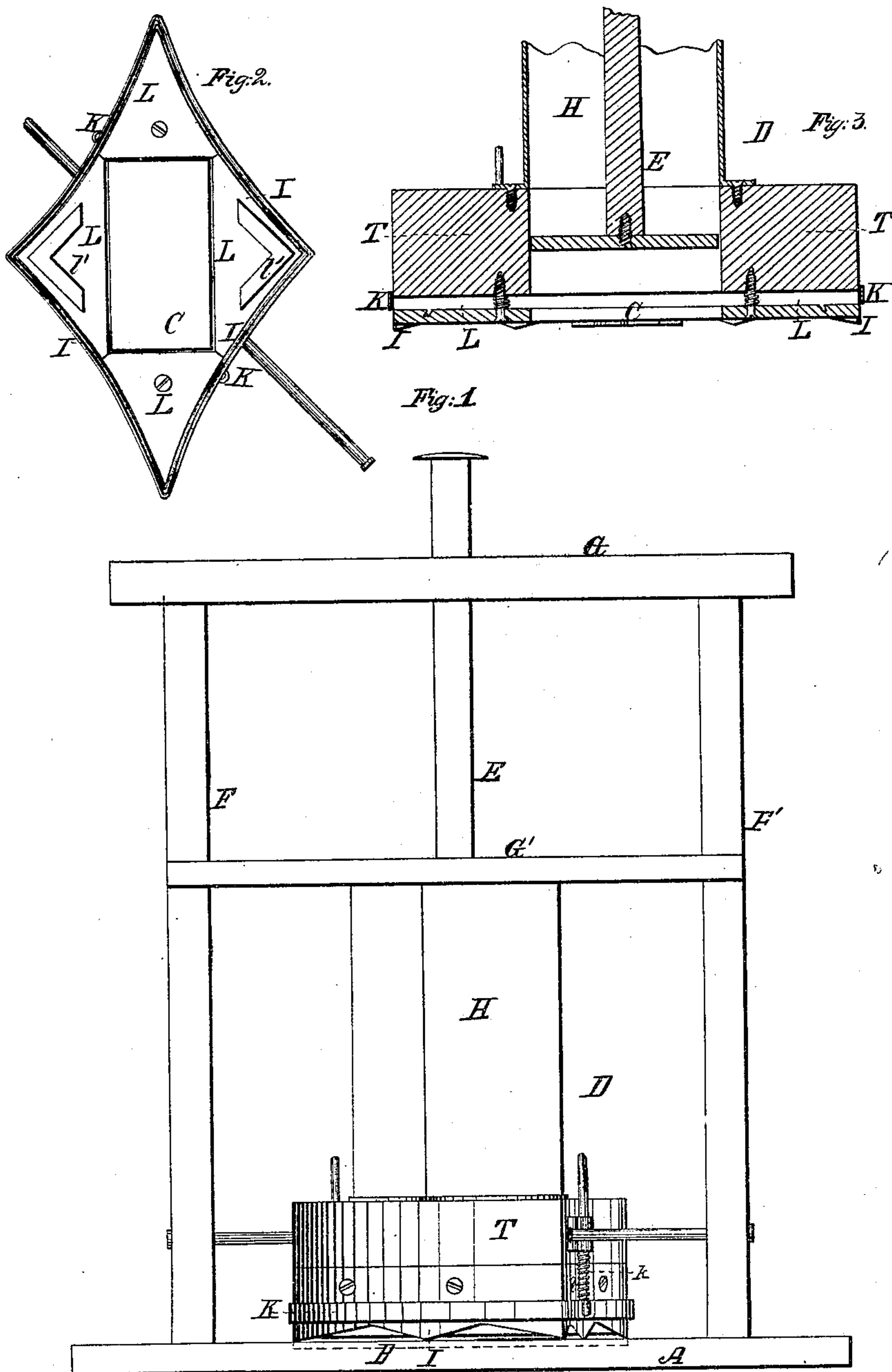


*E. B. Olmstead.*  
*Envelope Mach.*  
*N<sup>o</sup> 66877.      Patented Jul. 16. 1867.*



*Witnesses:*

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# United States Patent Office.

E. B. OLMSTED, OF WASHINGTON, DISTRICT OF COLUMBIA.

*Letters Patent No. 66,877, dated July 16, 1867.*

## CUTTING AND GUMMING APPARATUS FOR ENVELOPE MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. B. OLMSTED, of the city and county of Washington, and District of Columbia, have invented a new and improved Cutting and Gumming Apparatus of Envelope Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 represents a side elevation of my improved apparatus.

Figure 2 shows the end of the cutting and gumming instrument D.

Figure 3 is a central vertical section of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention is designed to effect the cutting and gumming of single sheets of paper for envelopes in an envelope machine by a single instrument which performs both operations at the same stroke.

In the drawings, A represents the table attached to the machine, upon which the cutting and gumming are done. B is a channel in the upper surface of the table A, corresponding in size and shape to the size and shape required in the envelope. The walls of this channel are vertical, and the line where they join the surface of the table is sharpened to a knife-edge, being lined with metal, or the surface of the table being made of metal, for that purpose. C is an aperture in the middle of the space enclosed by the channel B, and of the size and form which the envelope is to assume when folded. D is the cutting and gumming instrument, and E is a plunger, rising and falling through the centre of the instrument D, in a passage-way, which it neatly fits, and through the aperture C, which it also fits so closely that if a paper be laid over the aperture C, and the plunger E be then driven down through the aperture, the paper will be broken around the edges of the aperture, so that it can readily be folded. The plunger E and the instrument D each have a vertical motion imparted to them by machinery not shown in the drawing, and not necessary here to be described. F F' are posts, and G G' are cross-beams, which support and guide the plunger and the cutting and gumming instrument.

The last-named instrument I will now proceed to describe. It is composed of the upright shaft H, attached firmly to the bottom piece T. Around the lower edges of the latter, and fastened firmly to it by screws or other suitable means, appears the cutting-knife I, corresponding in size and shape to the channel B in the table below, and fitting closely down into the channel, the edge of the knife I bearing against the sharp edge of the channel as the knife descends, and the instrument thus performing the functions of both a cutting-knife and a die. Around the cutting-knife is a thin strip of metal, K, the lower edge of which descends slightly below the edge of the cutting-knife, capable of a sliding vertical motion over the knife, and held in place by the springs k k, or their equivalents. Inside of the knife, and attached to the bottom piece T, are plates L L L L, the lower faces of which come down slightly below the edge of the knife. Each of these plates is capable of a vertical sliding motion, and each of them has a spring, l, to keep it in its place. These plates may be four in number, each acting independently of the others, or instead of four, one or two may be used, as experience shall demonstrate to be most efficacious and economical. These plates contain, projecting from their under sides, raised beds l' l', to receive the mucilage from the gum-roller and convey it to the proper parts of the envelope. The gum-roller is not shown in the drawing, but is a simple roller, similar to an inking-roller, brought by the proper machinery under the instrument D, when the latter is raised, so that the gummed surface of the roller deposits a part of its gum upon the beds l' l', the roller being withdrawn, immediately after this operation is performed, to receive a new coating of gum.

The operation of a cutting and gumming apparatus thus constructed is simple and effective. The paper being brought to the table by the proper machinery, when it reaches a position over the channel B, the cutting and gumming instrument D descends, the metallic strip K, and the plates L L, situated on each side of the channel B, first coming in contact with the paper, and holding it firmly down upon the table, the gumming being at the same time performed by the projecting beds l' l'. The instrument D still continuing to descend the springs of the strip K and the plates L L yield, and these parts are driven back, exposing the knife I, which now comes down upon the paper, forcing it into the channel B and against the cutting edges of the channel, cutting out an envelope of the required size and shape. When this has been done the plunger E, which has been raised during the above-described operations, descends, and the movable folding bed, not shown in the



drawings, rises, meeting the descending plunger E at the paper, which they by their combined action seize; and holding it steadily, force down through the aperture C, breaking the paper at the proper lines on the edges of the aperture C. The envelope thus prepared for folding is then carried down on the folding-bed to the folder. The aperture C and the bed enclosed by the channel B are situated diagonally with the table A, and with the sheet of paper from which the envelope is cut, for the more economical cutting of the paper, and in order that several cutting-knives may be used on one machine, and several envelopes be cut at once.

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

1. The channel B, having cutting edges, acting in combination with the knife F, substantially as and for the purpose specified.
2. The cutting and gumming instrument D, having the movable plates L L, with gumming-beds V V, the knife I, and the metallic paper-holding strip K, substantially as and for the purpose specified.
3. The combination of the plunger E, the cutting and gumming instrument D, and the table A, substantially as and for the purpose described.

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Witnesses:

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