

E. ALLEN.

Improvement in Machines for Feeding Envelopes.

No. 133,184.

Patented Nov. 19, 1872.

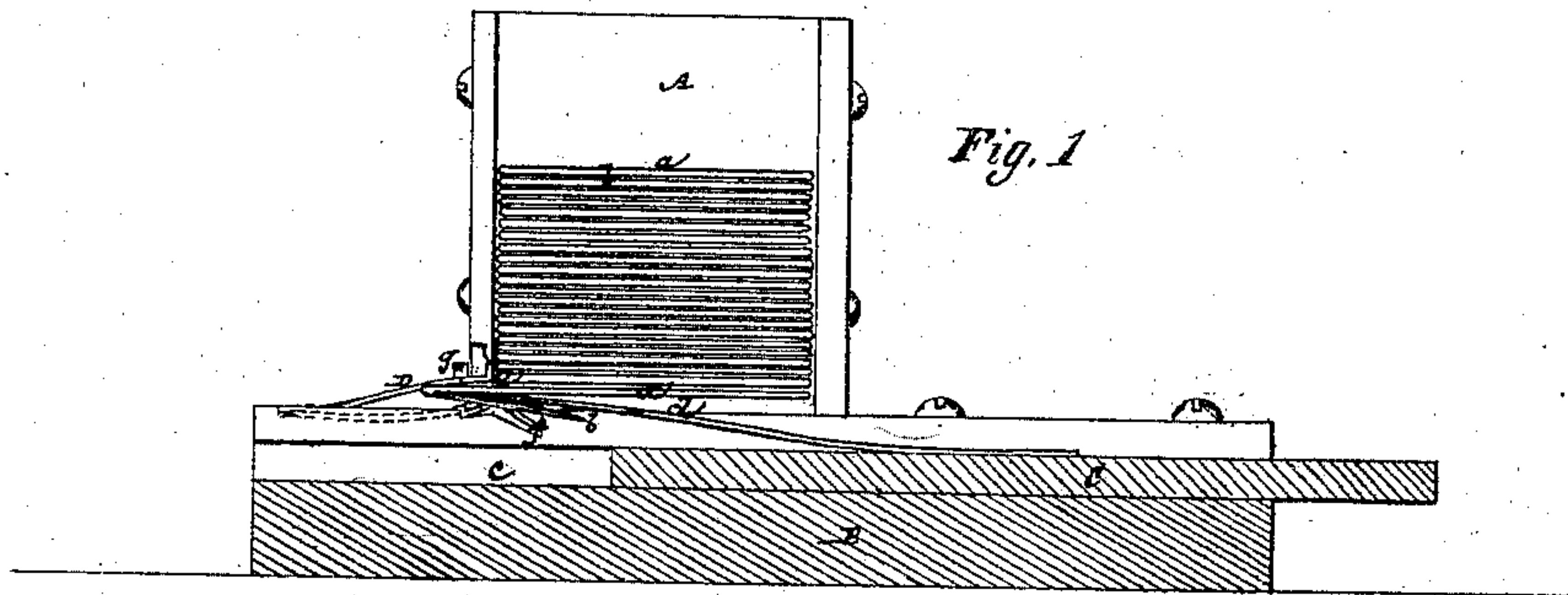


Fig. 2

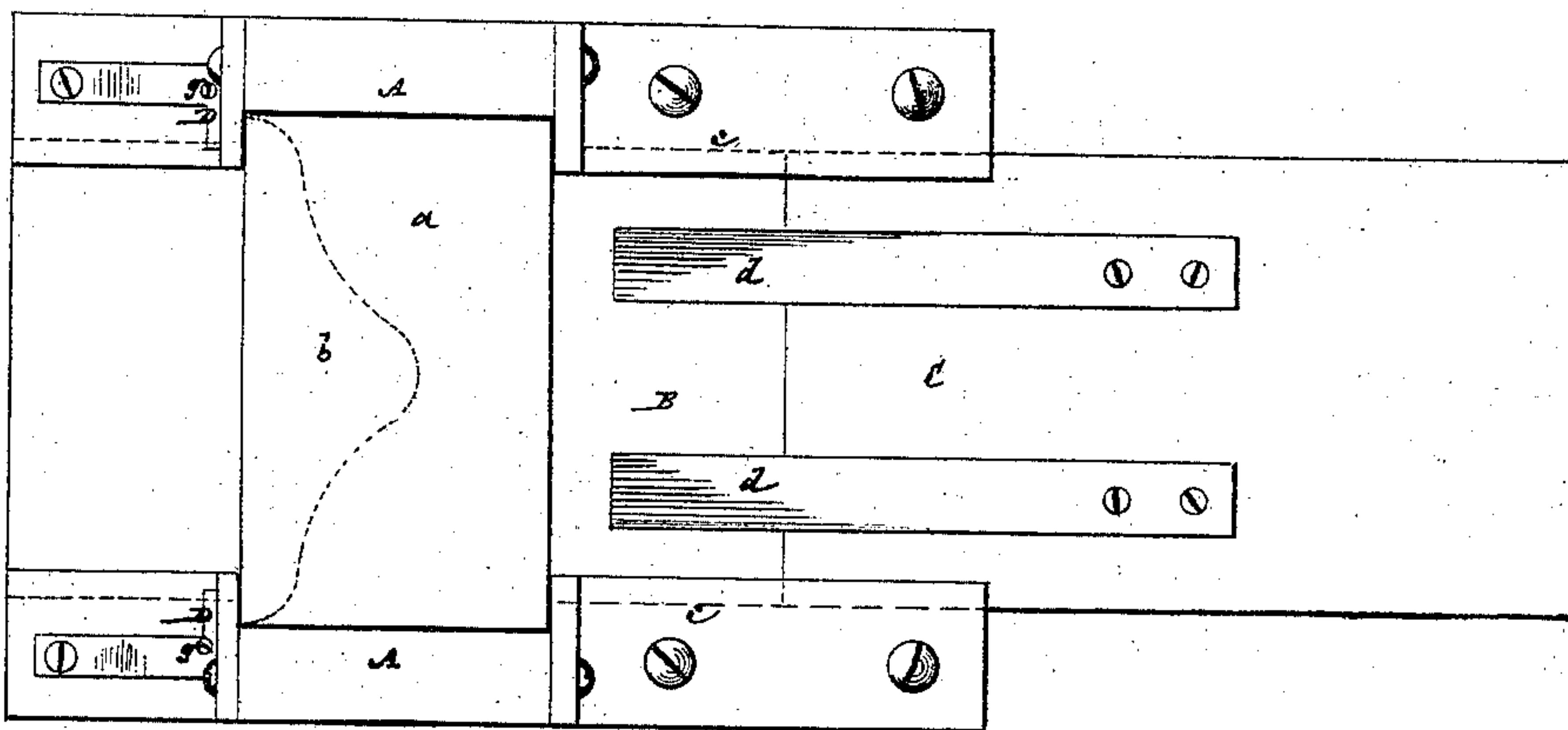
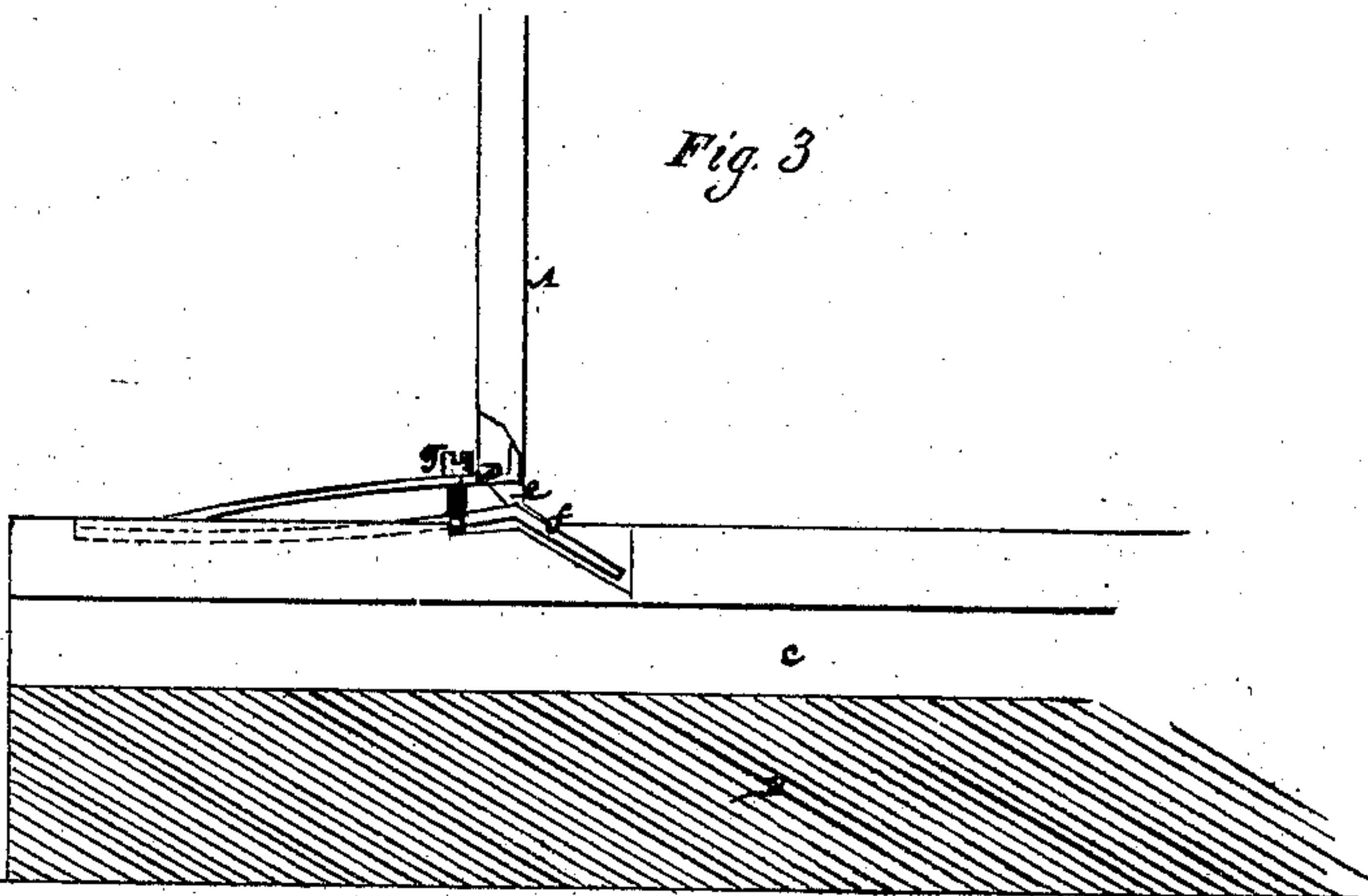


Fig. 3



Witnesses
Fred. Haynes
Herol Busch

Edwin Allen

UNITED STATES PATENT OFFICE.

EDWIN ALLEN, OF NORWICH, CONNECTICUT, ASSIGNOR TO THE ALLEN MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR FEEDING ENVELOPES.

Specification forming part of Letters Patent No. 133,184, dated November 19, 1872.

To all whom it may concern:

Be it known that I, EDWIN ALLEN, of Norwich, in the county of New London and State of Connecticut, have invented a new and useful Apparatus for Feeding Envelopes to Printing-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a vertical longitudinal section of the apparatus, with its parts constructed to feed envelopes one by one from a pile, when the same are arranged, with their flaps undermost, to effect the printing of said envelopes on their one side or face; Fig. 2, a plan of the same; and Fig. 3, a vertical longitudinal section of the rear or delivery portion of the feeder.

Similar letters of reference indicate corresponding parts.

My invention is designed as an automatic feeder to printing-presses of envelopes in a separate or detached manner, and with their flaps undermost, for the purpose of printing on their one side or face, said feeder taking the envelopes one by one from the bottom of a pack or pile. To this end, the envelopes are dropped or piled one upon the other, with their backs or flaps undermost, within a frame or between guides, below and between which a reciprocating slide works, said slide being armed with elastic feeding-strips arranged to project at their front ends in a free or yielding manner above said slide, and so that in the advance stroke of the slide the elastic feeding-strips pass over or on the inside of the flap of the lowermost envelope in the pile, and, catching said envelope within its upper edge or fold of the sealing-flap, force it over an inclined plane or planes and project it through an opening in front of the frame or guides, and between or under elastic fingers and guides that serve to direct and steady the envelope as it is pushed outward by the slide to grippers connected with the press. This is the general action of the apparatus, which includes special details or peculiarities of construction for obviating difficulty arising from the curling of the envelopes at their edges.

Referring to the accompanying drawing, A A represent guides or sides of a box or frame

for holding in a pack or pile, mounted the one upon the other, with their flaps *b* undermost, and pointing in a backwardly direction, the envelopes *a a* to be fed, said sides or guides having vertical recesses on their inside faces open at their tops to receive down within them the envelopes which rest upon suitable supports at the bottoms of said recesses. These guides are arranged at a proper distance apart on a bed, B, and the recesses in them are of the requisite width to hold the envelopes at their ends so that the same form a uniform or straight pile, with freedom to slip or fall down the recesses. To feed the envelopes *a a* with their flaps *b* arranged undermost, as described, for presentation of the one side or face of the envelope to the type, I use a reciprocating slide, C, which travels, as between guides *c c*, on the bed B below and between the guides A A. This slide, which may be operated in timely order by any proper mechanism connected with the press, is provided on its top surface with thin elastic feeding-strips *d d*, which, as the slide is projected forward under the pile, work up against the back of the lowest envelope, and, passing over or inside of the flap *b* thereof, catch said envelope within its upper edge and force it out from beneath the pile. To insure the entry of said strips inside of the flaps, it is desirable to give the front ends of the strips a slight twist, so that they present depressed corners on their outside edges and raised corners on their inside edges. The slide C, by its feeding-strips *d d*, having thus caught the bottom envelope in the pile, continues its advance stroke and projects said envelope through openings *e* in the front edges of the guides A A out of or from beneath the pile to the grippers of the press, and which may be carried by the cylinder of a cylinder printing-press arranged in front of the feeding apparatus, such action being repeated upon each bottom envelope in succession by the reciprocating action of the slide.

To prevent the curling of the envelope at its edge from interfering with its passage through the openings *e* to and under elastic fingers and guides D D that serve to hold or steady and direct the envelope till the grippers of the press have got hold of it, the envelope in its way to and through the openings *e* is caused to travel

up and over inclined planes *f* arranged opposite and under said openings and under the elastic fingers *D*, which are adjustable to and from the inclined planes *f*; or the latter and fingers *D* brought nearer to or further apart from each other by means of adjusting-screws *g g* for the purpose of accommodating different thicknesses of envelopes.

By arranging the envelopes to rest upon supports at the bottoms of the recesses in the side guides, the feeding-slide *C* operates freely or independently of the weight of the pile.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The reciprocating slide *C* armed with a feeding-strip or strips *d*, in combination with the inclines *f*, arranged as described, to remove the envelopes from their receptacle by striking against the inside of the fold of the sealing-flap, substantially as specified.

2. The combination and arrangement of the inclines *f f* with the adjustable elastic fingers *D D* and the openings *e* in the side guides or frame *A A*, essentially as shown and described.

EDWIN ALLEN.

Witnesses:

HENRY T. BROWN,
FRED. HAYNES.