No. 816,175. PATENTED MAR. 27, 1906.

J. E. NACHOD.

ENVELOP SEALING APPARATUS.

APPLICATION FILED JUNE 20, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

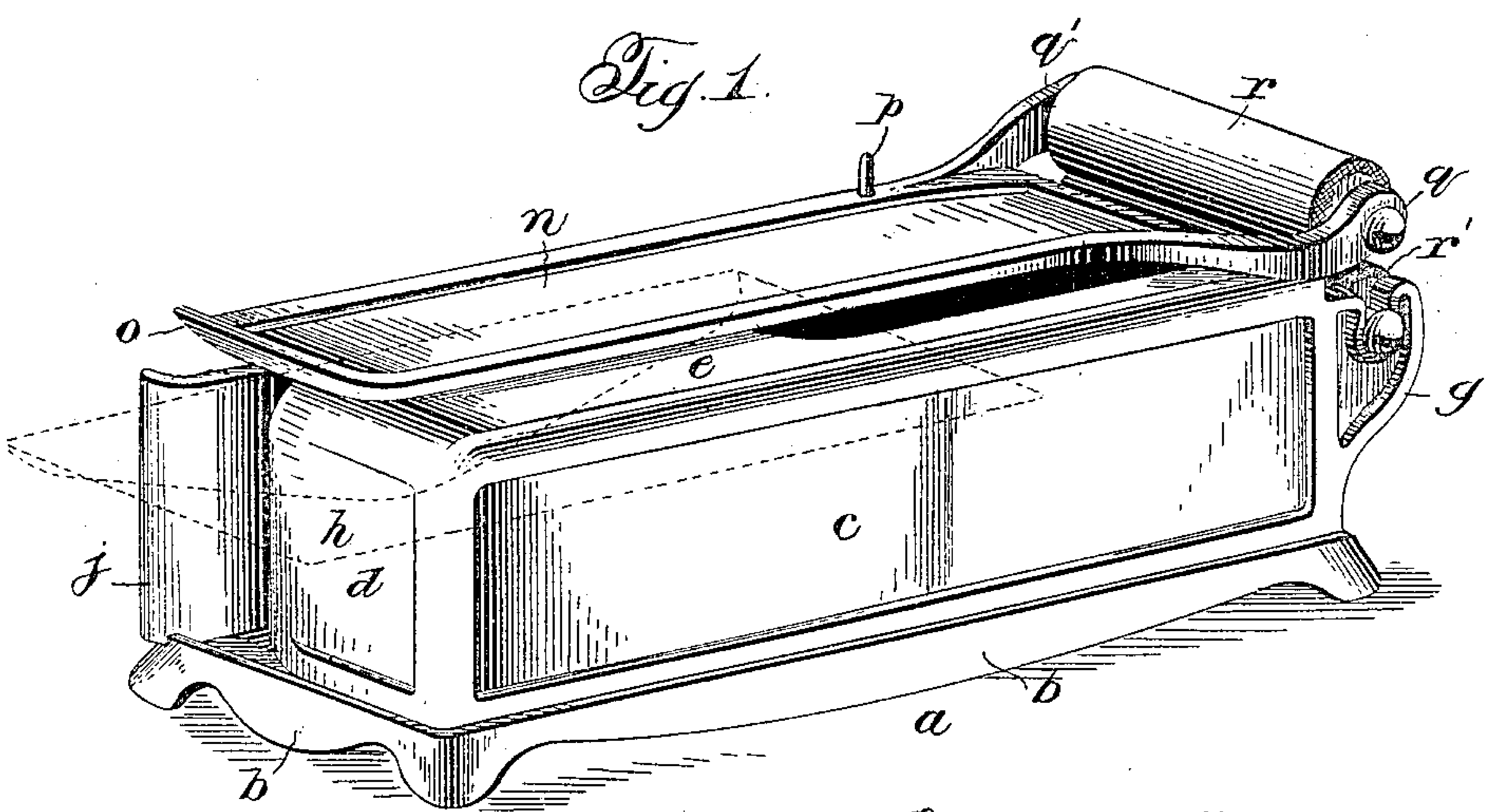


Fig. 2.

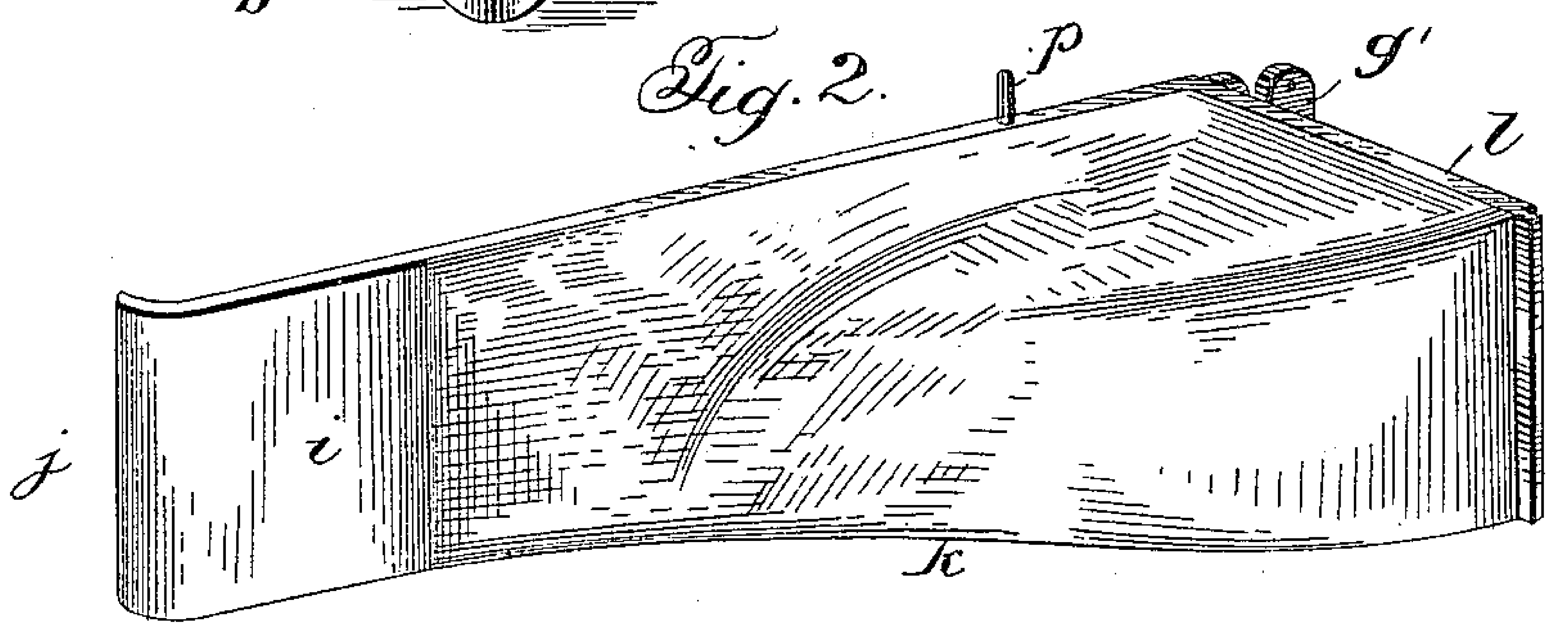
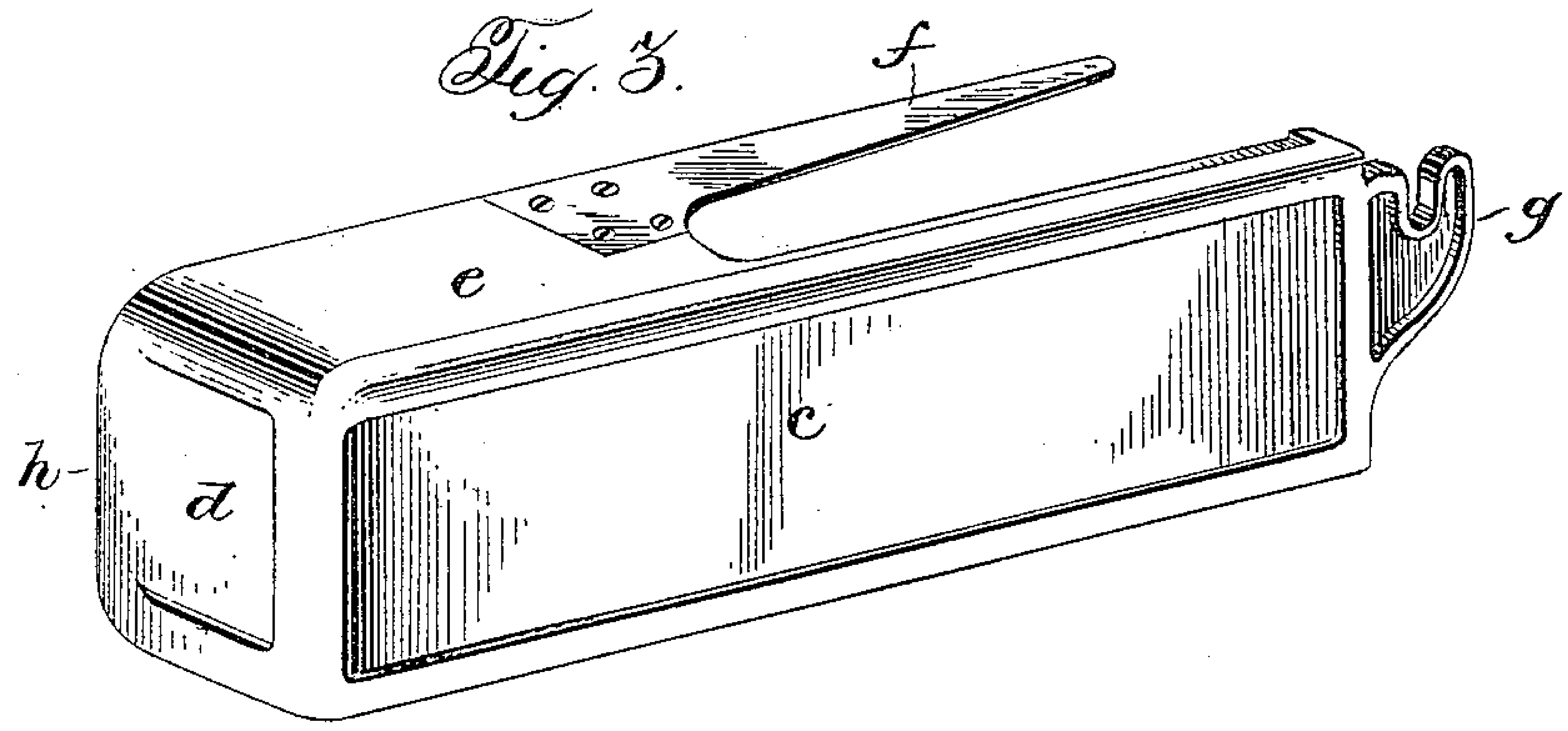


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

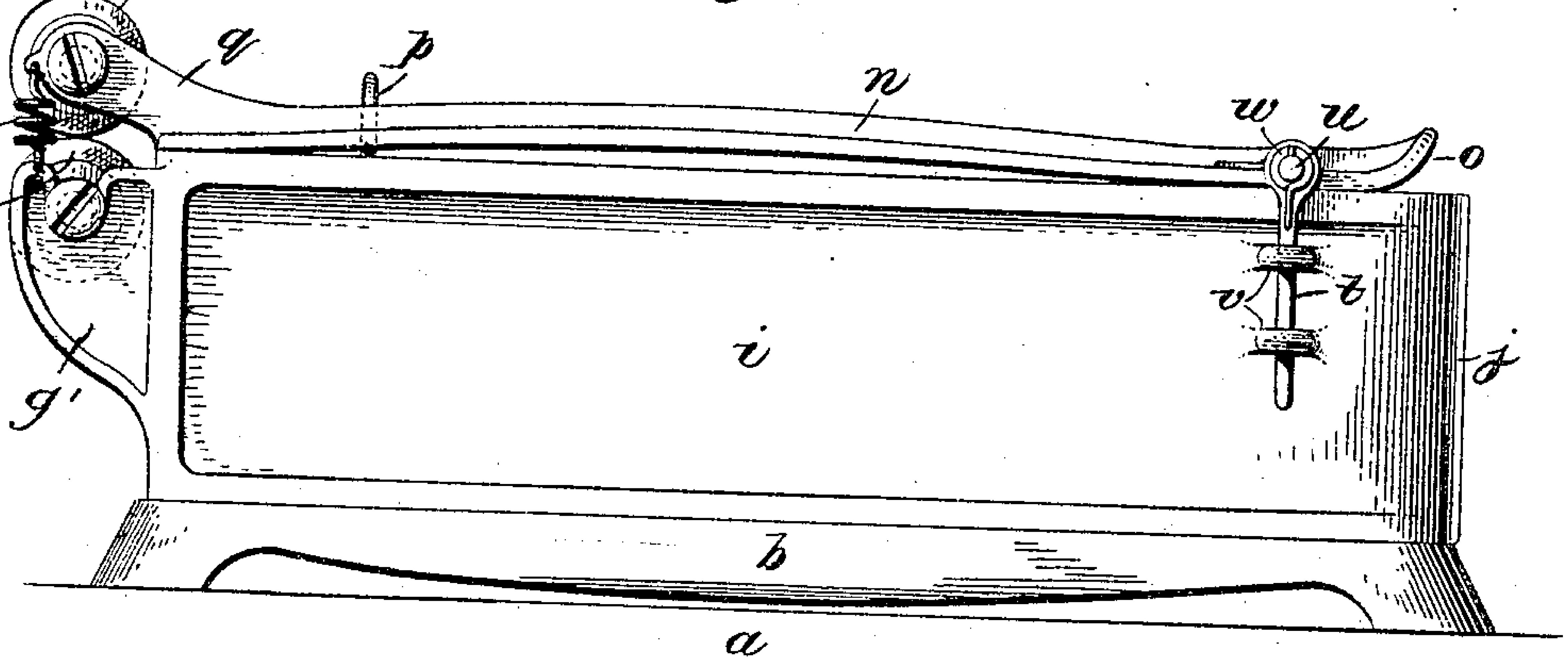


Fig. 5.

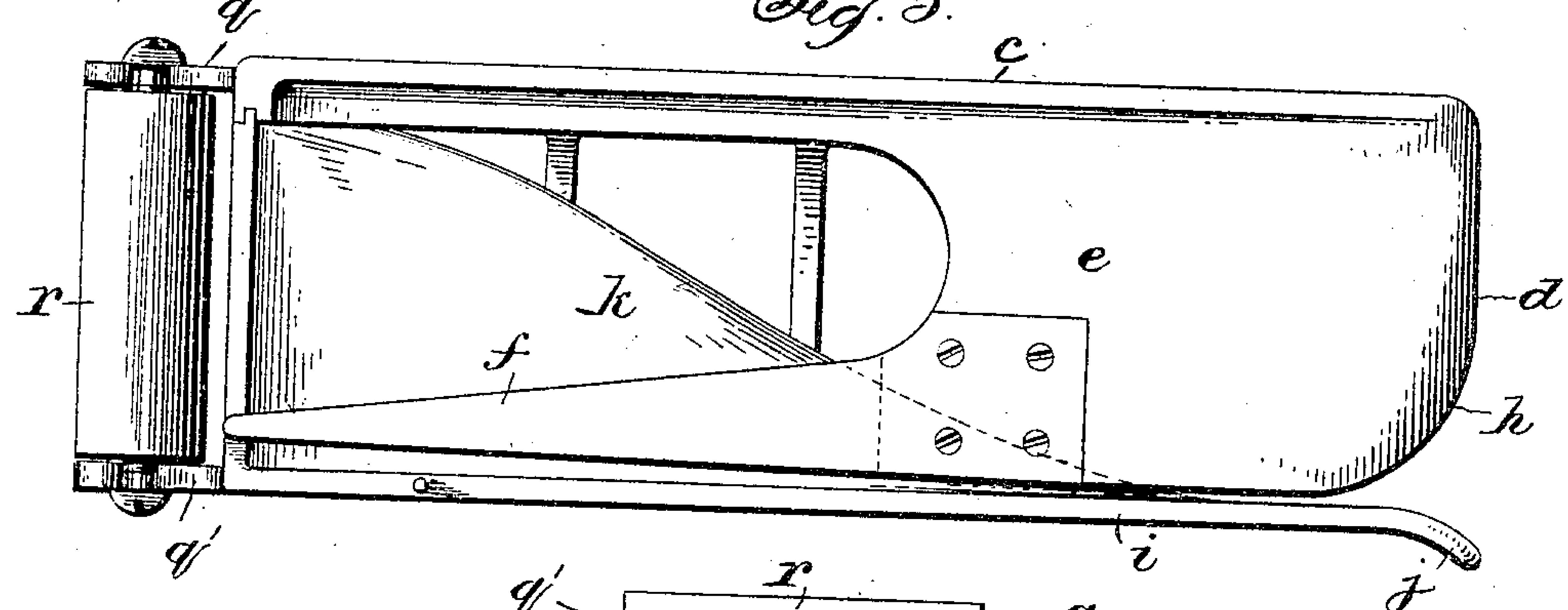
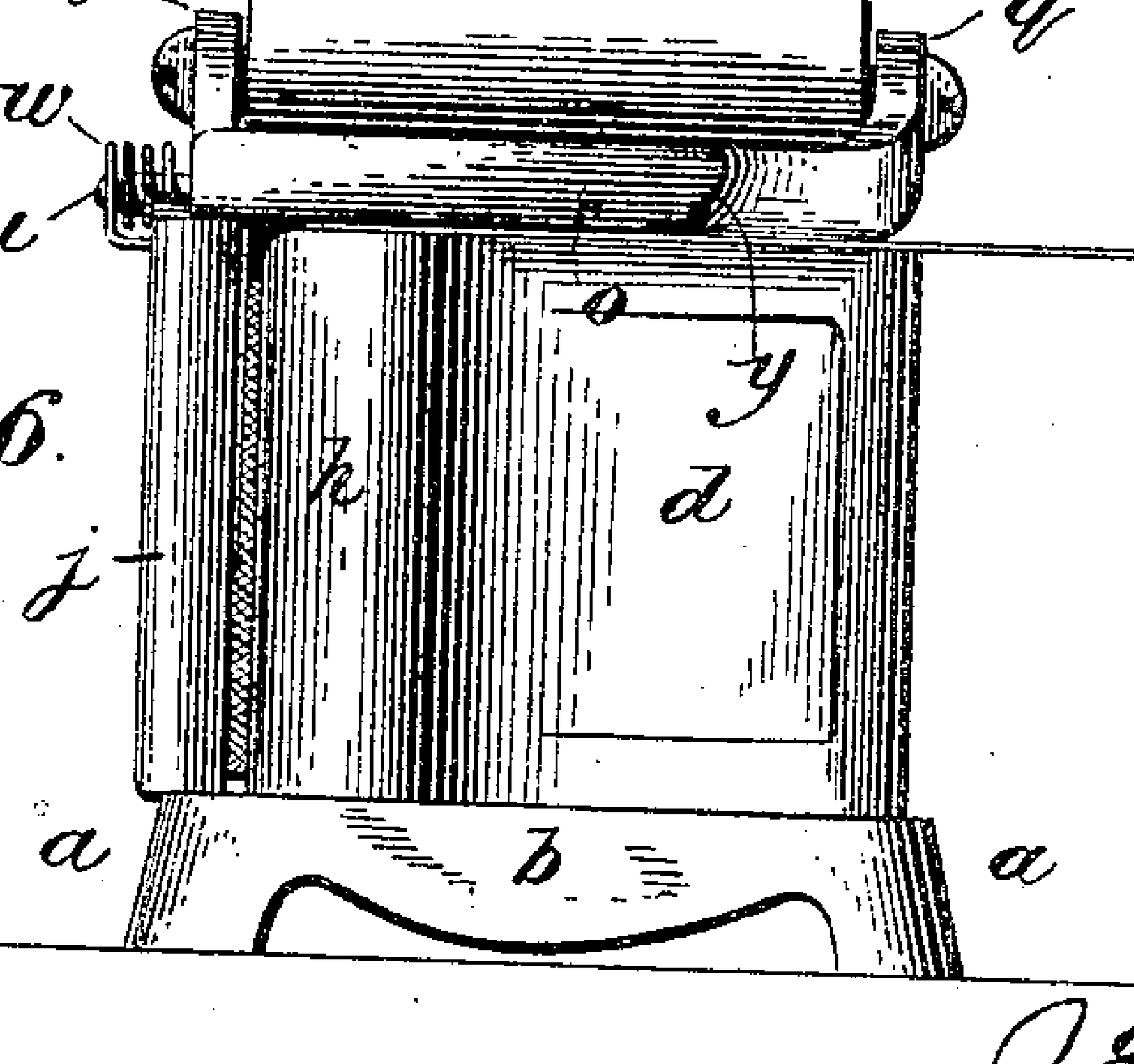


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 7.

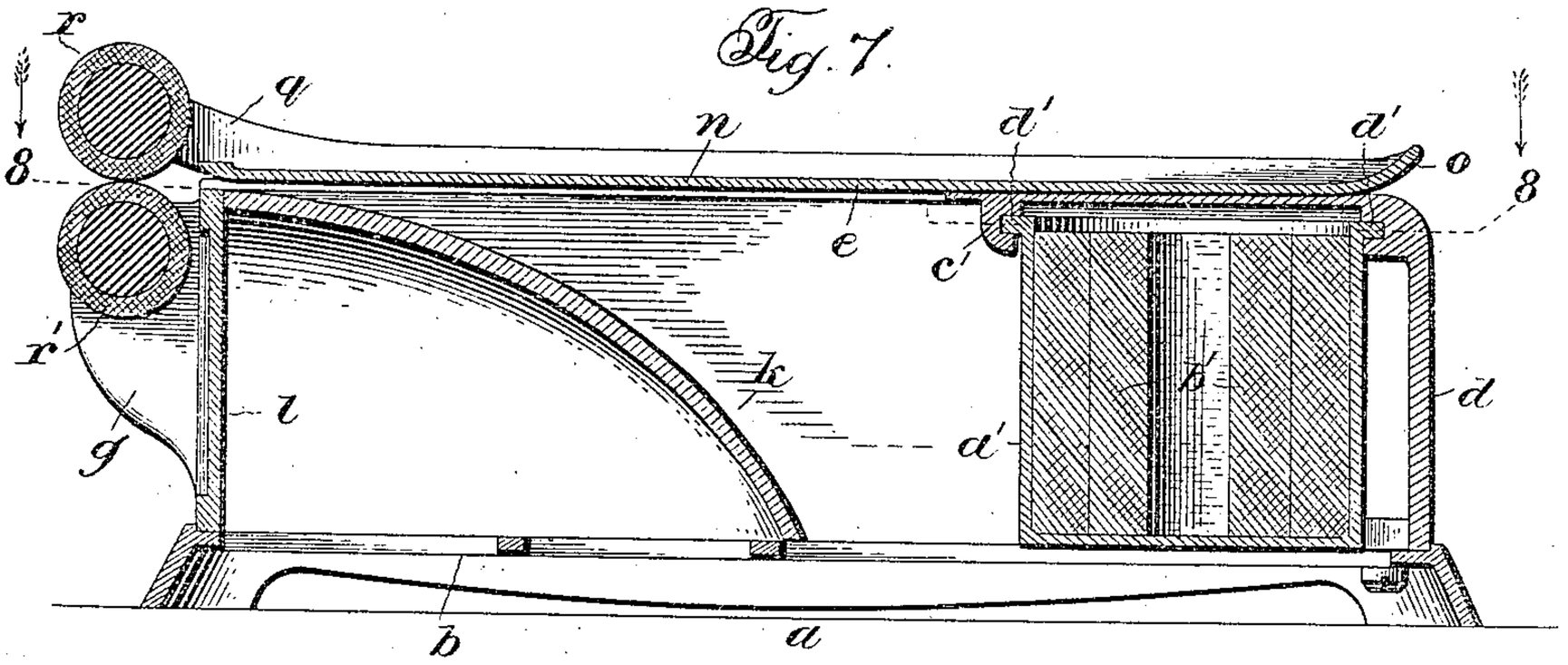


Fig. 8.

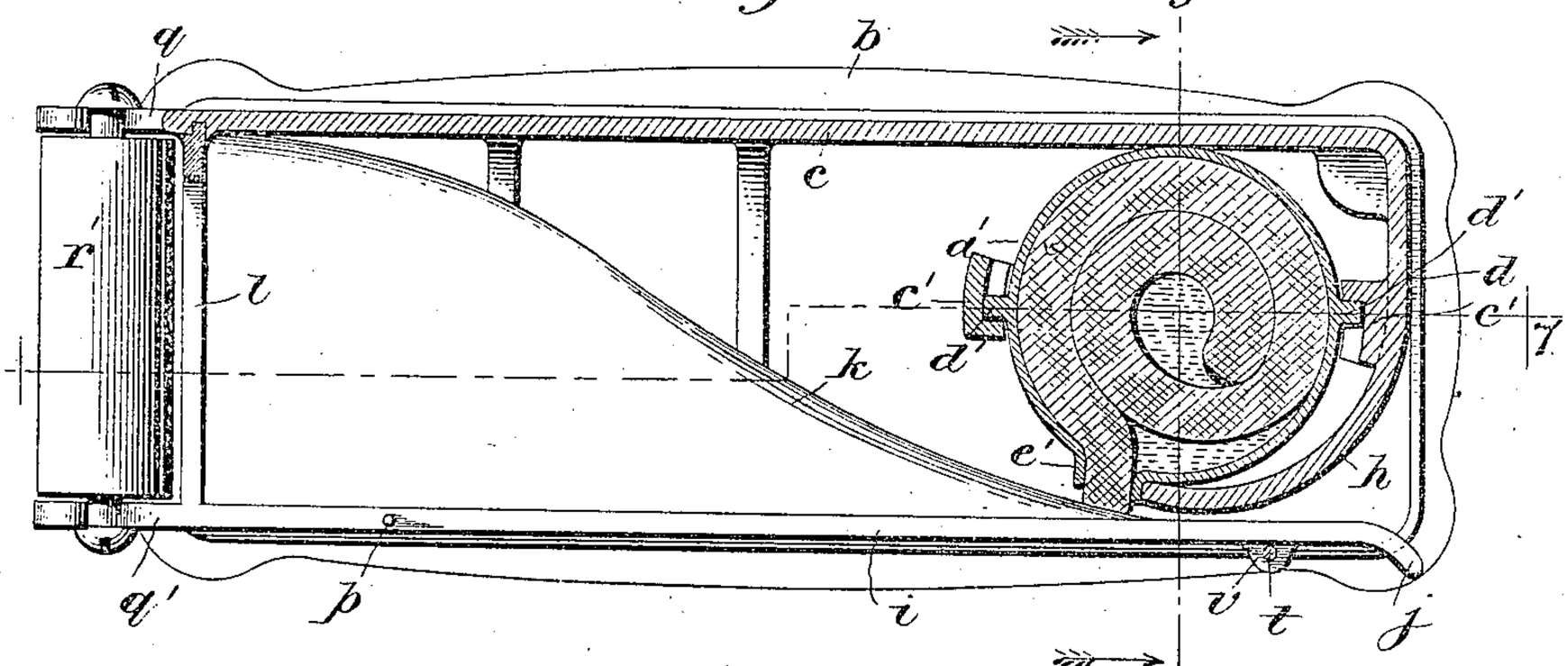
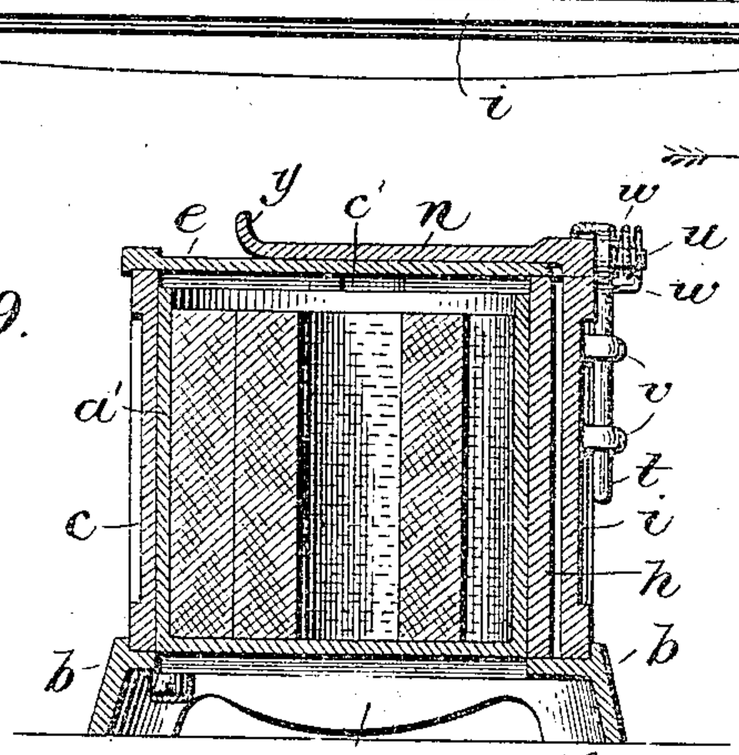


Fig. 9.



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UNITED STATES PATENT OFFICE.

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ENVELOP-SEALING APPARATUS.

No. 816,175. Specification of Letters Patent. Patented March 27, 1906.

Application filed June 20, 1905. Serial No. 266,149.

To all whom it may concern:

Be it known that I, JULIUS E. NACHOD, a citizen of the United States, residing at Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Envelop-Sealing Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to apparatus for sealing envelops, and has for its object to improve and simplify the construction of such machines and to enhance the certainty, accuracy, and efficiency of their operation.

To this end the invention consists in the various combination of parts and details of construction hereinafter more particularly described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of the complete apparatus. Figs. 2 and 3 are perspective views of coöperating portions of the casing which serve to make up the deck, the lateral guide-wall, and the guide-wall for closing the flap on the body of the envelop. Fig. 4 is a side elevation of the complete apparatus. Fig. 5 is a plan view thereof with the top presser-plate and the upper pressing-roll removed. Fig. 6 is an end view of the complete apparatus. Fig. 7 is a vertical longitudinal section on the line 7 7 of Fig. 8. Fig. 8 is a horizontal section on line 8 8 of Fig. 7. Fig. 9 is a vertical section on line 9 9 of Fig. 8.

Referring to the drawings, *a* indicates the casing of the apparatus considered as an entirety, said casing consisting of the base *b*, to which are removably secured by screws, bolts, or other suitable fastening devices two castings, which go to make up the inclosing walls of the casing and also constitute the supporting means for the various elements of the apparatus and the guiding-surfaces for the envelops as they are fed through the apparatus. The castings just referred to are separately illustrated in Figs. 2 and 3, that in the latter figure comprising a side plate *c*, an end plate *d*, and a platform *e*, the rear end of the latter being prolonged in a knife-like portion *f*, which is preferably formed as a separate steel plate secured to the platform *e* to form therewith a flush surface. The rear end of side plate *e* is provided with a bracket *g*, forming a journal-bearing. The left-hand vertical edge of the end *d* is curved inward with a broad sweep, as at *h*, to provide one of two guide-surfaces to permit the envelops to be readily inserted in the apparatus. The other casting comprises a side plate *i*, constituting the side of the casing opposite *c*, and an end plate *l*, oppositely disposed to the plate *d*. In the angle between the two plates *i* and *l*, and preferably cast integrally with said plates, is a guide-wall, which has a surface twisted or skewed both longitudinally and transversely, so as to provide a guide-wall springing from the plane of the lateral wall *l* and gradually merging into a plane parallel with and located a slight distance below the platform *e*. The front vertical edge of the side wall *i* is turned outward at *j* with a sweeping curve to form, with the curved corner *h* of the end plate *d* a flaring throat to permit the flaps of the envelops to be readily inserted in the apparatus. The rear edge of the side plate *i* is provided with a bracket *g'*, which forms a second journal-bearing coöperating with the bracket *g* to support the lower pressing-roll.

Loosely mounted upon the top of the casing, so as to lie generally parallel with the platform *e*, is a presser-plate *n*, which extends substantially throughout the length of the casing, and is provided at its front edge with an upturned curved flange *o*, to form, with the downwardly-curved upper edge of the end *d*, a flaring throat to permit the body of the envelop to pass between said presser-plate and the platform. The right-hand edge of the presser-plate is provided with an upwardly-curved flange *y*, which lies inside of the upper edge of the side plate *c* and serves to permit the envelop to be drawn quickly and smoothly through the apparatus without danger of catching or tearing. The presser-plate *p* is held adjustably in position upon the top of the casing by means of a pin *p* projecting from the top edge of the side wall *i* and engaging a corresponding hole in the edge of said presser-plate. A second guide-pin *t* is pivoted to the left-hand edge of the presser-plate near the front thereof, said guide-pin engaging the perforated ears or lugs *v*, projecting from the side plate *i*, as clearly illustrated in Fig. 4. Surrounding the pintle *u*, which serves to connect the guide-pin *t* to the edge of the presser-plate *n*, is a coiled spring *w*, one end of which is attached to said pin *t* and the other end to the edge of the presser-

plate, the function of which spring is to force the rear end of the presser-plate downward or toward the platform and also to permit the presser-plate to be readily lifted to permit envelops of varying thicknesses to be passed through the apparatus.

The rear end of the presser-plate *n* is provided with lateral brackets *q q'*, in which is journaled a roll *r*, which coöperates with a similar roll *r'*, mounted in the brackets *g g'*, and as the spring *w*, hereinbefore referred to, tends to force the rear end of said presser-plate downward it will be seen that the rolls *r r'* are held firmly but yieldingly in contact with each other. If it is found desirable, a coil-spring *s* may be connected to the brackets *q'* and *g'* to increase the yielding pressure between the rolls *r* and *r'* sufficiently to insure a proper seal of the flap to the body of the envelop as the envelop is passed through the rolls.

In order to properly moisten the gummed inside edge of the envelop-flap preparatory to sealing the envelop, there is provided within the body of the casing a moistening device consisting of a metallic cup *a'*, preferably circular in cross-section, provided with lugs *d'* near its upper edge, which engage suitable flanges *c'* on the under side of the platform *e* to lock said cup in position by the bayonet-joint thus formed. Within the cup is disposed an absorbent wick of felt or the like, which is preferably coiled therein and has one end projected through a slot *e'* in the side of the cup and in juxtaposition to the lateral guide-wall *i* just where the latter merges into the twisted or skewed guide-wall *k*. The cup is supplied with water or other suitable liquid which is absorbed by the wick, the outer projecting end of which will spread a layer of moisture over the flap of the envelop as the latter is drawn over it.

The operation of the apparatus as above described is substantially as follows: The envelop to be sealed has its flap opened or turned at right angles to the body portion, and the latter is slid face upward into the flaring throat between the upturned lip or flange *o* of the presser-plate *n* and the downwardly-curved forward edge of the platform *e*. This brings the flap of the envelop into the throat or flaring entrance between the oppositely-curved surfaces *h* and *j* of the end plate *d* and the side plate *i*, respectively, said flap depending at right angles from the body of the envelop. The envelop is then drawn forward over the platform *e*, as shown in Fig. 1. The gummed inside surface of the flap is caused to pass between the vertical projecting edge of the wick *b'* and the lateral guide-wall *i*, and moisture from the wick is spread upon the gummed surface of the flap in sufficient quantities to soften the adhesive. As the flap leaves the moistening-wick the outer edge thereof engages the twisted or skewed guide-wall *k*, which gradually turns the flap upward toward the body portion of the envelop, as said envelop is advanced through the machine. The knife-like portion *f*, which forms the forward extension of the platform *e*, however, lies between the flap and the body of the envelop and serves to hold the flap out of contact with the body to prevent premature contact between the flap and body and also forms a guide for directing the envelop squarely between the bite of the rolls *r r'*. As the envelop leaves the platform and enters the rolls the flap has been moved into proper position to be securely sealed to the body portion thereof, and upon drawing the envelop through the rolls the latter impart sufficient pressure to opposite sides of the envelop to effectively seal the flap to the body.

It is to be noted that the apparatus as above constructed is adapted to receive and seal envelops of varying sizes and thickness, as the projecting end of the moistening-wick has sufficient depth to cover the longest flap which the machine is capable of receiving, and the presser-plate *n* is adapted to move upwardly to accommodate envelops of varying thicknesses and still to exercise a proper degree of pressure between rolls *r* and *r'* to force the flap firmly into contact with the body, even when the contents of the envelop forms therewith a bulky package. It is also to be noted that no particular care or skill is required in feeding the envelops through the apparatus, as the only precaution that is necessary to be observed is that the flap is opened in such way as to project at right angles to the body, so as to pass fairly into the flaring throat formed by the curved sides *h* and *j*. The envelops may be drawn rapidly and smoothly through the apparatus without danger of tearing or mutilation, with the assurance that they will be effectively sealed.

Having thus described my invention, what I claim is—

1. An envelop-sealing apparatus, comprising a casing having a platform for supporting the body of the envelop, a lateral wall at an angle to the platform for guiding the flap, a moistening device adjacent to said lateral wall, a guide-wall for closing the flap on the body having an operating-surface gradually merging from the plane of the lateral wall into a plane parallel with and below the platform, and means for pressing the flap against the body as the envelop is drawn through the apparatus.

2. An envelop-sealing apparatus, comprising a casing having a platform for supporting the body of the envelop, a lateral wall at an angle to the platform for guiding the flap, a moistening device adjacent to said lateral wall, a guide-wall for closing the flap on the body having an operating-surface gradually merging from the plane of the lateral wall into a plane parallel with and below the plat-

form, and coöperating rolls for pressing the flap against the body as the envelop is drawn through the apparatus.

3. An envelop-sealing apparatus, comprising a casing having a platform for supporting the body of the envelop, a lateral wall at an angle to the platform for guiding the flap, a moistening device adjacent to said lateral wall, a guide-wall for closing the flap on the body having an operating-surface gradually merging from the plane of the lateral wall into a plane parallel with and below the platform, and means for pressing the flap against the body as the envelop is drawn through the apparatus, said platform having a rearwardly-extending tongue for guiding the envelop to the pressing means and preventing premature contact between the flap and body.

4. An envelop-sealing apparatus, comprising a casing having a platform for supporting the body of the envelop, a lateral wall at an angle to the platform for guiding the flap, a liquid-receptacle having a wick projecting therefrom adjacent to said lateral wall, a guide-wall for closing the flap on the body having an operating-surface gradually merging from the plane of the lateral wall into a plane parallel with and below the platform, and means for pressing the flap against the body as the envelop is drawn through the apparatus.

5. An envelop-sealing apparatus, comprising a casing having a platform for supporting the body of the envelop, a lateral wall at an angle to the platform for guiding the flap, a removable liquid-receptacle having a wick projecting therefrom adjacent to said lateral wall, a guide-wall for closing the flap on the body having an operating-surface gradually merging from the plane of the lateral wall into a plane parallel with and below the platform, and means for pressing the flap against the body as the envelop is drawn through the apparatus.

6. An envelop-sealing apparatus, comprising a casing having a platform for supporting the body of the envelop, a lateral wall at an angle to the platform for guiding the flap, a moistening device adjacent to said lateral wall, a guide-wall for closing the flap on the body having an operating-surface gradually merging from the plane of the lateral wall into a plane parallel with and below the platform, and a yielding presser-plate above the platform, and coöperating rolls on the presser-plate and the end of the casing for pressing the flap against the body as the envelop is drawn through the apparatus.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS E. NACHOD.

Witnesses:
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MARY RUDDEROW.