

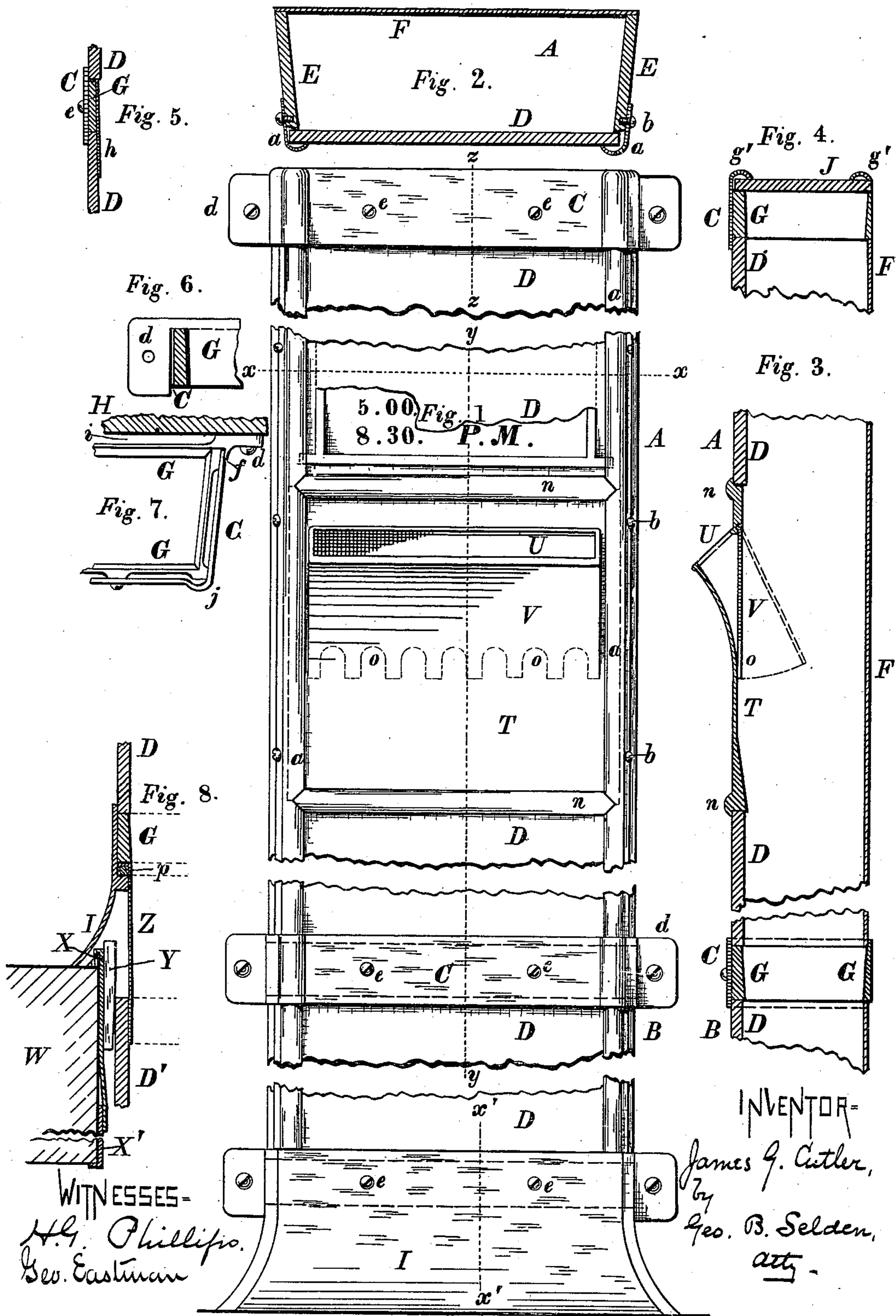
(No Model.)

3 Sheets—Sheet 1.

J. G. CUTLER.
LETTER BOX CONNECTION.

No. 336,038.

Patented Feb. 9, 1886.



(No Model.)

3 Sheets—Sheet 2.

J. G. CUTLER.
LETTER BOX CONNECTION.

No. 336,038.

Patented Feb. 9, 1886.

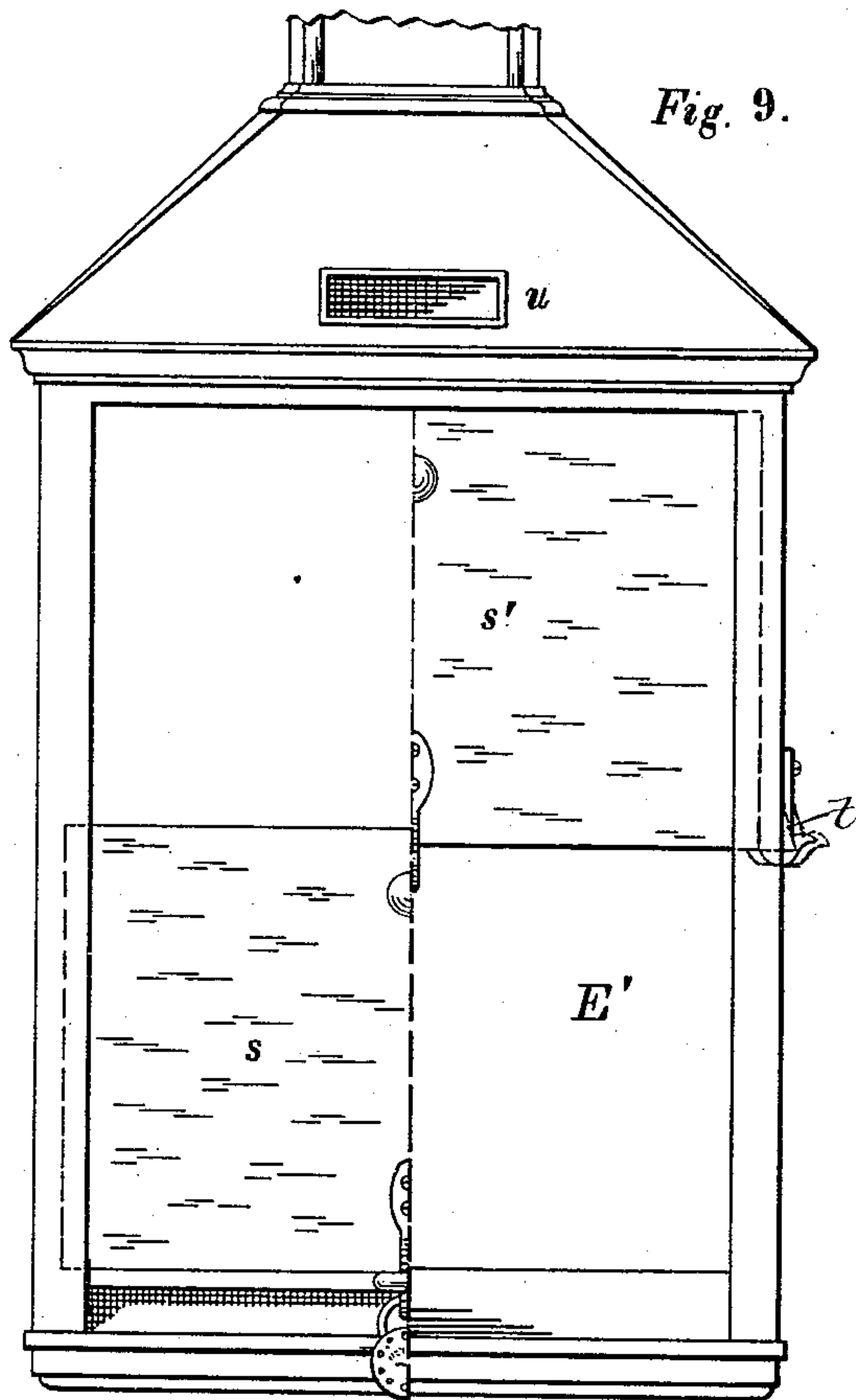


Fig. 9.

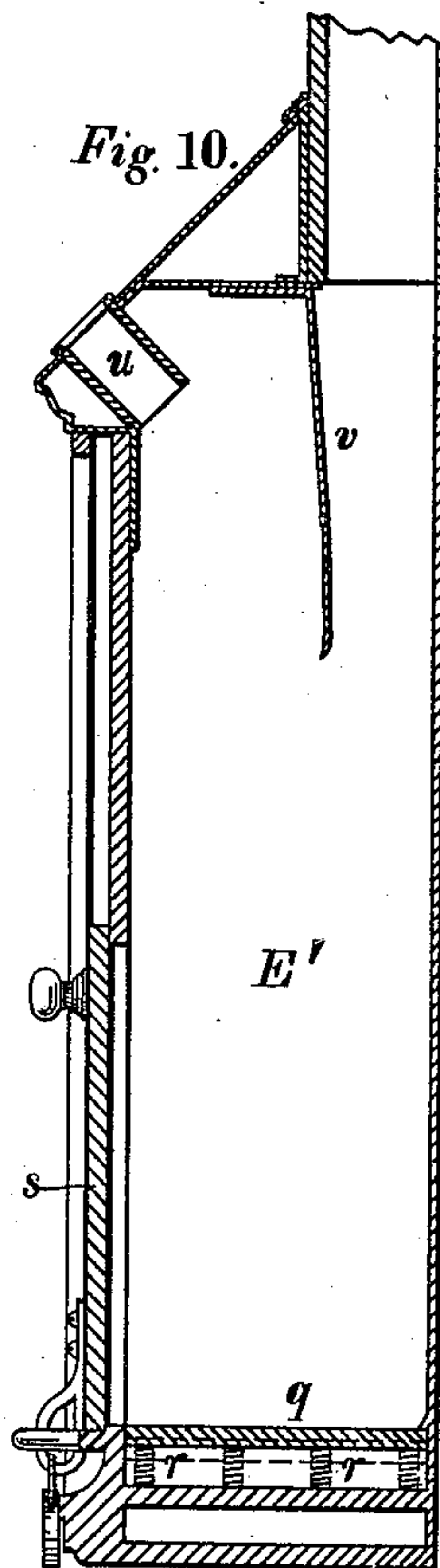


Fig. 10.

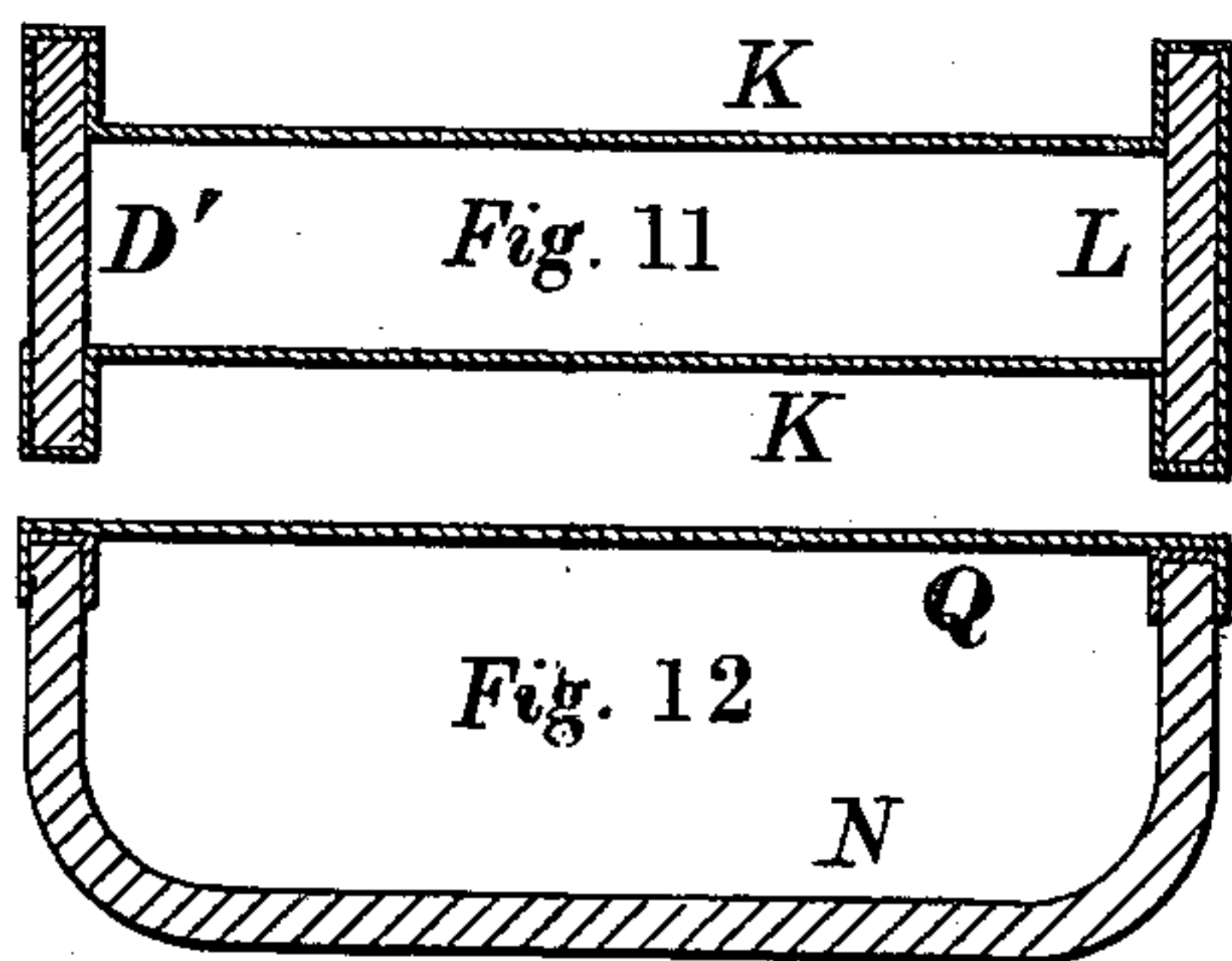


Fig. 11

Fig. 12

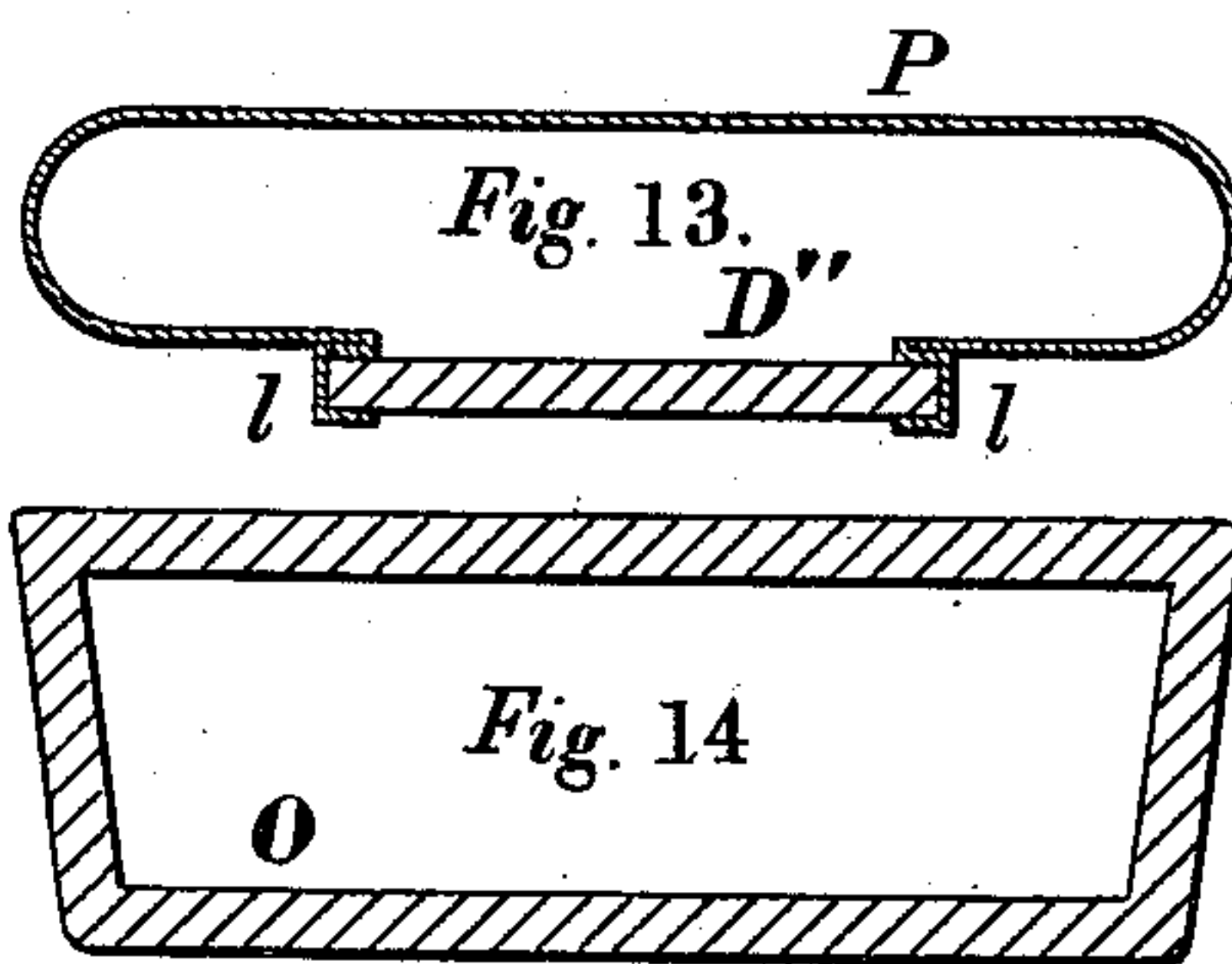


Fig. 13.

Fig. 14

WITNESSES=

H. G. Phillips.
Geo. Eastman

INVENTOR=

James G. Cutler,
by Geo. B. Selden,
att'y -

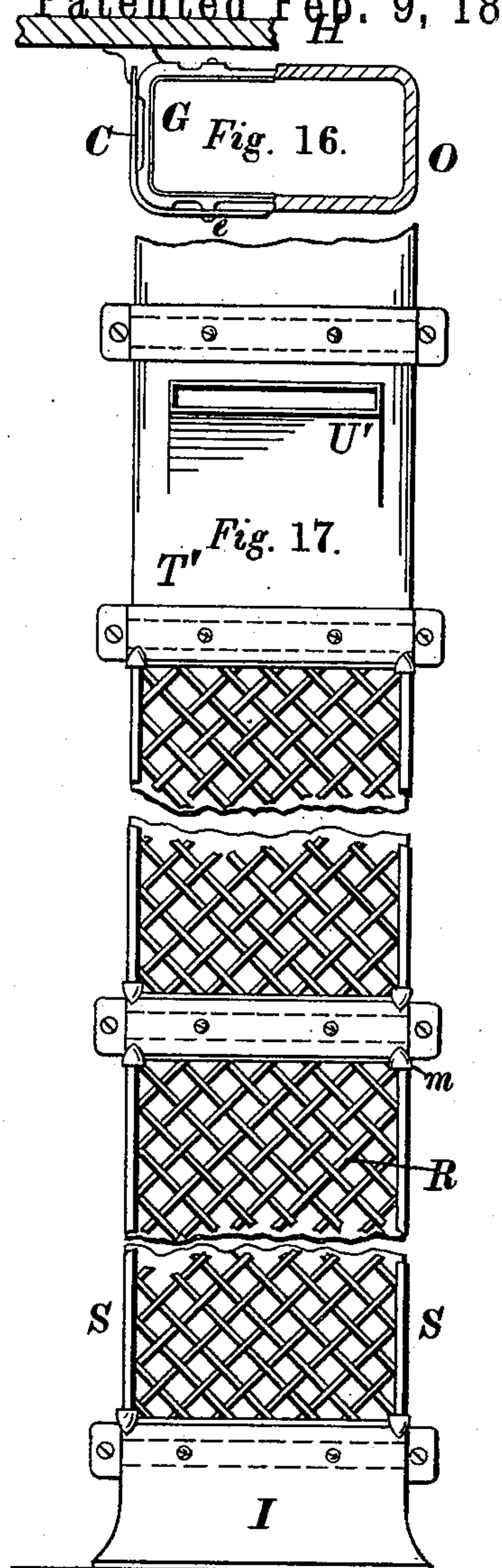
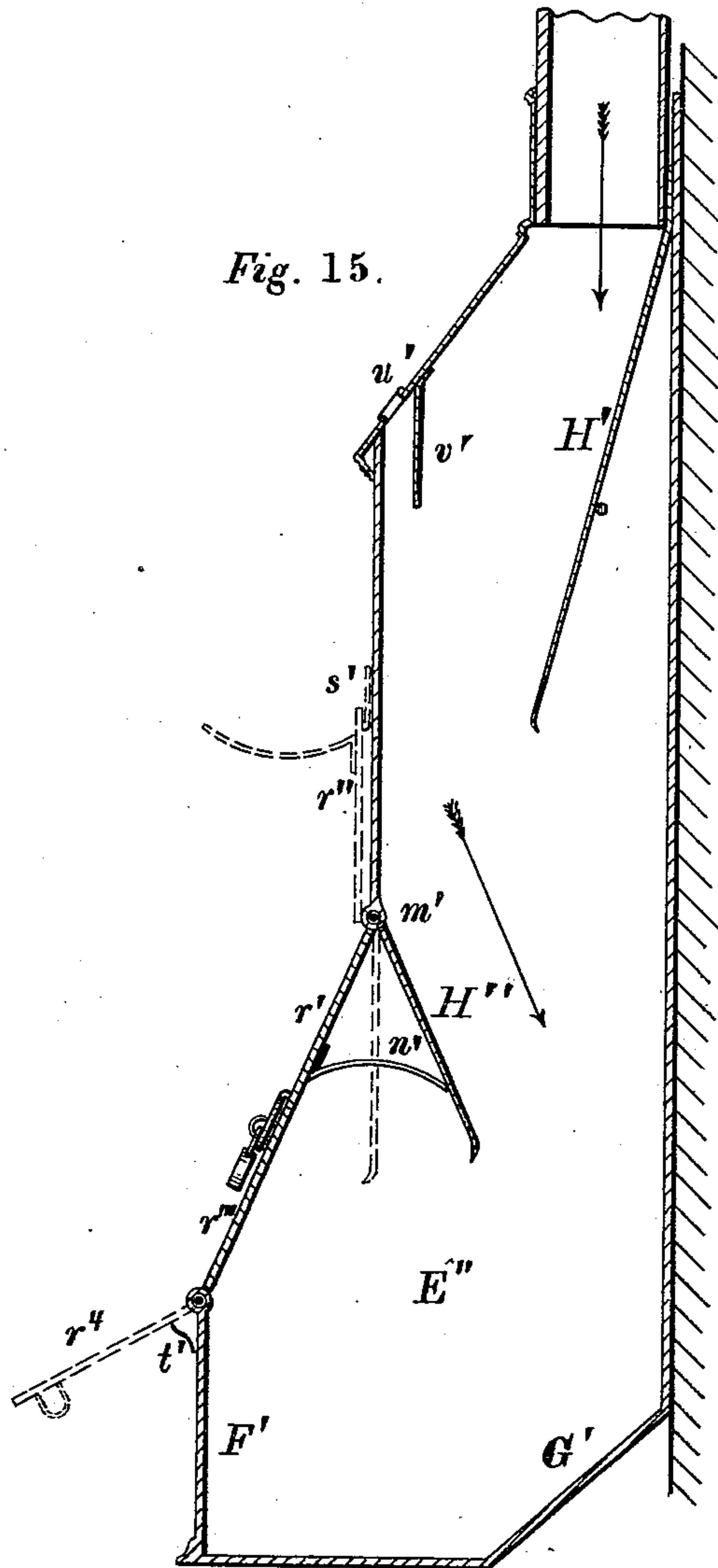
(No Model.)

3 Sheets—Sheet 3.

J. G. CUTLER.
LETTER BOX CONNECTION.

No. 336,038.

Patented Feb. 9, 1886.



WITNESSES:
Geo. Eastman
H. G. Phillips.

INVENTOR:
James G. Cutler,
By Geo. B. Selden,
att -

UNITED STATES PATENT OFFICE.

JAMES G. CUTLER, OF ROCHESTER, NEW YORK.

LETTER-BOX CONNECTION.

SPECIFICATION forming part of Letters Patent No. 336,038, dated February 9, 1886.

Application filed June 11, 1884. Serial No. 134,550. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. CUTLER, of Rochester, in the county of Monroe, in the State of New York, have invented certain
5 Improvements in Letter-Box Connections, of which the following is a specification, reference being had to the accompanying drawings.

My present invention relates, principally, to certain improvements on the letter-box connection patented to me in Letters Patent No. 284,951, issued September 11, 1883, which improvements are fully described in the following specification, and the novel features thereof specified in the claims thereunto annexed.

15 My improvements in letter-box connections are represented in the accompanying drawings, in which Figure 1 is a front elevation. Fig. 2 is a horizontal section on the line $x x$, Fig. 1. Fig. 3 is a central vertical section on the line $y y$, Fig. 1. Fig. 4 is a section through the cap or cover at the upper end of the mail-chute on the line $z z$, Fig. 1. Fig. 5 is a partial vertical section showing a modification of the collars between the tube-sections. Fig. 6 is a
25 partial vertical section through the collars on a plane parallel to the wall or support. Fig. 7 represents a portion of one of the collars in plan. Fig. 8 is a vertical section through the base I at the front side of the tube on the line $x' x'$, Fig. 1. Fig. 9 is a front view of the mail-receptacle or receiving-box at the lower end of the mail-chute. Fig. 10 is a central vertical section of the same. Figs. 11, 12, 13, and 14 are transverse sections representing various
35 modifications of the mail-chute. Fig. 15 is a vertical section representing a modified form of receiving-box. Fig. 16 is a partial transverse section of the glass mailing-chute, showing also a modified form of bracket in plan. Fig. 17 is a front view showing the netting or open protective covering over the mail-chute.

In the improved construction of my patented letter-box connection which forms the subject of the present application I form the
45 conducting-tube or mail-chute of a series of sections, A B, Figs. 1 and 3, which are joined together by collars or clasps, which support the various sections in place when in use, while affording great facility for the erection, removal, or repair of the apparatus. The
50 number of sections and interposed bands will depend upon their length and the height of

the building in which my improved mail-chute is erected. The sections may be made as long as the height of any story in the building; 55 but in practice I have found it more convenient to make two or three sections for each story.

The construction of the sections will be readily understood from an inspection of the 60 transverse section shown in Fig. 2, while modified forms of the sections are represented in Figs. 11, 12, 13, and 14.

The section represented in Figs. 1, 2, and 3 consists of a transparent glass plate, D, forming the front side of the chute, while the side 65 walls, E E, and back F of the chute-section are preferably formed of metal. The metallic portion of the tube-section may be cast in one piece, or formed by bending sheet metal, or, as shown in the sectional view Fig. 2, by riveting 70 or soldering the side walls, E E, to the back F. To secure lightness combined with strength, I make the side walls, E E, of relatively thicker metal, while the back, which is usually placed 75 near or against one of the walls of the building, may be of ordinary sheet-iron. The back is attached to the sides by screws, or by pins inserted in the side walls and riveted on the outside of the back, or by soldering. It is desirable to make the joints between the side 80 walls and the back as tight as possible, and for this reason, and especially when the parts are secured together by rivets or screws, I prefer to apply one or more coats of Japan 85 varnish, and heat the tube-sections in a furnace, so as effectively to close up the joints and to give the interior of the tube a highly-polished surface, which reduces the friction of the mail-matter as it falls through the tube. 90

This operation also gives a handsome finish to the apparatus. I then secure the front D, which is preferably of plate-glass, to the side 95 walls, E E, by means of the bent or curved molding $a a$, which is attached to the outer edge of the side walls by means of the screws $b b$, and projects over the outside of the glass plate and holds it firmly in place. This molding may be made of cast or sheet metal, and its exterior may be polished, plated, or ornamented in any preferred manner. The holes 100 for the screws $b b$ should not pass all the way through the side walls, (see Fig. 2;) or if they do the ends of the screws should be finished

off flush with the surface of the walls. The edges of the side walls, where they abut against the inner surface of the glass plate, are preferably beveled outward slightly, in order to make a tight joint between them and the glass at their inner margins.

The collars by which the various sections constituting my improved mail-chute are connected together, and also, if desired, held in place, consist, preferably, of an outer band, C, and an inner frame or bracket, G. (See Fig. 7.) The bracket G consists of a frame of a size and shape corresponding to that of the exterior of the tube-sections, provided with perforated ears *d d*, or other means, for attaching the apparatus to some vertical support H—as, for instance, the wall of the building or an upright post or beam arranged for this purpose.

As represented in the drawings, and more particularly in Figs. 3 and 7, the inner surfaces of the bracket G are inclined inward very slightly, so as to project over the edges of the walls of the next lower section, to accommodate the apparatus to any variations in the thicknesses of the walls of the different sections, or to any accidental variation from the vertical position after the apparatus is put up. In this way I provide that the apparatus shall always remain in good working order, the interior being smooth and free from any irregularity which might interfere with the free descent of the mail-matter therein.

In the vertical section through the collar shown in Fig. 5 I have represented a modification designed for the same purpose, consisting in applying a strip or band of sheet metal, *h*, inside the bracket G, which projects downward beyond the upper edge of the next section below the bracket. A space, *i*, Fig. 7, left between the rear side of the wall and the support H, prevents the apparatus from being thrown out of line by the warping or twisting of the support.

As represented in Fig. 7, the outer sides of the bracket G may be recessed or cut away to reduce the weight. Around the outside of the bracket, and secured thereto by the screws *e e*, is placed the band C, which is made somewhat wider than the bracket, (see Fig. 3,) so that its edges embrace the ends of the tube-sections, which abut against the bracket and hold the same firmly in place.

The bands C may be polished or otherwise ornamented on their exterior surface. At the outer corners of the chute the bands are made of such a shape (see *j*, Fig. 7) as to cover the ends of the moldings *a a*, by which the glass front is secured to the section. The ends of the band are inserted in notches in the bracket, as shown at *f*, Fig. 7.

While I do not intend to confine myself to the particular construction of the collars between the sections herein shown, and it is evident that the bands and brackets may be formed in one piece, or that they may be made in other ways, yet I prefer in practice to erect

the apparatus with the removable bands C or some equivalent device, as provision is thereby made for the insertion or removal of any one of the sections without disturbing any of the others, thereby materially facilitating the setting up or repairing of the chute.

The chute-sections, if desired, may be provided with perforated ears or other means of affixing them to the wall or other support; but this will not be generally necessary, as the arrangement is such that the weight of the mail-chute on each floor of the building in which it is erected is carried by the floor of that story by means of the base I.

The transparent glass plate D in front of the chute-sections allows the interior of the chute to be inspected at any time, so that if any accidental obstruction should occur it would be immediately detected, and the descent of the mail-matter through the chute is readily observed.

At the top of the mail-chute the upper section is closed by a glass plate, J, Fig. 4, by a perforated plate of metal, or by a piece of wire-netting, which permits of the inspection of the entire length of the chute. In this case the bracket G may be used at the top of the upper section, and the band C is provided with inwardly-projecting flanges *g' g'*, which reach over the plate J and secure it in place. This construction permits the attachment of additional sections to increase the length of the tube in case the height of the building be raised. The perforated top also ventilates the tube, and prevents the deposition of moisture on its interior, by permitting a free current of air therethrough.

In the accompanying drawings, Figs. 11, 12, 13, and 14, I have represented various modifications of the chute-sections, which may be used instead of the form of section already described. Thus in Fig. 11 the glass plate D' is inserted at one side of the section, the front and back thereof being formed by the sheet-metal plates K K', which are bent into shape to receive the edges of glass on one side and a metal, glass, or wooden strip, L, on the other, the latter being introduced to secure a symmetrical arrangement. The parts forming the end walls of this form of chute-section are cemented, or, if of metal, soldered to the front and back.

The chute-section in Fig. 13 is shown as consisting of a glass front plate, D'', inserted in a tube formed entirely of sheet metal, P, by being bent on itself, as represented in the drawings. The edges of the glass plate are inserted in grooves *l l*, formed in the sheet metal itself, or of independent strips bent twice at right angles and attached to the body of the tube by soldering or other suitable means.

The whole front and side walls of the chute-section in Fig. 12 are formed of a glass plate, N, cast or bent to a suitable shape, as represented in the drawings, so as to form the front and side of the tube, and having its edges in-

serted in grooves, or otherwise attached to the wooden or metal back Q.

In Fig. 14 the whole chute-section consists of a glass tube of suitable form and dimensions to answer the purpose in hand. This form of chute-section possesses great advantages in consequence of its cheapness and the facility with which it permits of the inspection of the entire apparatus from any point of view. It will be readily understood that the collars must be varied in form or size to correspond with the particular form of chute-section employed.

In Fig. 16 I have represented the collar as consisting of a bracket and band of a form suitable for use in connection with the glass chute section shown in Fig. 14.

To protect the mail-chute, when it consists either in whole or in part of glass, from accidental or intentional injury, I apply to its exterior a metallic netting or other perforated protective covering, as represented in Fig. 17. This protective covering may be made in any preferred style, polished, japanned, plated, or otherwise ornamented. It may be conveniently attached by screws to the collars interposed between the sections; or, as shown in Fig. 17, the netting or perforated covering R may be fastened to bars or posts S S, placed at the corners of the mail-chute, and secured in place by having their ends inserted in suitable sockets, *m*, on the collars. This construction permits the ready removal of net-work, if desired. The entire length of the mail-chute may be protected in this way by a metallic covering, which permits the inspection of the interior; or, as shown in Fig. 17, the protection may be limited to those portions of the tube which are most liable to injury—that is, such as are immediately above the base I, which rests on the floor of each story.

In case the tube be made of the tubular glass sections the mailing-section may consist entirely of metal, T', Fig. 17, provided with a mail-orifice, U'.

In order to provide for the introduction of letters, &c., into my improved letter-box connection, I employ what I call a "mailing-section," (represented at T, Figs. 1 and 3,) which is provided with a suitable orifice, U, for the reception of the mail-matter. This mailing-section may be made in different ways to accommodate itself to the particular form of chute-section employed. Thus when the section is provided with a glass front plate, D, the mailing-section consists of a plate, T, which is inserted in place of the whole or a portion of the glass plate of one of the sections, located at a suitable distance above the floor. The plate T is secured to the section by means of the moldings *a a*, in a manner similar to that already described with reference to the glass front, and it is preferably provided where it joins the glass with flanges or heads *n n*. A portion of the plate is bent outward, so as to present the mail-orifice U in convenient position to facilitate the introduction of

the mail-matter therein at an oblique angle with the length of the tube. This arrangement of the mailing-orifice enables me to materially reduce the size of the tube, and to make it narrower between the front and the back, as, owing to the oblique position in which the mail-matter is introduced, it readily passes downward in the chute without being bent or folded.

Access to the tube is prevented by a suitable hinged flap, V, Figs. 1 and 3, which depends from the upper edge of the orifice U and opens inward, as indicated by the dotted lines, to permit the insertion of the letters, papers, or other mail-matter. A person on a lower floor is thus prevented from intercepting through the mailing-orifice a letter descending in the letter-box connection from an upper story. The hinged flap V is provided, preferably near its lower margin, with openings or perforations *o o*, which permit of the escape of the air from below a letter or other piece of mail-matter as it descends in the tube.

I have found in practice that the operation of my apparatus is much improved by providing free escape for the air from its lower portion or at intervals along its length, as the descent of the mail-matter is thereby facilitated. Where the chute-sections consist entirely of glass or of a curved glass front, as shown in Fig. 12, the mailing-section may be of tubular form, provided with orifice U, and inserted in place of one of the other sections by suitable collars connecting it with the next adjoining sections above and below.

The mailing-tube is finished and protected immediately above each floor of the building by the base I, which rests on the floor and supports the weight of the tube extending up to the floor above. The construction will be understood from an inspection of the vertical section Fig. 8, in which D is the glass of the section immediately above the floor. D' represents the top of the upper section of the chute in the next lower story; G, the bracket; I, the base (which may be formed in one piece with the band about the bracket;) W, the floor; X X', a thimble or collar inserted in an opening therein; Y, wedges or blocks, which may be used, if necessary, to secure the proper position of the tube-section D', and Z a short section of tube which projects down within the top of the section D'. This construction enables me to adapt sections of given length to stories of different heights by varying the length of the tubular portion Z. The chute may be protected and finished where it passes through the ceiling by a ring or collar, similar to the base I.

In Figs. 9 and 10 I have represented the receiving-box at the lower end of my improved mailing-chute, which box E' is provided with a false or yielding bottom, *q*, supported on springs or buffers *r r*, and which serves to break the force of the fall of any heavy packages of mail-matter introduced into the tube. The box is open at the front or side, being

provided with a sliding door, *s*, which is shown at *s'* raised and held up by a spring-catch, *t*. The removal of the accumulated mail-matter is effected at stated times by an employé of the post-office department, or other suitable person. The box or receptacle is provided with a lock, and with an orifice, *u*, for the direct insertion of mail therein. A guard, *v*, depending from the upper side of the box, prevents the possibility of the extraction through the opening *u* of any mail-matter coming down the chute or accumulated in the box. The receiving-box is placed in any suitable location in one of the lower stories of the building, where it may be accessible to the mail-collector. The mail-chute is connected with the upper part of the box, which is firmly supported in place in any suitable way.

A modified form of the receiving-box to be used in connection with my improved mail-chute is represented in the sectional view Fig. 15, designed to prevent injury to the collector's hands, when removing the mail from the box, by the fall of mail-matter through the chute. In order to accomplish this result, the receiving-box *E'* is made to project outward at the lower portion, and the bottom is inclined or provided with an inclined plane, *G'*, which deflects the falling mail-matter forward, breaks the shock of its fall, and renders it unnecessary for the collector to insert his hands far enough into the box to be struck by any mail which may happen to come down the mailing-tube at the time the collection is made from the box. Two or more deflectors may be used for the purpose of deflecting the falling mail-matter at or near the bottom of its descent, as illustrated in Fig. 15. Thus the mail-matter in its descent, striking against the deflector *H'*, is thrown sidewise and again diverted from its path by the side of the box or by the lower deflector, *H''*, so that the violence of its fall is materially diminished. The deflector *H''* may be attached rigidly to the side of the box; or, as shown in the drawings, it may be arranged so as to be pushed backward by the closing of the door. In the latter case the opening of the door allows the deflector *H''* to swing forward, as shown by the dotted lines, and permits any accumulation of mail which may have taken place between the deflector and the opposite wall of the box to be discharged downward within the collector's reach. The deflector *H''* is hinged to the side of the box at *m'*, and an arm, *n'*, attached to the inside of the door *r'*, pushes the deflector inward when the box is closed. The position of the doors when the box is open is represented by the dotted lines *r' r''*, and it will be perceived that while the upper door is held open by the catch or slide at *s'* the lower door is supported by the lug *t'* in such position as to form a shelf over which the mail-matter is handily delivered to the collector's bag. The receiving-box is provided with a mail-orifice, *u'*, a guard or plate, *v'*, being arranged inside the box to prevent the interception of any mail-matter

falling down the chute. The receiving-box is preferably made of metal, and the exterior may be ornamented in any preferred manner. The orifice *u* serves to permit the escape of the air from the box, so that the free descent of the mail-matter in the tube is not retarded by the packing or cushioning of the air in the tube.

As represented in the drawings, Fig. 1, a card or printed plate showing the time at which collections of the mail are made from the receiving-box may be attached to the chute in any convenient manner.

I claim—

1. The mailing-tube consisting of a series of the herein-described independently-removable sections or lengths, substantially as set forth.

2. In a mailing-tube, the combination, substantially as hereinbefore described, of the series of independently-removable lengths or sections and the interposed fixed collars, substantially as described.

3. A mailing-tube formed of removable sections having interposed collars consisting of the bracket *G* and band *C*, substantially as described.

4. In an apparatus for the delivery of mail-matter from the upper floors of a building, the combination of a box or receptacle at the base with the stationary upright mailing-tube having substantially its entire front composed of glass, and provided with a metallic perforated protective covering, substantially as described.

5. The combination, with a mailing-tube passing through one or more floors of a building, of the base *I*, substantially as described.

6. The combination, with a mailing-tube consisting of glass in whole or in part, of the perforated protective covering *R* and the bars *S S*, substantially as described.

7. In combination with a closed box or receptacle at its base, a mailing-tube consisting of tubular glass sections constructed and united end to end, substantially as described and shown.

8. The mailing tube consisting of the glass front *D*, side walls, *E E*, back *A*, and the moldings *a*, applied to the side walls and overlapping the edges of the glass, in the manner described and shown.

9. In combination with the tubular sections of a mailing-tube, the collar or bracket *G*, having its inner edges beveled, substantially as and for the purposes described.

10. In combination with the body of the mailing-tube, the independently-removable section *T*, having the orifice *U* therein, as described.

11. The combination, with the mailing-section *T*, provided with orifice *U*, of the hinged flap *V*, having notches or perforations *o*, substantially as described.

12. The combination, in a mailing-tube, of the floor *W*, base *I*, tubular sections *D D'*, and tubular connection *Z*, substantially as described.

13. The combination, in a mailing-tube, of the tubular sections D D, bracket or collar G, and sheet-metal collar h, substantially as described.

5 14. In combination with a mailing-tube adapted for the delivery of gravitating postal matter, a receiving-box at its base, and a yielding bottom, whereby injury to the mail-matter is prevented.

10 15. A mailing-tube having a transparent or perforated cap or cover, J, substantially as and for the purposes set forth.

15 16. In combination with a box or receptacle at its base, an upright mailing-tube having its front and side walls composed of a single piece of glass, whereby a smooth surface is pre-

sented for the guidance of the mail-matter, and an inspection of the interior of the tube permitted.

17. A mailing tube formed of sections con- 20 sisting partially of glass and partially of metal, and having its metal portions lacquered or japanned, substantially as and for the purposes set forth.

18. The combination, with a mailing-tube, 25 of the receiving-box E'', hinged deflector H'', and door r', provided with arm n', substantially as described.

JAMES G. CUTLER.

Witnesses:

GEO. B. SELDEN,
H. G. PHILLIPS.