May 9, 1933. S. V. VAN RIPER 1,907,906

MAIL CHUTE

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Fig. 1.

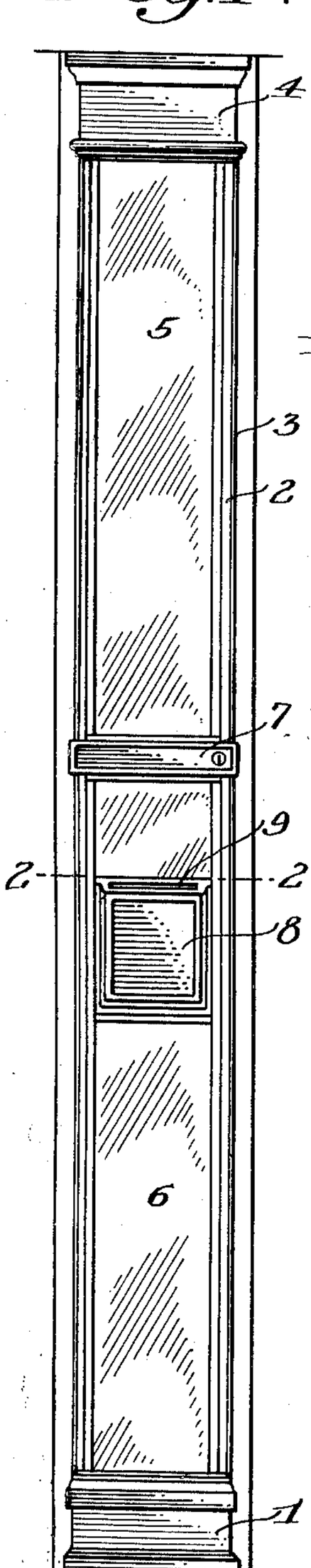

Fig. 2

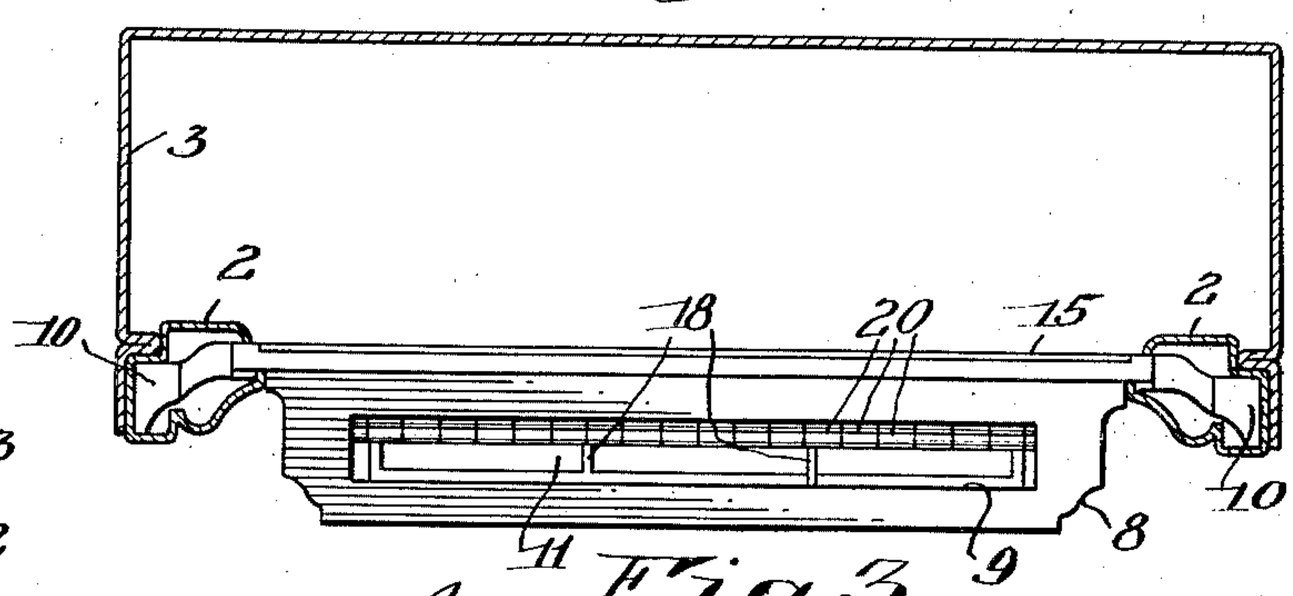

Fig. 3

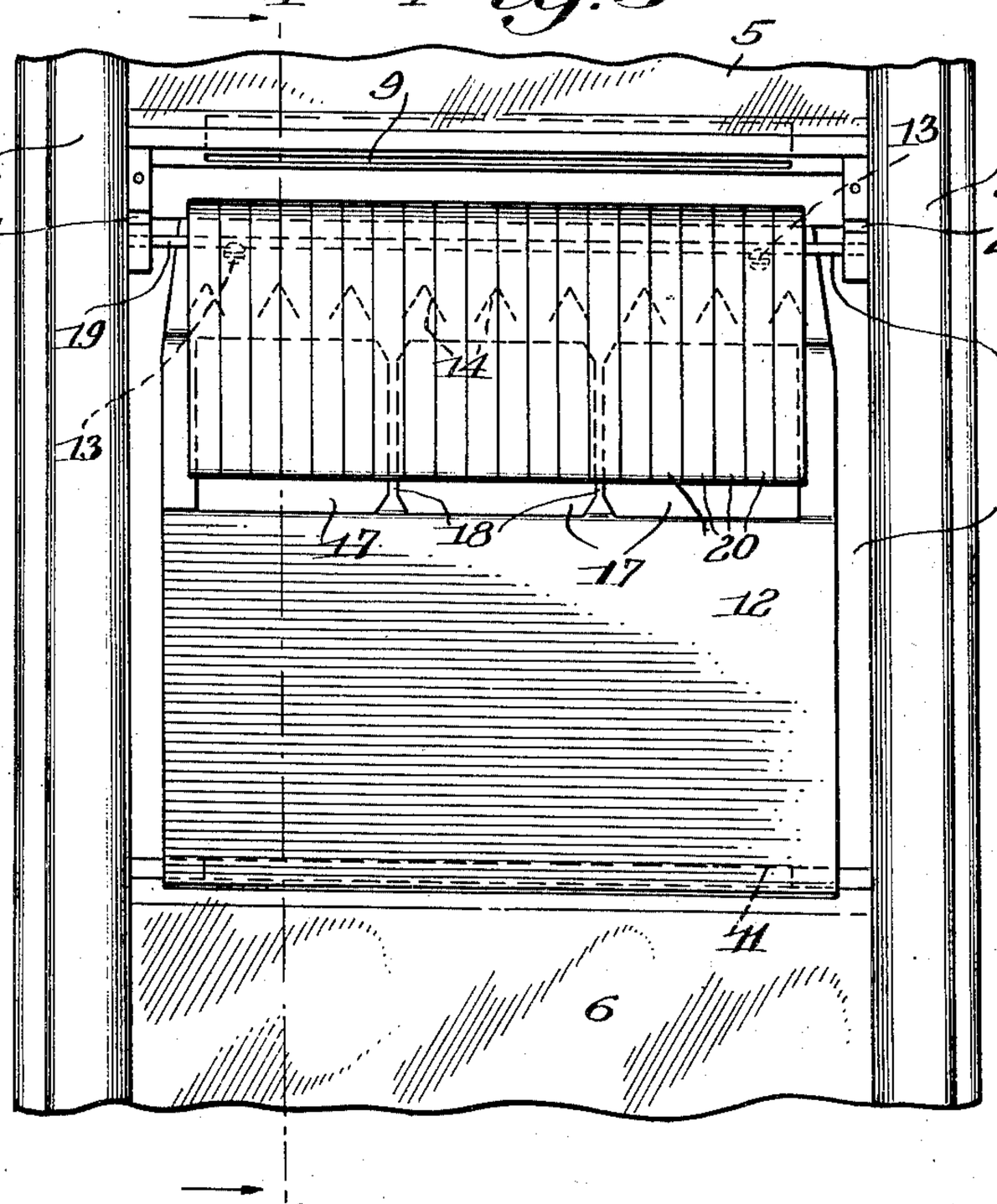

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Fig. 4

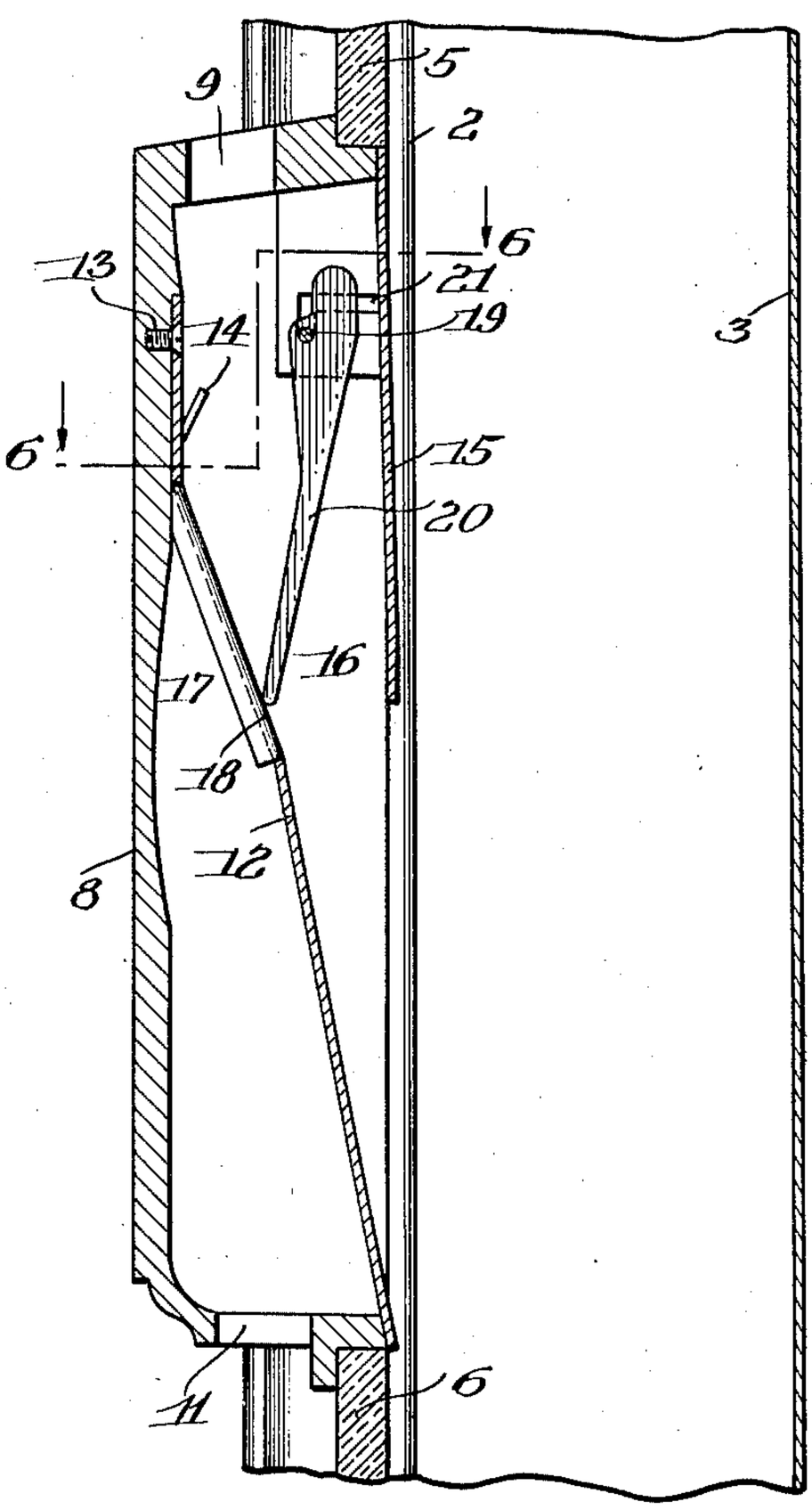

Fig. 5

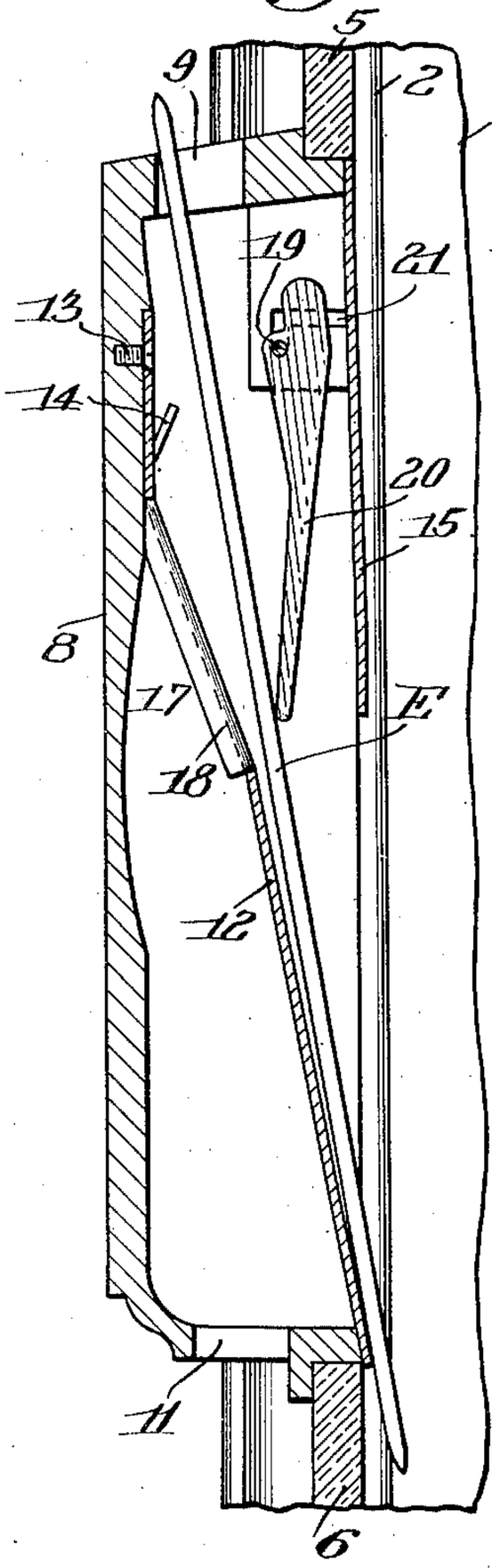

Fig. 7

Fig. 6

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Fig. 8

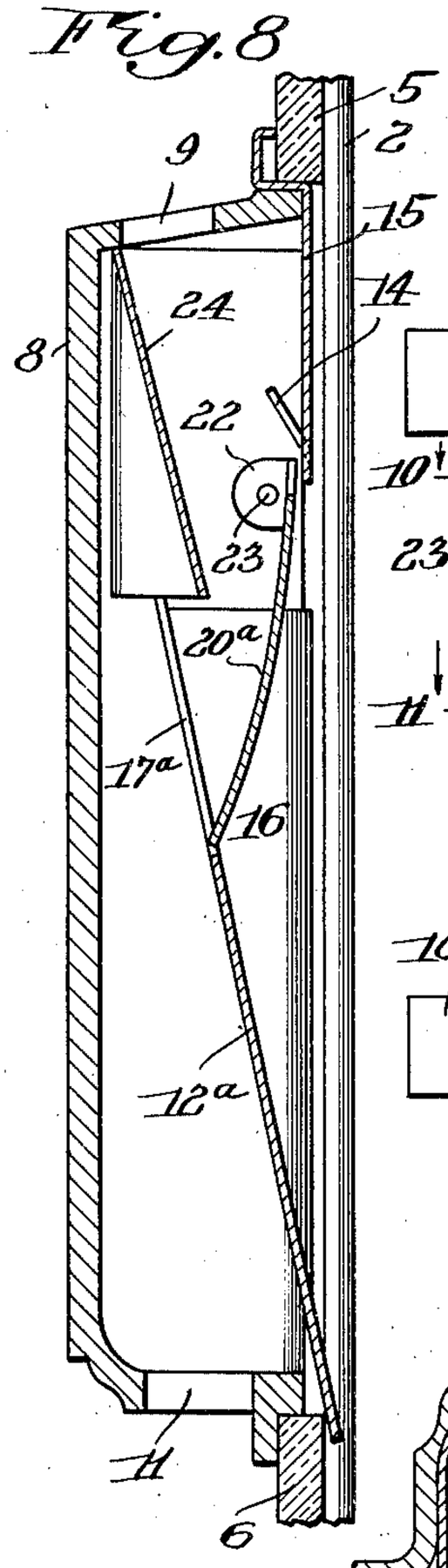


Fig. 9

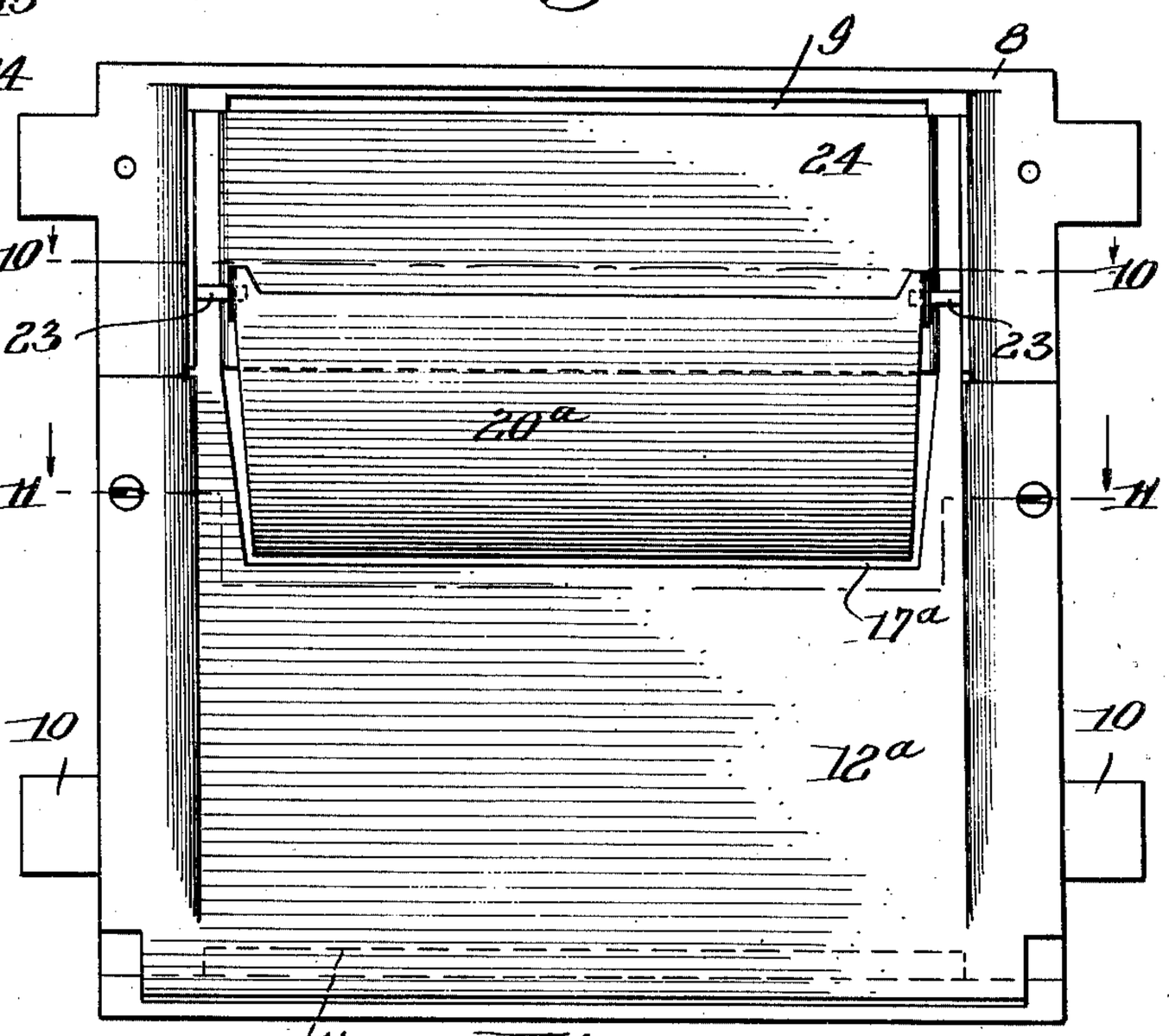


Fig. 10

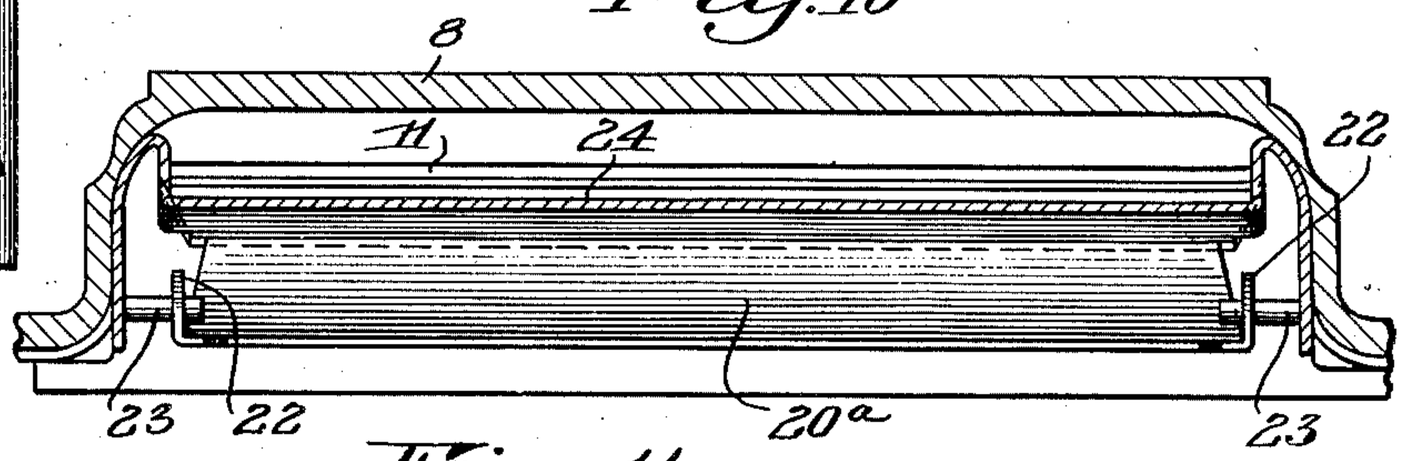
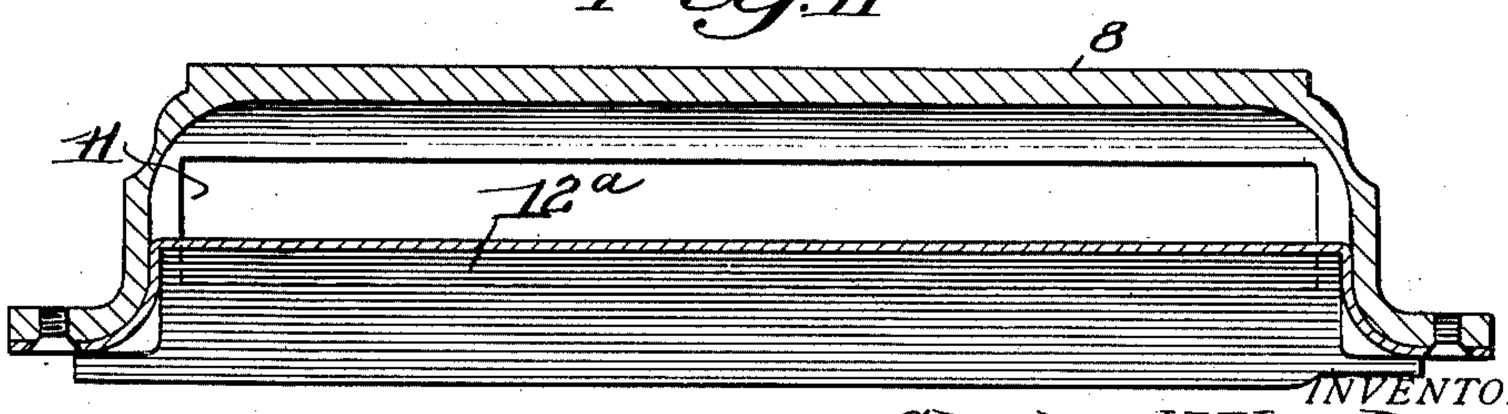


Fig. 11



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Patented May 9, 1933 1,907,906

UNITED STATES PATENT OFFICE

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MAIL CHUTE

Application filed April 27, 1932. Serial No. 607,771.

My present invention relates to conveyors for small articles and more particularly to mail chutes, and it has for its object to provide a simple and efficient means for keeping the chute free to an adequate extent from the reception of objects other than mail matter at the point at which the mail is inserted. Further objects of the invention are to provide a device of this character that will not alter the appearance of the chute from the exterior and will not be likely to get out of order when unattended for a considerable period.

To these and other ends, the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a front elevation of a mail chute section showing the mail receiving opening, which is protected by a device constructed in accordance with and illustrating one embodiment of my invention;

Fig. 2 is an enlarged transverse or horizontal section taken just above the mailing aperture on the line 2—2 of Fig. 1 and showing one embodiment of my invention;

Fig. 3 is a view taken from the interior of the chute of the rear of the casing in which the mailing aperture or letter drop is formed;

Fig. 4 is a vertical section through such casing taken substantially on the line 4—4 of Fig. 3 and showing the parts in normal position;

Fig. 5 is a similar view showing a piece of mail matter passing through the mailing aperture;

Fig. 6 is a horizontal section taken on the line 6—6 of Fig. 4;

Fig. 7 is a detailed perspective view of one of the deflecting fingers;

Fig. 8 is a central vertical section through the mail receiving casing of a modified construction of the same invention;

Fig. 9 is a rear view of such casing;

Fig. 10 is a horizontal section taken substantially on the line 10—10 of Fig. 9, and

Fig. 11 is a horizontal section taken substantially on the line 11—11 of Fig. 9.

Similar reference numerals throughout the several views indicate the same parts.

Mail chutes of the type to which my invention is applicable are familiar to most everyone, being used in office and other tall buildings to conduct mail deposited at the various floors by gravity to a collecting receptacle below. A single floor unit or section of such a chute, as shown in Fig. 1, embodies generally a floor base 1 carrying the chute proper 2 on a suitable backing 3 and surmounted by a ceiling molding 4. Removable panels 5 and 6 closing the front are held against access to the chute therethrough by unauthorized persons by a locking bar 7. The panels being of framed glass, a casing 8 is arranged at a convenient height in the lower one in which is formed the letter drop or mailing aperture 9.

The casing 8 is preferably a metal casting projecting forwardly slightly from the panel so that the mail receiving opening 9 may be formed in its top wall. The panel molding or frame 2 that fits the front of the chute 3 supports this casing in the same manner that it does the glass 6 by embracing lateral extensions 10 thereon that fit within the molding at each side, while at the bottom the casing rests upon the glass 6, as shown in Fig. 4.

Experience in the operation of such mail chutes has developed the fact that for some strange reason people are tempted to and do drop into the mailing aperture bits of trash, such as match sticks, chewing gum wrappers and other paper fragments. In addition to these acts of mischievous or unthinking persons, others maliciously deposit therein lighted cigarettes which have heretofore gone through to the collection receptacle and damaged the mail matter therein to the extent, in some known instances, of kindling a fire that destroyed the entire contents. The chute constitutes a natural chimney, as will be at once recognized, creating a draft that induces combustion and increases the fire hazard. Furthermore, both the collection box and the chute panels being accessi-

ble only to representatives of the postoffice, those who discover the fire are usually powerless to reach it.

My invention provides means whereby the letters are properly directed as heretofore from the mailing aperture into the chute, but these undesirable objects so deposited are automatically diverted and discharged to the exterior so that they fall to the floor at the feet of the offending person.

In the embodiment of Figs. 1 to 7, an opening 11 similar to the opening 9 but formed in the bottom wall of the casting 8 is separated from said opening by an intermediate partition 12 constituted, in the present instance, by an inclined plate, the upper edge of which is secured to the wall of the casting as by screws 13. Formed in this plate are the usual spurs 14 adjacent to the receiving opening to prevent newspapers and other bulky matter, for which the chute is not intended, from being forced therein. This plate, together with a short back plate or apron 15 extending across the casting, forms a passage 16 from the receiving opening 9 to the chute 3 through which the mail matter passes, being deflected rearwardly by the partition.

In the practice of my invention, I provide in passage 16 a trap communicating therewith and adapted to intercept cigarette stubs and other small articles of litter deposited in the receiving aperture. To this end, the wall 12 of the passage at the top is formed with a plurality of openings 17 with thin, intervening portions 18 separating them, or it may be said that there is a transverse slot or opening 17 bridged by narrow bars 18. These are made strong by flanging them as the openings are stamped therein, as shown, the idea being that they shall obstruct as little as possible while still deflecting proper mail matter into the chute. Adjacent to this opening and to the receiving opening 9 I arrange what, in effect, is a weighing device that allows proper mail matter, such as envelopes, to pass freely through the passage 16 but diverts small articles, such as cigarette ends, bits of paper, et cetera, through the openings 17, so they fall out of the discharge aperture 11 exteriorly of the chute.

In the present instance, a casing 8 is spanned at its top in rear of the letter opening 9 by a shaft 19 upon which are loosely pivoted a plurality of depending fingers 20 arranged closely side by side to normally present a substantially continuous surface in the manner of a gate. By weighting the upper rear portions of these fingers (shown in detail in Fig. 7) they hang so that their attenuated lower ends incline forwardly toward or against the open portion 17 of plate 12. The small light articles mentioned are thus deflected and pass through the opening but, as shown in Fig. 5, the fingers are easily displaced by an envelope E and the passage 16 opened for its direct progress into the chute.

As shown in Figs. 4 and 5, the bearings for the shaft 19 are formed by L-shaped grooves 21 in the side walls of the casting 8 opening at the rear so that the fingers may be assembled on the shaft as a unit and the latter inserted before the back plate 15 is applied. Of course, the fingers may have any suitable form to hold them, preferably by gravity, in the normal position of Fig. 4 to yieldingly block the passage 16.

In the embodiment of Figs. 8 to 11, the construction and mode of operation is substantially the same and the same reference numerals have been applied to the major parts where consistent. The principal difference lies in the fact that the opening 17^a in the partition plate 12^a is continuous and the gate element 20^a of the weighing or deflecting obstruction in mail passage 16 is made of an integral curved plate having forwardly or outwardly turned lateral ears 22 by which it pivots on pins 23 projecting from the side walls of the casing. The top of partition member 12^a terminates with the opening 17^a and above it an inclined apron 24 adjacent to the receiving aperture 9 prevents the letters inserted through the latter from passing through or engaging with the opening 17^a instead of travelling the passage 16 to the chute.

In this case, the spurs 14 may be formed on the back plate 15 with equal effect, in which case they also prevent forcible contact of objects with the upper edge of the deflector 20^a.

I have above described my invention as embodied in the letter drops or mail apertures of a mail chute, which drops are, of course, duplicated on the various floors through which the chute extends in a building to conduct mail, as aforesaid, to a common collection receptacle on the ground floor of the building. Such receptacles are usually themselves equipped with letter openings for the deposit of mail, and it is obvious that such openings can as well be provided with the same means in accordance with my invention for eliminating the deposit of small articles other than mail matter.

I claim as my invention:

1. The combination with a mail chute having a mail receiving aperture leading to the interior of the chute and a delivery aperture below the same adapted to discharge exteriorly of the chute, of means intermediate said apertures adapted to be displaced by a piece of mail matter inserted in the mail receiving aperture for directing small objects similarly introduced to the discharge aperture.

2. The combination with a mail chute hav-

ing a mail receiving aperture and a passage leading therefrom to the interior of the chute and with a delivery aperture below the first-named aperture adapted to discharge exteriorly of the chute, there being communication between said passage and the discharge aperture, of a weighing device operating in the passage to normally direct light foreign matter deposited in the mailing aperture to the delivery aperture but adapted to be displaced by mail matter and permit its passage to the chute.

3. The combination with a mail chute having a mail receiving aperture and a passage leading therefrom to the interior of the chute and with a delivery aperture below the first named aperture adapted to discharge exteriorly of the chute, there being communication between said passage and the discharge aperture, of a gravitationally operated pivoted element in the passage acting normally to direct light objects deposited in the mailing aperture to the delivery aperture but adapted to be displaced by mail matter so deposited and permit its passage to the chute.

4. In a mail chute, the combination with a chute section and a casing attached thereto and having a mail receiving aperture at the top and a discharge aperture at the bottom opening exteriorly of the chute, of a partition between the apertures by which mail matter is guided from the receiving aperture into the chute, said partition being provided with an opening and a yielding device adjacent thereto adapted to be displaced by such mail matter but acting to divert small light articles through the opening to the discharge aperture.

5. In a mail chute, the combination with a chute section and a casing attached thereto and having a mail receiving aperture at the top and a discharge aperture at the bottom opening exteriorly of the chute, of a partition between the apertures by which mail matter is guided from the receiving aperture into the chute, said partition being provided with an opening and a pivoted deflector adjacent thereto normally positioned to divert small and light articles inserted in the mailing aperture through the opening to the discharge aperture but adapted to be displaced by mail matter similarly inserted.

6. The combination with a mail receiving element provided with a letter drop aperture and a passage leading therefrom to the interior of such element and with a delivery aperture below the first named aperture arranged to discharge exteriorly of such element, there being communication between said passage and the discharge aperture, of a weighing device operating in the passage to normally direct light foreign matter deposited in the mailing aperture to the delivery aperture but adapted to be displaced by mail matter and permit its passage to the mail receiving element.

7. The combination with a mail chute having a mail receiving aperture and a passage leading therefrom to the interior of the chute, of a trap communicating with said passage adapted to intercept cigarette stubs and other small articles of litter deposited in the receiving aperture.

8. The combination with a mail chute having a mail receiving aperture leading to the interior of the chute and a delivery aperture below the same adapted to discharge exteriorly of the chute, of a device arranged between the two apertures adapted to block access of usual mail matter inserted through the upper receiving aperture from passage to the lower discharge aperture while permitting passage of small objects, such as litter, similarly introduced to and through the discharge aperture.

9. In a mail chute, the combination with a chute section and a casing attached thereto to project forwardly therefrom and having a mail receiving aperture at the top and a discharge aperture at the bottom opening exteriorly of the chute, of interspersed means intermediate said apertures for directing pieces of mail inserted in the mail receiving aperture into the chute while permitting relatively small objects similarly introduced to pass it and fall through the discharge aperture.

STANLEY V. VAN RIPER.