

G. A. HOFMEYER.

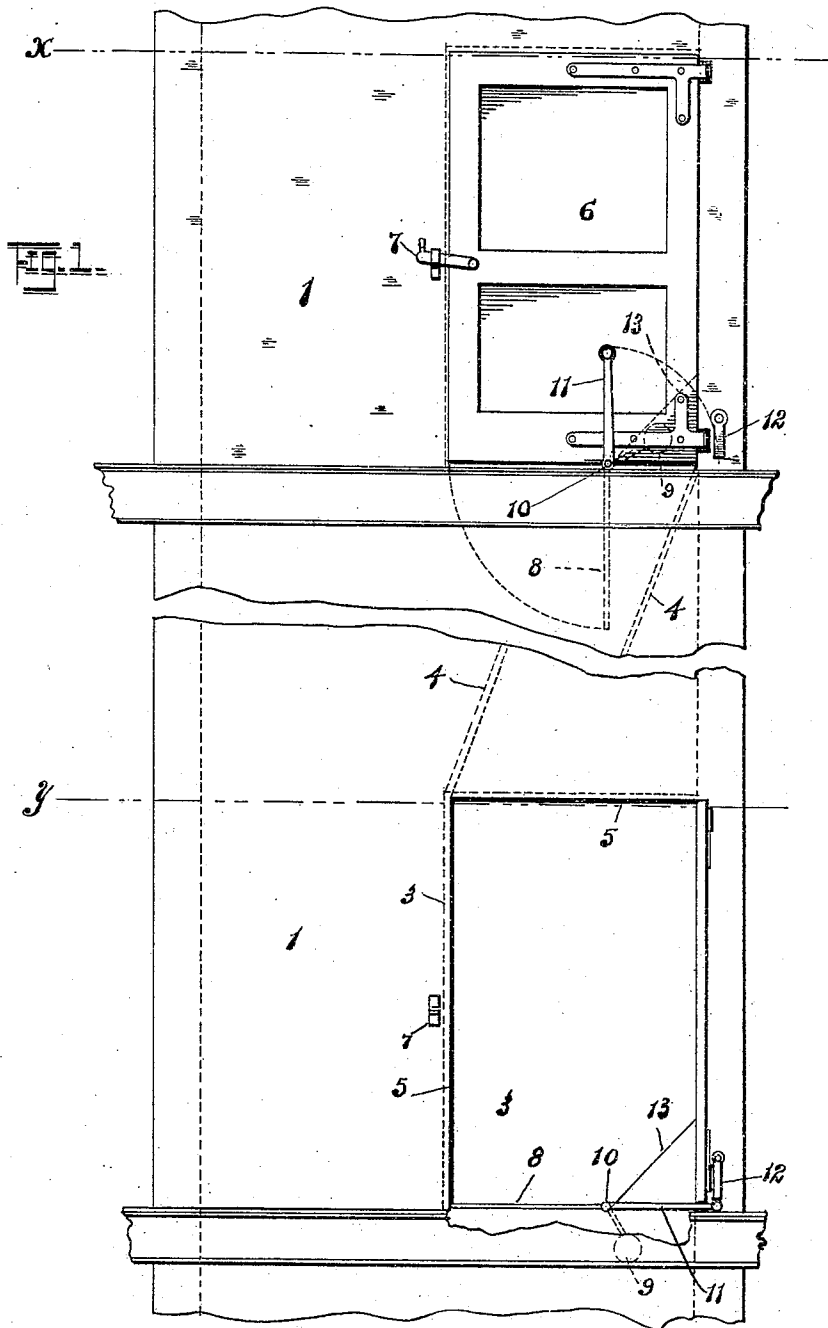
WASTE CHUTE.

APPLICATION FILED SEPT. 11, 1906.

939,691.

Patented Nov. 9, 1909.

2 SHEETS—SHEET 1



WITNESSES

Fredrick Germaunff.

Ethel B. Reed

FIG. 2.

INVENTOR

GEORGE A. HOFMEYER.

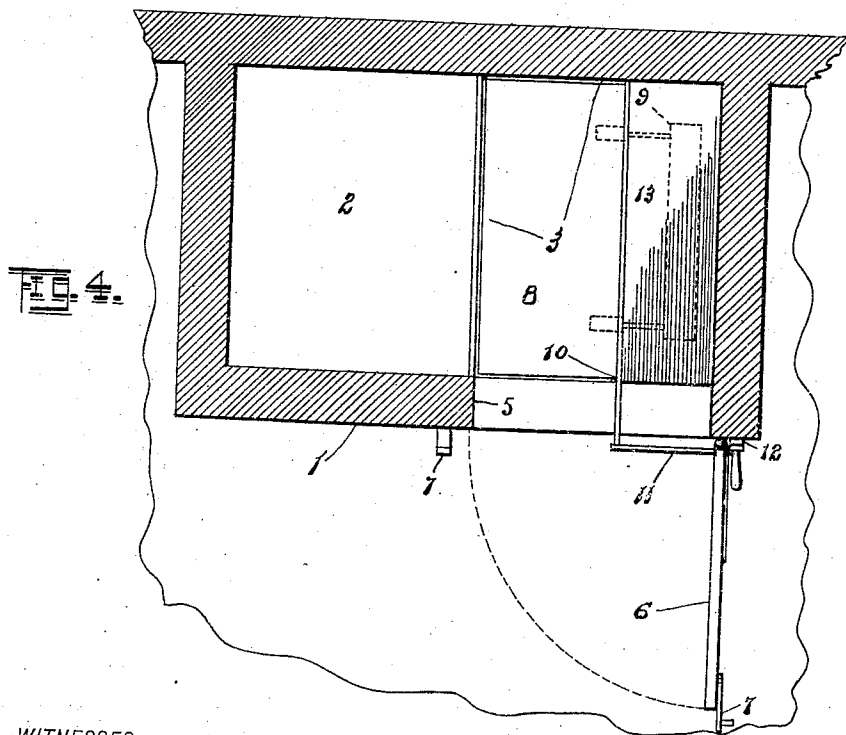
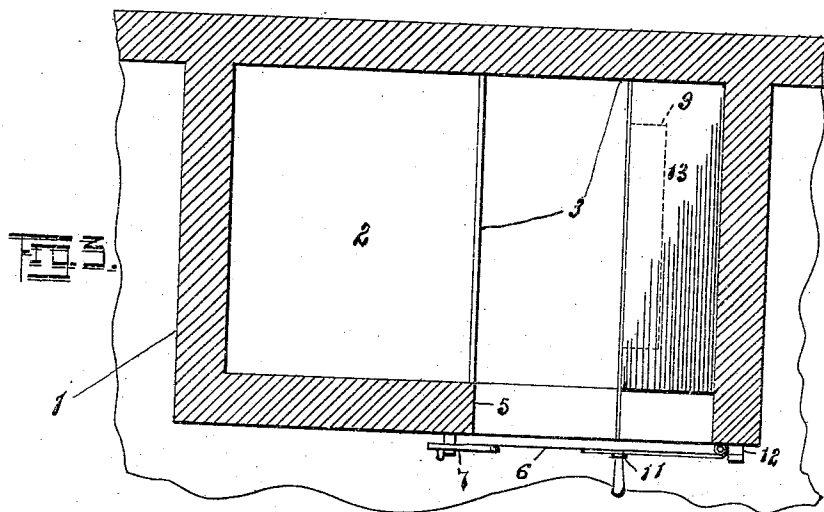
BY

Russell M. Everett,
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INVENTOR

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UNITED STATES PATENT OFFICE.

GEORGE A. HOFMEYER, OF UNDERCLIFF, NEW JERSEY.

WASTE-CHUTE.

939,691.

Specification of Letters Patent.

Patented Nov. 9, 1909.

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To all whom it may concern:

Be it known that I, GEORGE A. HOFMEYER, a citizen of the United States, residing at Undercliff, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Waste-Chutes, of which the following is a specification.

This invention relates to that class of chutes which are used in large department stores, factories and similar buildings as a means of transporting the waste paper, sweepings and other refuse matter from the various floors to the basement, or other collecting room. It will be understood that this waste matter must be swept up and disposed of in such a manner as to not only get it out of the way, but also to avoid any possibility of a fire caused by its becoming ignited, either from an outside source or by spontaneous combustion.

The objects of the invention are to provide fire proof means for introducing waste into a fire proof chute, or in other words, to prevent the waste from transmitting fire to the outside while being inserted, in case there should be flame on the inside; to this end to provide a hopper with interlocking doors at its opposite ends; to prevent either of said doors being open while the other is open; to avoid the projection of said hopper into the room where the chute is located; to secure a simple and effective construction which shall not be liable to get out of order, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is a front elevation of a portion of a chute of my improved construction, the same being closed; Fig. 2 is a similar view of a portion of the chute with the outer door open for the reception of waste; Fig. 3 is a cross section on line *x*, Fig. 1, and Fig. 4 is a similar horizontal cross section taken at line *y*, Fig. 2.

In said drawings, 1 indicates the body portion of the chute which comprises an elongated construction of any suitable kind, preferably fire proof, extending from the basement or other collecting point upward through the different floors or other points from which waste is to be received. The interior of this chute provides two longi-

tudinal portions, one of which as at 2, is clear and unobstructed and formed with smooth interior walls, so that the waste will readily pass down the said passage. The other longitudinal portion of the chamber of the chute is occupied by a series of boxes or hoppers 3, one for each floor or other point from which waste is to be collected. These boxes or hoppers 3 are short as to length and an incline or slideway 4 extends from the inner edge of the bottom of one hopper to the outer edge, or edge next the passageway 2 of the chute of the next lower hopper. By this means the waste discharged from the bottom of each hopper, as hereinafter described, does not find lodging, but is directed by the said slideway or incline 4 full into the open passageway 2 of the chute.

Each hopper 3 is provided through the wall of the chute next the room from which waste is to be received, with an opening 5, which is provided with a door 6 adapted to swing horizontally upon a vertical axis at one lateral edge thereof, and having at the opposite edge, a latch or other fastening means 7. This door can therefore be swung open and shut after the manner of any ordinary door, as will be understood.

In the bottom of the hopper 3 is a door 8 which is adapted to swing downwardly after the manner of a trap door, but is provided with a weight 9, which normally holds the said door 8 closed. This inner door is hinged as at 10 upon an axis which lies perpendicular to that of the outer door 6, and between the hinged and free edges of said door, preferably at a substantial distance from the said hinged edge. A crank handle 11 is fitted upon the outer end of the axial shaft 10 of the said inner door, so as to swing outside the outer door 6 when the latter is closed, and in a plane parallel thereto. The said axial shaft 10, however, lies below the door 6 so that when said crank handle 11 is swung downward into horizontal position, as shown in Fig. 2 and locked by the catch 12, the door 6 can be swung open without obstruction. It will be noted, however, that when said handle 11 is in the position described, the inner door 8 is closed.

An incline 13, preferably covers the fixed or stationary portion of the floor of the hopper, so that it affords no lodgment for waste which is thrown in.

In the operation of my improved chute,

the inner door 8 is first closed and locked in such closed position by means of bringing the crank handle 11 beneath the catch 12. The outer door 6 is then swung open and
 5 lies at its lower edge across the said handle 11, so that in no way can said handle be released to allow the inner door to open while the outer door is also open. After charging or filling the hopper with waste, the outer
 10 door is closed, when the handle can be very readily released from the catch and raised to dump the inner door and discharge the hopper into the passageway 2 of the chute.

It will be understood that the term hopper
 15 as employed herein designates any kind of a space between the outer and inner doors which is adapted to receive the waste matter, and the term chute is used without modification to indicate what would more strictly
 20 be called the chute proper or passageway 1. Furthermore it is obvious that my improved construction can be utilized for the transmission of any kind of matter, other than waste, to which it is adapted.

It will be noted that the two doors 6 and 8
 25 are not connected so that one cannot move without moving the other, but are capable of independent movement. Either the outer or the inner door can, if the other door is closed,
 30 be opened and shut without changing in any way the position of the other door. When either door is opened it locks the other door against movement, and when said first-mentioned door is closed it releases the other
 35 door, but these words "locking" and "releasing" do not mean opening and closing. Neither door in closing has any tendency to open the other door, but simply unlocks or releases said other door so that it can be
 40 opened if desired. The normal tendency of both doors is to remain always closed at the same time.

Having thus described the invention, what I claim as new is:

45 1. The combination with a chute, of a hopper, outer and inner doors for said hopper adapted to move each independent of the other, and means for locking either of said doors by opening of the other door and releasing the first mentioned door by closing
 50 of said other door.

2. The combination with a chute; of a hopper, an outer door for the hopper swinging on a vertical axis, an inner door hinged
 55 on a horizontal axis, and a lever or crank on the axis of the inner door extending past the outer door and swinging in a plane parallel therewith when closed and closely adjacent its outer face.

3. The combination with a chute; of a hopper, an outer door for the hopper swinging on a vertical axis, an inner door hinged
 60 on a horizontal axis which latter projects beneath the outer door when closed at a point adjacent its lower edge and between its verti-

cal edges, and a lever or crank on said axis standing outside the outer door when the latter is closed.

4. The combination with a chute, of a hopper, outer and inner doors for said hopper adapted to move each independent of the other, and means for holding either one of
 70 said doors closed in fixed position by opening of the other door and releasing the first mentioned door by closing of said other door.

5. The combination with a chute, of a hopper, outer and inner doors for said hopper adapted to move each independent of the other, and means for locking the outer door
 80 in fixed position by opening of the inner door and releasing said outer door by closing of the inner door.

6. The combination with a chute; of a hopper, an outer hinged door for the latter, an inner door between the chute and hopper, and a handle for the inner door projecting
 85 past one edge of the outer door which edge is perpendicular to its hinge line, bent then at right angles so as to stand over the outer face of the outer door at all times except when the inner door is closed, and of a
 90 length between its bend and extremity to lie between its axis and the hinge of the outer door so that the edge of the latter stands always over the lever as said outer
 95 door opens.

7. The combination with a chute, of a hopper, inner and outer doors for said hopper, and a handle for one door standing in the path of movement of the other door and
 100 holding it closed except when the first-mentioned door is closed, and also held by one edge of said last-mentioned door in position to hold said first-mentioned door closed except when said last-mentioned door is closed.

8. The combination with a chute, of a hopper, inner and outer swinging doors for the hopper, and a handle for one door standing in the path of movement of the other door and holding it closed except when the
 110 first-mentioned door is closed, and also held by one edge of said last-mentioned door in position to hold said first-mentioned door closed except when said last-mentioned door is closed.

9. The combination with a chute, of a hopper, inner and outer doors for said hopper hinged on axes perpendicular to each other, and a crank handle for one door standing in the path of movement of the
 120 other door and holding it closed except when the first-mentioned door is closed, and also held by one edge of said last-mentioned door in position to hold said first-mentioned door closed except when said last-mentioned
 125 door is closed.

10. The combination with a chute, of a hopper, an inner swinging door for said hopper, means for keeping it normally
 130 closed, an outer swinging door for said hop-

per, and a handle for one door standing in the path of movement of the other door and holding it closed except when the first-mentioned door is closed, and also held by one edge of said last-mentioned door in position to hold said first-mentioned door closed except when said last-mentioned door is closed.

11. The combination with a chute, of a hopper, an inner swinging door for said hopper, means for keeping it normally closed, an outer swinging door for the hopper, said doors being hinged on axes perpendicular to each other, and a crank handle for one door standing in the path of movement of the other door and holding it closed except when the first-mentioned door is closed, and also held by one edge of said last-mentioned door in position to hold said first-mentioned door closed except when said last-mentioned door is closed.

12. The combination with a chute, of a hopper, an inner door for said hopper, an outer swinging door for the hopper, and a

handle for the inner door standing in the path of the outer door and holding it closed except when the inner door is completely closed, and also held by one edge of the outer door in position to hold the inner door closed except when the outer door is closed.

13. The combination with a chute, of a hopper, an inner door for said hopper, an outer swinging door for the hopper, said doors being hinged on axes perpendicular to each other, and a handle for the inner door standing in the path of the outer door and holding it closed except when the inner door is completely closed, and also held by one edge of the outer door in position to hold the inner door closed except when the outer door is closed.

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Witnesses:

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