

G. D. ANTRIM.
INSULATING DOOR.
APPLICATION FILED DEC. 7, 1912.

1,084,835.

Patented Jan. 20, 1914.

2 SHEETS—SHEET 1.

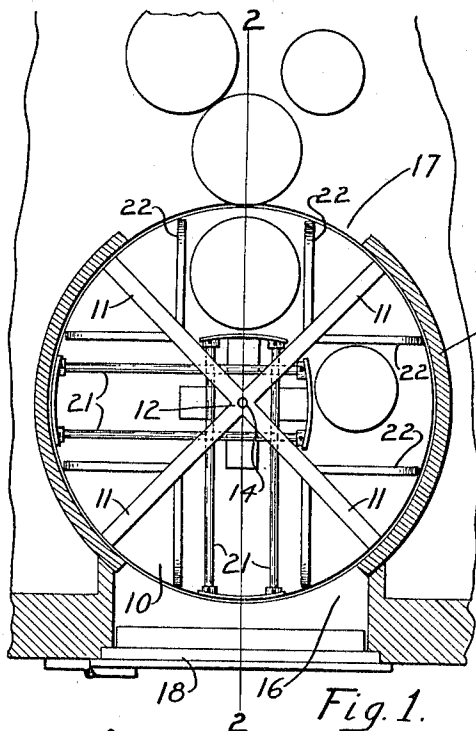


Fig. 1.

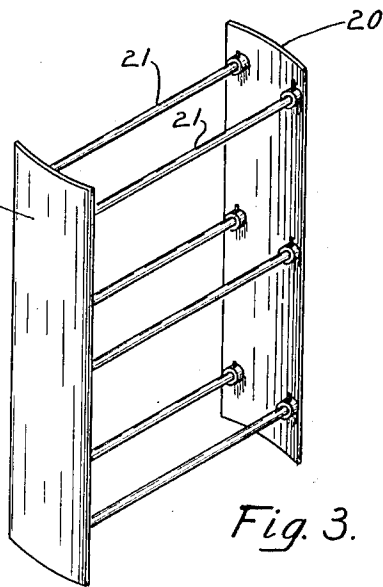


Fig. 3.

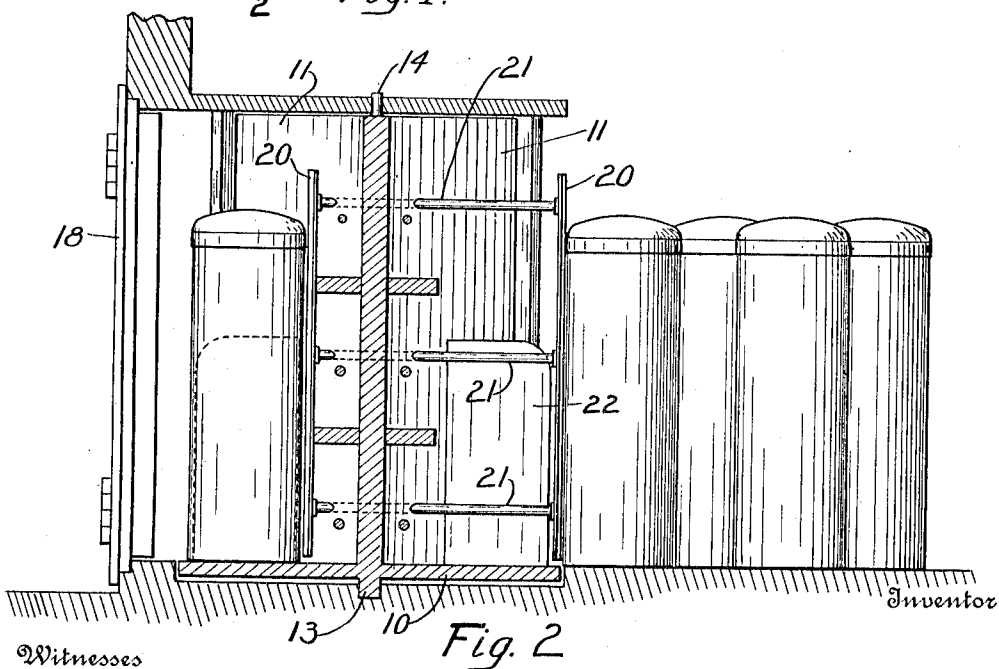


Fig. 2

Witnesses

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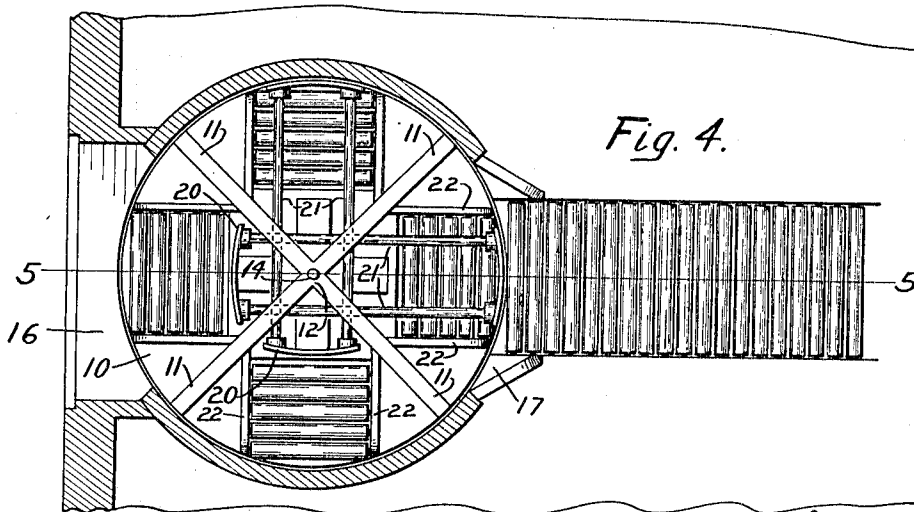
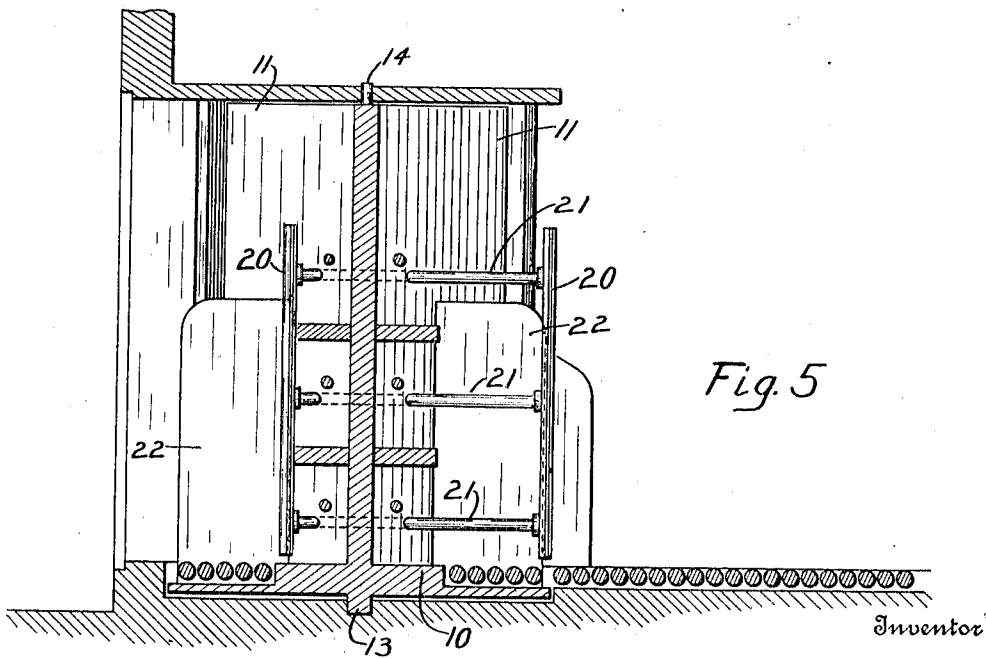
Inventor

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UNITED STATES PATENT OFFICE.

GEORGE D. ANTRIM, OF DAYTON, OHIO.

INSULATING-DOOR.

1,084,835.

Specification of Letters Patent.

Patented Jan. 20, 1914.

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To all whom it may concern:

Be it known that I, GEORGE D. ANTRIM, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Improvement in Insulating-Doors, of which the following is a specification.

My invention has reference to devices for passing articles from one side of a wall to the other where a direct opening through the wall is undesirable. Such device may be used in a variety of places, but in this application I will describe the embodiment of my improvement best adapted to pass cans into or out of the hardening room in ice cream factories. Obviously, the great desideratum is to open the hardening room as little as possible, and for this reason devices are being used which permits the cans to be passed into and out of the room without opening it. Those at present in use have, however, one serious defect: they require manual assistance on both sides of the wall.

One of the objects of my improvement is, therefore, to enable a person to pass cans into (or out of) the hardening room without assistance on the other side of the wall.

As the device most commonly used in ice cream factories is a revolving door, I herein show my improvement applied to that type of device, although I do not want it understood to be applicable to that type alone.

In the accompanying drawings, Figure 1 is a plan of a revolving door, with part of the inclosure removed. Fig. 2 is an elevation on line 2—2 of Fig. 1; Fig. 3 is a separate view of a pair of ejectors; and Figs. 4 and 5 are views similar to Figs. 1 and 2, but showing rollers adapted to facilitate movement of the cans.

Similar numerals indicate similar parts throughout the several views.

The door comprises a circular floor 10 carrying wings 11 which radiate from and are united at the axis 12. It is incased and mounted to revolve on pivots 13 and 14 in a cylindrical inclosure 15, the vertical walls of which are cut away at opposite points to form openings 16 and 17, the former being accessible from the outside and the latter from the inside of the hardening room. A door 18 is adapted to close the opening 16 when the revolving door is not in use. As the parts so far described are in common use a more detailed description is unnecessary.

My improvement consists of an ejector 20

placed in each compartment formed by two wings 11, each being connected by rods 21 to the ejector in the diametrically opposite compartment. The rods pass through and are adapted to slide in suitable holes formed in the wings. A buffer placed behind each ejector limits its inward movement, and the rods are of such length that when an ejector is against the buffer its companion ejector is out even with the circumference of the door.

The operation of my device is extremely simple,—practically automatic. When a can is pushed into a compartment the ejector therein is pushed back by the can; consequently, a can in the opposite compartment must be pushed out by the companion ejector. Obviously, a can standing in a compartment can be pushed out by pushing the opposite ejector in, though a new can is not put in the compartment. Guide walls 22 compel the cans to remain in front of the ejectors.

The floor of the hardening room and that of the revolving door should be on the same plane, so cans pushed from the door floor will meet with neither obstruction nor depression. The floor of the hardening room may be covered with smooth metal, or some other substance which the cans can slide easily upon. In Figs. 4 and 5 I have equipped the floors with parallel horizontal rollers which may be used instead of the metal covered floor. With either equipment, however, enough cans can be passed into the room, the new-comers pushing the old one aside or ahead of them, without causing congestion, to accomplish the purpose of my improvement, as I will now explain.

It is the custom, at least in large factories, to have a man in the hardening room all the time, whose duty it is to receive the cans; *i. e.*, remove them from the compartments of the revolving door as they are passed in by the freezer man outside. It frequently happens, however, that this man is not in the room, or, he may be busy elsewhere in the room, possibly passing cans out through another door. In such cases, or if a man is not kept in the room, my device enables the freezer man to unload the compartments from the outside, the cans meanwhile accumulating until such time as the hardening room man, or some one sent in for the purpose, removes them. Obviously, under similar conditions my device would be as useful in passing cans out of

the hardening room. By simply providing a suitable floor or runway at each side of the revolving door it may be used for passing cans out of the hardening room as well and in the same manner as that just described.

There are many places, *e. g.*, ovens and furnaces, where a device which accomplishes the purpose of a revolving door could be used to advantage if the difficulty of handling the articles after they have passed through can be overcome. As no one can be in such places to unload the device it must be unloaded from the outside. My improvement is applicable to such places, and others, as well as to hardening room doors.

Various changes may be made in the manner of applying my improvement without changing its substance or exceeding the scope of the appended claims.

What I claim is as follows:

1. A device for passing articles from one side of a wall or the like to the other, comprising a recess built in the wall into which the articles are deposited on one side of the wall, and from which they are discharged on the other side; means whereby communication between the recess and either side of the wall may be established or cut off, means for preventing contemporaneous communication between the recess and both sides of the wall, and means operable from the side of the wall at which articles are deposited in the recess for discharging them therefrom on the other side.

2. A device for passing articles horizontally from one side of a wall or the like to the other, comprising a recess built in the wall into which the articles are deposited on one side of the wall, and from which they are discharged on the other side; means whereby communication between the recess and either side of the wall may be established or cut off, means for preventing contemporaneous communication between the recess and both sides of the wall, and means operable from the side of the wall at which articles are deposited in the recess for discharging them therefrom on the other side.

3. A device for passing articles from one side of a wall or the like to the other, comprising a recess built in the wall into which the articles are deposited on one side of the wall, and from which they are discharged on the other side, said recess being divided into compartments; means whereby communication between each compartment and either side of the wall may be established, means for preventing contemporaneous communication between any compartment and both sides of the wall, means for establishing contemporaneous communication from each side of the wall with different compartments, and means whereby the act of depositing an article in a compartment causes the discharge on the other side of the wall

of an article previously deposited in another compartment.

4. A device for passing articles from one side of a wall or the like to the other, comprising a recess built in the wall into which the articles are deposited on one side of the wall, and from which they are discharged on the other side, said recess having a substantially horizontal floor in the same plane with a floor or the like on one side of the wall; means whereby communication between the recess and either side of the wall may be established or cut off, means for preventing contemporaneous communication between the recess and both sides of the wall, and means operable from the side of the wall at which articles are deposited in the recess for sliding them out of the recess onto the floor outside.

5. A device for passing articles from one side of a wall or the like to the other, comprising a recess built in the wall into which the articles are deposited on one side of the wall, and from which they are discharged on the other side, said recess having a substantially horizontal floor in the same plane with a floor or the like on one side of the wall, said latter floor being composed of a succession of parallel horizontal rollers; means whereby communication between the recess and either side of the wall may be established or cut off, means for preventing contemporaneous communication between the recess and both sides of the wall, and means operable from the side of the wall at which articles are deposited in the recess for sliding them out of the recess onto the floor outside.

6. A device for passing articles from one side to the other of a wall or the like, comprising a cylindrical recess built in the wall, having openings on opposite sides, one of which openings is accessible from each side of the wall, a door composed of a plurality of wings radiating from and united at a common center and mounted to rotate upon an axis coincident with the axis of the recess, said wings forming compartments in which articles may be deposited on one side of the wall and moved by rotating the door to the other side, and means operable from the side at which the articles are deposited, for discharging them from the compartments at the other side of the wall.

7. A device for passing articles from one side to the other of a wall or the like, comprising a cylindrical recess built in the wall, having openings on opposite sides, one of which openings is accessible from each side of the wall, a door composed of a plurality of wings radiating from and united at a common center and mounted to rotate upon an axis coincident with the axis of the recess, said wings forming compartments in which articles may be deposited on one side of the wall and moved by rotating the door to the

other side, and an ejector in each compartment, each connected by rods passing through the wings to the ejector in the compartment diametrically opposite, the rods
5 being of such length that when one ejector is at the limit of its inward movement the one connected to it is substantially even with the circumference of the door.

8. A device for passing articles from one
10 side to the other of a wall or the like, comprising a cylindrical recess built in the wall, having openings on opposite sides, one of which openings is accessible from each side
15 of the wall, a door composed of a circular floor carrying a plurality of wings radiating from and united at a common center and mounted to rotate upon an axis coincident with the axis of the recess, said wings forming compartments in which articles may be
20 deposited on one side of the wall and carried by the door to the other side, and an ejector in each compartment, each connected by rods passing through the wings to the ejector in the compartment diametrically opposite, the
25 rods being of such length that when one ejector is at the limit of its inward movement the one connected to it is substantially even with the circumference of the door.

9. A device for passing articles from one
30 side to the other of a wall or the like, comprising a cylindrical recess built in the wall, having openings on opposite sides, one of which openings is accessible from each side of the wall, a door composed of a circular
35 floor carrying a plurality of wings radiating from and united at a common center and mounted to rotate upon an axis coincident with the axis of the recess, said wings forming compartments in which articles may be

deposited on one side of the wall and carried
40 by the door to the other side, and an ejector in each compartment, each connected by rods passing through the wings to the ejector in the compartment diametrically opposite, the
45 rods being of such length that when one ejector is at the limit of its inward movement the one connected to it is substantially even with the circumference of the door, and guides carried by the base, between which
50 articles are deposited and whereby said articles are compelled to remain in front of the ejector.

10. A device for passing articles from one side to the other of a wall or the like, comprising a cylindrical recess built in the wall,
55 having openings on opposite sides, one of which openings is accessible from each side of the wall, a door composed of a circular floor carrying a plurality of wings radiating from and united at a common center and
60 mounted to rotate upon an axis coincident with the axis of the recess, said wings forming compartments in which articles may be deposited, the floor of each compartment being provided with parallel horizontal
65 rollers to facilitate the movement of articles into and out of them, and an ejector in each compartment, each connected by rods passing through the wings to the ejector diametrically opposite, the rods being of such length
70 that when one ejector is at the limit of its inward movement the one connected to it is substantially even with the circumference of the door.

GEORGE D. ANTRIM.

Witnesses:

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