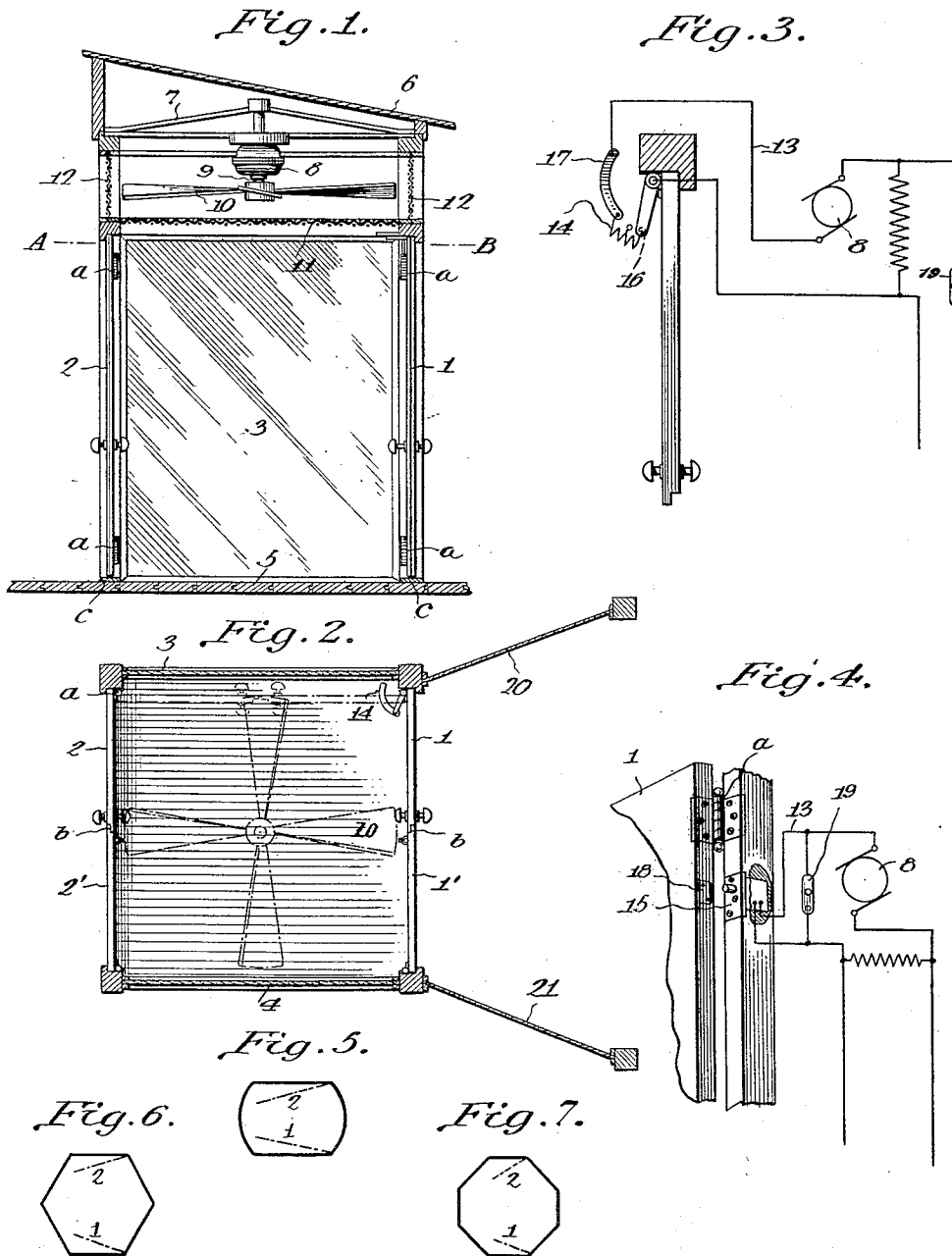


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 MEANS FOR EXCLUDING FLIES FROM BUILDINGS.
 APPLICATION FILED SEPT. 19, 1912.

1,053,983.

Patented Feb. 25, 1913.



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UNITED STATES PATENT OFFICE.

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MEANS FOR EXCLUDING FLIES FROM BUILDINGS.

1,053,983.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed September 19, 1912. Serial No. 721,149.

To all whom it may concern:

Be it known that I, CHARLES B. GILLESPIE, a citizen of the United States of America, and a resident of Grand Forks, in the State of North Dakota, have invented a new and useful Improvement in Means for Excluding Flies from Buildings, of which the following is a specification.

This invention relates to means for excluding flies from stores, bakeries, restaurants, meat markets or packing houses, slaughter houses, and the like; and especially to their exclusion from entrance doorways which are the most difficult to effectively guard.

The present invention consists in certain novel combinations of parts, and in a fly-proof entrance booth embodying the several combinations or any of them, as hereinafter particularly described and claimed.

The leading object of this invention is to exclude flies by means of the wind from an overhead electric fan, with the least possible complication of the means of entrance for persons or beasts.

Other objects will be set forth in the general description which follows.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 represents a vertical section through an entrance booth embodying the present invention; Fig. 2 represents a horizontal section on the line A—B, Fig. 1, with an outline of the fan superadded in dotted lines; Fig. 3 is a diagrammatic view illustrating the electric fan-controlling appliances; Fig. 4 is a like view illustrating a modification; and Figs. 5, 6 and 7 are diagrammatic plan views illustrating additional modifications.

Like reference characters refer to like parts in all the figures.

The improved fly-excluding entrance booth represented by the drawings is designed as the street entrance of a store; and for clearness the description will be confined to such entrances for persons to a building, or a portion thereof, as a sales room or a work room.

Oppositely disposed outer and inner doors 1 and 2 have spring hinges, *a*, or their equivalent, by which they are rendered "self-closing", and in common open inward, and close against stop shoulders *b* on the fixed member at the free edge of each door, but are preferably and conven-

iently independent of each other and one or both of them without fastenings so as to prevent the accidental detention of persons in the booth.

Such doors may be and preferably are supplemented by normally bolted doors 1' and 2' which may be opened to increase freedom of egress from the building or room. The other walls of the booth may be wholly or in part of glass, as represented at 3 and 4, Fig. 2; and the floor, 5 Fig. 1, may be the ordinary floor or pavement on which the booth is located, with or without superposed thresholds, *c*.

The booth may be closed at top by a weather proof roof, 6 Fig. 1, so as to be located outside of the building. Internally, at the top of the booth, a suitable frame, 7, supports the motor, 8, and shaft, 9, of a centrally located and downwardly blowing rotary electric fan, 10, the blades of which revolve above a coarse protective screen or grille 11 above the door level, and are freely supplied with air through fly-proof screens 12 located in openings above the doors and elsewhere as may be convenient. The electric connections 13 of the fan motor 8 include a rheostat 14 (Figs. 2 and 3) or an automatic switch 15 (Fig. 4) suitably supported in juxtaposition to the outer door 1.

In the arrangement represented by Figs. 1 to 3 inclusive, the fan 10 is driven continuously, with a low speed of say 175 revolutions per minute when the outer door 1 is closed, and a high speed of say 225 revolutions or more per minute as long as the outer door is open. The speed is changed by the aid of the rheostat 14 in the manner illustrated by Fig. 3; a low speed contact 16 being effective when the outer door is closed as shown in Fig. 3, and a high-speed contact 17 when the same is open or partly open. The pressure of the wind from the fan running at low speed when both of the doors 1 and 2 are closed is calculated to be sufficient to prevent the entrance of flies into the booth beneath or at the free edge of the outer door, or through like crevices; and such wind pressure is sufficiently increased when the fan is running at high speed to exclude flies with either or both doors open.

In the modified arrangement represented by Fig. 4, the fan (10) is normally at rest, and is started by the opening of the outer door 1, which permits the automatic switch

15 to turn on the current. The switch 15 is located as a jamb switch at the hinge edge of the outer door frame, and is actuated to stop the fan by the interaction therewith of a wear plate 18 on the door with the protruding plunger or its equivalent of the switch. A supplemental snap switch 19 permits the current to be turned on all the time if desired in the modified arrangement, Fig. 4, and provides for turning the current on and off in Fig. 3.

The roof 6 of the improved booth may preferably and conveniently be removable to facilitate access to the electric fan 10 and its accessories above the screen or grille 11.

Owing to the wind pressure within the booth and the fact that all the doors close outward, very light door-closing springs *a* will suffice to prevent either of the doors 1 and 2 from remaining open; and suitable known or improved door-closing devices may obviously be substituted for such springs.

The rheostat 14 and switch 15 with their accessories may both be of any suitable known or improved construction, and their details form no part of this invention.

The improved booth is shown in Fig. 2 as square in plan and as built in between show windows 20 and 21 at the entrance of a store. It may obviously be wholly distinct so as to be removable in winter. It may also be of other shapes in plan, as represented by Figs. 5, 6 and 7, which represent respectively a booth the general shape of which in plan is round or having rounded sides (Fig. 5), one hexagonal in plan (Fig.

6), and one octagonal in plan (Fig. 7). Other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention and desire to patent under this specification:

1. A fly-excluding building or room entrance closed at top and sides against the admission of flies, provided with screened openings for the free admission of air, and having outer and inner doors openable inwardly, an inclosed downwardly blowing fan located above the plane of said doors and adapted to prevent the admission of flies through the outer doorway by wind pressure, a motor by which said fan is driven, and motor controlling means carried in part by said outer door and operated to supply power to the motor by the opening of this door.

2. A fly-excluding building or room entrance closed at top and sides against the admission of flies, provided with screened openings for the free admission of air, and having outer and inner doors openable inwardly, an inclosed downwardly blowing fan located above the plane of said doors, a motor by which said fan is driven, and motor controlling means carried in part by said outer door and adapted to cause the fan to be driven continuously at a low speed when the outer door is closed and at a higher speed when the outer door is open.

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