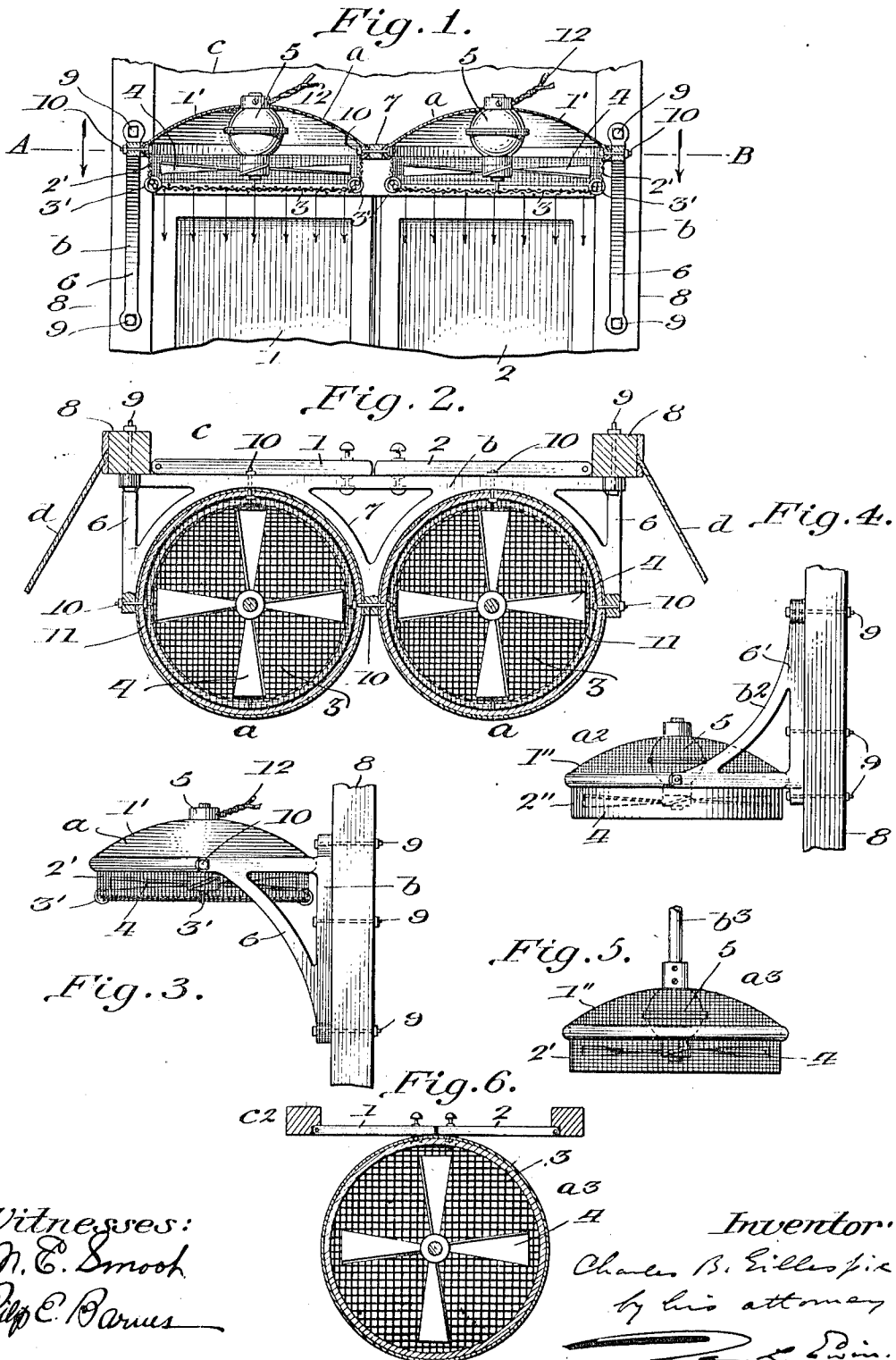


C. B. GILLESPIE.
 MEANS FOR EXCLUDING FLIES FROM BUILDINGS.
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Witnesses:
 M. E. Smook
 R. E. Barnes

Inventor:
 Charles B. Gillespie
 by his attorney
 R. L. Davis

UNITED STATES PATENT OFFICE.

CHARLES B. GILLESPIE, OF GRAND FORKS, NORTH DAKOTA.

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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-excluding fan attachment, for entrance doorways, embodying such combinations or any of them, as hereinafter particularly described and claimed.

The leading objects of this invention are to provide a pneumatic fly-excluding device adapted to be readily attached externally to an ordinary entrance to a building, and to adapt the same to produce an effective flyless draft of air to act as a barrier to flies.

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 sectional front view of an arrangement illustrating the employment of a plurality of fans for a wide doorway; Fig. 2 represents a horizontal section on the line A—B, Fig. 1; Fig. 3 is a side view of the same; Figs. 4 and 5 are elevations showing modified fan supports; and Fig. 6 is a sectional plan view showing a single fan arrangement.

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

In all the arrangements the present fly-excluding device is characterized by one or more overhead electric-fan structures, a or a^2 or a^3 , and supports, b or b^2 or b^3 , therefore; the latter designed and adapted to be securely attached outside an ordinary doorway, c or c^2 , so as to support said fan structures immediately above the level of the tops of the doors represented at 1 and 2, so that the latter may swing outwardly if desired.

Each of the fan structures, a or a^2 or a^3 , may be and preferably is shaped externally

like a round covered dish, as represented, and ornamented to any desired extent. Its essential characteristics are fly-proof top and side casing members 1', 2', or 1'' 2'', or 1'' 2'; one or both of them of fly-proof wire screen; a bottom 3, in the form of a strong protective screen or grille; and a concentrically inclosed electric fan 4, with its motor 5, depending from the top of the casing. Each top member, 1' or 1'', is arched in the shape of a flat dome to adapt it to so support the fan and motor within a casing of minimum size and of light weight.

In the species represented by Figs. 1, 2 and 3, the casing top 1' of each of the fan units a is of sheet metal or the like, rendering it weather-proof; the side ring 2' is of fly-proof screen, and the bottom 3 is movable so as to afford convenient access to the superjacent fastenings and other parts within the casing, being held in place by three or more split rings 3' or their equivalent. In this first species, a plurality of fan structure units a (two) are arranged above the respective doors 1 and 2, outside a wide doorway c , between show windows d , Fig. 2; the support b comprising a pair of vertical brackets, 6, and a horizontal member 7; the former attached beneath the fan units a to the respective door posts 8 by bolts 9; and the fan units a are attached to the support b in the plane of the horizontal member 7 by bolts 10 extending horizontally outward through rings 11 by which the upper edges of the side screens 2' are united with the rim of the casing top 1' of each fan unit, and through the casing elements last named. The current is supplied to the electric motor 5, by insulated wires 12, Fig. 1.

In Fig. 4, the fan structure a^2 has a top member 1'' of fly-proof screen, and a side member 2'' of sheet metal; and the support b^2 has brackets 6' bolted to the door posts 8' above the fan structure a^2 .

In Fig. 5 the fan structure a^3 has a top member 1''' and a side member 2''' both of fly-proof screen, and the support b^3 is in the form of a rod or pipe depending from an overhead canopy or the like.

In Fig. 6 a single fan structure (a^3) is arranged centrally with reference to the customary pair of doors 1 and 2 outside a narrow doorway c^2 .

The fly-proof top and side casing-mem-

bers of the fan structures a , a^2 and a^3 , in common, operate to prevent flies and the like from being drawn into the casing and thence thrown downward within the air current or barrier, from which they could escape inside the building. With a plurality of fan units as in the first species, a laterally extended surface of air current is produced, having the character of an air curtain. Compare Figs. 1 and 2. The weather-proof top members 1' in the first species operate to prevent the accentuation of the fall of rain drops when the fan structures a are not protected by an overhead canopy.

It will be obvious that a single fan structure, so arranged (Fig. 6), may be constructed and supported in any of the ways above described, and that in Figs. 4 and 5 the fan structures a^2 , a^3 may be either single (Fig. 6) or plural (Figs. 1-3); and 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. In means for excluding flies from buildings, the combination with an entrance way of a downwardly directed rotary fan and its motor, located outside and above said entrance way, a casing surrounding and supporting said fan and motor and constructed with fly-proof top and side members, and means for supporting said casing in said location.

2. In means for excluding flies from a building, an electric-fan structure comprising a casing having fly-proof top and side members constructed respectively of sheet metal or like weather-proof material and of air-admitting screen, together with a fan and its motor depending within said casing, and means for supporting the same outside an entrance.

3. In means for excluding flies from buildings, the combination with an entrance way of an electric-fan structure comprising a casing having fly-proof top and side members, partly of fly excluding screen, the top member being arched in the shape of a low dome, and a bottom member of coarse screen or the like for safety, together with a downwardly directed fan and its motor depending from said top member and above said bottom member within said casing, and means

for supporting said fan structure outside and above said entrance way.

4. In means for excluding flies from buildings, the combination with an entrance way of an electric-fan structure comprising a casing having fly-excluding top and side members, a movable bottom member of coarse screen or the like for safety, and means for holding said movable member in place, together with a fan and its motor depending above said bottom member within said casing, and means for supporting said structure outside and above said entrance way.

5. In means for excluding flies from buildings, the combination with an entrance door way of an electric-fan structure comprising a casing having fly-proof top and side members together with a fan and its motor depending within said casing, and means for supporting said fan structure outside and above said door way, said supporting means including vertical brackets bolted to the door posts, a horizontal member connecting said brackets, and connecting devices in the plane of said horizontal member.

6. In means for excluding flies from a building, a plurality of electric fan units, each comprising a casing having fly-proof top and side members together with a fan and its motor depending within said casing, and means for supporting the same outside a wide entrance doorway, said supporting means comprising vertical brackets bolted to the door posts, a horizontal member common to all, and bolts by which the several fan units are attached to the support in the plane of said horizontal member.

7. In means for excluding flies from a building, the combination with an entrance way of a plurality of electric-fan units, each comprising a casing having fly-proof top and side members partly of fly-excluding screen, together with a fan and its motor depending within said casing, and means for supporting said fan units outside and above said entrance way and equally adjacent thereto, whereby a laterally extended fly-less draft of air is produced parallel to said entrance way, substantially as hereinbefore specified.

CHARLES B. GILLESPIE.

Witnesses:

NORMAN WEILER,
P. McLOUGHLIN.