Aug. 11, 1953 B. G. COLLIDA 2,648,273

WINDOW VENTILATING ATTACHMENT

Filed Feb. 14, 1952 2 Sheets-Sheet 1

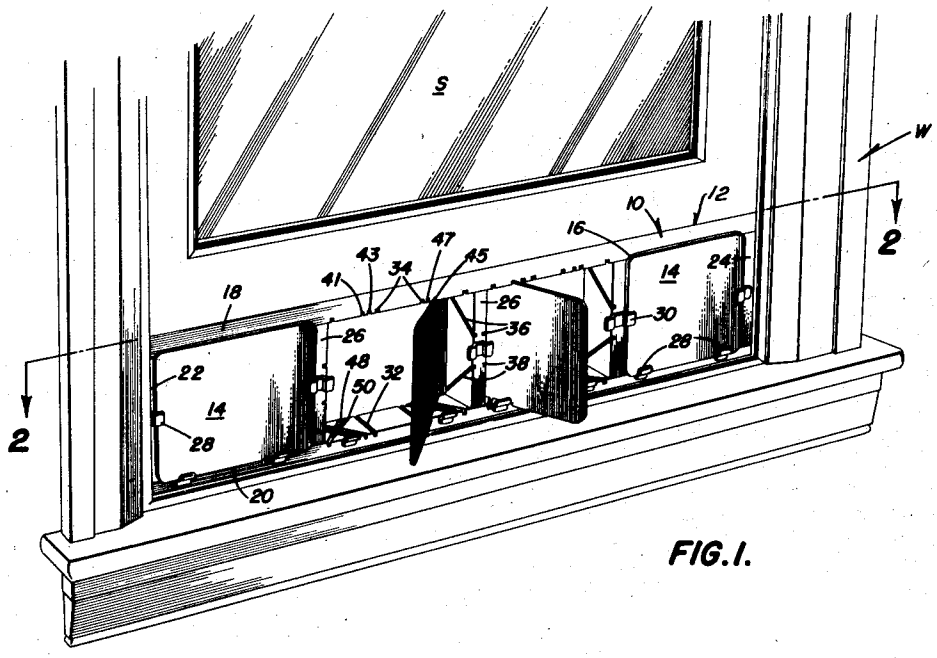


FIG. 1.

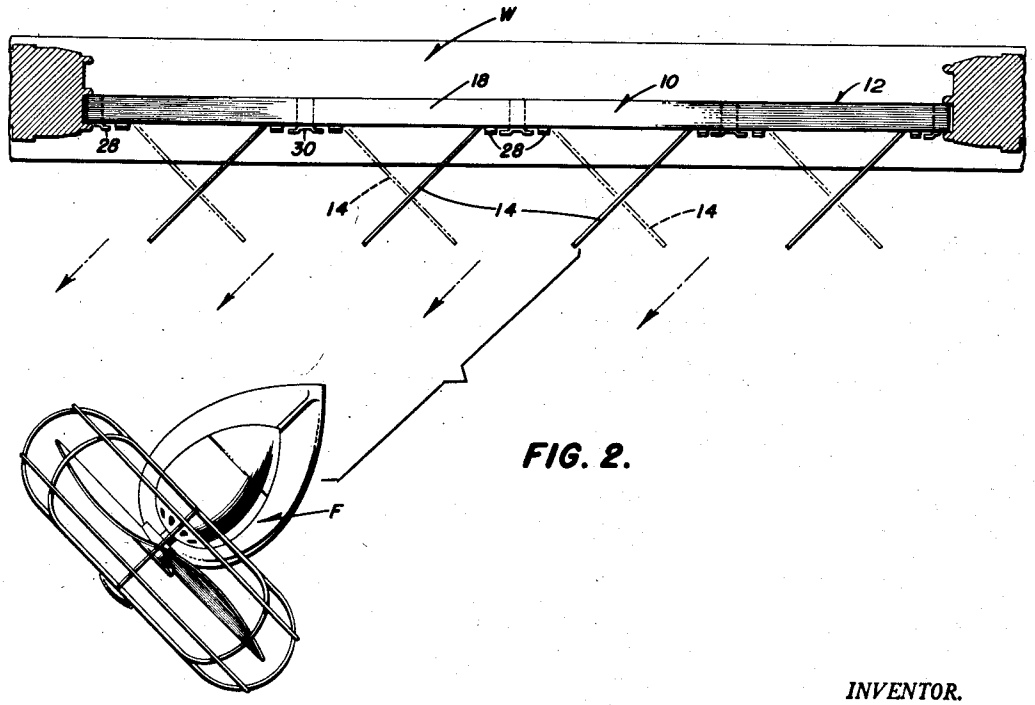


FIG. 2.

INVENTOR.
BARTOLO G. COLLIDA
BY
Leach + Radue
Attorneys

Aug. 11, 1953 B. G. COLLIDA 2,648,273

WINDOW VENTILATING ATTACHMENT

Filed Feb. 14, 1952 2 Sheets-Sheet 2

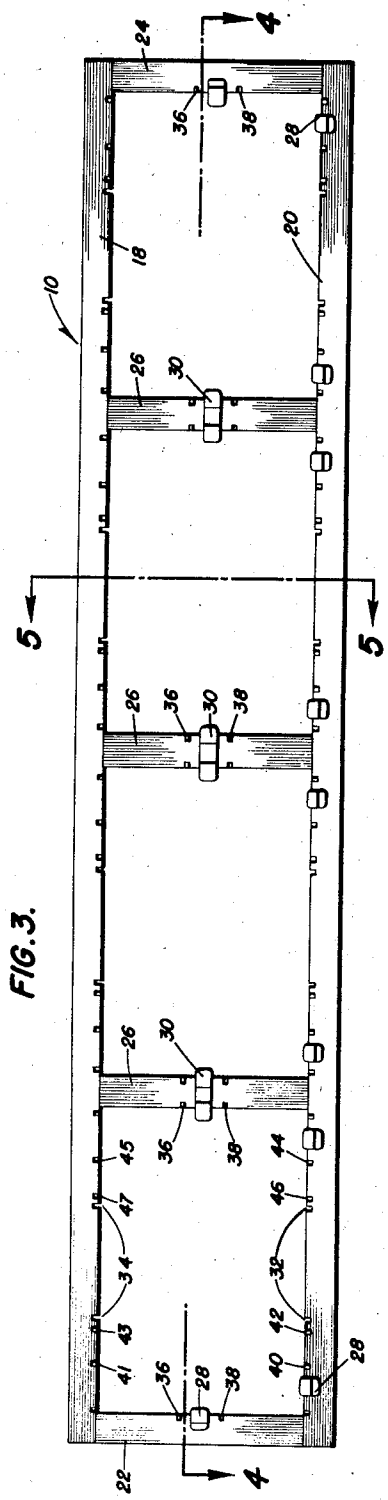


FIG. 3.

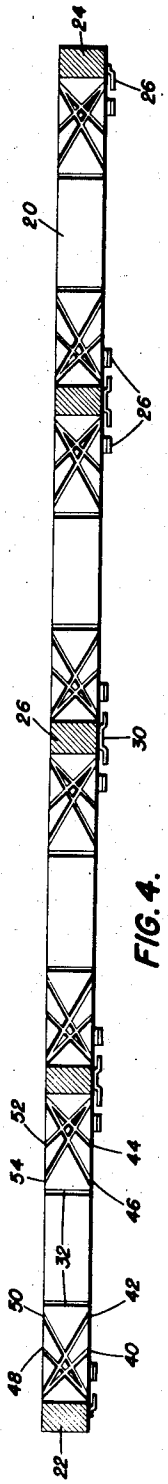


FIG. 4.

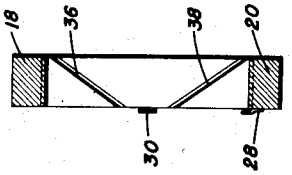


FIG. 5.

INVENTOR.
BARTOLO G. COLLIDA
BY Leech & Radue
Attorneys

Patented Aug. 11, 1953

2,648,273

UNITED STATES PATENT OFFICE

2,648,273

WINDOW VENTILATING ATTACHMENT

Bartolo G. Collida, St. Louis, Mo., assignor of fifty per cent to Thomas M. Gioia, St. Louis, Mo.

Application February 14, 1952, Serial No. 271,480

4 Claims. (Cl. 98—99)

1

This invention pertains to window ventilating attachments that have adjustable air flow directing means and are for use either with or without the aid of an auxiliary electric fan.

Various attachments have been proposed and used for insertion in a household or office window opening to control the direction and volume of air flow therethrough. Many of these have been of a simple type having fixed louver constructions intended to cause the air to flow upwardly upon entering the room space. Other more complicated and expensive air flow control devices employ pivotally mounted vertical vanes to control flow in lateral directions. Since many houses and offices now use an ordinary portable electric fan to induce circulation into a room space closed by a window, or to expel air from such a space, for obtaining maximum comfort under different conditions of air temperature and moisture, the need has arisen for a window attachment that would improve the efficiency of such ventilating operations.

It is therefore the principal purpose of this invention to provide a simple, inexpensive window attachment adapted readily to control the flow of air into or out of a room for ventilating or conditioning purposes.

More specifically, it is an object of this invention to provide a window ventilating attachment comprising a frame adapted to be inserted in a window opening and constructed and arranged selectively to maintain a plurality of louvers, plate elements or slats in various individual positions and useful combined arrangements.

These and other features of the invention contributing to its simplicity of construction and efficiency and flexibility in operation will be more fully understood from the following detailed description of a preferred embodiment, taken in connection with the accompanying drawings, in which:

Fig. 1 is a front perspective view of a common sliding sash window in which the attachment of this invention has been mounted;

Fig. 2 is a cross sectional view of Fig. 1 taken on line 2—2 and showing the relation of an electric fan to the ventilating attachment;

Fig. 3 is an enlarged front view of the window attachment of this invention as it would ordinarily be viewed from the inside of a room, and with all plate elements removed;

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 3; and

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 3.

2

As seen in Fig. 1, a window structure W having sliding sash S has been opened sufficiently at the bottom to receive and retain a window ventilating unit 10 embodying this invention. In the combined cross section and top plan view of Fig. 2 a different arrangement of the ventilating elements of Fig. 1 is shown and one manner of utilizing an electric fan F therewith is illustrated.

The window ventilating unit 10 comprises a rectangular frame member 12 which may be formed of wood, metal or any other suitable material that can be made of a size to fit a particular window opening width, or can be made adjustable lengthwise in order to permit use with a variety of different size windows.

A plurality of louvers or plate elements 14 of rectangular shape and made preferably of lightweight sheet metal or plastic are adapted to be received and retained in the frame member 12 in the manner shown in Figs. 1 and 2, and which will be described in more detail. For appearance and ease of insertion and handling the four corners of the plate elements or vanes 14 may be rounded as indicated by reference numeral 16 in Fig. 1.

The frame member 12, which is of elongated rectangular shape, comprises a top member 18, a bottom member 20, a left side member 22 (as viewed in Fig. 3), a right side member 24, and intermediate upright members 26 subdividing the frame into a series of longitudinally spaced openings, somewhat smaller in size than the louvers 14.

Figs. 1 and 3 clearly show the manner in which guide means in the form of single clip elements 28 and double clip elements 30, mounted respectively on the side members 22 and 24, and the intermediate members 26 approximately midway of their heights, are constructed and arranged to receive and retain the plate elements 14. While the plate elements 14 could be permitted to slide downwardly and rest on the window sill, it is preferable to supply spaced single clip elements 28 mounted on the bottom frame member 12 along each spaced opening to support the lower edge of the plates 14 when mounted in the closed relation shown at the opposite ends of Fig. 1. In this manner all or any number of the longitudinally spaced openings within the frame member 12 can be completely closed.

Intermediate the upper surface of the bottom frame member 20 within each opening, and in spaced relation, are transverse slot formations 32, extending perpendicularly to the general plane of the frame which may be most readily

formed by simple grooving. Identically spaced and arranged slot formations **34** in the lower surface of the top frame member **18** are opposed to the slots **32** to receive respectively the upper and lower edges of a plate element **14**. When a whole series plate elements **14** are arranged in inwardly extending perpendicular relation along the length of the frame **12**, the flow into the room will be subdivided and directed into a plurality of parallel channels.

The inner lateral faces of left and right side frame members **22** and **24** and the inner lateral faces of the intermediate frame members **26** are formed with opposed converging pairs of upwardly and downwardly inclined slot formations **36** and **38**, shown in grooves, to permit insertion of the plate elements **14** in either a downwardly or upwardly projecting relation within the room, depending on whether it is desired to have the incoming air directed toward the ceiling or toward the floor.

Figs. 1 and 2 also illustrate the means by which the plate elements **14** can be arranged in the frame member **12** to direct incoming air laterally toward one side or the other of the window construction W. Additional slide or groove formations pairs **40—41** and **42—43**, and **44—45** and **46—47** are provided for this purpose in the upper surface of the bottom frame member **20** and the lower surface of the top frame member **18**, as best shown in Figs. 3 and 4. These additional slide or groove formations are disposed outwardly beyond the intermediate perpendicular slot formations **32** within each of the longitudinally spaced openings of the frame member **12**.

From a consideration of Figs. 1, 2 and 4, it will be apparent that the plate or vane elements **14** can be set alternatively in each frame member opening in the full and dotted line angular positions of Fig. 2, that is, converging from either side of the opening toward the center thereof. Grooves **40**, **42** and **44**, **46** of the bottom frame member **20** and grooves **41**, **43** and **45**, **47** of the top member **18** permit variation of the angular position at each side of the opening.

Diverging arrangements of a pair of plate or vane elements **14** in each opening, with angular variation, can be obtained by adding grooves **48** and **50** and **52** and **54** intersecting grooves **40** and **42** and **44** and **46**, respectively, in the manner illustrated at the left side of Fig. 4. In like manner corresponding opposed grooves of similar angular relation are formed in the lower surface of the top frame member **18**, as partially shown in Fig. 3. It is also possible to extend the plate elements **14** angularly on the outerside of the frame member **10** and window W in order to take full advantage of a flow of air across the outside plane of window by directing said flow into the room.

The essence of the invention is therefore shown to be a window attachment providing maximum flexibility of adjustment and efficiency of ventilation through adaption to use with a plurality of removable plate elements involving no moving parts or pivotal mountings.

It has been stated that any suitable material may be used in constructing the unitary frame member **12**. The same permissible use of other materials exists also with regards to the clip elements **28** and **30**. Metal is preferred because of its physical properties and the ease of sliding which a metal surface affords. As will be understood the extent and number of the clip elements is not material so long as their position does not interfere with the full utilization of the louver or vane receiving slots, permits easy insertion and removal, and adequately supports and maintains the louvers or vanes in position to close any or all of the series of longitudinally spaced openings of the frame member **12**. While from the standpoint of simplicity and economy, grooves or slots cut, molded, or otherwise formed in the frame member **12** are preferred, this is not essential as the groove defining formations could project within the openings of the frame member in the form of spaced shoulders.

It will thus be understood that various changes can be made in the detail of construction and arrangements of parts without departing from the principles of this invention as defined in the appended claims.

Having thus described my invention, what I claim as novel and desire to secure by Letters Patent of the United States is:

1. A window attachment comprising a rectangular frame formed by pairs of top and bottom and side members and having a plurality of intermediate upright members subdividing the frame into a series of longitudinally spaced openings, guide means on the bottom frame member, the side frame members, and the intermediate frame members at one face of the frame adapted and arranged to slidingly receive and retain a rectangular plate element over certain of the spaced openings to close off the respective opening, and the inside surfaces of the side and intermediate members being provided with opposed pairs of converging upwardly and downwardly inclined slot formations adapted to slidingly receive certain of said plate elements when said plate elements have been removed from over the openings.

2. A window attachment comprising a rectangular frame formed by pairs of top and bottom and side members and having a plurality of intermediate upright members subdividing the frame into a series of longitudinally spaced openings, guide means on the bottom frame member, the side frame members, and the intermediate frame members at one face of the frame adapted and arranged to slidingly receive and retain a rectangular plate element over certain of the spaced openings to close off the respective opening, the inside surfaces of the side and intermediate members being provided with opposed pairs of converging upwardly and downwardly inclined slot formations adapted to slidingly receive certain of said plate elements, and the inside of the top and bottom members being provided in the intermediate part of each spaced opening with opposed pairs of transversely extending spaced slots, whereby certain of said plate elements can be inserted in a pair of upwardly or downwardly inclined slot formations or a pair of transversely extending slots when said plate elements have been removed from over the openings.

3. A window attachment comprising a rectangular frame formed by pairs of top and bottom and side members and having a plurality of intermediate upright members subdividing the frame into a series of longitudinally spaced openings, the inside surfaces of the side and intermediate members being provided with opposed pairs of converging upwardly and downwardly inclined slot formations adapted to slidingly receive said plate elements, the inside of the top and bottom members being provided in the intermediate part of each spaced opening with op-

posed pairs of longitudinally spaced slots extending perpendicularly to the general plane of the frame, and the inside surfaces of the top and bottom members being provided within said spaced openings and adjacent the respective end portions of said openings with opposed pairs of inclined slot formations for slidingly receiving said elements in various angular positions, said inclined slot formations being outwardly of the longitudinally spaced pairs of slots and arranged to converge toward the said intermediate parts.

4. A window attachment comprising a rectangular frame formed by pairs of top and bottom and side members and having a plurality of intermediate upright members subdividing the frame into a series of longitudinally spaced openings, guide means on the bottom frame member, the side frame members, and the intermediate frame members at one face of the frame adapted and arranged to slidingly receive and retain a rectangular plate element over each of the spaced openings, the inside surfaces of the side and intermediate members being provided with opposed pairs of converging slot formations adapted to slidingly receive said plate elements, the inside of the top and bottom members being provided in the intermediate part of each spaced opening with opposed pairs of

longitudinally spaced slots extending perpendicularly to the general plane of the frame, and the inside surfaces of the top and bottom member being provided within said spaced openings and adjacent the respective end portions of said openings with opposed pairs of transversely inclined slot formations for slidingly receiving said elements in various angular positions, said transversely inclined slot formations being arranged to converge toward the said intermediate parts, whereby certain of said elements can be selectively inserted in the said slot formations and slots when said elements have been removed from over the openings.

BARTOLO G. COLLIDA.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
496,454	Swanson	May 2, 1893
880,538	Kennedy	Mar. 3, 1908
1,692,288	Clarke	Nov. 20, 1928
2,137,924	Schickedanz	Nov. 22, 1938
2,355,847	Burns	Aug. 15, 1944
2,472,748	Labus	June 7, 1949