Oct. 2, 1951 W. H. PORTER 2,569,689

VENTILATOR

Filed April 29, 1946

FIG. 2

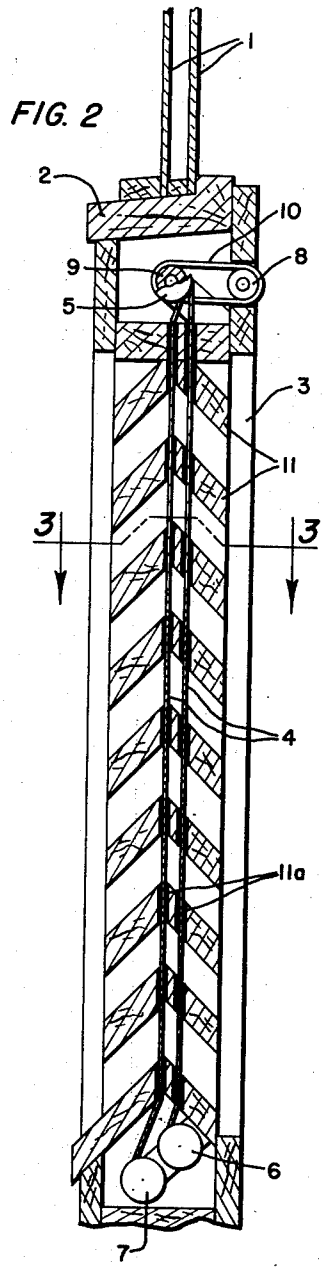


FIG. 1

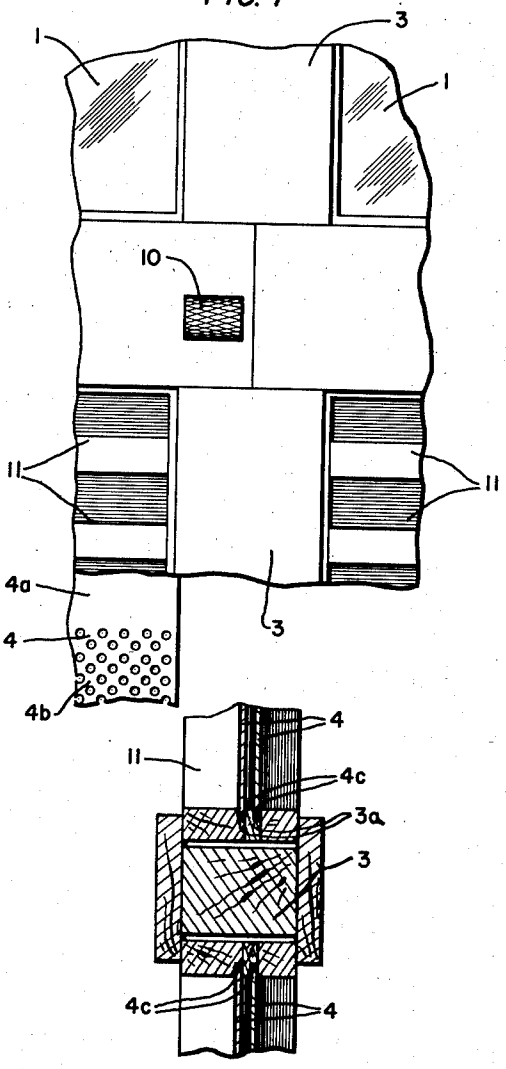


FIG. 3

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VENTILATOR

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3 Claims. (Cl. 160—121)

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My invention relates to a ventilator, more particularly for use in building walls for ventilating building rooms, and the objects of my invention are:

First, to provide a ventilator of this class which is arranged to ventilate a building room independently of the window structure thereof;

Second, to provide a ventilator of this class which may be placed in exterior walls of buildings below the windows thereof for properly ventilating rooms independently of the windows thereof;

Third, to provide a ventilator of this class in which spaced, flexible sheets are movably supported in the wall structure of a building room and are provided with perforate portions and closed portions providing an optional dead air space or a double ventilating screen;

Fourth, to provide a ventilator of this class which is particularly adapted for use in combination with double window pane structure wherein a dead air space is provided intermediate the window panes and a pair of spaced movable sheets provide optional dead air space or perforate screens;

Fifth, to provide a ventilator of this class which may be installed in conventional building wall structure;

Sixth, to provide a ventilator of this class which is particularly adapted for use in cold climates; and

Seventh, to provide a ventilator of this class which is very simple and economical of construction, efficient in operation, and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions, as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon, forming a part of this application in which:

Figure 1 is a fragmentary side elevational view of my ventilator; Fig. 2 is a vertical sectional view thereof, showing portions broken away and in section; and Fig. 3 is a fragmentary sectional view taken from the line 3—3 of Fig. 2.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings.

The window panes 1, sill 2, mullion 3, flexible sheets 4, rollers 5, 6 and 7, operating rollers 8 and 9, belt 10, and the louvers 11 constitute the principal parts and portions of my ventilator.

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The window panes 1 are positioned in spaced relation to each other providing an air space therebetween and are supported on the sill 2. Positioned beneath the sill 2 and revolubly mounted thereunder is the roller 5 having the two flexible sheets 4 wound thereon. Opposite ends of these flexible sheets 4 are wound on the rollers 6 and 7 which are conventional spring loaded rollers. The operating roller 9 is secured in connection with the spring loader roller 5 and the belt 10 is positioned thereover and engages the operating roller 8 revolubly mounted at the inner side of the window sill providing a manual operating roller for turning the roller 5 and winding the flexible sheets 4 thereon. The louvers 11 are substantially V-shaped in cross section, as shown in Fig. 2 of the drawings, and the flexible sheets 4 pass through slotted portions 11*a* therein, arranged in spaced relation to each other for maintaining the flexible sheets 4 in parallel spaced relation to each other. The louvers 11 are arranged in inverted V-shaped cross sectional relation to each other, providing a rain and weather shield for the flexible sheets 4. It will be noted that these flexible sheets 4 are each provided with a solid portion 4*a* and a perforate portion 4*b* adjoining on a substantially horizontal plane. These flexible sheets 4 are of sufficient length so that half the sheet is formed by the perforate portion 4*b* and the other half is formed by the solid portion 4*a* permitting the use of the perforate portion coextensive with the louvers 11 for the provision of ventilation or the use of the solid portion 4*a*, coextensive with the louvers 11 for the purpose of insulation. When used for the purpose of insulation, a dead air space is maintained intermediate the flexible sheets 4. Opposite edges 4*c* of the flexible sheets 4 are vertically movable in slotted portions 3*a* in the mullion 3, as shown best in Fig. 3 of the drawings.

The operation of my ventilator is substantially as follows:

When it is desired to shift the flexible sheets 4, the belt 10 on the operating roller 8 is manually engaged and the roller 9 in connection with the roller 5 rotates therewith. The sheets 4 are wound on the roller 5 or unwound therefrom according to the direction of operation of the belt 10 on the operating roller 8. When the sheets 4 are unwound from the roller 5, the spring loaded rollers 6 and 7 wind the sheets 4 thereon. When the operating roller 8 is operated in the opposite direction the flexible sheets 4 are wound

upon the roller 5 and off from the rollers 6 and 7. It will be noted that these flexible sheets are equal in length to twice the distance from the roller 6 to the roller 5 and that the entire area occupied by the louvers 11 may be covered by the enclosed portion 4a of the flexible sheets 4 or may be covered by the perforate portions 4b of these flexible sheets 4, providing either a dead air space between the flexible sheets 4 or a double ventilation screen as desired. The window panes 1, in spaced relation to each other, maintain a dead air space therebetween for insulation purposes.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to the particular construction, combination, and arrangement, but desire to include in the scope of my invention, the construction, combination and arrangement substantially as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a ventilator of the class described, the combination of a pair of rollers, a flexible sheet wound on said rollers and extending therebetween, provided with a perforate portion and a solid portion, louvers substantially contiguous at opposite sides of said flexible sheet, through which said flexible sheet extends, said louvers substantially V-shaped in cross section and arranged in downwardly and outwardly disposed relation from said flexible sheet, a second flexible sheet in spaced relation to the first mentioned flexible sheet and extending through said louvers substantially contiguous, and second roller means supporting said second flexible sheet.

2. In a ventilator of the class described, the combination of a pair of rollers, a flexible sheet wound on said rollers and extending therebetween, provided with a perforate portion and a solid portion, louvers substantially contiguous at opposite sides of said flexible sheet, through which said flexible sheet extends, said louvers substantially V-shaped in cross section and arranged in downwardly and outwardly disposed relation from said flexible sheet, a second flexible sheet in spaced relation to the first mentioned flexible sheet and extending through said louvers substantially contiguous, and second roller means supporting said second flexible sheet, and rotary means laterally of said flexible sheets for rotating one of said rollers.

3. In a ventilator of the class described, the combination of a flexible sheet having a perforate portion and a solid portion, rollers in spaced relation to each other, supporting opposite ends of said sheet, one of said rollers spring loaded, and substantially horizontal louver members of inverted V-shaped cross section and vertically spaced relative to each other substantially contiguous with opposite sides of said sheet, a second flexible sheet, having a perforate portion and a solid portion in spaced relation to said first mentioned flexible sheet and extending through said louvers substantially contiguous thereto, said second mentioned sheet at one end wound on one of said rollers contiguous with said first mentioned sheet, a separate spring loaded roller arranged to support the opposite end of said second mentioned flexible sheet.

WILLIAM H. PORTER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
59,553	Cabell	Nov. 13, 1866
481,937	Egry	Sept. 6, 1892
507,520	Amos	Oct. 24, 1893
797,652	Wilson	Aug. 22, 1905
1,529,573	Chappell	Mar. 10, 1925
1,691,162	Miller	Nov. 13, 1928
2,082,406	Lloyd	June 1, 1937
2,140,049	Gravel	Dec. 13, 1938
2,170,877	Simon	Aug. 29, 1939
2,320,268	Cramer	May 25, 1943
2,328,257	Butts	Aug. 31, 1943