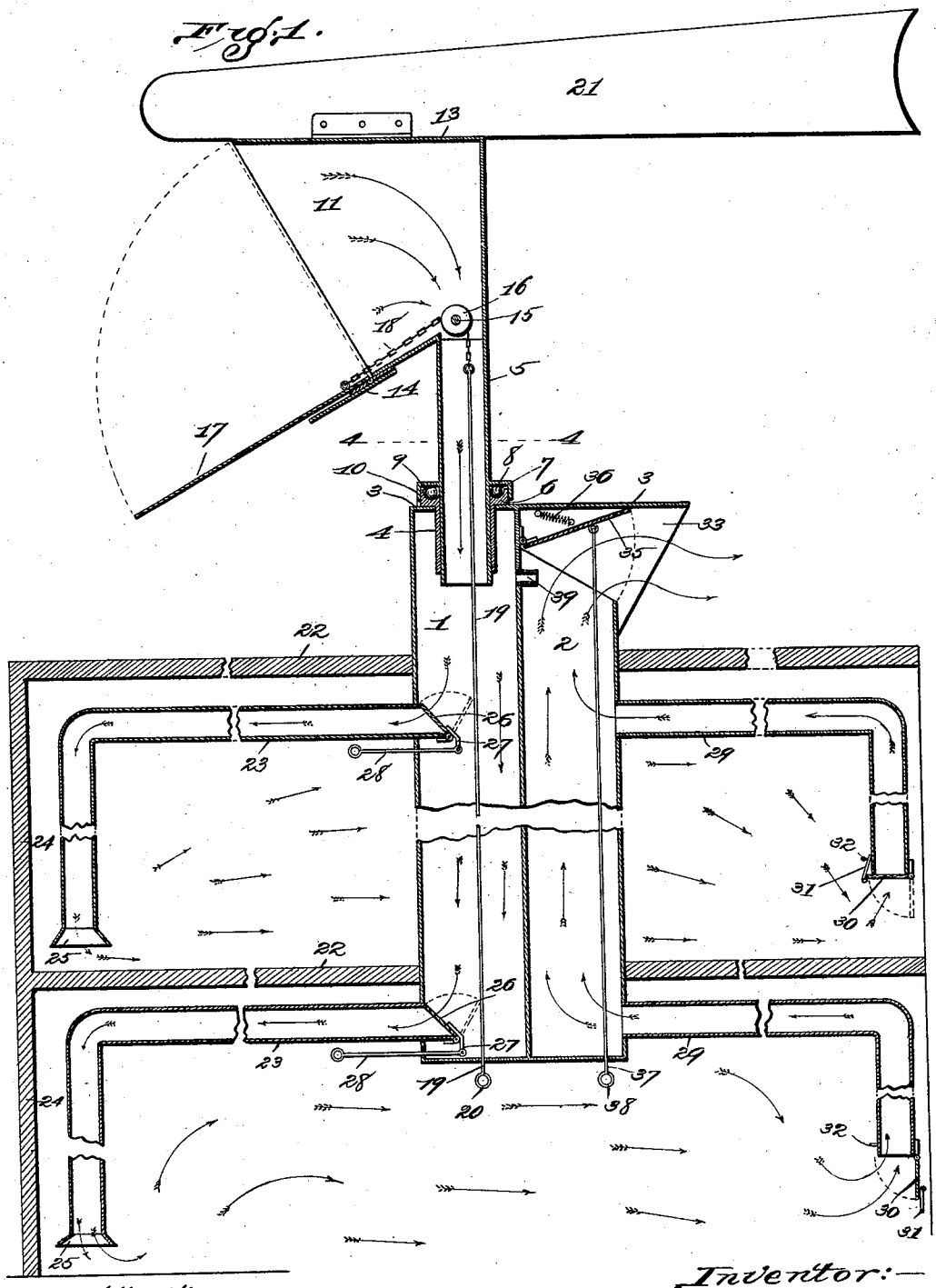
(No Model.) 2 Sheets—Sheet 1.

G. T. FINAGIN.

VENTILATING SYSTEM FOR BUILDINGS.

No. 588,969. Patented Aug. 31, 1897.

Fig. 1.



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Fig. 2.

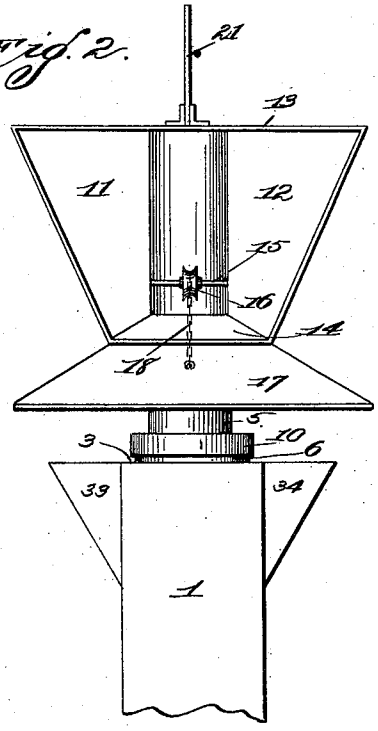


Fig. 3.

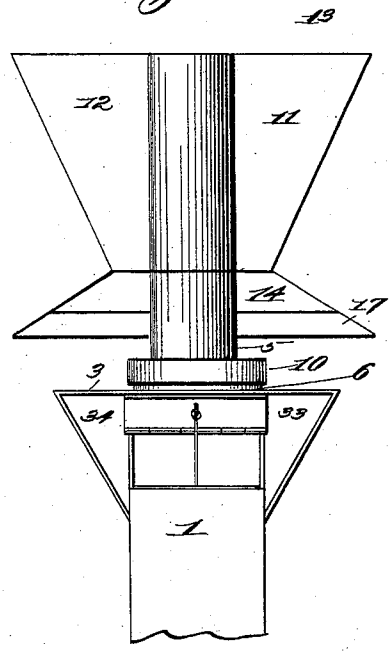


Fig. 4.

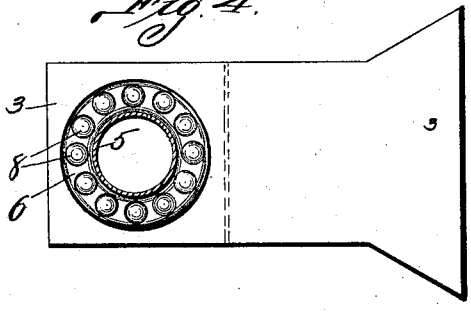
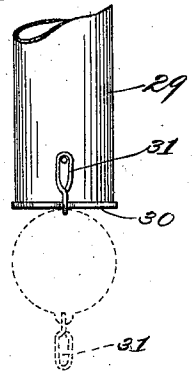


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE T. FINAGIN, OF ST. LOUIS, MISSOURI.

VENTILATING SYSTEM FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 588,969, dated August 31, 1897.

Application filed June 1, 1896. Serial No. 593,822. (No model.)

To all whom it may concern:

Be it known that I, GEORGE T. FINAGIN, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Ventilating Systems for Buildings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a ventilating system for buildings; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a vertical sectional view illustrating the application of my improved ventilating system as applied to a building. Fig. 2 is a view in elevation showing the front of the receiving-funnel and the rear of the discharge-funnel. Fig. 3 is a view in elevation showing the rear of the receiving-funnel and the front of the discharge-funnel. Fig. 4 is a horizontal sectional view on the indicated line 4 4 of Fig. 1. Fig. 5 is an enlarged detail view of the lower end of one of the discharge-pipes.

In the construction of my improved ventilating system I employ the vertical pipes 1 and 2, arranged side by side. The pipe 1 is an inlet-pipe and the pipe 2 is an outlet-pipe, and they pass from the upper part of the lower room to be ventilated to a position somewhat above the roof of the building. These may be rectangular, circular, or of any desired shape in cross-section.

The upper end of the pipe 1 is partially closed by a cover 3, and a section of tubular pipe 4 is inserted through said cover 3 to form a bearing for the swiveled inlet-pipe 5. A ring 6 is attached to the upper end of the pipe 4 and rests upon the upper face of the cover 3. In the upper face of the ring 6 is an annular groove 7, which is semicircular in cross-section, and in said groove operate a series of balls 8.

A flange 9 encircles the pipe 5 and is rigidly attached thereto, and a ring 10 is attached at its upper edge to the outer edge of the flange 9, said ring encircling the ring 6. The flange 9 rests directly upon the balls 8, and thus is formed a ball-bearing supporting the pipe 5 and the mechanism carried therewith. A plan view of this bearing is shown in Fig. 4.

A funnel consisting of the triangular side walls 11 and 12, the top 13, and the flaring bottom 14 is attached to the upper end of the pipe 5. The discharge-opening of said funnel is at the rear of the bottom piece 14 and corresponds to the upper end of the pipe 5. A shaft 15 is mounted horizontally between the lower ends of the walls 12, and a grooved pulley 16 is mounted upon the center of said shaft. The door 17 is attached to the front edge of the bottom piece 14 and is designed to close the outer opening of the funnel. A chain 18 is attached to said door 17 and passes over the grooved pulley 16 and thence down the pipe 5. A rod 19 is attached to the lower end of said chain and extends down the inlet-pipe 1 and terminates in the ring 20.

A weather-vane 21 is attached to the top of the top piece 13. Below the ceilings 22 of each room to be ventilated inlet-pipes 23 are tapped into the vertical pipe 1. These pipes 23 extend horizontally from the pipe 1 to near the side walls 24 of the rooms and then are bent downwardly and extend to a point near the floors of said rooms and terminate in the inverted funnels or flared openings 25.

Trap-doors 26 are hinged to the inner ends of the pipes 23 and are designed to close said pipes. The trap-doors 26 operate in the inlet-pipe 1. Arms 27 are attached to the doors 26, and rods 28 pass outwardly through the wall of the pipe 1 and are designed to be used for manipulating the trap-doors 26, as required, to regulate the passage of air from the inlet-pipe 1 into the pipes 23.

Outlet-pipes 29, similar to the pipes 23, are tapped into the outlet-pipe 2 at the opposite side from the pipes 23 and extend outwardly in a horizontal line near the under side of the ceilings to a point near the walls of said room and thence downwardly partly to the floor. Trap-doors 30 are hinged to the lower edges of said pipes 29 and are designed to close the openings in the lower ends of said pipes. Links 31 are attached to the free edge of said trap-doors 30 and are designed to engage the pins 32 upon said pipes 29 and hold said doors closed when desired.

In Fig. 5 is shown an enlarged view of the lower end of the pipe 29, the trap-door 30 being shown open in dotted lines and closed in full lines.

The cover 3 upon the upper end of the inlet-pipe 1 extends in a horizontal line over the pipe 2, and triangular pieces 33 and 34 are attached to said cover 3 and project downwardly and are attached to the upper end of the outlet-pipe 2. The side of the pipe 2 which comes between the side pieces 33 and 34 is cut away, thus forming a funnel-shaped discharge-opening for said pipe 2.

A trap-door 35 is hinged to the wall of the pipe 2 opposite the cut-away portion just mentioned and is designed to close the upper end of the pipe 2. A retractile coil-spring 36 is attached to the under side of the cover 3 and to the upper side of the trap-door 35 and is designed to hold said trap-door open. A rod 37, terminating in the ring 38, is attached at its upper end to the under side of the trap-door 35 and extends down the pipe 2 through the bottom of said pipe and is designed as a means of opening and closing said trap-door. A small opening 39 is positioned in the wall between the inlet-pipe 1 and the outlet-pipe 2 and near the upper end of said outlet-pipe.

In the practical operation of my improved ventilating system the action of the wind upon the weather-vane 21 will keep the inlet-funnel facing the wind and the force of said wind will be concentrated by striking the walls 11 and 12 and the upper face of the door 17, and will be directed down the inlet-pipe 5 and down the inlet-pipe 1, thence through the trap-doors 26 into the pipes 23, thence outwardly through the flared ends of said pipes and into the rooms to be ventilated. The current thus established into the rooms will force the foul air already in the rooms outwardly through the outlet-pipes 29 and the pipe 2 and out through the discharge-opening. The circulation of the air is controlled by the operation of the rods 28 opening and closing and regulating the trap-doors 26, and by the operation of the rod 19 opening and closing the trap-door 17, and by the operation of the rod 37 opening and closing the trap-door 35, and by opening and closing the trap-doors 30.

My improved ventilating system is simple and inexpensive in construction, easy of operation, and possesses many advantages over the devices heretofore in use for the same purpose.

I claim—

1. In a ventilating system, a funnel consisting of the triangular side walls 11 and 12, the top 13 and the flaring bottom 14, the pipe 5 attached to and forming the discharge-opening for said funnel, the trap-door 17 hinged to the front edge of the bottom piece 14 and of such length as to form an extension of the funnel when lowered and close the funnel when lifted, and means of operating said trap-door, substantially as specified.

2. In a ventilating system, a swiveled funnel, a trap-door hinged to the lower outer edge of said funnel and of such a length as to form an extension of the funnel when said trap-door is lowered and to close said funnel when the same is lifted, and means of operating said trap-door, substantially as specified.

3. In a ventilating system, a funnel, a trap-door hinged to the lower outer edge of said funnel and of such a length as to form an extension of the funnel when said trap-door is lowered and to close said funnel when the same is lifted, a pipe positioned vertically through the ceiling and roof of the building, a swiveled connection between the upper end of said pipe and said funnel, a handle operating below the lower end of said pipe, and a suitable connection between said handle through said pipe with said trap-door, whereby said trap-door may be operated by manually engaging said handle, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE T. FINAGIN.

Witnesses:
MAUD GRIFFIN,
S. G. WELLS.