J. W. LENLING.

VENTILATOR.

APPLICATION FILED JUNE 16, 1913.

Patented June 30, 1914.

1,101,641.

Fig. 1.

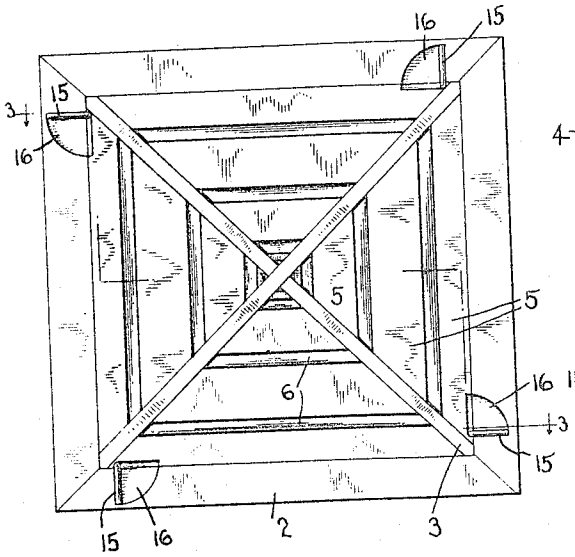


Fig. 2.

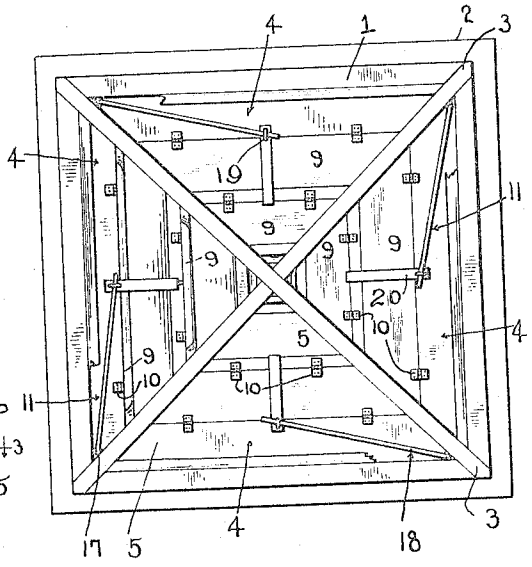


Fig. 3.

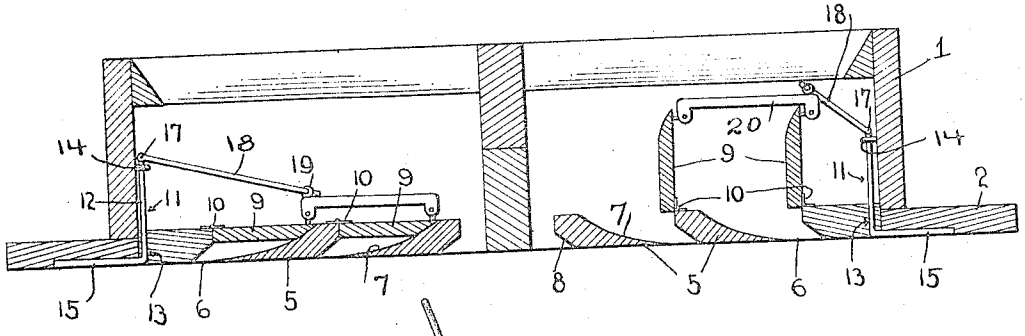
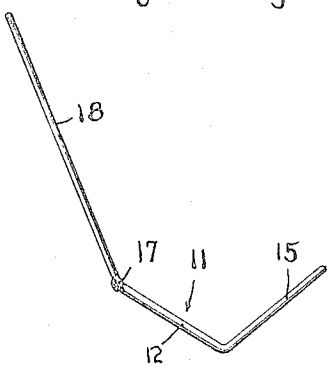


Fig. 4.



Inventor

J. W. Lenling

Witnesses

Lo. B. James

C. E. Hunt.

By H. B. Williamson & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN W. LENLING, OF GROTON, SOUTH DAKOTA.

VENTILATOR.

1,101,641. Specification of Letters Patent. Patented June 30, 1914.

Application filed June 16, 1913. Serial No. 773,975.

To all whom it may concern:

Be it known that I, JOHN W. LENLING, a citizen of the United States, residing at Groton, in the county of Brown and State of South Dakota, have invented certain new and useful Improvements in Ventilators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in ventilators, hot air registers and the like.

One object of the invention is to provide a ventilator having an improved construction and arrangement of air discharging passages and means for opening and closing the same whereby the air may be discharged from the ventilator or register in any desired direction.

Another object is to provide a ventilator of this character having means whereby the air controlling shutters thereof may be readily operated.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a front view of my improved ventilator; Fig. 2 is a rear view thereof showing part of the air controlling shutters in open position and the other shutters in closed position; Fig. 3 is an enlarged irregular horizontal sectional view taken on the line 3—3 of Fig. 2 showing the shutters in one side of the compartment closed and the shutters in the other side or opposite compartment open; Fig. 4 is a detail perspective view of one of the shutter operating members.

My improved ventilator or register comprises a rectangular frame 1 having on its outer edge, wall engaging flanges 2 and in which are diagonally arranged partition bars 3 which divide the frame 1 into four triangularly shaped spaces or compartments 4 as shown. Each of the spaces or compartments 4 has arranged therein at the outer side thereof series of slats 5 the ends of which are preferably formed integral with the partition bars 3, said slats being spaced suitable distances apart to form air discharging passages 6. The slats 5 have their outer edges flush with the outer edges of the partition bars and with the outer edges of the flanged sides of the frame 1. The inner surfaces of the slats are concaved or curved from their inner toward their outer edges as shown at 17 while the outer surfaces of the slats are beveled or formed at an angle as shown at 8. By constructing the slats in the manner described the passages between the same will be inclined and will diverge from the center of the triangular compartments or spaces between the partition bars, toward the adjacent outer sides of the ventilator or register as is clearly shown in Fig. 3 of the drawing. By forming the passages 6 in the manner described it will be seen that the air passing through the ventilator or register will be discharged in four directions from the center of the ventilator and will thus be more evenly or uniformly distributed into the room or compartment in which the ventilator or register is arranged.

In order to control the discharge of the air from the ventilator or register or to discharge the air in any desired direction, I provide shutters 9 for opening and closing the passages 6 between the slats 5. The shutters 9 are hinged at their outer edges to the inner ends of the slats 5 as shown at 10 in Fig. 3 of the drawings and the inner or free edges of the shutters are curved to conform to the portion of the curved inner surface of the adjacent slats with which said free edges of the shutters are engaged when swung to a closed position as is clearly indicated in the left hand side of the compartment in Fig. 3 of the drawings. When in an open position the shutters project inwardly at right angles to the inner ends of the slats as clearly indicated in the right hand side of Fig. 3 of the drawing. By arranging the passages and the shutters therefor in the manner described it will be seen that when it is desired to direct the air from the ventilator or register to the right as shown in Fig. 3 of the drawings it is simply necessary to open the slats in the right hand compartment or space 4 of the ventilator and to close the shutters in the remaining spaces whereupon all of the air will be discharged from the spaces in the right hand side of the ventilator. In like manner when it is desired to discharge the air in any other direction the shutters of the compartment corresponding to this di-

rection are opened while the shutters in the remaining compartments are closed as will be readily understood.

In order to readily open and close the shutters from the outside of the ventilator or register, I provide shutter operating levers 11 each of which is provided with an intermediate portion 12 which passes through an aperture 13 formed between the outer slat and the adjacent inner side of the frame and is mounted in a bearing 14 arranged on the inner side of the frame as shown. On the outer end of the intermediate bearing portion 12 is formed a right angular projecting crank arm 15 overlying the flange 2 of the frame and which preferably works in a segmental recess 16 formed in the outer surface of the flange opposite one corner of each of the compartments or spaces 4. The inner ends of the levers 11 are formed into fingers 18, project at a suitable angle from the inner ends of the bearing portions of the levers and are pivoted to them at 17. These fingers loosely engage elongated eyes 19 arranged in shutter connecting bars or links 20 which are pivotally connected to the inner free edges of the shutters as clearly shown in Fig. 3 of the drawings. When thus arranged it will be seen that in order to open and close the shutters in any of the compartments or spaces 4 of the ventilator it is simply necessary to turn the crank arms 15 of the levers 11 in the proper direction which will cause the fingers to swing the shutters to an open or closed position as will be readily understood.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is:

1. A ventilator, register, or the like comprising a rectangular frame, diagonal partitions in said frame whereby the latter is divided into triangular compartments, slats in said compartments having their surfaces constructed to form between the slats discharge passages diverging from the center of the ventilator, and means to control the discharge from said compartments independently.

2. A ventilator, register, or the like comprising a square frame, diagonal partitions therein dividing the same into triangular compartments, a series of parallel slats in each compartment whose inner surface is curved and whose outer surface is beveled, both surfaces inclining away from the common center of the frame, and means to control the discharge through any compartment.

3. A ventilator or the like comprising a frame, a series of parallel slats therein whose inner surfaces are curved and whose outer surfaces are beveled and all of whose surfaces incline toward one side of the frame, a series of shutters hinged to the inner edges of said slats and rounded along their free edges to contact with the curved inner surfaces of the slats next adjacent, and means for swinging said shutters in unison.

4. A ventilator or the like comprising a frame, a series of parallel shutters hinged therein, a rock shaft journaled in the frame and having a crank handle at its outer end and a finger at its inner end, a link connecting said shutters, and an eye in said link through which said finger slides.

5. A ventilator or the like comprising a frame, a series of parallel slats in the frame, a series of shutters hinged to said slats, the frame having a surrounding flange provided in its outer surface with a segmental recess, a rock shaft journaled in the frame and having a crank arm at its outer end lying within said recess and a finger pivoted to its inner end, and connections between said finger and shutters.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN W. LENLING.

Witnesses:
JACOB HORNER,
W. J. RAWSON.