Nov. 17, 1942. A. VAGLIANI 2,301,985

AIR LOUVER FOR HIGH VELOCITY VENTILATION

Filed Dec. 12, 1939 2 Sheets-Sheet 1

Fig. 1.

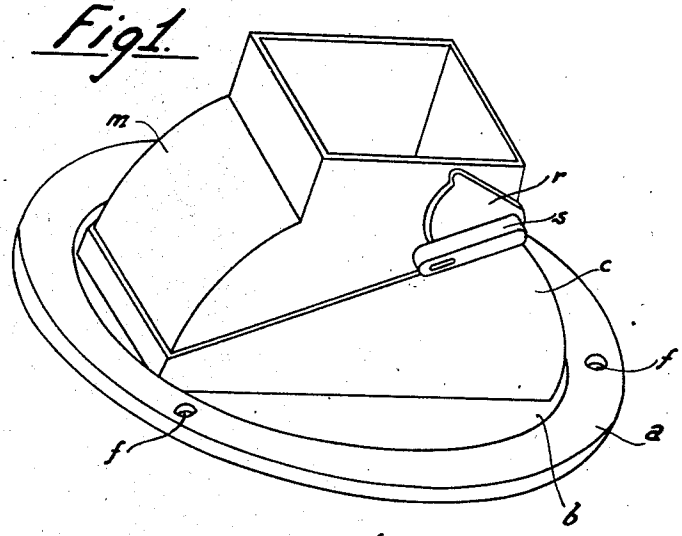


Fig. 2.

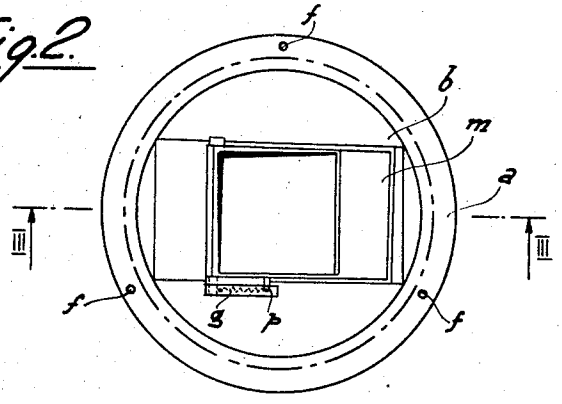
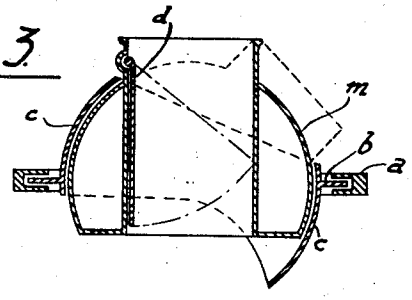


Fig. 3.



Inventor

Antonio Vagliani

By B. Singer

Attorney

Nov. 17, 1942. A. VAGLIANI 2,301,985

AIR LOUVER FOR HIGH VELOCITY VENTILATION

Filed Dec. 12, 1939 2 Sheets-Sheet 2

Fig. 4.

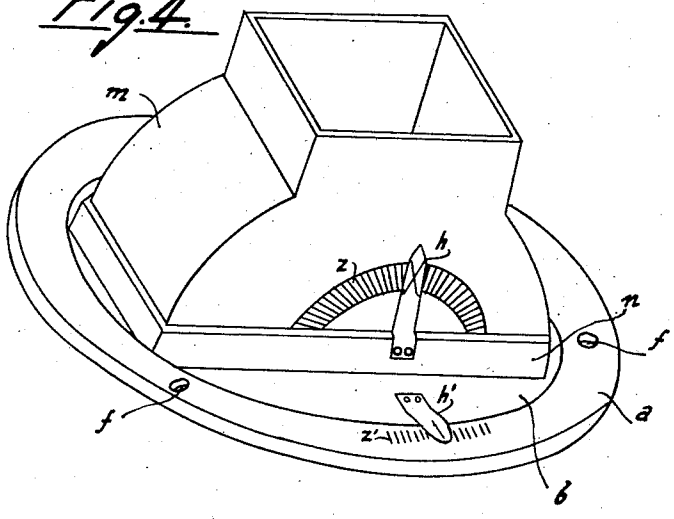
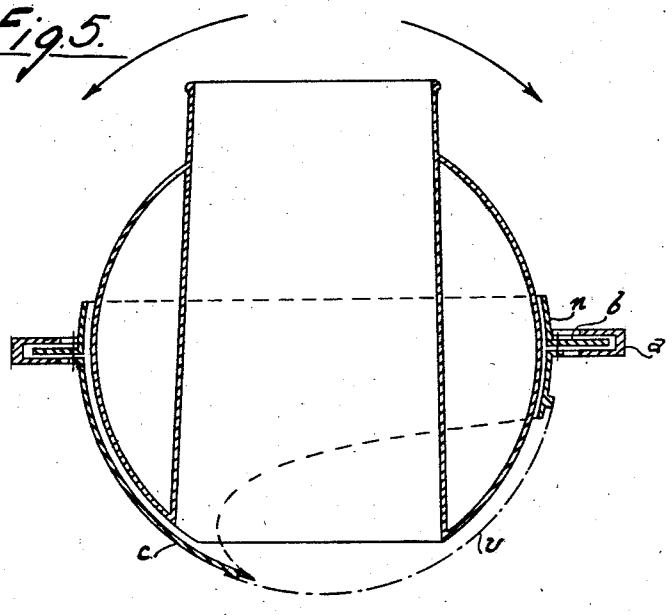


Fig. 5.



Inventor
Antonio Vagliani
By B. Singer
Attorney

Patented Nov. 17, 1942

2,301,985

UNITED STATES PATENT OFFICE

2,301,985

AIR LOUVER FOR HIGH VELOCITY VENTILATION

Antonio Vagliani, Genoa, Italy; vested in the Alien Property Custodian

Application December 12, 1939, Serial No. 308,870
In Italy December 16, 1938

3 Claims. (Cl. 98—40)

The invention relates to improvements in air louvers for the ventilation of rooms.

The louvers in use at the present time are generally made in the form of a spherical cup-like body provided with a circular air discharge opening, which may be adjusted to any desired direction, the body being adjustably mounted in a fixed spherical socket. The fixed part is provided towards the inside of the air duct with a spherical segment, acting as a diaphragm so that in a predetermined position of the adjustable body the passage of air therethrough is completely obstructed while in other positions the passage of air is partially obstructed. This fixed arrangement may be not convenient when the louver is intended not only for normal ventilation, but also is to be used, in winter or summer, for conditioned air, because in these instances the predetermined direction for normal ventilation may be not suitable, for instance, when very hot air is discharged into the room and the air should directly blow on people standing in the room.

The principal object of this invention is to provide an air louver which permits the air to be discharged in whatever direction that may be desired. Other purposes and features of this invention will appear from the following specification which particularly describes two embodiments as shown in the drawings.

Fig. 1 is a perspective view of a first form of the louver according to the principle of the invention.

Fig. 2 is a plan view of the louver.

Fig. 3 is an axial sectional view of the louver shown in Fig. 1.

Fig. 4 is a perspective view of the second embodiment of the invention, and

Fig. 5 is an axial sectional view of the louver shown in Fig. 4.

The first embodiment includes a ring *a* attached to the air duct by means of screws to be inserted in the holes *f*. Within the ring *a*, which is circularly grooved (Fig. 3), is rotatably mounted an apertured disc *b* which is rotatable about a vertical axis. Integral with the disc *b* is the cylindrical socket *c* which may be adjusted to any position of rotation of the disc *b*. Inside of the socket *c* a louver *m* is rotatable about an axis positioned in the plane in which the ring *a* is mounted. The louver *m* as shown in the drawings consists of a cylindrical body whose cylindrical wall is provided with a square shaped air discharge opening forming one end of an air duct passing transversely through the cylindrical body. The angular rotation of the louver *m* around its axis is about 50° and from the combination of the disc *b* revolving in its plane with the above angular rotation it is possible to adjust the flow of air into every desired direction. The louver may be closed by a damper *d* adjustable by a lever *s* which is maintained in its adjusted position by a spring *g*, enclosed in the lever *s*, the said spring pressing the stud *p* into engagement with notches on the sector *r*. Fig. 3 discloses in dotted lines the louver in its more inclined position.

In the second embodiment of the invention as illustrated in the Figs. 4 and 5, the cylindrical socket *c* in which the cylindrical member *m* is rotatable, extends so far downwardly from the apertured disc *b* that when the opening is conveniently directed, the downward projection acts as a damper for the air flow. As the disc *b* may revolve completely around its vertical axis, the downward projection may be placed at will in any desired position according to the need of the moment. On the other hand the cylindrical member *m* may turn about its horizontal axis with an angular displacement of about 90°. It is therefore evident that in whatever direction the air may be discharged the highest possible quantity of air or any other quantity may be passed through the louver, as desired.

When the louver is to be arranged in places which are subjected to vibrations it is advisable to provide one of the flat walls of the member *m* with a semi-circular series of engraved lines *z* on which is lightly pressed a spring *h*, which prevents an accidental movement of the louver under the action of the vibrations. Furthermore, by means of another series of engraved lines *z'* on the fixed ring *a* and another light spring *h'* mounted on the apertured disc *b*, an accidental adjustment of the disc *b* relatively to the ring *a* is prevented.

In the second embodiment of the invention the upwardly extending projection *n* of the socket member *c* covers only partially the upwardly projecting portion of the louver *m* so that the same may be easily seized by the hand for adjusting the same in the desired direction.

The inlet opening of the transverse passage in the cylindrical member *m* may be provided with a protective large-meshed screen, or alternately the screen may be arranged over the inlet opening of the rotatable socket member *c* as indicated by the dash and dotted line *v* in Fig. 5. This last arrangement may be more convenient in some instances.

The invention is not limited to the particular

embodiments set forth, but other embodiments may be adopted without departing from the scope and spirit of the invention.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is:

1. An air louver comprising, in combination, a circular apertured disc, a fixed circularly grooved ring for rotatably supporting said disc whose circumference engages the groove of said ring, a part cylindrical socket attached to said apertured disc, a cylindrical member provided with a transverse passage therethrough rotatable in said socket, the circular disc and cylindrical member being independently rotatable about mutually perpendicular axes, and spring actuated means engaging said ring and said cylindrical member respectively, for preventing an accidental rotative adjustment of said socket and cylindrical member respectively, relatively to said fixed ring.

2. An air louver comprising, in combination, a circular apertured disc, a fixed circularly grooved ring for rotatably supporting said disc whose circumference engages the groove of said ring, a part cylindrical socket attached to said apertured disc, a cylindrical member provided with a transverse passage therethrough rotatable in said socket, the circular disc and cylindrical member being independently rotatable about mutually perpendicular axes, an adjustable damper pivotally mounted in the transverse passage of said cylindrical member, and spring actuated means accessible from the outside of said cylindrical member for retaining said damper in the adjusted position.

3. An air louver comprising, in combination, a circular apertured disc, a fixed circularly grooved ring for rotatably supporting said disc whose circumference engages the groove of said ring, a part cylindrical socket attached to said apertured disc, a cylindrical member provided with a rectangular transverse passage therethrough rotatable in said socket, the circular disc and cylindrical member being independently rotatable about mutually perpendicular axes, an adjustable damper pivotally mounted in the transverse rectangular passage of said cylindrical member directly adjacent one of the sides thereof, and spring actuated means accessible from the outside of said cylindrical member for retaining said damper in the adjusted position.

ANTONIO VAGLIANI.