

W. J. KELLY.
ROOF VENTILATOR FOR BUILDINGS.

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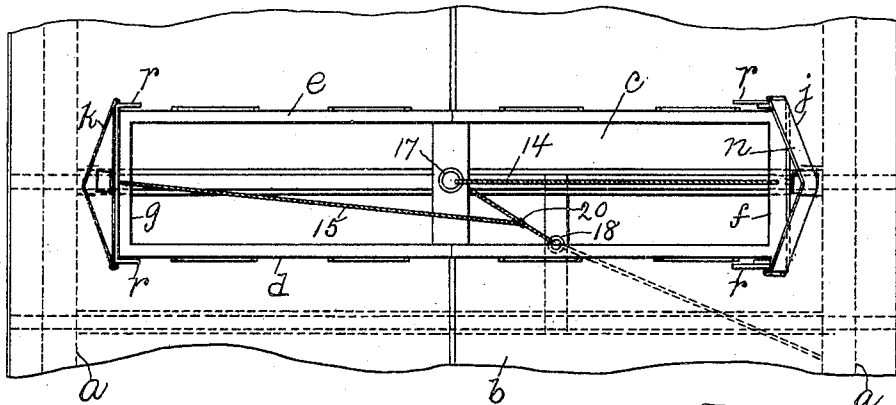


Fig. 4.

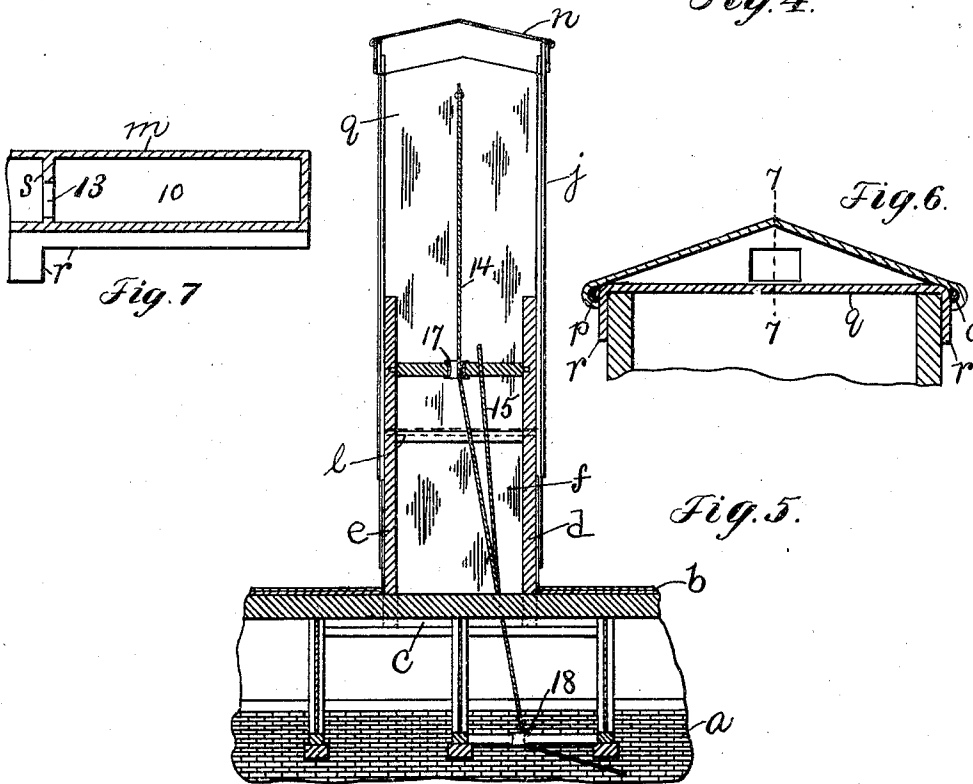


Fig. 5.

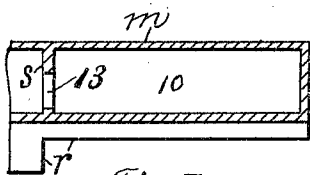


Fig. 7.

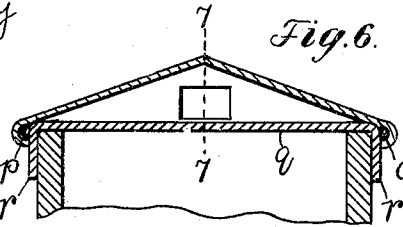


Fig. 6.

Witnesses
E. H. Sammett
J. Murphy.

Inventor
William J. Kelly
by Jas. H. Churchill
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM J. KELLY, OF SOMERVILLE, MASSACHUSETTS.

ROOF-VENTILATOR FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 792,902, dated June 20, 1905.

Application filed January 21, 1904. Serial No. 189,952.

To all whom it may concern:

Be it known that I, WILLIAM J. KELLY, a citizen of the United States, residing in Somerville, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Roof-Ventilators for Buildings, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a novel construction of ventilator for buildings especially designed and adapted for use on theaters and like places of amusement, and has for its object to provide a simple and efficient ventilator which is automatically opened substantially in an instant, which can be closed from within the building, and which in its closed position is weather-tight. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a view in section and elevation of a portion of a theater or other building and a roof-ventilator therefor embodying this invention; Fig. 2, a plan view of Fig. 1; Fig. 3, a view like Fig. 1 with the ventilator in its open position; Fig. 4, a plan view of Fig. 3; Fig. 5, a section on the line 5 5, Fig. 3, looking toward the right; Fig. 6, a sectional detail on the line 6 6; and Fig. 7, a sectional detail on the line 7 7, Fig. 6.

Referring to the drawings, *a* represents the side walls of a theater or other building, and *b* the roof thereof, which may be pitched, as shown, or which may be flat, if desired, said parts being of any usual or desired construction. The roof *b* in accordance with this invention is provided with an opening *c*, (see Fig. 4,) around which is erected a superstructure comprising side walls *d e* and end walls *f g*, which form a ventilator shaft or well. The side walls *d e* may and preferably will be pitched or inclined from their center to the end walls *f g* and have cooperating with them covers *j k*, which are pivotally mounted at the upper ends of the end walls, as at *l*, and which are provided with extensions *m*, projecting beyond the end walls of the well and forming counterbalances for the covers to hold them in their open position and to ren-

der it easy to open and close the same. The cover *j* may be made longer than the cover *k* and may be provided with an end section *n*, which is extended at an angle to the main section or portion of the cover *j* and preferably at the same angle as the cover *k* when the latter is in its closed position, so that the end section *n* may overlap the cover *k* and form a water-tight joint.

The covers *j k* may be made as herein shown, (see Fig. 6,) being composed of a top which is hipped or inclined from its center toward its opposite sides and preferably made of tin or sheet metal, which is inturned or curled at its edges, as at *o*, about a reinforcing-rod *p*, as clearly shown in Fig. 6. The hipped portion or top of each cover may be riveted or otherwise secured to a bottom piece *q*, preferably of sheet metal, which is provided with downturned flanges *r*, which overlap the side walls of the air well or shaft to form a substantially weather-tight joint. The rear portion or extension of the covers may be provided with a cross-partition *s*, which forms a pocket or receptacle 10 for counterbalancing-weights 12, (indicated by dotted lines, Figs. 1 and 3,) and the said partition may be provided with a doorway or opening 13, which may be suitably closed, if desired. The pivoted covers are adapted to be automatically opened by the weights 12 and may be closed by ropes, chains, or flexible connections 14 15, which are secured to the covers *j k*, respectively, and are led down through the shaft or well into the theater. The rope or flexible connection 14, attached to the cover *j*, may and preferably will be led through a fair leader, sheave, or block 17 in the air shaft or well, and the rope or flexible connection 15 may and preferably will be led directly to the fair leader, sheave, or block 18, through which the rope 14 is also led, and the rope 15 may be connected to the rope 14 beyond the fair-leader 18, and the latter rope may then be led down alongside of the wall of the building to any desired location, where it may be suitably fastened.

By reference to Figs. 1 and 3 it will be noticed that the rope 15 is shorter than the length of the rope 14 from the point 20, where

the rope 15 is joined to the rope 14, to the point where the latter is connected with the cover j , which results in the cover k being closed ahead of the cover j when the single rope or line is pulled upon.

By reference to Figs. 1 and 6 it will be seen that the flanges r act as shears to cut away any snow or ice which may adhere to the side walls of the well or shaft when the covers are opened and closed.

In operation the covers are positively closed by drawing upon the cord or rope 14, which in a theater may be located in an accessible place at the side of the stage and are automatically opened as soon as the cord or rope 14 is released.

I have herein shown my invention as applied to a pitched roof; but it is evident it can be applied to a flat or inclined roof equally as well.

It will be understood that the walls of the air shaft or well and the covers therefor are and may be made of fireproof material.

The invention herein shown is especially adapted for use on theaters as an outlet in the roof for flames and smoke in case of fire.

I claim—

1. The combination with the roof of a building or other structure, of an air shaft or well erected upon the same and provided with side and end walls, covers for said shaft or well pivoted near the end walls of the same to move in opposite directions and coöperating to close the well in their lowered position, said covers having depending side flanges which extend down below the upper edge of the side walls of the air-shaft in the closed position of said covers, means to close said covers, and means to automatically open the same, substantially as described.

2. The combination with an air shaft or well having side and end walls, of pivoted covers for said well, one of said covers overlapping the other, means to open said covers, a cord or flexible connection connected to the overlapping cover, a second cord or flexible connection connected to the other cover and to the first-mentioned cord or flexible connection, the latter being extended beyond the point of junction with it of the second-mentioned cord

or flexible connection, whereby both covers may be closed by means of a single cord or flexible connection, substantially as described.

3. The combination with an air shaft or well having end walls and side walls, the latter having inclined upper surfaces extended from near their center to said end walls, a cover for substantially one half of said well, a second cover comprising a main portion to cover the other half of said well and provided with an angular extension overlapping the inner end of the shorter cover, side flanges on said covers overlapping the side walls of the air-shaft in the closed position of said covers, means to automatically open said covers, and means to close said covers, substantially as described.

4. The combination with an air shaft or well having side and end walls, of pivoted covers therefor, each comprising a bottom q having flanges to embrace the side walls of said well when the covers are closed, and a pitched top secured to said bottom and provided with inturned edges o , reinforcing-rods embraced by said inturned edges, a box-like extension on said covers projected beyond said end walls, weights in said extensions, and means to close said covers, substantially as described.

5. The combination with an air shaft or well having end walls and side walls, the latter having oppositely-inclined upper edges extended from near their center to said end walls, a pivoted cover for substantially one half of said well, a pivoted second cover comprising a main portion to cover the other half of said well and provided with an extension which projects from the main portion at substantially the same angle as the inclined upper edges of the well to overlap the inner end of the shorter cover when the latter is closed, means to automatically open said covers, and means to close said covers, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM J. KELLY.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.