K. GRAEF.

VENTILATOR.

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1,086,160. Patented Feb. 3, 1914.

Fig. 1.

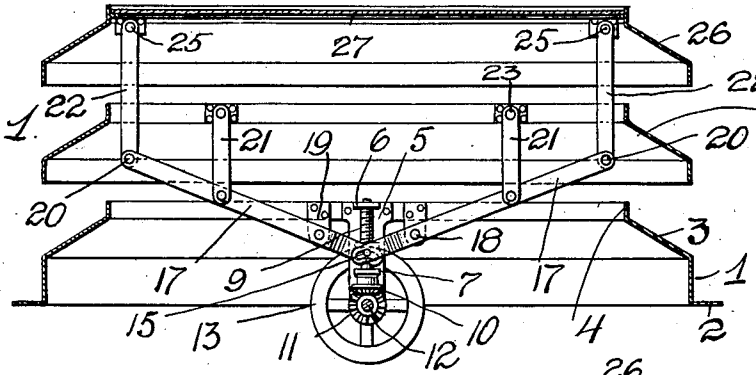


Fig. 2.

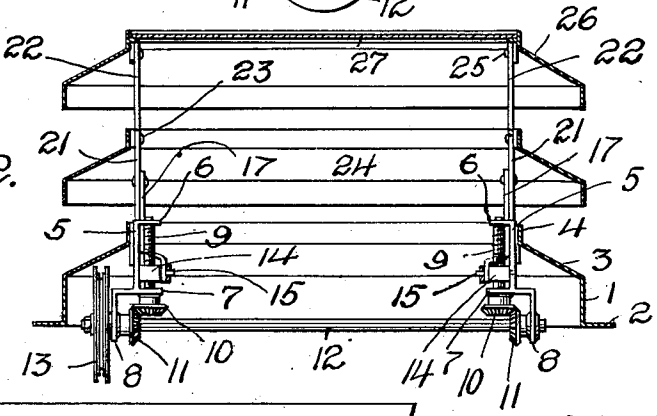


Fig. 3.

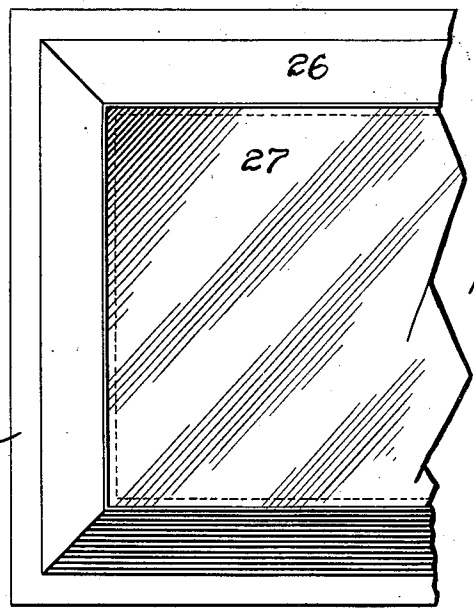
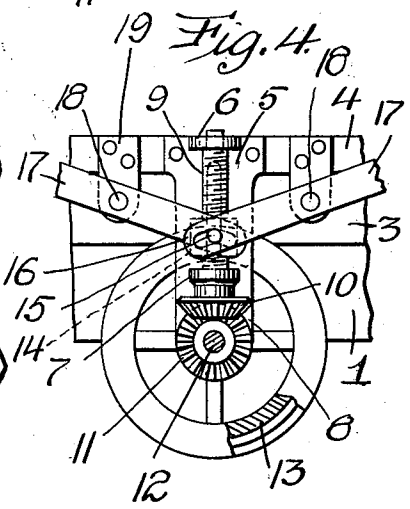


Fig. 4.



WITNESSES

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VENTILATOR.

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To all whom it may concern:

Be it known that I, KARL GRAEF, a citizen of the United States of America, residing at Bellevue, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ventilators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a ventilator, and the primary object of my invention is to provide a ventilator that can be used as a sky-light in connection with a roof, the ventilator admitting light and air and excluding the forces of nature.

Another object of this invention is to provide a ventilator embodying superimposed shells that can be easily and quickly adjusted to provide an air exhaust.

A still further object of this invention is to provide a sky-light ventilator consisting of comparatively few parts that are easy to assemble, durable, inexpensive to manufacture, and easy to install in connection with a roof.

With the above and other objects in view the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a longitudinal sectional view of a ventilator in accordance with this invention. Fig. 2 is a cross sectional view of the same. Fig. 3 is a plan of a portion of the ventilator, and Fig. 4 is an enlarged elevation of a portion of the ventilator.

A ventilator in accordance with this invention comprises a stationary rectangular shell 1 having a lateral flange 2 whereby said shell can be easily mounted upon a roof over a ventilating opening. The shell 1 has inclined walls 3 terminating in a vertical flange 4. Secured to the inner sides of the flange 4 are diametrically opposed hangers 5 having bearings 6, 7 and 8. Revolubly mounted in the bearings 6 and 7 are vertically disposed screws 9 and the lower ends of said screws are provided with beveled gear wheels 10 meshing with beveled gear wheels 11 mounted upon a transverse shaft 12, journaled in the bearings 8. An end of the shaft 12 is provided with a grooved wheel 13 and a chain, cable or cord can be used in connection with this wheel for revolving the same.

Adjustably mounted upon the screws 9 are nuts 14 provided with pins 15. Loosely mounted upon the pins 15 are the slotted ends 16 of fulcrumed levers 17. The levers 17 are disposed at an angle and are fulcrumed upon pins 18 carried by brackets 19, secured to the flange 4. The outer ends of the levers 17 are pivotally connected, as at 20 to sets of arms 21 and 22. The sets of arms 21 are pivotally connected, as at 23 to an intermediate superimposed shell 24 that is very similar to the shell 1. The only difference is that the flange 2 is dispensed with. The sets of arms 22 are pivotally connected, as at 25 to a top shell 26 and this top shell is similar in construction to the shell 24, with the exception that said shell supports a transparent top plate 27.

By rotating the shaft 12 the nuts 14 can be raised and lowered upon the screws 9 and consequently the levers 17 are moved to simultaneously adjust the shells 24 and 26 relatively to the stationary shell 1.

It is thought that the operation and utility of the ventilator will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claims.

What I claim is:—

1. An operating mechanism for the shiftable elements of ventilators comprising an operating shaft, a pair of rotatable threaded members actuated from said shaft, vertically movable members engaging with and shifted by said threaded members, and elevating and lowering devices connected to and operated by said ventilating movable members.

2. An operating mechanism for the shiftable elements of ventilators comprising an

operating shaft, a pair of rotatable threaded members, gear connections between said shaft and said members for operating these latter simultaneously, vertically movable nuts engaging with and shifted by said members, and elevating and lowering devices each including a pair of pivoted levers loosely connected to a nut and capable of being actuated by its respective nut when the latter is shifted by its respective member.

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

KARL GRAEF.

Witnesses:
MAX H. SROLOVITZ,
KATHERINE ERRETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."