W. C. HABICHT.

SKYLIGHT LIFT.

APPLICATION FILED JAN. 20, 1910.

959,429. **Patented May 24, 1910.**

Fig. 1.

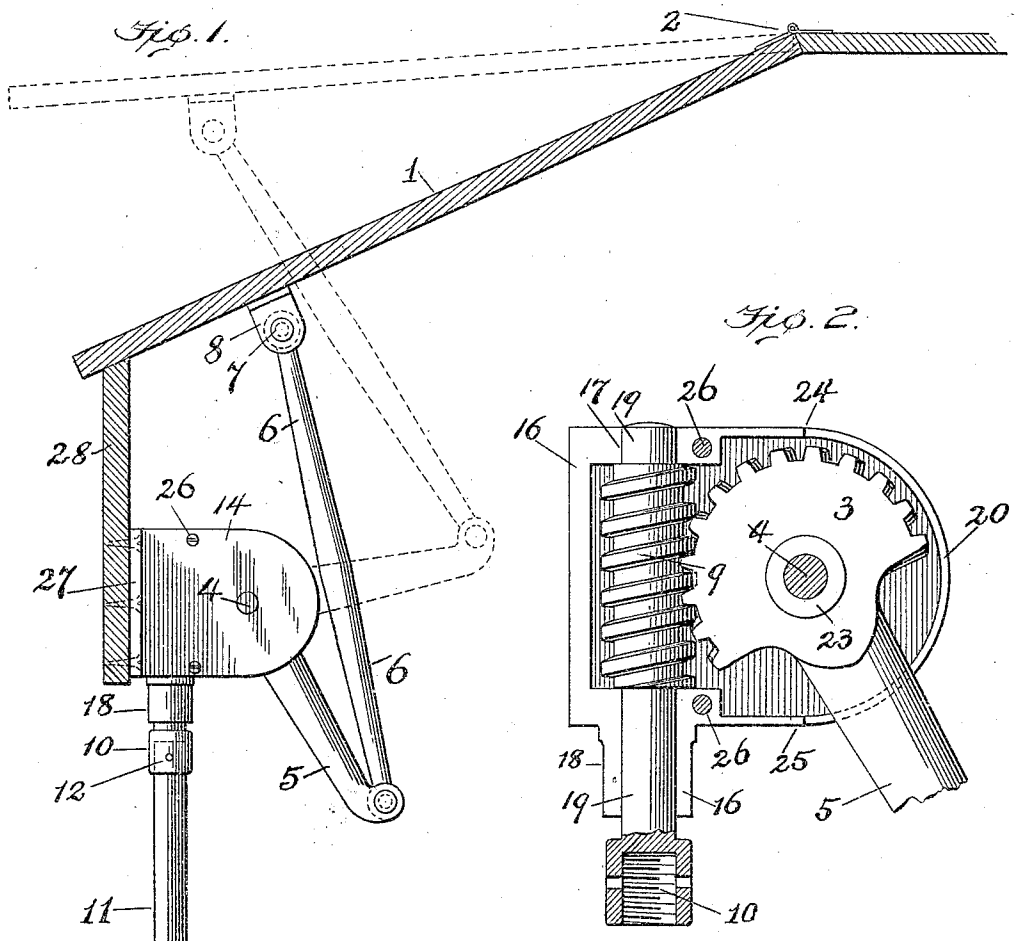


Fig. 2.

Fig. 3.

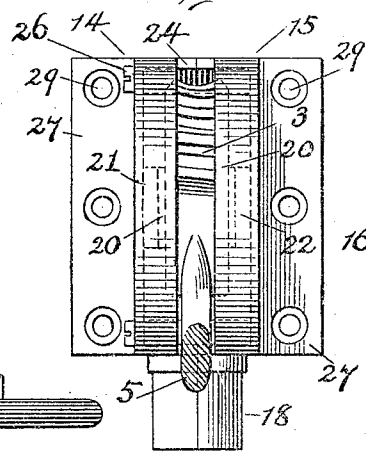
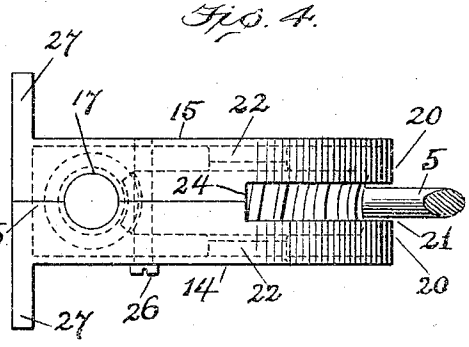
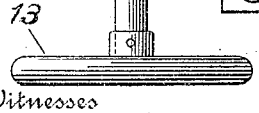


Fig. 4.





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SKYLIGHT-LIFT.

959,429. Specification of Letters Patent. **Patented May 24, 1910.**

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To all whom it may concern:

Be it known that I, WILLIAM C. HABICHT, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Skylight-Lifts, of which the following is a specification.

This invention relates to gearing for operating hinged sashes, such as sky-lights, and more particularly to an improved construction of bearings and housing for the segment-gear and worm which is usually employed in such mechanism. Experience in the use of worm mechanism for operating sky-light sashes, has shown that as heretofore constructed the bearings and working parts are unstable and soon become loose, shaky, and inoperative. A further objection to the construction heretofore used is that the segment-gear and worm have been openly exposed to the dust of the atmosphere and soon accumulate dirt and grit in the bearings and in the meshed gears causing a rapid wear on those parts.

The present invention has for its object to provide a metal housing or case which shall not only inclose the worm mechanism but will have rigid bearings which are integral with the metal of the said housing, whereby the parts will have great stability, will operate more easily, and will be protected from dust.

The invention is illustrated in the accompanying drawing in which,—

Figure 1 is a vertical section of a hinged sash and an elevation of the mechanism for operating same, including a side view of the improved housing. Fig. 2 is a side view on a larger scale showing the segment and worm and one half of the housing therefor. Fig. 3 is a front view of the housing. Fig. 4 is a top view of same.

The numeral, 1, designates a sash and, 2, the hinges on which the sash is hung. The mechanism for lifting or opening and closing the hinged sash comprises a segment-gear, 3, which has a shaft, 4, on which it rocks. It is obvious that instead of a rock-shaft which passes through the segment, the segment may have a trunnion on each side—the metal of said trunnions being integral with the segment. The segment gear, 3, carries an arm, 5, and a rod, 6, connects said arm with a pivot pin, 7, in clip-ears, 8, secured on the sash. The worm shaft or screw, 9, is in engagement with the segment-gear, 3. By turning the worm the segment-gear will be rocked, and thereby the sash will be either opened or closed. The worm-shaft, 9, has a socket, 10, and a tube or rod, 11, of any required length to suit the height at which the said mechanism may be fixed or secured, has its upper end inserted in the socket, 10, and a pin, 12, may be passed through a hole in the socket and rod-end to connect said parts. The lower end of the tube or rod has a hand-knob, 13, to facilitate its turning.

The metal housing comprises two half-boxes, 14, 15, both having the same features of construction—one being right and the other left, and each having a flat or plain face, 16, that contact with each other and make a tight joint when the two are brought together.

Two bearings are formed in the flat faces or joinder; one is an upper bearing, 17, and the other is a lower bearing, 18, in which the journals, 19, of the worm-shaft fit. The lower bearing, 18, has an extended neck that projects downward and gives a desirable long bearing for the lower journal.

The front of each half-box has a semi-circular shape and each half is provided with a curved flange, 20, and said two curved flanges project toward each other but are separated by an open slot, 21, through which the arm, 5, on the segment-gear swings when the gearing is operated. Each half-box also has on its interior a boss, denoted by broken lines, 22, in Figs. 3 and 4; this boss has the side bearing for the shaft or trunnion, 4; the segment-gear has on each side and around said shaft, 4, a hub or collar, 23, that contacts with the said boss, 22, and keeps the segment, 3, when it turns, in the center of the housing. The two shoulders, 24, and, 25, close the open slot, 21, at the top and bottom, and serve as stops to the swinging movement of the arm, 5. The two half-boxes fit closely together along the flat faces, 16, and are secured together by cross screws, 26. Each half-box has a lateral flange, 27, and when the two half-boxes are fastened together by the screws, 26, the two flanges project in opposite directions, as seen in Figs. 4 and 5, and these constitute the housing back-wall which con-

tacts with the surface, 28, to which the housing is secured by means of screws that enter the holes, 29, in the flanges.

Having thus described my invention what I claim and desire to secure by Letters Patent is,—

The herein-described housing for worm mechanism that operates the sash of skylights, comprising a metal box having two sides 14, 15, each provided with a lateral flange constituting a flat back-wall and each of said sides also having a bearing for a horizontal shaft; the front of said box having two semi-circular flanges which are concentric with said side bearings and which project toward each other but are separated by an open vertical slot, said box adjacent the flat back-wall having an upper and a lower bearing, 17, 18, in vertical alinement with each other, in combination with a segment-gear provided with an arm projecting through said vertical slot and said gear having a shaft that turns in said side bearings, and a worm engaging the teeth of the segment-gear and having journals, 19, which fit in said upper and lower bearings.

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

WILLIAM C. HABICHT.

Witnesses:

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