Feb. 10, 1925.

1,526,283

W. M. HILL

ROTARY WINDOW

Filed May 21, 1923

2 Sheets-Sheet 1

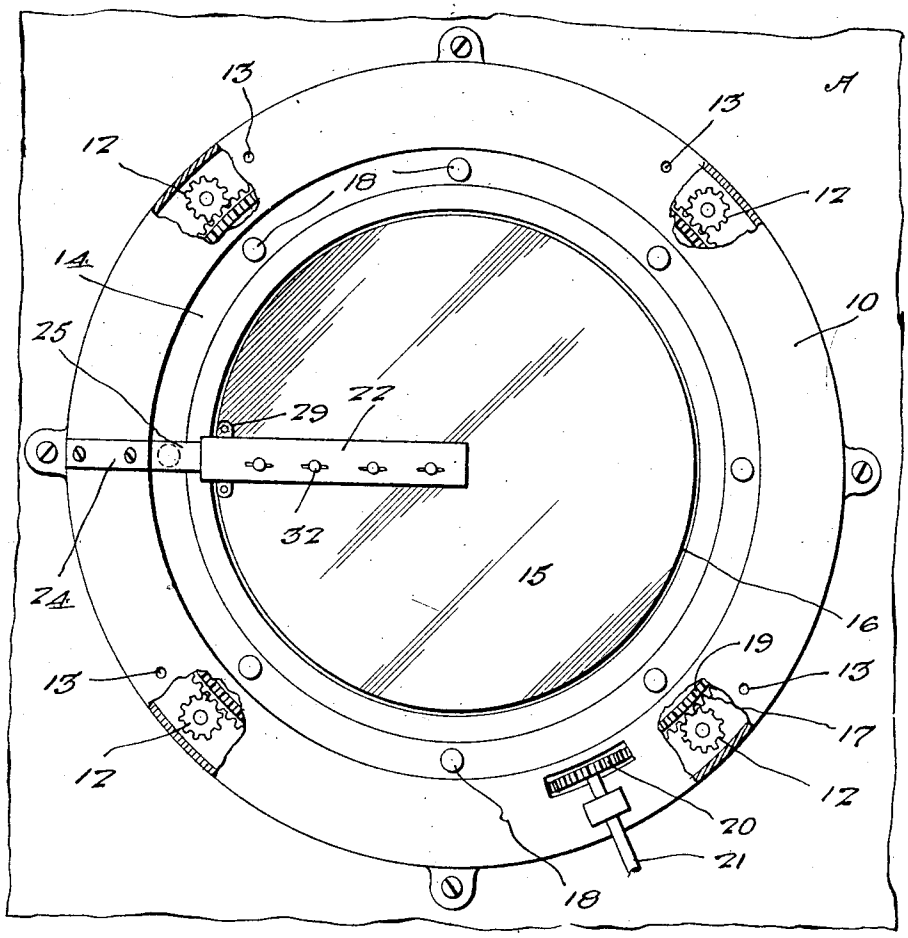


Fig. 1.

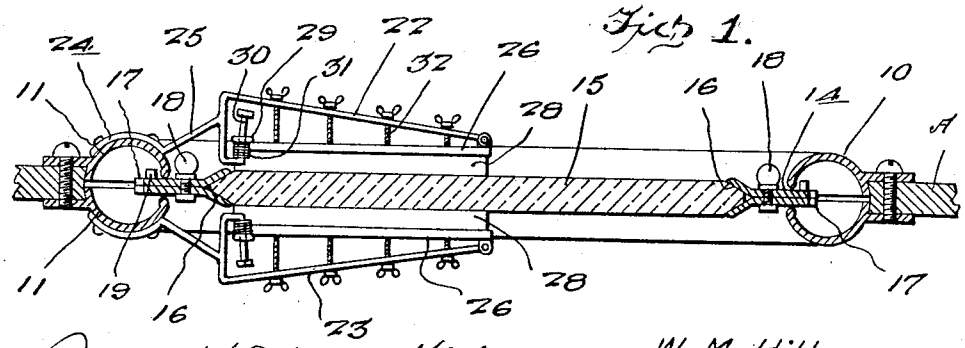


Fig. 2.

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Fig. 3.

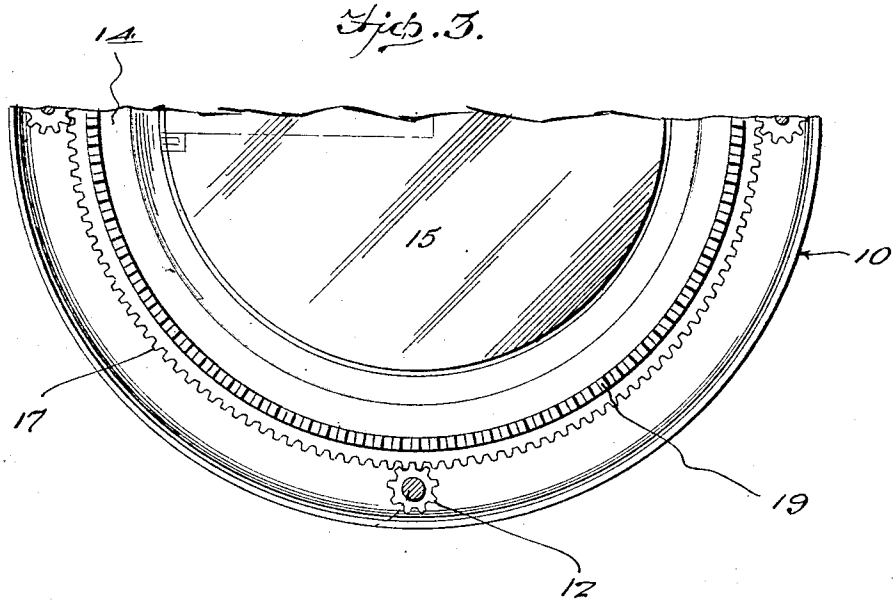


Fig. 4.

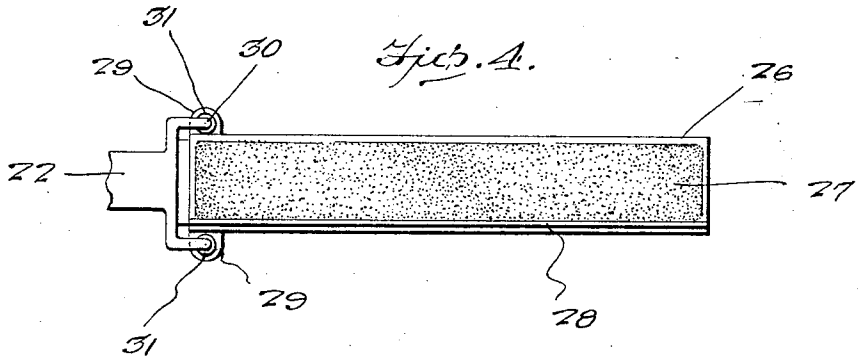
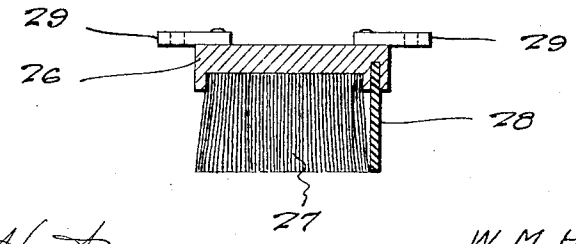


Fig. 5.



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Patented Feb. 10, 1925. 1,526,283

UNITED STATES PATENT OFFICE.

WILLIAM M. HILL, OF GARY, INDIANA.

ROTARY WINDOW.

Application filed May 21, 1923. Serial No. 640,583.

To all whom it may concern:

Be it known that I, WILLIAM M. HILL, a citizen of the United States, residing at Gary, in the county of Lake and State of Indiana, have invented new and useful Improvements in Rotary Windows, of which the following is a specification.

This invention relates to windows, particularly to those designed for use upon street cars, locomotive cabs and the like, and has for its object the provision of a novel window structure in which the window pane is rotated between brushes which operate to keep the window free from rain and snow so that the motorman, engineer, pilot or other person as the case may be may have a clear and unobstructed view, the device thus operating to make travel safer.

An important and more specific object is the provision of a window structure of this character which includes a stationary frame within which is rotatably mounted a glazed inner frame provided with means for effecting rotation thereof between brushes and squeegees which will operate to remove accumulations of snow, dirt and rain from the outside of the window and which will also remove water of condensation which may form on the inside.

Still another object is the provision of a device of this character equipped with means for adjusting the tension or frictional engagement of the brushes or other rubbing elements against the glass so that the most desirable results will be accomplished.

An additional object is the provision of a structure of this character which will be simple and inexpensive in manufacture, highly efficient in use, durable in service and a general improvement in the art.

With the above and other objects and advantages in view the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings, in which:

Figure 1 is an elevation of my window,

Figure 2 is a cross section therethrough,

Figure 3 is a view showing the outer casing or frame in section and showing an elevation of the inner frame to disclose the gearing.

Figure 4 is a detail face view of one of the brush and squeegee devices and

Figure 5 is a cross section therethrough.

Referring more particularly to the drawings the letter A designates the wall at the vestibule of a street car, at the front of a pilot house or a portion of the cab of a locomotive. Suitably mounted within an opening in this wall is a stationary frame 10 which is circular in shape and which must naturally be constructed of separable sections 11 whereby to be assembled properly to inclose the mechanism to be described. Located within this frame 10 and arranged at preferably equally spaced points, are pinions 12 which are freely rotatable and which may be oiled through small holes 13 in the frame.

Rotatably mounted within this outer frame is an inner frame 14 which contains a disk 15 of glass, preferably heavy plate and having a beveled edge 16. The periphery of this inner frame 14 is formed with or carries a gear 17 meshing with and supported by all of the pinions 12. For effecting manual rotation of the inner frame, I provide a plurality of knobs 18 on the inner face thereof, any one of which may be grasped by the operator for effecting the turning action. If desired the shaft of one of the pinions 12 might be driven by an electric motor or the like for effecting rotation. If preferred, one face of the inner frame, within the confines of the outer frame may be provided with gear teeth 19 with which meshes a pinion 20 carried by a shaft 21 which may be driven by a crank or by a suitable electric motor for effecting turning movement by means of power.

Located at opposite sides of the outer frame are bracket arms 22 and 23 formed at one end with attaching portions 24 which may be bolted or screwed on to the frame and these brackets extend to a point at about the center of the window. The bracket 23 is arched or offset as indicated at 25 for the purpose of permitting the knobs 18 to pass easily thereunder, while the bracket 22 need not be thus offset. Carried by the brackets are rubbing members located at opposite sides of the glass and each of which consists of a rigid back plate 26 carrying bristles 27 to constitute a brush and provided at one edge with a squeegee strip 28 of rubber or the like which bears flat against the glass. At their outermost ends the backing members 26 are formed at their corners with loops or eyes 29 slidably engaged upon guide rods 30 upon which are disposed coil springs 31 which urge the rubbing members away from the glass. Passing through the brack-

ets 22 and 23 are series of set screws 32 which bear against the backing plates 26 at various points and which are adjustable to urge the brushes toward the glass.

In the operation it will be seen that when the glass carrying inner frame is rotated either manually by means of the knobs, or by power applied to one of the pinions or to the gear 19, the glass will be brought between the brushes 27 and squeegee strips 28 which will operate to clear and clean both sides of the glass so that an absolutely unobstructed view therethrough may be had.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a simply constructed and consequently inexpensive rotary window structure which will be highly advantageous for the purpose specified and which will be a distinct safety appliance. As the parts are so few it is apparent that there is little to get out of order so that the device should have a long and satisfactory life.

While I have shown and described the preferred embodiment of the invention it is of course to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention I claim:

1. In a device of the character described, a stationary circular frame of hollow formation, a rotatable frame carrying a glass pane and movable within the stationary frame, a bracket secured to the stationary frame, a squeegee member bearing against the glass pane and pivoted on the free end of the bracket, and adjustable means carried by the bracket and engaging the squeegee member for holding the same against the glass pane at a desired pressure.

2. In a device of the character described, a stationary circular frame of hollow formation, a rotatable frame carrying a glass pane and movable within the stationary frame, a bracket secured to the stationary frame, a squeegee member bearing against the glass pane and pivoted on the free end of the bracket, and means carried by the bracket and engaging the squeegee member for holding the same against the glass pane, said means comprising a plurality of screws threaded through the bracket and bearing against the back of the squeegee member.

3. In a device of the character described, a hollow stationary frame of circular formation, a circular rotatable frame movable within the stationary frame and carrying a glass pane, a pair of brackets of angular formation secured upon opposite sides of the stationary frame and extending toward the center of the glass pane, operating knobs on the movable frame, said brackets having outwardly offset portions for the accommodation of said knobs during their travel and squeegee members mounted within the brackets and bearing against the glass pane.

4. In a device of the character described, a hollow stationary frame of circular formation, a circular rotatable frame movable within the stationary frame and carrying a glass pane, a pair of brackets of angular formation secured upon the stationary frame and extending toward the center of the glass pane, means for rotating the movable frame, squeegee members carried by the brackets and bearing against the glass pane, and means carried by the brackets and engaging the squeegee members for varying the pressure thereof against the glass pane.

5. In a window construction, a stationary outer frame, an inner frame carrying a glass pane journaled within the outer frame, means for turning said inner frame, brackets carried by the outer frame and extending along both sides of the glass pane, and rubbing members carried by said brackets, each of said rubbing members consisting of a brush and a squeegee strip, and means carried by said brackets for varying the pressure of the rubbing members against the glass.

6. In a device of the character described, a stationary frame, a circular movable frame rotatably supported within the stationary frame and carrying a glass pane, means for rotating the movable frame, a bracket carried by the stationary frame, a squeegee member pivoted on the free end of the bracket and bearing against the glass pane, spring means normally urging the squeegee member away from the pane, and adjustable means for counteracting said spring means and urging the squeegee member toward the pane.

In testimony whereof I affix my signature.

WILLIAM M. HILL.