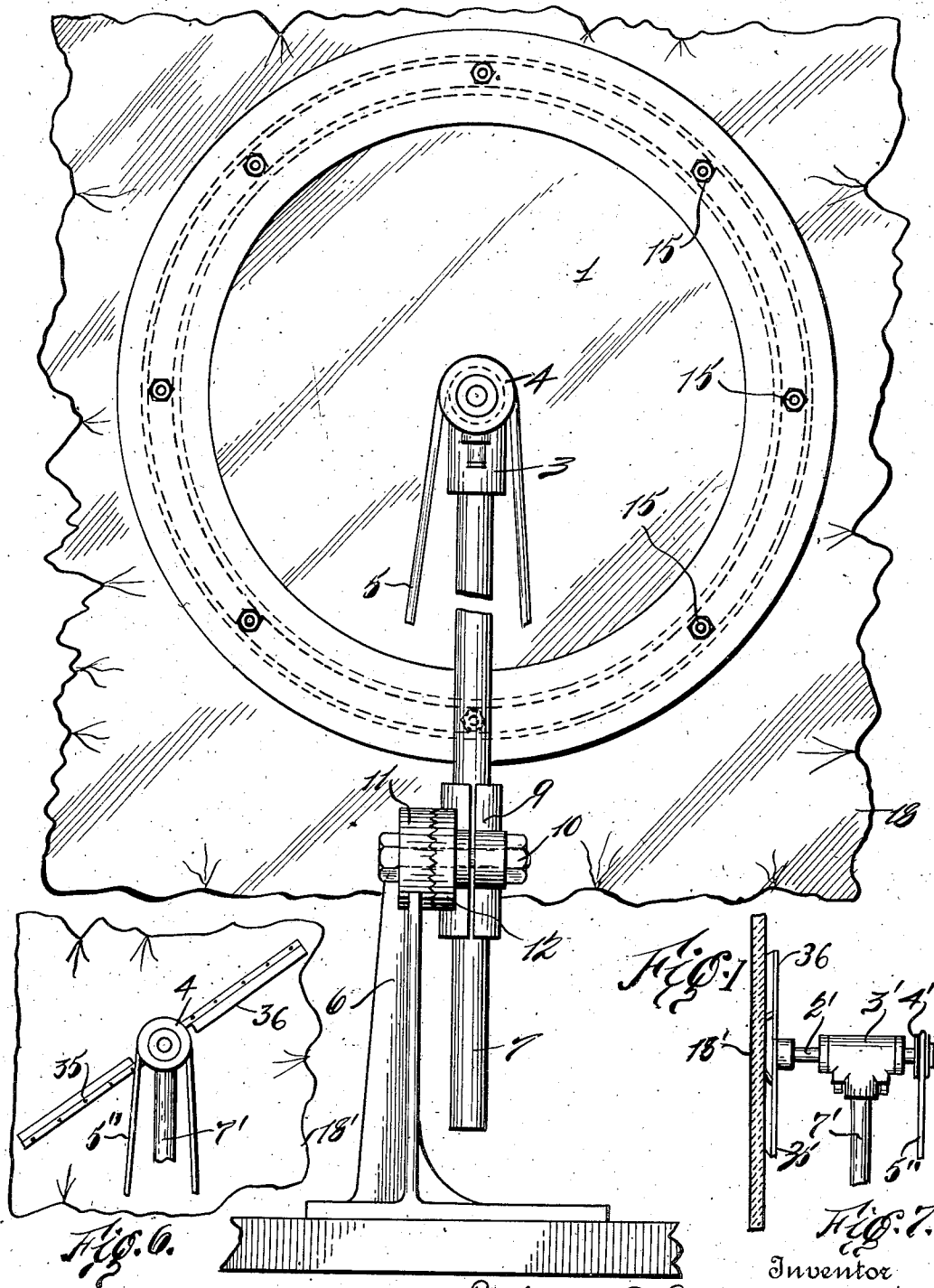


R. P. BREESE.
OBSERVATION WINDOW.
APPLICATION FILED NOV. 9, 1917.

1,318,839.

Patented Oct. 14, 1919.

2 SHEETS—SHEET 1.



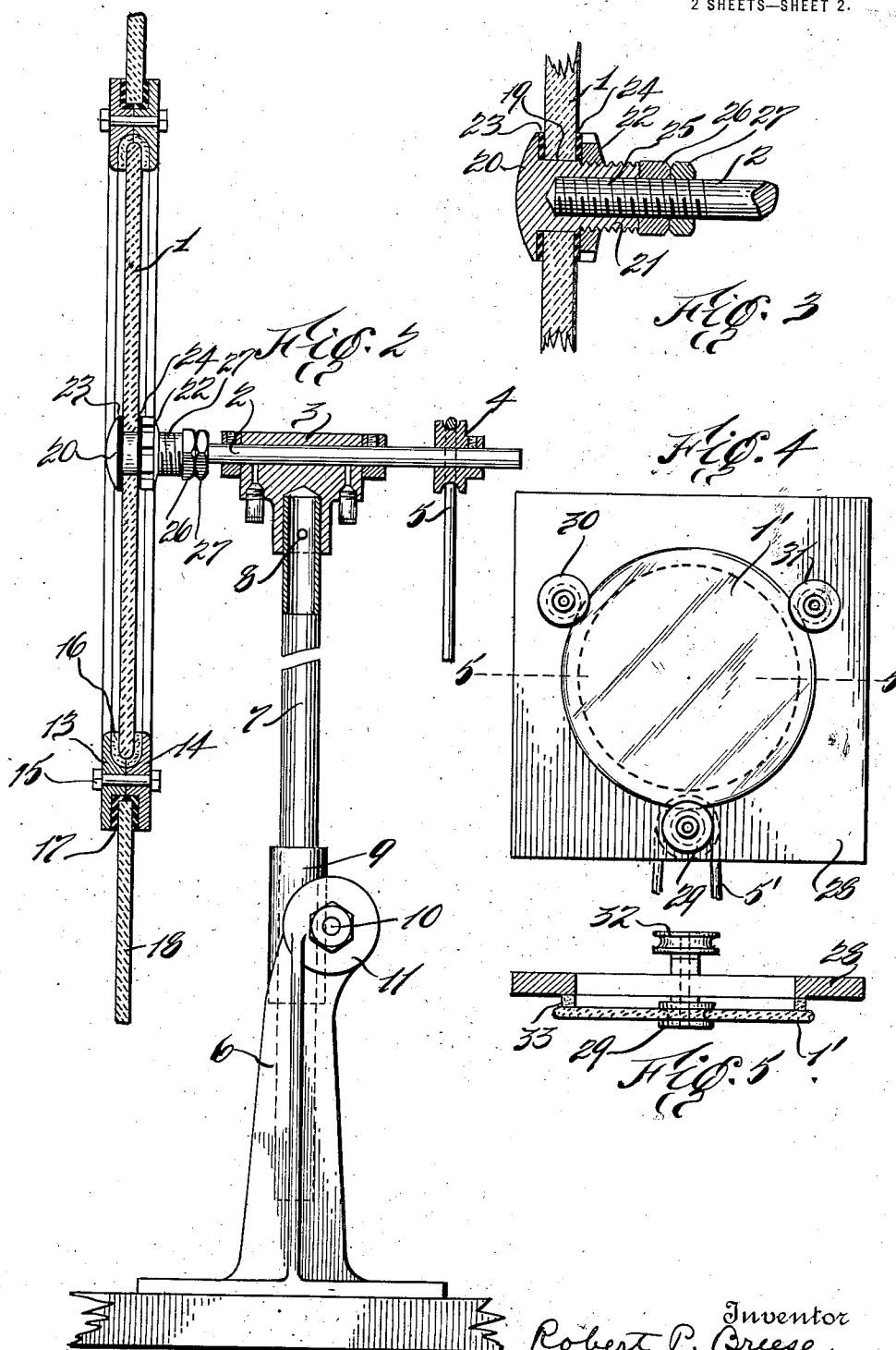
Robert P. Breese
By his Attorney
William Gluckhert

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UNITED STATES PATENT OFFICE.

ROBERT P. BREESE, OF NEW YORK, N. Y.

OBSERVATION-WINDOW.

1,318,839.

Specification of Letters Patent.

Patented Oct. 14, 1919.

Application filed November 9, 1917. Serial No. 201,070.

To all whom it may concern:

Be it known that I, ROBERT P. BREESE, a citizen of the United States, residing at New York city, N. Y., have invented certain new and useful Improvements in Observation-Windows, of which the following is a clear, full, and exact description.

This invention relates to means for providing clear vision under all conditions particularly in stormy and wet weather, and may be advantageously employed in the observation windows of pilot house cabins, engineers' cabs, motormen platforms of street cars, periscopes for submarines, the windshields of automobiles, and for other analogous uses.

It is a matter of common knowledge and experience that the ordinary window in the above mentioned fields of service is of little or no use for observation purposes in rainy and snowy weather, since the rain, sleet or snow accumulating on the glass soon obstructs the view.

Hand operated cleaning devices of various kinds have been employed to improve the vision under such circumstances, but none, so far as I am aware, has accomplished the purpose of the present invention, namely, to automatically provide a clear view at all times and under all conditions.

In the drawings which show the preferred embodiment of my invention,

Figure 1 is a front elevation of the device shown as applied to an ordinary window pane;

Fig. 2 is a side elevation of the device, with the upper part thereof in section;

Fig. 3 is a detail section of the fastening means between the rotating shaft and disk;

Fig. 4 is a front elevation of a modified form of the device;

Fig. 5 is a section taken along line 5—5 of Fig. 4 of said modification;

Fig. 6 is a front elevation of still another modification; and

Fig. 7 is a side elevation of said modification shown in Fig. 6.

Referring more particularly to the drawings, 1 indicates a rotating member for permitting vision therethrough, which may be in the form of a transparent disk such as of glass, celluloid and the like. In some cases a rotating wiping arm acting upon a stationary pane of glass may be employed as shown at 1' in Figs. 6 and 7, it being understood that the speed of rotation of

said arm 1' is sufficient not to obscure the vision therethrough. Preferably, however, I employ a transparent glass disk for the member 1. As shown, disk 1 is securely fastened at its center upon the outer end of a rotating shaft 2, which in turn is carried in a suitable bearing 3. The inner end of said shaft 2 has fixed thereto a driving pulley 4 operated from any suitable source of power, not shown, by a belt 5.

The shaft 2 is carried through its bearing 3 upon a universally adjustable support comprising a standard or bracket 6 and a cylindrical post 7. The post 7 is pinned at its upper end to the bearing 3 at 8, and is slidably and rotatably received within a clamping collar 9 so that said post 7 may be both adjusted vertically and to different swinging positions within said sleeve. The clamping sleeve 9 is of the ordinary split collar construction, arranged to be held together by bolt and nut 10, extending horizontally from the upper end of standard 6. The sleeve 9 is adjustable around the horizontal axis of the bolt 10, and is maintained in its various adjustments by the co-acting toothed-clutch portions 11 and 12, one of which is integral with the standard 6 and the other with the sleeve 9.

In adapting this observation device to an ordinary window pane, such as 18, I preferably provide weather-proof packing means between the stationary border of the pane and the periphery of the rotating disk. This packing means may be suitably formed by opposed ring clamps 13 and 14, one on each side of the pane 18 and disk, and held together by a series of bolts 15. The inner periphery of said clamps when held together provides a suitably shaped groove which may be lined with soft felt, such as 16, for resilient contact against the periphery of the disk 1, and the outer periphery of said clamps 13 and 14 also forms a groove which may be lined with soft rubber 17 for firm bearing against the edges of the window pane 18. By means of the adjustable support for the shaft 2 above referred to, the rotating disk 1 may be properly positioned with respect to the window pane 18 while the support itself may be attached to any suitable base adjacent said window.

Suitable means for firmly securing the disk 1 to the shaft 2, to be driven thereby, is shown in detail section, Fig. 3, and consists of a post 19 formed with a headed por-

tion 20 at one side of the disk 1 and a hollow shank portion 21 extending to the other side of said disk 1. The shank portion 21 may be threaded both exteriorly and interiorly, so as to receive upon its exterior a clamping nut 22 for firmly securing the post against the disk 1. Soft rubber washers 23 and 24 may also be interposed between the head 20 and disk 1 and between nut 22 and disk 1 to lessen the chance of breakage when the parts are clamped together, and to provide the necessary driving friction between the rotating post 19 and the disk 1. The shank 21 receives in its hollow extension the threaded end 25 of the shaft 2, and suitable lock nuts 26 and 27 are also provided for firmly securing said shaft within the shank 21 of post 19. By this construction it will be seen that the disk 1 is firmly secured to shaft 2 for rotation therewith.

In using the device thus described in stormy weather upon the bridge of a vessel, the disk 1 is maintained in rotation at a speed sufficient to remove by centrifugal force all deposits of rain, snow, sleet, etc., that might tend to accumulate on the weather side of the glass and interfere with a clear vision therethrough. The friction of the moving surface of glass against the air will also tend to dry the same more quickly than in the case of a fixed pane. No attention on the part of the observer is required to keep his view clear through the device, as it operates automatically, in the simple manner described, to clean itself.

Referring to the modification shown in Figs. 4 and 5, 28 indicates the fixed border portion or frame to which the device is applied. 1' indicates the rotating disk, which in this modification is supported at its periphery between three grooved rollers 29, 30 and 31, said rollers in turn being mounted in suitable bearings within the stationary border portion 28. The lowermost roller 29, upon which the greater part of the weight of disk 1' rests, has a shaft extending through the member 28 with a driving pulley 32 fixed to its inner end. A driving belt 5' engages with said pulley 32 for rotating the same, whereby the disk 1' may be suitably driven from the grooved roller 29. The weather-proof packing between the periphery of said disk 1' and member 28 is provided, as shown in Fig. 5, by a felt ring or washer 33.

Figs. 6 and 7 show a still further modification of the device, comprising balanced rotating wiper arms 35 and 36 fixed to the shaft 2' and adapted to rotate in contact with the weather side of the window pane 18'. In this modification the rotating shaft 2' is carried in a bearing 3' upon an adjustable support 7' and is driven from pulley 4' and belt 5'', as described in connection with Fig. 1. The squeegee and its driving

mechanism may be all mounted upon the weather side of the pane, as here shown, or, if desired, the driving mechanism may be within the sheltered part of the pane and the shaft 2' extended through the pane to bring the squeegee on the exposed weather side.

It is to be understood of course that various other modifications of the embodiment herein shown and various immaterial changes therein may be devised without departing from the spirit and scope of the invention as hereinafter claimed.

What I claim as new is:—

1. An observation window, comprising a rotating transparent disk, said rotating movement being sufficient to remove by centrifugal force such deposits on said member as might tend to interfere with the vision therethrough, a stationary border portion surrounding the periphery of said disk, a rotating shaft for carrying said disk independently of support from said border portion, and a support for said shaft capable of universal adjustment for alining said disk with said border portion.

2. An observation window, comprising a rotating transparent disk, said rotative speed being sufficient to remove by centrifugal force such deposits on said member as might tend to interfere with the vision therethrough, a stationary border portion surrounding the periphery of said disk, a rotating shaft for carrying said disk independently of support from said border portion, a support for said shaft capable of universal adjustment for alining said disk with said border portion comprising a post headed at one side of said disk and having a hollow shank extending therethrough to the other side of said disk, said shank being screw-threaded exteriorly and interiorly for receiving a clamping nut for said disk upon its exterior and a threaded end of said shaft within its interior, and a lock nut for securing said shaft within said post shank.

3. An observation window, comprising a rotating member for permitting vision therethrough, a rotating shaft for carrying said rotating member, means for fastening said shaft to said member comprising a post headed at one side of said member and having a hollow shank extending therethrough to the other side of said member, said shank being screw-threaded exteriorly and interiorly for receiving a clamping nut for said member upon its exterior and a threaded end of said shaft within its interior, and a lock nut for securing said shaft within said post shank.

4. An observation window, comprising a rotating transparent disk, said rotating movement being sufficient to remove by centrifugal force such deposits on said member as might tend to interfere with the

- vision therethrough, a stationary border portion surrounding the periphery of said disk and weather-proof packing between said border portion and said disk, a rotating shaft for carrying said disk independently of support from said border portion, a support for said shaft capable of universal adjustment for alining said disk with said border portion comprising a post headed at one side of said disk and having a hollow shank extending therethrough to the other side of said disk, said shank being screw-threaded exteriorly and interiorly for receiving a clamping nut for said disk upon its exterior and a threaded end of said shaft within its interior, and a lock nut for securing said shaft within said post shank.
5. An observation window, comprising a rotating transparent disk, said rotative speed being sufficient to remove by centrifugal force such deposits on said member as might tend to interfere with the vision therethrough, a stationary border portion surrounding the periphery of said disk and weather-proof packing between said border portion and said disk, a rotating shaft for carrying said disk independently of support from said border portion, a support for said shaft capable of universal adjustment for alining said disk with said border portion comprising a post headed at one side of said disk and having a hollow shank extending therethrough to the other side of said disk, said shank being screw-threaded exteriorly and interiorly for receiving a clamping nut for said disk upon its exterior and a threaded end of said shaft within its interior, and a lock nut for securing said shaft within said post shank.
- Signed at New York city, N. Y., this 7 day of November, 1917.

ROBERT P. BREESE.