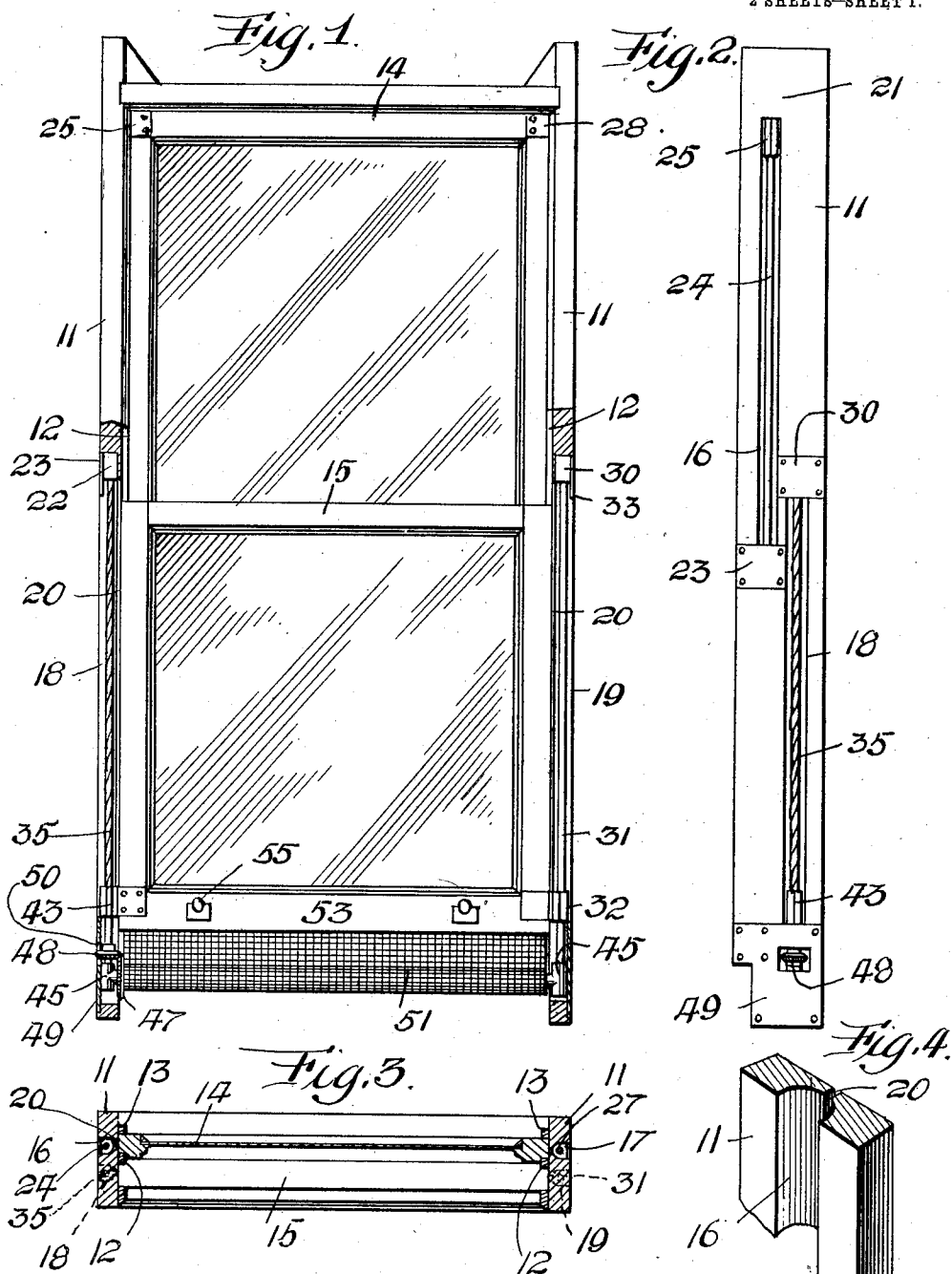


F. KLOUSNITZER.
WINDOW SCREEN.
APPLICATION FILED APR. 6, 1912.

1,058,985.

Patented Apr. 15, 1913.

2 SHEETS-SHEET 1.



WITNESSES

Samuel Payne.
J. P. Appelman,

INVENTOR

F. Klousnitzer.
BY A. C. Ernst & Co.

ATTORNEYS

1,058,985.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

FRANK KLOUSNITZER, OF HERMAN, PENNSYLVANIA.

WINDOW-SCREEN.

1,058,985.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed April 6, 1912. Serial No. 689,005.

To all whom it may concern:

Be it known that I, FRANK KLOUSNITZER, a citizen of the United States of America, residing at Herman, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to window screens, more particularly to those which roll in a manner of a curtain and which are especially adapted to cooperate with one of the sashes when the latter is shifted and has for its 15 object to provide, in a manner as hereinafter set forth a window screen capable of being extended when the sash is shifted in one direction, and further adapted to be rolled up when the sash is closed.

20 A further object of the invention is to provide a window screen in a manner as hereinafter set forth and which is comparatively simple in its construction and arrangement, strong, durable, efficient in its 25 use, conveniently set up with respect to the window frame and sash, positive in its movement, and comparatively inexpensive to manufacture.

With the foregoing and other objects in 30 view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifica- 35 tions can be resorted to which fall within the scope of the claim hereunto appended.

In the drawings wherein like reference 40 characters denote corresponding parts throughout the several views:—Figure 1 is a front elevation of a window frame and sashes, partly broken away and partly in section, Fig. 2 is a side elevation thereof, 45 Fig. 3 is a horizontal sectional view of the frame, Fig. 4 is a perspective view of a portion of a stile, Fig. 5 is a side elevation of a spirally grooved rod forming an element of the construction, Fig. 6 is a perspective 50 view of a detached bearing, Fig. 7 is a like view of a detached sash guide, Fig. 8 is a perspective view of another of the bearings, Fig. 9 is a vertically sectional view, broken away with the sash in lowered position and 55 the screen rolled, and Fig. 10 is a view similar to Fig. 2 showing the other stile.

Referring to the drawing in detail the frame comprises stiles 11, parting strips 12 and bead strips 13, these strips guiding and holding an upper sash 14 and a lower sash 60 15. The outer sides of the stiles 11 are provided with vertically disposed grooves 16, 17, 18 and 19, the grooves 16 and 18 are arranged in parallel planes and the same arrangement is had in connection with the 65 grooves 17 and 19. The stiles are slotted, as at 20 (Fig. 4) the length of the slots corresponding to the length of the grooves. The grooves 16 and 17 are formed in the upper part of the stiles and are associated 70 with the operation of the upper sash 14, while the grooves 18 and 19 are associated with the operation of the lower sash 15.

Arranged within the groove 16, at the upper end thereof is a bearing 21, and extending 75 into the groove 16 at the lower end thereof is a bearing 22 which is carried by a plate 23 secured to the stile 11. The bearings 21 and 22 support a guide rod 24, upon which is slidably mounted a sash guide 80 25, carried by the sash 14 adjacent to the upper end thereof. The ends of the groove 17 contain bearings similar to the bearings 22 and which are supported by the plates 26 secured to the stile 11. The bearings support 85 a revoluble spirally grooved rod 27 and engaging said rod is a sash guide 28 carried by the sash 14 at the upper end thereof. The guide 28 has inwardly projecting pins 29, only one shown engaging in the groove 90 of the rod 27. The groove of the rod 27 is so disposed that the pins 29 will not slide therethrough unless the upper sash 15 is raised or lowered manually that is to say that when the sash 14 is elevated the groove is 95 so disposed, that the pins 29 will be supported by the walls of the groove to this extent that the weight of the sash will not pull the pins down the groove. To lower and elevate the sash it must be done manually. The 100 grooved rod 27 forms a support for the pins 29.

The groove 19 contains a bearing 30 for a guide rod 31, and engaging said guide rod 105 is a sash guide 32 carried by the lower end of the sash 15. The groove 18 contains a bearing 33 for a spirally grooved rod 35. Engaging the spiral rod 35 is a sash guide 43 carried by the lower end of the sash 15 and which is similar in construction to the 110 guide 28, whereby when the lower sash is raised or lowered the spirally grooved rod

will be revolved. The stiles 11 extend below the sill 44 of the sash frame and are provided with bearings 45 for the lower ends of the rods 31 and 35, also for the ends of a screen roller 46. One end of the roller 46 is provided with a beveled gear 47 meshing with a beveled gear wheel 48 secured to the lower end of the spirally grooved rod 35. The supporting plate 49 of the bearing 43 for the rod 35, is cut away, as at 50 to provide clearance for the beveled gear wheel 48.

Attached to and wound upon the roller 46 is a screen 51, the edges of which ride in the slots 20 of the stiles. The upper end of the screen 51 is detachably mounted between a pair of plates 52 held within the bottom rail 53 of the lower sash 15 by suitable holdfast devices. The inner side of the bottom rail 53 is provided with hand grips 55, whereby the lower sash 15 is elevated the screen 51 is unrolled and the edges extend into the slots 20 of the stiles 11 and the open portion of the sash frame is closed to flies and insects without interfering with the ventilation. When the lower sash is elevated the spirally grooved rod 35 is revolved through the medium of the pins 29 which engage in the spiral groove of the rod, as the latter is revolved the roller 46 is rotated which unwinds the screen 51 from off the roller 46 so that the lower sash can be conveniently elevated, or in other words there is not a pulling downwardly by the screen when the lower sash is elevated. When the sash 15 is

lowered, the rod 35 is revolved in the opposite direction, rotating the roller 46 and winding the screen.

What I claim is:—

In combination with a sash frame having vertical grooves in its outer faces and slots in the inner faces registering with said grooves, of bearings mounted in the frame at the bottom of said grooves, a spirally grooved rod mounted in the groove at one side of the frame and journaled in the bearing at the base of the groove, a guide rod mounted in the other groove and supported at its lower end in the bearing at the lower end of the groove, a bearing in the groove for the upper end of said grooved rod, a bevel pinion on the lower end of said rod, a screen roller journaled in the bearings at the lower ends of the grooves and carrying a screen, the edges of which ride in the slots of the frame as the roller revolves, a bevel pinion at one end of the roller meshing with the bevel pinion on the grooved rod, a sash in the frame to which the screen is connected, and sleeve-bearings carried by the sash for said grooved rod and the guide rod respectively, the bearing receiving the grooved rod having a pin engaging the groove of said rod to revolve the rod as the sash is moved in the frame.

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

FRANK KLOUSNITZER.

Witnesses:

MAX H. SROLOVITZ,
CHRISTINA T. HOOD.

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