J. H. SNELL.

ADJUSTABLE WINDOW SCREEN.

APPLICATION FILED MAY 4, 1916.

1,210,012.

Patented Dec. 26, 1916.

2 SHEETS—SHEET 1.

FIG. 1.

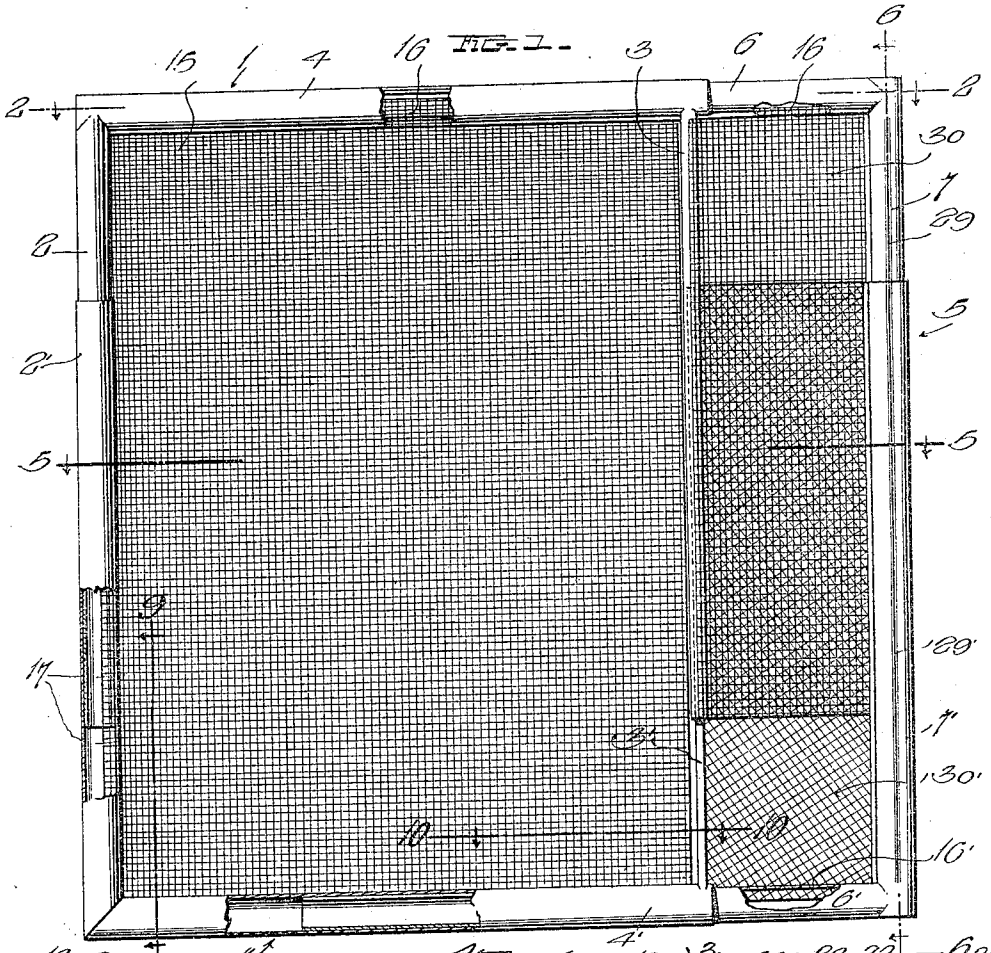


FIG. 2.

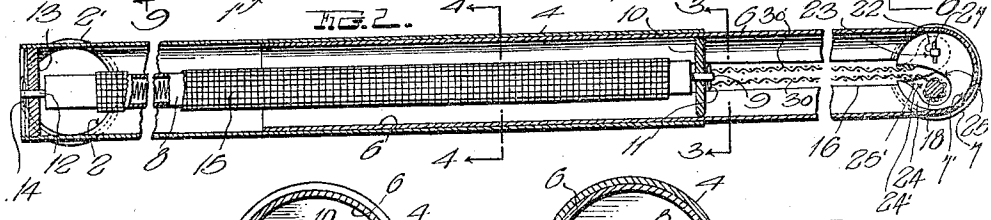


FIG. 3.

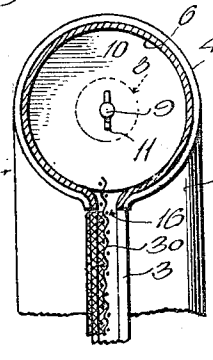
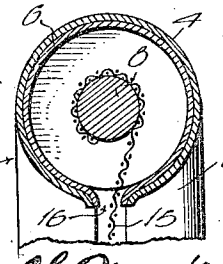


FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 5.

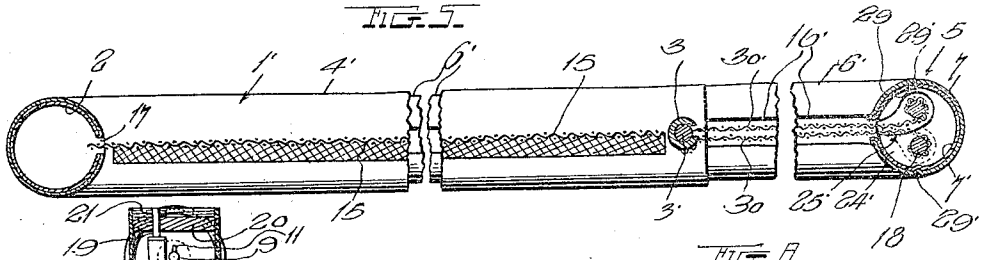


FIG. 8.

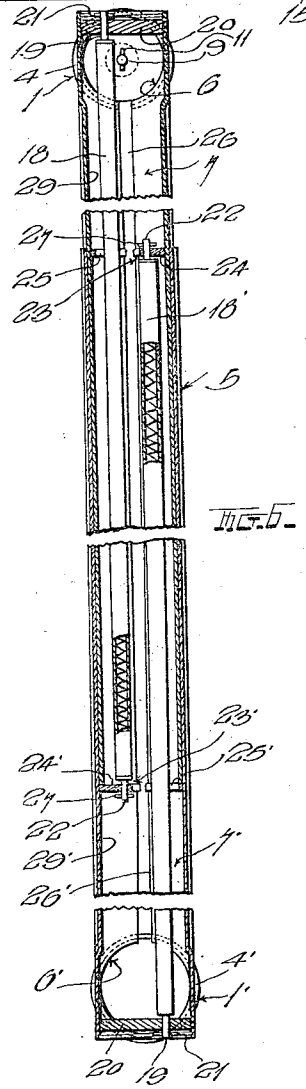


FIG. 6.

FIG. 7.

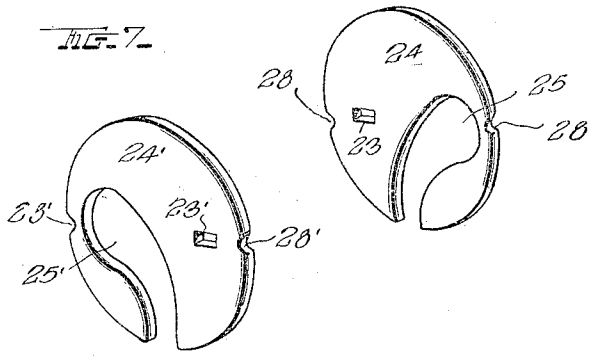


FIG. 9.

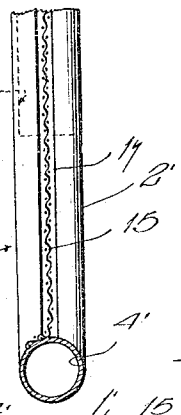
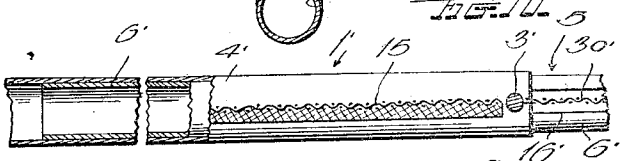


FIG. 10.



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UNITED STATES PATENT OFFICE.

JOHN H. SNELL, OF BELLEVILLE, NEW JERSEY.

ADJUSTABLE WINDOW-SCREEN.

1,210,012. Specification of Letters Patent. Patented Dec. 26, 1916.

Application filed May 4, 1916. Serial No. 95,425.

To all whom it may concern:

Be it known that I, JOHN H. SNELL, a citizen of the United States, residing at Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Adjustable Window-Screens; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in window screens and has for its object to provide a simply constructed and inexpensive device of this class which will be adjustable both vertically and horizontally to adapt it for use upon windows of various sizes, regardless of the distance which the same be opened.

With this general object in view, the invention resides in certain novel features of construction and in unique combinations of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings which constitute a part of this application and in which:

Figure 1 is a side elevation of a screen with parts broken away and in section; Fig. 2 is a horizontal sectional view taken on the plane indicated by the line 2—2 of Fig. 1; Figs. 3 and 4 are detail vertical transverse sections as seen on the planes of the lines 3—3 and 4—4 of Fig. 2; Fig. 5 is a horizontal section as seen on the plane of the line 5—5 of Fig. 1; Fig. 6 is a vertical section taken on the plane indicated by the line 6—6 of Fig. 1; Figs. 7 and 8 are perspective views of the two slide plates to be described; Fig. 9 is a detail vertical section on the plane of the line 9—9 of Fig. 1; and Fig. 10 is a detail horizontal section taken on the plane of the line 10—10 of Fig. 1.

In specifically describing the construction shown in the drawings above briefly described, similar characters will be placed on corresponding parts throughout the several views and reference will be herein made to the numerous elements by their respective indices. To this end, the numerals 1 and 1′ designate a pair of rigid U-frames whose arms 2, 3, 2′ and 3′ telescope. The cross bars 4 and 4′ of the frames 1 and 1′ are of tubular formation and all of the arms above described are similarly constructed with the exception of 3′, this arm being in the form of a rod sliding within the arm 3, said rod and arm being preferably of less diameter than the remaining arms. An additional frame 5 is provided, the arms 6 and 6′ of this frame telescoping with the cross bars 4 and 4′ of the U-frames 1 and 1′ while the cross bar of said frame 5 is constructed of two telescoping sections in the form of tubes 7 and 7′, the former sliding within the latter. The tubes 7 and 7′ are disposed adjacent the arms 3 and 3′ of the U-frames 1 and 1′ as shown clearly in Fig. 1 but may be moved toward and away therefrom since the arms 6 and 6′ slide freely within the cross bars 4 and 4′.

A spring wound roller 8 is mounted in the tubular cross bar 4 of the U-frame 1, one of the pintles 9 of this roller being mounted rotatably in an aperture of a slide plate 10 which is received slidably in the inner end portion of the tubular arm 6 of frame 5. Accidental disengagement of the pintle 9 from plate 10 is prevented by a pin or the like 11. The other pintle 12 at the outer end of the roller 8 is held non-rotatably in an aperture which is formed through a screw plug 13 threaded into the outer end of the tubular cross bar 4. Here also a pin 14 is employed to prevent disengagement of the pintle 12 with the plug 13.

A screen 15 of wire mesh or any suitable material is wound at one end of the roller 8, said screen extending through alined slots 16 in the inner sides of the parts 4 and 6, and having its other end secured permanently to the cross bar 4′. The telescoping arms 2 and 2′ have alined slots 17 which receive one edge of the screen 15, the other edge thereof being disposed in close proximity to or in direct contact with the arms 3 and 3′. By this construction, it will be obvious that as the two frames 4 and 4′ are adjusted vertically in respect to each other, the active area of the screen 15 will vary automatically, the spring wound roller 8 allowing this as will be readily understood. The friction existing between the telescoping arms of said frames 4 and 4′ will in most cases be sufficient to retain them in adjusted position, but the roller 8 will preferably be provided with locking means such as that commonly employed on shade rollers, whereby when once adjusted, it will not continually exert a tendency to wind the screen 15.

Two overlapping spring wound rollers

18 and 18′ are mounted respectively in the sections 7 and 7′ of the U-frame 5, the pintles 19 at the outer ends of said rollers being rotatably mounted in apertures in screw plugs 20 which are threaded respectively in the outer ends of the sections 7 and 7′, accidental disengagement of said pintles and plugs being prevented by pins 21. The pintles 22 at the inner ends of the rollers 18 and 18′ are held non-rotatably in polysided openings 23 and 23′ formed through slide plates 24 and 24′, these plates being mounted for sliding movement in the sections 7 and 7′ respectively, the plate 24 having a notch 25 which receives the roller 18 loosely while 24′ is formed with a notch 25′ which similarly receives roller 18′. Both notches 25 and 25′ open through the edges of their respective plates into registering longitudinal slots 26 and 26′ which are formed in the inner side of the sections 7 and 7′. To retain the pintles 22 in operative relation with the plates 24 and 24′ pins 27 are passed through the former and in order to prevent rotation of said plates their edges are notched as shown at 28 and 28′, these notches receiving internal ribs 29 and 29′ formed on the sections 7 and 7′.

Completing the structure of the device are two lengths of screen wire or the like 30 and 30′. The former is secured at one end to the roller 18 and at its other end to the arm 3 of the U-frame 1, it being passed through the registering slots 26 and 26′ and having its outer edge positioned in the slot 16 of the arm 6. The length 30′ is secured at one end to the roller 18′ and at its other end to the arm 3′, the tubular arm 3 being slotted as shown most clearly in Fig. 5 to receive said length 30′. The outer edge of the length 30′ is received in a slot 16′ in tubular arm 6′.

By constructing the improved screen in the manner shown and described, it may be adjusted vertically and horizontally as occasion may demand. When increasing the length of the screen vertically, the parts 2 and 2′, 3 and 3′, and 7 and 7′ will slide upon each other as will also the lengths of screen 30 and 30′. The screen 15, however, will merely unwind from the roller 8. When the device is being increased in length horizontally, parts 4 and 6, and 4′ and 6′ will slide upon each other while screens 30 and 30′ will unwind from their respective rollers 18 and 18′. It will thus be evident that regardless of the amount or direction of adjustment, the active area of the screen will be automatically regulated to prevent the entrance of flies and other insects.

In the foregoing I have described certain specific details of construction for accomplishing probably the best results and in the accompanying drawings such details have been described. It is to be understood, however, that numerous changes may be made within the scope of the invention as claimed without sacrificing the main advantages thereof.

I claim:

1. A window screen formed of a number of sections, a frame for said screen adjustable both vertically and horizontally, and spring wound rollers carried by the sides of the frame, the sections of the screen being secured at one end to said rollers and at their other ends to the frame, whereby the active area of said screen will vary automatically as the size of the frame is increased or decreased.

2. A window screen comprising a pair of opposed rigid U-frames whose arms telescope, a spring wound roller mounted in the cross bar of one U-frame, a screen wound on said roller at one end and secured at its other end to the cross bar of the other U-frame, a third U-frame whose arms telescope with the cross bars of the first named frames, said third frame having its cross bar formed of two telescoping sections, a pair of overlapping spring wound rollers mounted one in each of said sections, and lengths of screen wound at one end on said rollers and secured at their other ends to the adjacent arms of the first named U-frames.

3. A window screen comprising a pair of opposed rigid U-frames whose arms telescope, a spring wound roller mounted in the cross bar of one U-frame, a screen wound on said roller at one end and secured at its other end to the cross bar of the other U-frame, a third U-frame whose arms telescope with the cross bars of the first named frames, said third frame having its cross bar formed of two telescoping tubes provided with registering longitudinally disposed slots, a pair of overlapping spring wound rollers mounted one in each tube and connected at their outer ends to the outer ends of said tubes, a pair of slide plates mounted one in each tube and each connected with the inner end of the roller of the other tube, said plates having notches receiving the rollers loosely and opening into the slots of the tubes, and lengths of screen wound at one end on said rollers and secured at their other ends to the adjacent arms of the first named U-frames, said lengths extending through the aforesaid slots and notches.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN H. SNELL.

Witnesses:
WILLIAM J. DOWD,
WILLIAM R. CROSSON.

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

Correction in Letters Patent No. 1,210,012.

It is hereby certified that in Letters Patent No. 1,210,012, granted December 26, 1916, upon the application of John H. Snell, of Belleville, New Jersey, for an improvement in "Adjustable Window-Screens," an error appears in the printed specification requiring correction as follows: Page 1, line 3, for the words "citizen of the United States" read *a subject of the Empire of Russia;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 6th day of February, A. D., 1917.

[SEAL.]

R. F. WHITEHEAD,

Acting Commissioner of Patents.

Cl. 156—38.