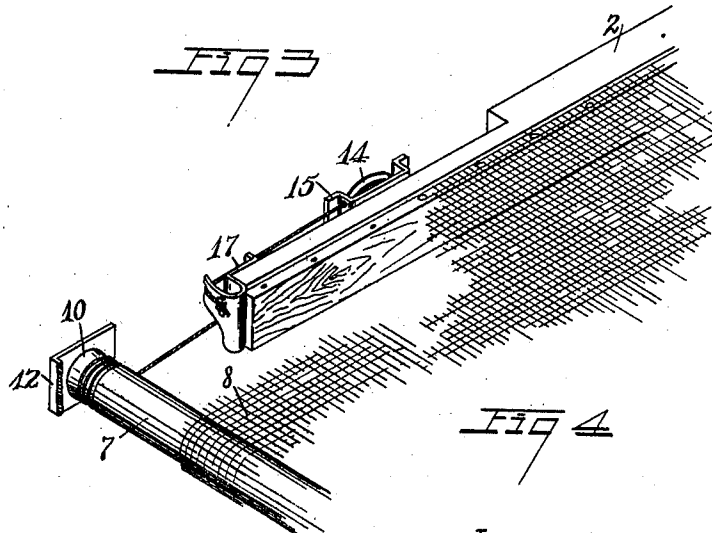
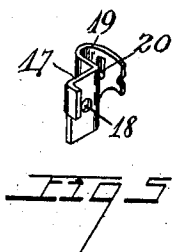
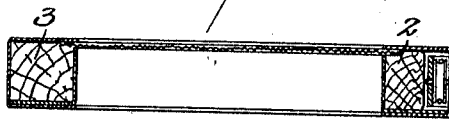
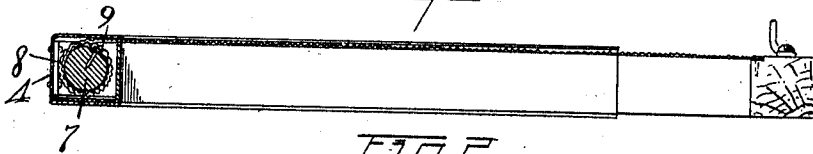
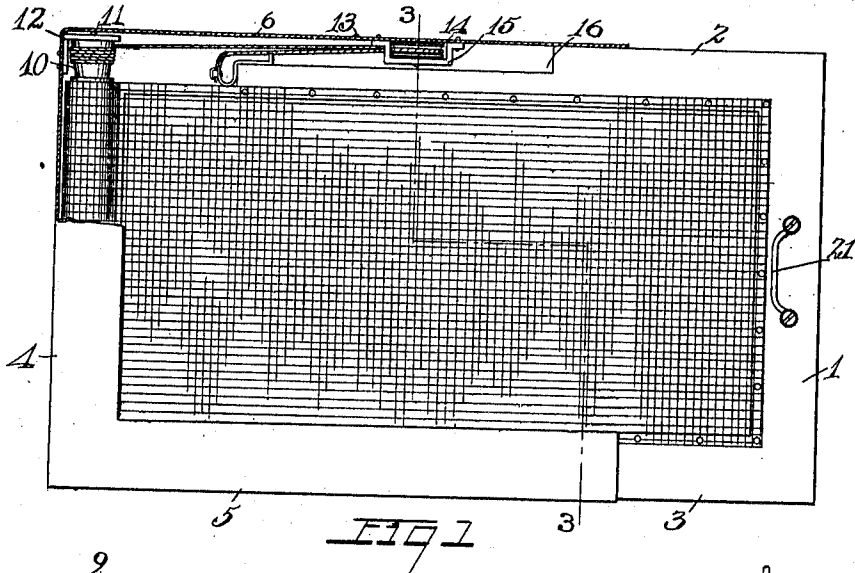


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WINDOW SCREEN.
APPLICATION FILED FEB. 21, 1910.

982,360.

Patented Jan. 24, 1911.



Witnesses.

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WILLIAM A. HEANEY AND ALVIN C. BEYMER, OF CLEVELAND, OHIO.

WINDOW-SCREEN.

982,360.

Specification of Letters Patent.

Patented Jan. 24, 1911.

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To all whom it may concern:

Be it known that we, WILLIAM A. HEANEY and ALVIN C. BEYMER, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Window-Screens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

Our invention relates to screens for windows, and has for its object to produce a screen which may be readily fitted to any window in which screen the wire, cloth or, in other words, the screen element, is continuous, thereby preventing flies or other insects from gaining entrance through an open window in which the screen here shown and described, is used. The screen marks a radical departure from the two-part screens which are now in use, and in which the screen element is divided, usually at substantially the center of the screen.

Other advantages will appear as the description progresses, and the invention may be said to generally comprise the elements and combinations thereof set forth in the accompanying claims.

Reference should be had to the accompanying drawings, in which—

Figure 1 is a front elevation of the screen with certain portions removed; Fig. 2 is a central vertical section of the showing in Fig. 1; Fig. 3 is a section upon the line 3—3 of Fig. 1; Fig. 4 is a perspective view of certain portions of the hidden operating structure for the screen; and Fig. 5 is a perspective view of a detail.

The screen here shown comprises what we term two telescoping elements, one element of which is composed of metal and the other may be of wood or metal, as the choice may be.

In Fig. 1 one of the telescoping elements is formed with an end piece 1 and side pieces 2 and 3. These members are arranged at right angles with respect to each other, forming a frame, and each of the members may be described as being substantially rectangular in cross section.

The element with which the frame just described coöperates is usually metallic and is formed with the end member 4 and side members 5 and 6. These members are likewise arranged at right angles with respect to each other. The members 4, 5 and 6, as

before indicated, are made of sheet metal and are formed as square tubes. The members 2 and 3 telescope within the tubular members 5 and 6, as will be clearly seen from an inspection of Fig. 3.

As shown in the drawings, the top part of each of the members 4, 5 and 6 does not close with the inner side walls, to form a perfect tube, but a slight space is permitted between the top and one of the side walls for the purpose of permitting the passage of the screen in a manner which will be hereinafter described.

Within the member 4 is a roller 7 upon which is wound wire screening or similar material at 8. The screening is secured to the roll along a flat surface formed thereon, as indicated at 9, and is secured to the roll by means of tacks or otherwise.

At the ends beyond the portion which is engaged by the screen, the roller is formed with conical heads, as indicated at 10, the narrowest part of the heads being toward the roll. These conical heads are pivotally mounted upon pins, one of which is shown at 11, which are carried by a bracket 12 that is secured upon the inner wall of the member 4, being secured thereto by rivets or other equivalent means, as indicated at 13. The bracket 11 is offset from the member 4 at that portion which engages with the roller 7, and the said offset portion being flexible will press the roller to prevent any play of the roller within the member 4.

Upon the side members 5 and 6 are mounted pulleys, one of which is shown at 14, the said pulley being mounted upon the side member 6 by a bracket 15, the bracket 15 being secured to the member 6 in any desired manner.

Upon the inner end of the conical head 10 a flexible cord or wire is secured. This cord or wire is given a few turns around the conical head and then passes around the pulley 14. It is secured at its opposite end to the inner end of the arm 2.

The arm 2 is cut away, as indicated at 16, for the purpose of permitting the operation of the two parts of the screen relative to each other without interfering with the pulley 14. The shoulder forming the end of the cut-away portion forms a stop against which the ends of the brackets 12 and 15 will abut when the telescoping portions of the screen are at their most inward position.

The wire or cord may be secured to the

inner end of the arm 2 in any desired manner, but for the purpose we have shown the bracket illustrated in Fig. 5. This bracket is secured upon the end of the arm in the manner indicated in Fig. 1. This bracket comprises a flat portion 17 which is secured upon the arm 2 by means of a screw or equivalent means occupying the opening 18. Formed integral with the flat portion of said bracket is a curved resilient part 19 which has a finger 20 struck up therefrom. The wire or cord passes around the resilient portion 19 and is wound around the finger 20, after which the finger is pressed in so that the wire is firmly held and cannot become loose. The resilient portion 19 is provided for the purpose of maintaining a tension upon the wire or cord to take up any slackness that may occur therein because of the stretching of the cord or wire due to its use.

It will be understood that the structure just described is duplicated upon the opposite side of the screen in connection with the arms 3 and 5.

A handle 21 is mounted upon the end member 1 for the purpose of more easily operating the said member.

The screening 8 which is upon the roller 7 is secured to the inner top portions of the member 1, 2 and 3 in any desired manner.

It will be apparent from the foregoing that as the two elements forming the screen are pulled apart, the wire screen 8 will be unwound from the roll 7, and will pass between the small spaces provided between the top portions of each of the members 4, 5 and 6, and the inner side portion of each of these members. During this operation the string or cord will be wound upon the conical portions 10.

When the two elements of the screen are pushed together, the cord or wire is drawn by the member 2 around the pulley 14 and thereby causes the rotation of the roller 7 in a manner to wind up the screen 8 thereon.

The portion of the roller with which the wire engages is formed conical in the manner described, so that there will be no tendency of the cord or wire to wind off the end of the roller. Due to the structure described, the tendency will always be for the cord or wire to slip toward the narrowest portion of the conical head 10. Furthermore, as the screen is wound upon the roller 7 in closing the screen, the diameter of the combined roller and wound screen is increasing. The cord for operating the roller unwinds from a conical head, gradually decreasing in diameter and therefore the cord is unwound proportionately to the winding of the screen.

It will be apparent from the foregoing description that the screen may be made in any size desired to fit various windows and fur-

ther when the screen is inserted in a window it presents a continuous screen surface unbroken by unsightly bars.

Having thus described our invention, what we claim is:

1. As a new article of manufacture, a window screen comprising two telescoping elements, a roller carried by one of said elements, screening wound upon said roller, one end of said screening being secured to the other of the telescoping elements, and operative connections between the telescoping member to which the screening is secured and the roller whereby the roller is operated to wind up the screen when the telescoping members are pushed together.

2. A window screen comprising two telescoping elements, a member carried by one of said elements, screening wound upon said member, one end of said screening being secured to the member and to the element to which the screening is secured, whereby the member will be operated to wind the screening when the telescoping elements are pushed toward each other.

3. A window screen comprising two telescoping elements, a roller mounted in one of said elements, a pulley carried by the said element, a flexible member secured at one end to said roller passing over the said pulley and secured at its opposite ends to the other screen element, screening wound upon said roller and secured to the same element to which the end of the flexible member is secured, whereby the roller will be rotated to wind the screen as the screen elements move toward each other.

4. A window screen comprising two telescoping elements, a roller mounted in one of said elements, pulleys carried by the said element, flexible members secured at one end to the opposite ends of said roller passing over the said pulleys and secured at their opposite ends to the other screen element, screening wound upon said roller and secured to the same element to which the ends of the flexible members are secured, whereby the roller will be rotated to wind the screen as the screen elements move toward each other.

5. A window screen comprising two telescoping elements, one of said elements comprising a frame having an end piece and two arms, the other of said elements comprising a hollow end piece and two hollow arms into which the two arms upon the frame are adapted to extend, a roller within the hollow end piece of one of the screen elements, screening wound upon said roller, the said screening being secured to the arms and end piece of the frame, a flexible connection between the roller and between the frame, substantially as described.

6. A window screen comprising two telescoping elements, one of said elements being

formed with a hollow end piece and hollow arms, there being a slot in the upper portion of said end piece and arms, a frame comprising the other element of said screen, said frame having an end piece and side arms, the said arms extending into the hollow arms of the first-mentioned element, a roller within the hollow end piece of the first-mentioned element, screening wound upon said roller, the said screening extending through the slots formed in the end side pieces and being secured to the arms and end piece of the frame.

7. A screen for windows comprising two telescoping elements, one of said elements being formed as a frame with an end and side pieces, the other of said elements being formed with a hollow end piece and hollow side pieces, brackets secured within said hollow side pieces, a roller mounted within the hollow end piece, the ends of said roller being mounted at the ends of the said brackets, pulleys mounted on said hollow pieces, flexible members secured to the ends of said roller and secured at their opposite ends to the arms of the frame, the said flexible members passing over the said pulleys between their end portions, a portion of the said arms to which the flexible members are secured being cut away to permit the relative movement between the elements of the screen.

8. A window screen comprising two telescoping elements, one of said elements being formed as a frame with an end piece and two side members, the other of said elements being formed with a hollow end piece and hollow side pieces, the side pieces of the frame projecting into the said hollow side pieces, a bracket carried by one of the pieces forming the second element upon the interior thereof, the end of the said bracket having a hollow extension, a roller mounted in the hollow end piece and mounted at one of its ends in the flexible end portion of the said bracket, a pulley mounted upon one of said hollow side pieces, a flexible member secured to said roller and to the end of the side member of the frame, the said flexible member passing over the pulley intermediate of its ends.

9. A screen for windows comprising two telescoping elements, a roller carried by one of said elements, a screen wound upon said roller, the said screen being secured to the other of the said elements, the end of said roller being tapered, a flexible member mounted near the inner end of said tapered portion and passing around the same, a pulley carried by the same screen element which supports the roller, said flexible member passing around the pulley and being secured to the same screen element to which the screening is fastened.

10. A screen for windows comprising two

telescoping elements, a roller carried by one of said elements, a screen wound upon said roller, the said screen being secured to the other of the said elements, the ends of the said roller being tapered, flexible members mounted near the inner end of said tapered portions and passing around the same, pulleys carried by the same screen element which supports the roller, said flexible members passing around the pulleys and being secured to the same screen element to which the screening is fastened.

11. A window screen comprising two telescoping elements, a roller carried by one of said elements, a pulley carried by the same element, screening wound upon said roller, the said screening being secured to the other of the screen elements, a flexible member secured to said roller and extending around said pulley, a clip carried by the screen element to which the screen is secured, a finger pressed from said clip to which the flexible member is secured.

12. A screen for windows comprising two telescoping elements, a roller carried by one of said elements, a screen wound upon said roller and secured to the other of said elements, a flexible member secured to said roller, a pulley carried by the same screen element as the roller, said flexible member extending around said pulley, a clip secured upon the screen element to which the screen is secured, said clip being provided with a screen arm, the end of said flexible member being secured to said spring arm.

13. A screen for windows, comprising two telescoping elements, a roller carried by one of said elements, a pulley carried by the same screen element, screening wound upon said roller, said screening being secured at one end to the other of the screen elements, a flexible member secured at one end to the roller passing around the pulley, and means for resiliently securing the said flexible member to the same element to which the screen is secured.

14. A screen for windows, comprising two telescoping elements, a roller carried by one of said elements, pulleys carried by the same screen element, screening wound upon said roller, said screening being secured at one end to the other of the screen elements, flexible members secured at one end to the roller passing around the pulleys, and means for resiliently securing the said flexible members to the same element to which the screen is secured.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses.

WILLIAM A. HEANEY.
ALVIN C. BEYMER.

Witnesses:

M. E. TAIF,
A. J. HUDSON.