June 17, 1930. N. H. NELSON 1,764,880

GUIDE TRACK FOR ROLLING WINDOW SCREENS

Filed June 8, 1925 2 Sheets-Sheet 1

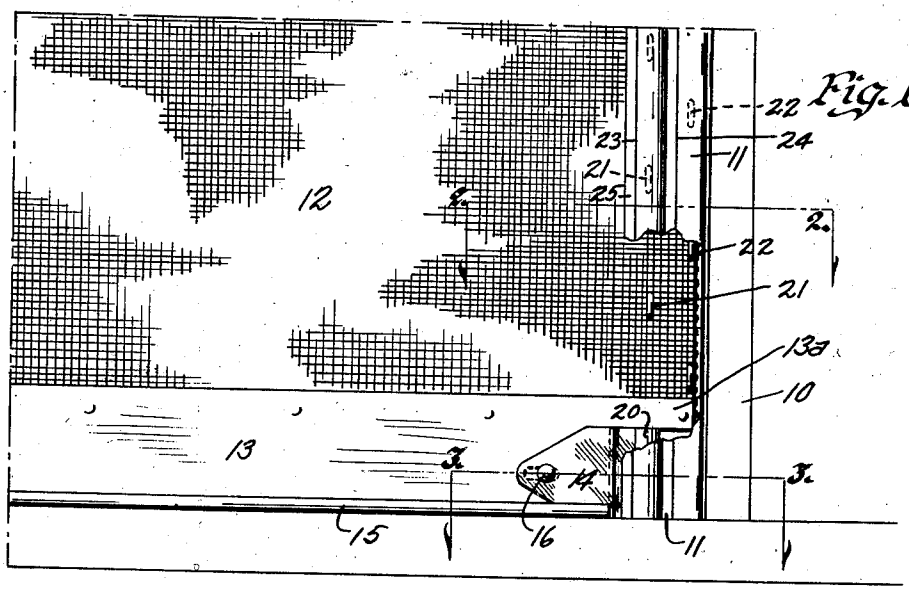


Fig. 1.

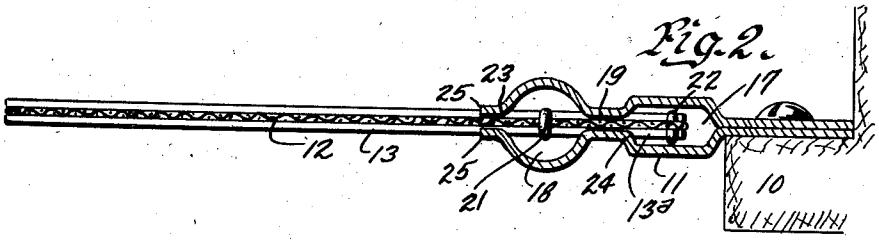


Fig. 2.

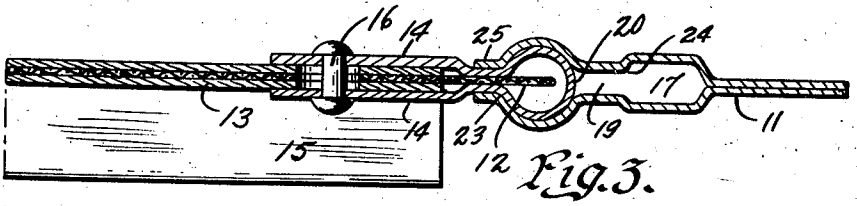


Fig. 3.

Witness
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GUIDE TRACK FOR ROLLING WINDOW SCREENS

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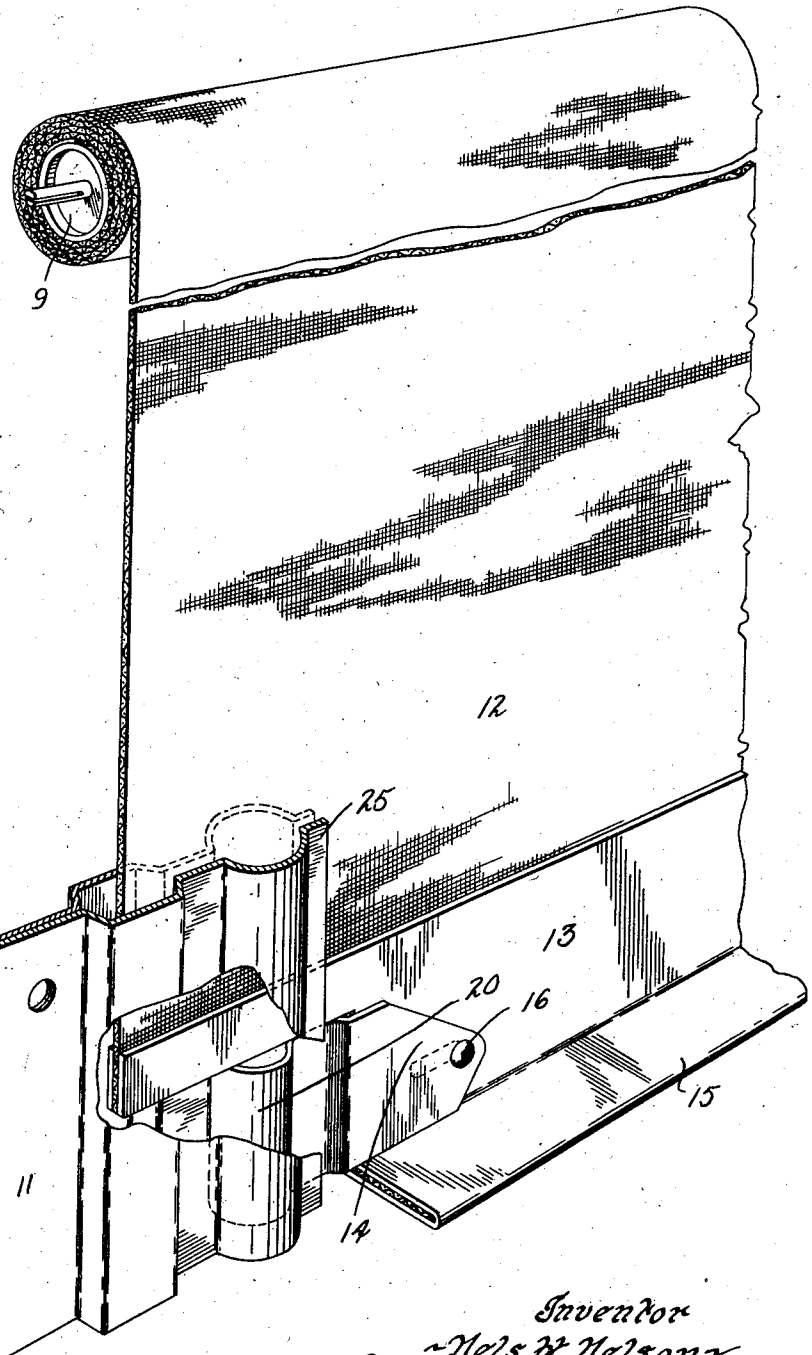


Fig. 4.

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Patented June 17, 1930

1,764,880

UNITED STATES PATENT OFFICE

NELS H. NELSON, OF DES MOINES, IOWA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ROLSCREEN COMPANY, OF DES MOINES, IOWA, A CORPORATION

GUIDE TRACK FOR ROLLING WINDOW SCREENS

Application filed June 8, 1925. Serial No. 35,774.

The object of my invention is to provide a guide track for rolling window screens wherein the screen may engage each track or guide at two places for insuring against any possible sagging or bulging of the screen when stretched across a window opening between two of the guides.

It may be here mentioned that in a rolling window screen where the screen rolls up, it is necessary to employ some staples or clips on the side edges of the screen so as to insure a proper engagement of the side edges of the screen with the guides placed along the sides of the window casing or frame and at the same time to so arrange staples or clips so that when the screen is rolled up, it will not excessively increase the diameter of the screen where the staples are, and it is my object therefore to provide a pair of rows of staples adapted to engage two portions of a guide in which the edge of the screen having the staples therein travels.

Still a further object is to provide a pair of tracks or guides arranged along the sides of a window frame for receiving the edges of a rolling window screen each track or guide being divided into two substantially independent runways, one of which receives one row of staples and the other of which receives the other row of staples on the screen.

Still a further object is to provide a track adapted to have a friction block slidably mounted therein, and which causes the track to slidably expand and contract as it is moved within the track.

Still a further object is to arrange the rows of staples in staggered relation so as to reduce to a minimum any amount of sagging or bulging of the screen between its two side edges.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of a portion of a rolling window screen with my improved guide or track shown in connection therewith, parts being broken away in order to better illustrate the construction.

Figure 2 is a sectional view taken on line 2—2 of Figure 1, particularly showing the double runway of the track and the arrangement of the staples which are shown in substantially center position relative to the two runways of the track.

Figure 3 is a sectional view taken on line 3—3 of Figure 1 showing the binder for the lower edge of the screen and the friction block which is mounted in the inner runway of the track; and

Figure 4 is a perspective view of a rolling window screen with my device thereon, parts being broken away and shown in section to better illustrate the construction.

In the accompanying drawings, I have used the reference numeral 10 to indicate generally one side of a window casing or frame.

My guide track for rolling window screens includes a track 11 which is secured to each side of the window casing 10.

It may be here mentioned that the tracks 11 are arranged in spaced upright position and receive therebetween a sheet of wire screening 12. The screen 12 is adapted to have its side edges fit into the spaced tracks 11. The screen wire 12 is adapted to be rolled up on the roller 9 or unrolled therefrom.

The lower edge of the screen is formed with a metal binder 13, which has a friction block 14 slidably connected therewith at each end.

The binder 13 includes a horizontal flange 15 against which the friction block rests.

The friction block 14 is connected to the binder 13 by a slot and pin connection 16.

The track 10 includes an outer runway 17 and an inner runway 18.

I have shown my track as formed of a pair of similar opposed members wherein the placing of the two members against each other will form substantially two separate runways.

The outer runway 17 is shown as sub-

stantially rectangular in horizontal cross section and the inner runway I have shown as substantially circular in horizontal cross section.

Between the outer and inner runways 17 and 18, I form a pair of flat portions 19, between which the screen 12 rests and travels as will hereinafter be more fully set forth.

The friction block 14 is substantially U-shaped and has its connecting part substantially circular, as at 20.

The portion 20 of the friction block 14 is received within the inner runway 18 of the track 11.

A portion of each end of the binder 13 extends above the friction block 14 and projects beyond the portion 20 thereof into the runways 17 and between the two flat parts 19 of the track 11. The extending portion of the binder 13 is referred to by the reference numeral 13a.

The sides edges of the screen 12 each have a pair of rows of spaced staples or clips 21 and 22.

The row of clips 21 travel in the runway 18, while the row of clips 22 travel in the runway 17.

The clips 21 and 22 are spaced a sufficient distance apart so that the entire screen may be rolled up without any excessive amount of binding or increase in the over all diameter of the screen when rolled up.

The friction block 14 may be moved relative to the binder 13 a sufficient distance to permit the staples 21 and 22 to engage the track 11 at the points 23 and 24 respectively.

The use of two rows of clips practically gives me a double track engagement with the screen, and yet I have no great amount of staples in any one particular row. In other words, by the use of two runways I can use twice as many staples as I could in one row and one runway, without increasing the diameter of the rolled screen.

It may be here mentioned that in comparatively large windows where the tracks 11 are spaced a considerable distance apart, there is a tendency for the screen to bulge and by using two rows of staples and two runways, I provide a screen that will remain comparatively taut at all times.

The screen 12 is further held by the tracks 11 by its engagement between the two flat parts 19 and the two outturned flanges 25.

A portion 13a of the binder 13 travels between the two parts 19 and tends to cause them to be spread apart due to the fact that the parts 19 are normally spaced apart only the distance necessary to permit a screen to travel therebetween.

When the part 13a travels upwardly in the track 11, then the two parts of the track spread apart and assume a position substantially as is shown in Figure 3 of the drawings.

A sectional view taken through the tracks and screen at a place where the part 13a is not located, shows that the parts 19 of the track 11 are substantially close together, and this is illustrated particularly in Figure 2 of the drawings.

It will be noted that the friction block 14 frictionally engages with the track 11.

In addition to the portion 20 of the friction block 14 frictionally engaging the track 11, I have the part 13a of the binder 13 also frictionally engaged between the parts 19 of the track 11.

Some changes may be made in the construction and arrangement of the various parts of my invention, without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. A rolling window screen having a guide for its side edge and a binder for its lower edge, a tubular friction block mounted on the end of the binder and projecting therebeyond and adapted to travel in the guide and means of connection between the friction block and the binder for permitting lateral movement of the friction block relative to the binder, said means of connection comprising a slot and pin device and a shoulder on said binder arranged parallel with said slot to prevent pivotal movement of the friction block by slidably engaging one edge thereof.

2. A rolling window screen having a guide for its side edge and a binder for its lower edge, a vertically arranged tubular member mounted upon the end of said binder and capable of lateral movement relative thereto, said tubular member being connected with said binder by a pin and slot device and a shoulder on said binder arranged in parallel relation to said slot to prevent pivotal movement of the friction block by slidably engaging one edge thereof, said tubular member being adapted to travel in the guide.

3. A rolling window screen construction having a slitted guide for receiving the side edge of the screen and a binder for its lower edge, a guide block forming an extension of said binder comprising an enlarged portion adapted to be received in and to slide in said guide and being of substantially the same cross sectional area as the cross sectional area of the interior of said guide, a vertically arranged reduced portion adapted to slide lengthwise within the slitted portion of said guide and a flat portion forming a continuation of said reduced portion adapted to be attached to said binder and a loose connection for said flat portion allowing movement in one plane only comprising a pin and slot structure and a por-

tion of said binder arranged parallel to said slot and adapted to be slidingly engaged by a part of said guide block.

4. A rolling window screen construction having a guide provided with a slit opening extending lengthwise thereof for receiving the side edge of a screen and a binder for its lower edge, a guide block comprising a portion adapted to be received in said guide and conform to the interior contour thereof and to slide therein, a reduced portion to slide within the slit opening in said guide and a thickened flat portion adapted to be attached to said binder and means of attachment for said flat portion comprising a pin extending through openings in said flat portion and said binder, one of said openings being of greater length than the other for allowing slidable movement of the guide block relative to the binder and means comprising a portion of the binder adapted to be slidably engaged by the guide block to prevent pivotal movement of the guide block relative to the binder.

Des Moines, Iowa, June 4, 1925.

NELS H. NELSON.