Jan. 12, 1932. F. M. KENNEDY 1,840,454

ROLLER SCREEN

Filed Aug. 20, 1931

Fig. 1

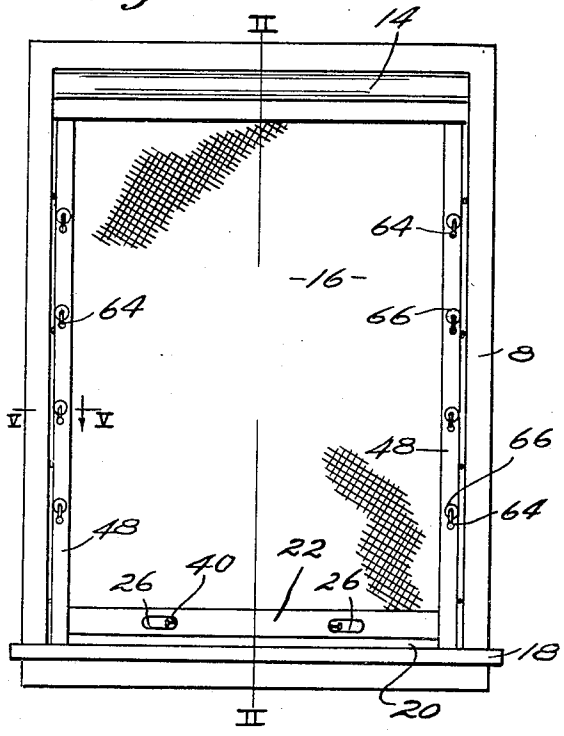
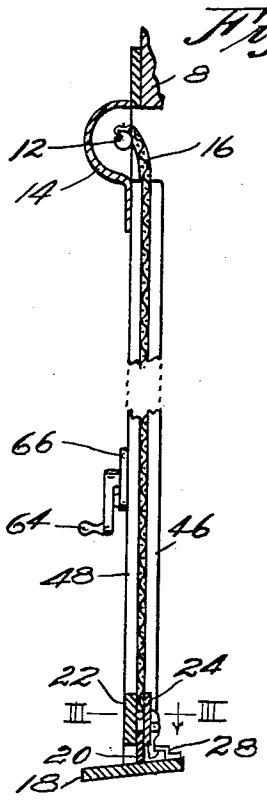


Fig. 2



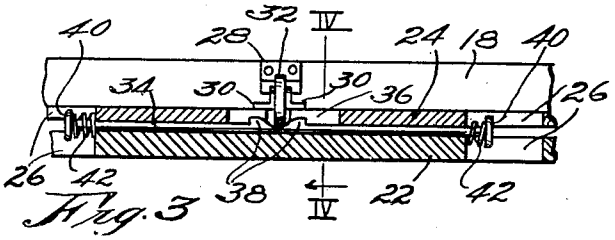


Fig. 3

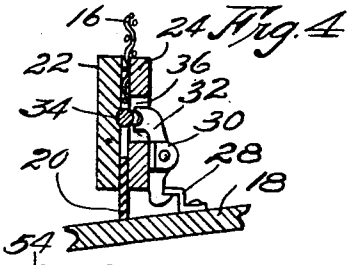


Fig. 4

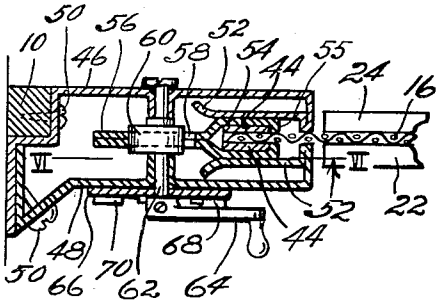


Fig. 5

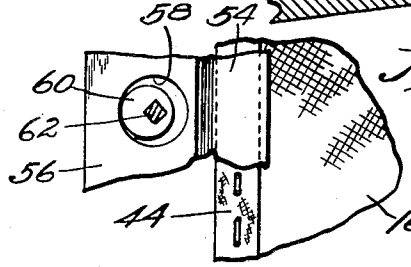


Fig. 6

INVENTOR,
Francis M. Kennedy.
BY
Hovey & Hamilton,
ATTORNEYS.

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UNITED STATES PATENT OFFICE

FRANCIS M. KENNEDY, OF KANSAS CITY, MISSOURI

ROLLER SCREEN

Application filed August 20, 1931. Serial No. 558,206.

This invention relates to window screens commonly known as the roller or disappearing type and has for a primary object the provision of such structure wherein is embodied a new combination of parts, the elements of which are effective, efficient, cheap to manufacture, and above all, are easily installed either during the construction of a building or after such construction has been completed and it is desired to equip the same with screens of this character.

One of the objects of the instant invention is the contemplation of novel structure in a roller screen adapted to impart lateral or transverse tensioning to the netting after it has been moved to an operative position.

A still further object of the invention is to provide means at the bottom and two sides of the netting of a roller screen that simultaneously imparts a stretching force to said netting, whereby bulges or undulations are eliminated.

Minor objects of the invention will appear during the course of the detailed specifications, having specific reference to the accompanying drawings, wherein:

Figure 1 is a view of a window frame equipped with a roller screen embodying this invention.

Fig. 2 is an enlarged, fragmentary, vertical section along line II—II of Fig. 1.

Fig. 3 is a fragmentary, detailed view through the bottom portion of the screen, taken on line III—III of Fig. 2.

Fig. 4 is a vertical cross section through the same part of the screen, taken on line IV—IV of Fig. 3.

Fig. 5 is an enlarged, fragmentary, detailed view through the side guide, taken on line V—V of Fig. 1, and

Fig. 6 is a fragmentary view through a portion of the side guide taken along line VI—VI of Fig. 5.

The application of this screen is accomplished through extremely simple structure. The screen may be positioned to operate over any opening, but is particularly useful in protecting windows which are formed of a frame 8, part of which includes strip 10, against which one of the vertically sliding sashes bears. While the head portion of frame 8 may house a spring roller 12, in the instance shown, a cowl 14 is utilized which becomes effective particularly when applying this structure to old buildings. Roller 12 is of the ordinary spring-actuated type to which one end of netting 16 is secured in any suitable manner to allow roller 12 to wind netting 16 when the latter described latch, positioned at the bottom of netting 16, is released.

The sill 18 of frame 8 is approached after netting 16 is unwound from roller 12 and when the completely closed position is attained, a sealing felt 20 functions to compensate for irregularities and to provide positive closing. Felt 20 and netting 16 are secured between two plates 22 and 24, each of which have registering handle openings 26 formed therein for use in operating the screen.

An effective latch co-operates with remaining structure of this screen in holding netting 16 in taut condition. To fulfill one of the objects of the invention, it is contemplated that this latch be releasable from either of the handles 26. Sill 18 supports lug 28 and a pair of ears 30 pivotally support latch 32 intermediate its ends which project oppositely as illustrated in Fig. 4 for the purpose of engaging lug 28 and bar 34. Reference to Fig. 3 teaches that bar 34 is reciprocably mounted between plates 22 and 24, the latter forming a clearance opening 36 to allow free movement of bar 34 and latch 32.

Inclined faces 38 move against and actuate latch 32 when bar 34 is moved in either direction by pressure upon bottons 40 provided at each end of bar 34 and disposed within handle openings 26. A compression spring 42 maintains bar 34 in a set or inoperative position and serves to retrieve the same after movement to operate latch 32. In operation, inclined faces 38 move latch 32 outwardly at its upper end away from plate 24, which simultaneously moves the lower end of latch 32 inwardly toward the same and out from beneath lug 28. When latch 32 is not in holding position, spring tension in roller 12 draws netting 16 to a wound position about this roller.

Novel guides along each of the vertical sides

of frame 8 are provided to receive the edges of netting 16. Associated with these guides is tensioning means, one specific embodiment of which is illustratd in detail in Figs. 5 and 6. Netting 16 has a binding 44 stitched to the edges which are received in these side guides. This binding 44 may be of any material so long as it is strong enough to withstand the exerted pressure, yet flexible enough to be wound with netting 16.

Each side guide comprises an inner and an outer plate 46 and 48 respectively, secured to frame 8 by screws or analagous means 50. These plates coact to form the guide and extend from adjacent roller 12 to sill 18. A tongue 52 is formed by each plate 46 and 48 respectively, between which is positioned yoke 54 for lateral movement. Yoke 54, as well as tongues 52, are housed by the guide when the same is assembled and netting 16 extends thereinto to have yoke 54 slidably grip binding 44. Opposing inturned flanges 55 engage the edges of strip 44 as shown in Fig. 5. A web 56 has a series of holes 58 therethrough, within each of which lies an eccentrically mounted roller 60 which, when turned about its mounting center, moves yoke 54 laterally to exert a tensioning force upon netting 16.

Roller 60 is carried by shaft 62 which acts as a spacer for the plates 46 and 48 forming the guide. Shaft 62 should be squared where roller 60 engages the same and an operating handle 64 may be provided exteriorly of plate 48 to be turned when further tension is desired to be imparted to netting 16. The relation of roller 60 and the yoke 54 in Fig. 6 indicates that the maximum tension possible has been exerted. Suitable bearings for shaft 62 are formed when the openings therefor are punched into plates 46 and 48. A dial 66 is equipped with a number of projecting lugs to engage a coacting lug 68 formed on handle 64 so that when lug 68 is snapped past any one of lugs 70 formed on dial 66 parts of the tensioning means will be retained in the set position. As illustrated in Fig. 1, there should be a number of operating handles 64 and related parts disposed in spaced relation along the entire length of guide plate 48. Yoke 54 is coextensive with guide plates 46 and 48 and reciprocating movement between tongues 52 is allowed.

It is obvious that the structure set down herein holds netting 16 in a smooth, taut condition, and in the event waves should appear for any reason, the same may be drawn out by operating the appropriate handle 64. It is understood, of course, that the end of shaft 62 may be squared to receive handle 64 and that any other suitable means might be employed to tighten netting 16 by moving yoke 54. It is desirable to construct the parts of this roller screen from metal, but it is understood the invention might be embodied in structure made of any material. The operation and relation of parts has been made clear throughout the specifications.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A roller screen comprising a netting; a guide to receive a side of said netting; binding along a side of said netting; and tensioning means housed by said guide including a yoke, means for laterally adjusting said yoke, and devices to maintain the yoke in adjusted position.

2. A roller screen comprising a netting; a guide to receive a side of said netting; binding along a side of said netting; a yoke associated with said guide for engaging said binding; and means to move said yoke to exert lateral tension upon said netting.

3. A roller screen comprising a netting; a guide to receive a side of said netting; binding along a side of said netting; a yoke associated with said guide for engaging said binding; a series of cams to act upon said yoke whereby lateral tension is exerted upon said netting.

4. A roller screen comprising a netting; a guide to receive a side of said netting; binding along a side of said netting; a yoke associated with said guide for engaging said binding; cams to laterally move said yoke; and a resilient tongue on each side respectively of said yoke.

5. A roller screen comprising a netting; a guide to receive a side of said netting; a laterally adjustable yoke associated with the guide; means effecting connection between netting and yoke; resilient tongues to position the yoke and a series of cams engaging said yoke for adjusting the yoke to exert tension upon said netting.

In testimony whereof, I hereunto affix my signature.

FRANCIS M. KENNEDY.