Aug. 23, 1955 A. SKODNEK 2,716,037

FASTENERS FOR WINDOWS, DOORS AND THE LIKE

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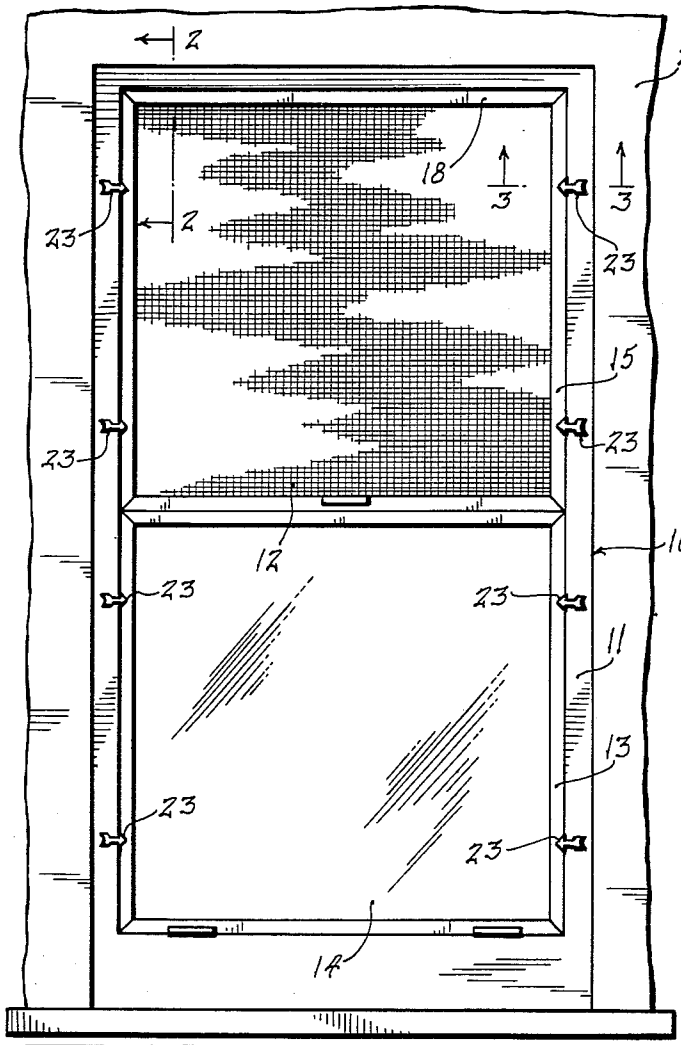


FIG. 1.

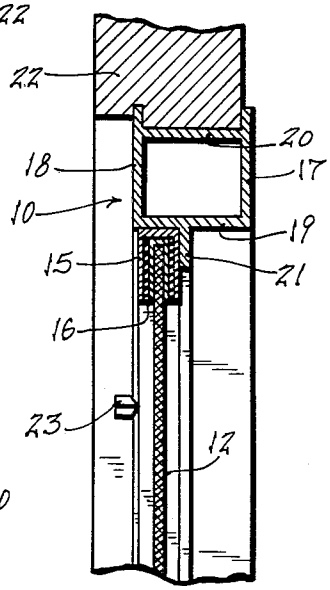


FIG. 2.

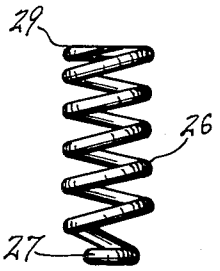


FIG. 6.

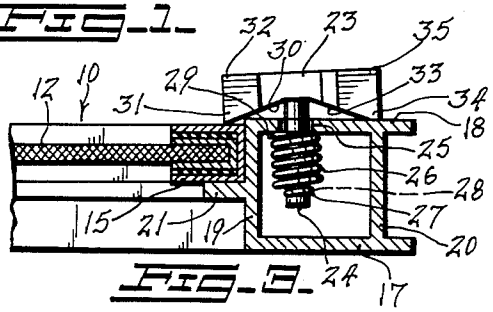


FIG. 3.

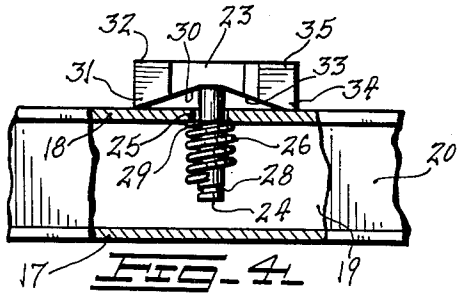


FIG. 4.

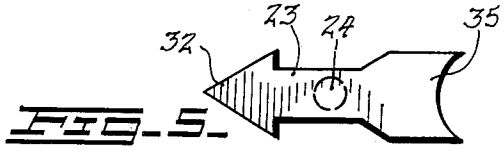


FIG. 5.

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FASTENERS FOR WINDOWS, DOORS AND THE LIKE

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2 Claims. (Cl. 292—60)

This invention relates generally to metal window frame constructions and, more particularly, to new and useful improvements in a fastener for slidable and removable window sashes, screens, doors and the like.

In metal window constructions, slidable window sashes and screens are commonly provided, but difficulty has been experienced in holding the frames of the window sash and screen in position.

A principal object of the present invention is the provision of improved spring-pressed means for retaining the sash or screen in position in the window frame construction which will not become displaced accidentally or work loose.

Another object of the invention is to provide an improved fastener for retaining a slidable window sash or screen in position which is automatically adjustable to accommodate itself to abutting surfaces which are not of the same level or which are uneven and irregular.

Another object of the invention is to provide a fastener for retaining a sash or screen in position which is positive in action, highly efficient in use and ornamental in appearance.

It is a further object of the present invention to construct a fastener of the character described which is simple and durable and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is an elevational view of the interior of a metal window construction with a screen in position and embodying the present invention.

Fig. 2 is a fragmentary vertical sectional view taken on the plane of the line 2—2 of Fig. 1, on an enlarged scale.

Fig. 3 is an enlarged horizontal sectional view taken on the plane of the line 3—3 of Fig. 1.

Fig. 4 is an enlarged fragmentary sectional view taken through the window frame and showing the fastener in inoperative position.

Fig. 5 is an enlarged top plan view of the fastener.

Fig. 6 is an enlarged side elevation view of the spring.

Referring in detail to the drawings, in Fig. 1 a metal window construction is shown comprising a window frame **10**, with a window sash **11** in lower position and a screen **12** in upper position. The sash **11** is provided with an aluminum frame **13** and a glass pane **14**. The screen **12** is provided with an aluminum frame **15**. The frames **13** and **15** are of the same construction and each is formed with a channel-shaped body into which the ends of the glass pane **14** and the screen **12** are inserted and secured therein by any suitable means, such as a gasket **16**.

The window frame **10** is formed of aluminum and includes a hollow box type body with inner and outer walls **17** and **18**, respectively, and side walls **19** and **20**. A rib **21** projects from the center of side wall **19**. When the frame is in position in its opening in the wall **22** of the building, the rib **21** projects inwardly of the frame along its top and sides.

The lower sash **11** and screen **12** are removably mounted in the frame **10** with their side edges abutting against the central rib **21** at both sides of the frame.

An essential feature of the present invention is improved fastening or latching mechanism for retaining the sash **11** and screen **12** in position in the window frame. A number of the latching devices are mounted on the window frame **10** at spaced points therealong, and each latching device, as shown in Fig. 3, includes a latching member having an elongated metal body **23** shaped like an arrow in plan view to provide a neat and attractive appearance. The body **23** has an integrally formed stem **24** depending from the center thereof and extending through an opening **25** in the outer wall **18** of the window frame and into the interior of the frame. The openings **25** are positioned adjacent the inner edge of the window frame. A coiled compression spring **26** encircles the stem **24**. The spring is wound clockwise and one full coil **27** at one end of the spring is embedded and secured in a circular peripheral groove **28** formed in the stem adjacent its free end. At the other end of the spring, a full coil **29** impinges against the inner surface of the outer wall **18** of the window frame, pressing the body **23** and stem **24** inwardly of the window frame. The body **23** of the latch is recessed or undercut at one side of the stem **24** as indicated at **30** to form a downwardly extending nose portion **31** on the triangular shaped pointed head **32** of the body **23**. The body is also recessed or undercut at the other side of the stem as indicated at **33** to provide a downwardly extending rear edge portion **34** on the tail **35** of the body. The body **23** is comparatively narrow in width and of proper height to form a good finger piece or hand hold for turning the same.

The latching device with its coil spring **26** anchored in the groove on the stem **24** in longitudinally expanded condition is installed by inserting the groove end of the stem through the opening **25** until the lowermost convolution of the spring engages the edge of the opening. By turning the stem in the manner of a screw, the convolutions of the spring and the edge of the opening will coact similar to screw threads in moving the stem and spring inwardly into the interior of the hollow window frame **10**, the opening **25** being sufficiently large to receive the stem and spring in such extended condition and permit such movement. When the spring has been moved completely into the interior of the frame and pressure is removed, the spring will automatically contract longitudinally to the condition of Fig. 4.

In inoperative position, as shown in Fig. 4, the latching device is disposed vertically as viewed in Fig. 1. When in this inoperative position, the nose portion **31** of the body **23** and the downwardly extending rear edge portion **34** thereof rest on and engage the outer surface of the outer wall **18** of the window frame **10**, and thus resist the force of the coil spring **26** to pull the body **23** and stem **24** inwardly.

It will be noted from Fig. 3 that the outer surface of the body of the frame **15** of the screen **12** is not quite level or flush with the outer surface of the abutting window frame **10** but is disposed slightly inwardly thereof. In use, to fasten the screen frame **15**, for example, to the window frame **10**, the body **23** of the latching device is manually turned by the fingers of the operator, preferably in a direction so that the nose portion **31** of the body **23** will slide over the outer surface of

and the edge of the outer wall **18** of the window frame **10** and onto the outer surface of the abutting body of the frame **15** of the screen **12**. When the nose portion **31** leaves the outer surface of the outer wall **18** of the window frame, resistance to the pulling force of the spring **26** momentarily ceases and the spring pulls inwardly on the body **23** and stem **24** moving them inwardly a distance equal to the difference in distance between the levels of the window frame and frame **15** of the screen, thereby permitting the nose portion **31** of the body **23** to grip the frame **15** and hold the same in position. This pulling force of the spring tends to cause the latching device to tilt slightly toward the screen frame **15** as seen in Fig. 3, thereby increasing the gripping force of the latching device. The novel winding of the coils of the spring prevents accidental rotation of the latching device to open position.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. Latching mechanism for retaining abutting window frame members against displacement, one of said frame members being perforated and having its face disposed in a plane outwardly of the plane of the face of the other member, comprising an elongated body having a head portion with a depending nose at one end of the body and a tail portion with a depending rear portion at the other end of the body said body constituting a handle, an integral stem depending from the center of said body and extending loosely and tiltably through the perforation in the perforated frame, said stem having a peripheral groove at its free end, and a coiled spring encircling said stem, the coils of said spring being wound in a clockwise direction, one full coil of said spring at one end thereof being embedded and secured in the peripheral groove of said stem, one full coil at the other end of the spring being seated against the inner surface of the perforated frame member whereby the body is enabled to be snapped into tilted position on the face of the second-named frame member.

2. As an article of manufacture a window fastening device comprising an elongated metal body portion shaped like an arrow in plan, a stem formed integrally with the body and depending from the center thereof, said stem having a peripheral groove adjacent its free end, said body portion being undercut at each side of the stem providing a depending nose at one end and a depending tail at the other end, said body portion constituting a handle, and a coiled compression spring surrounding said stem, one full coil of said spring being embedded and secured in the peripheral groove of said stem, the other end of the spring being free and slidable along the stem.

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