

W. S. THOMAS.
MAGNETIC RETAINING DEVICE.
APPLICATION FILED NOV. 1, 1917.

1,289,305.

Patented Dec. 31, 1918.

2 SHEETS—SHEET 1.

Fig. 1

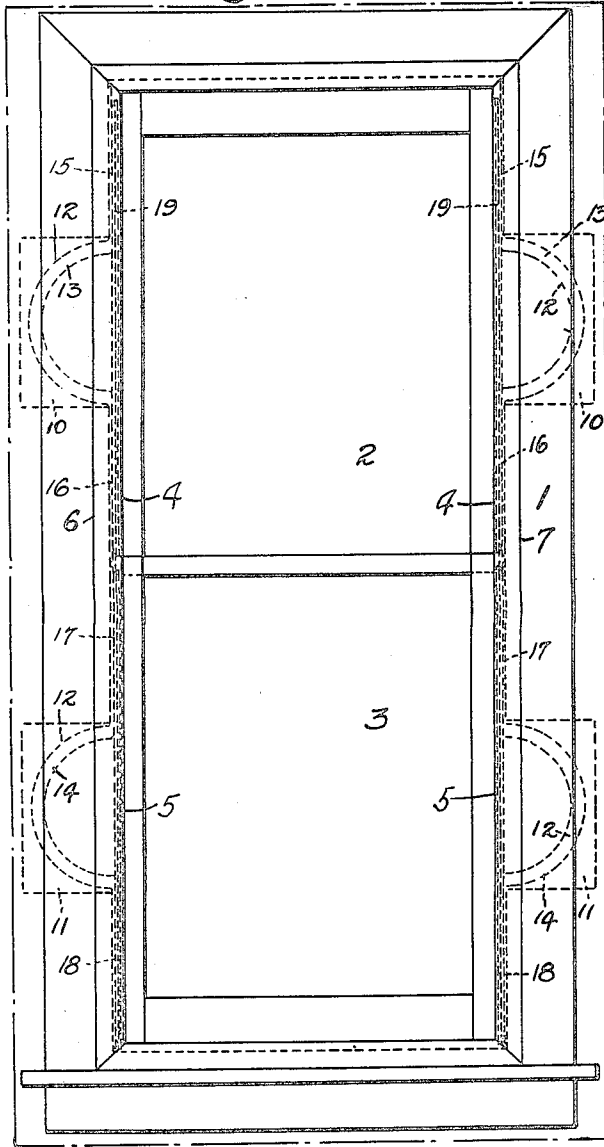
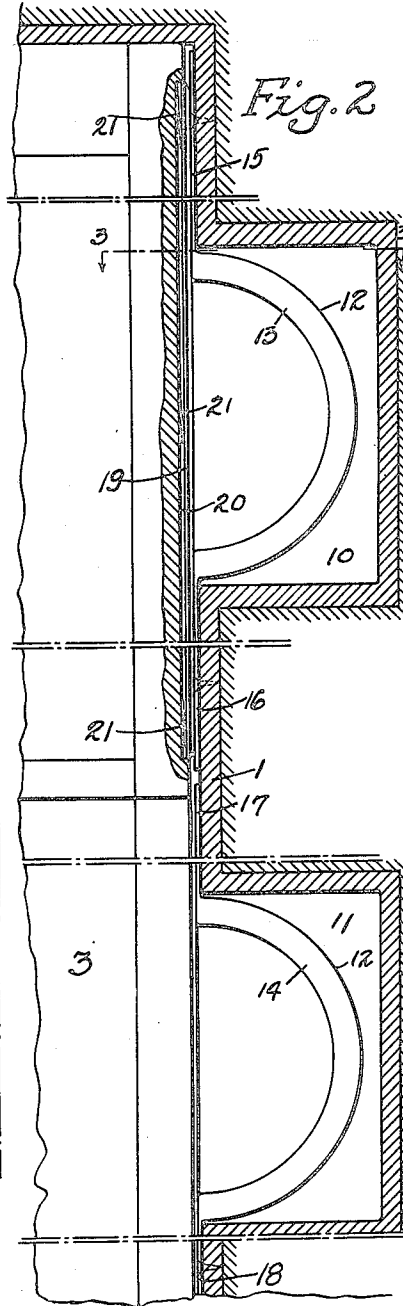
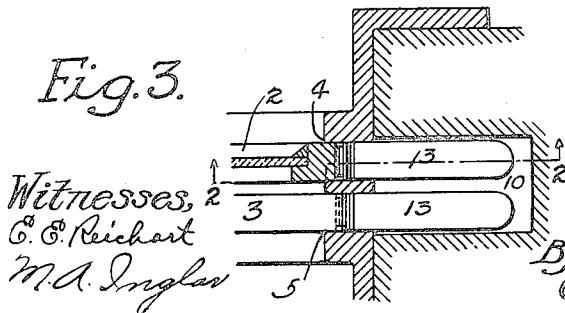


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 6

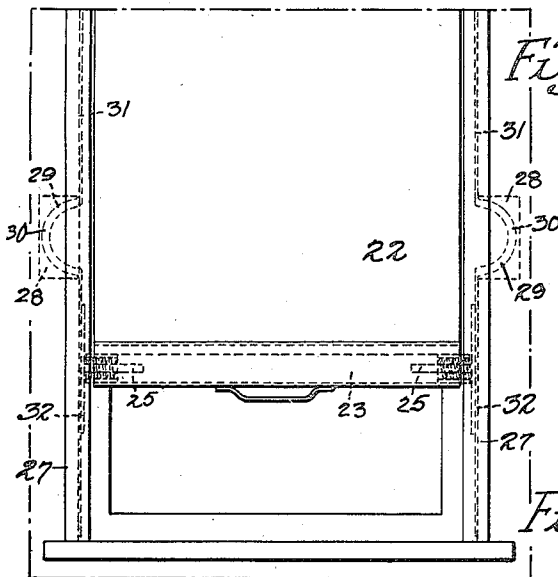


Fig. 4

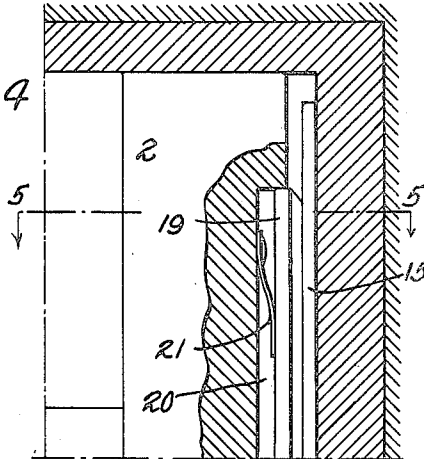


Fig. 5

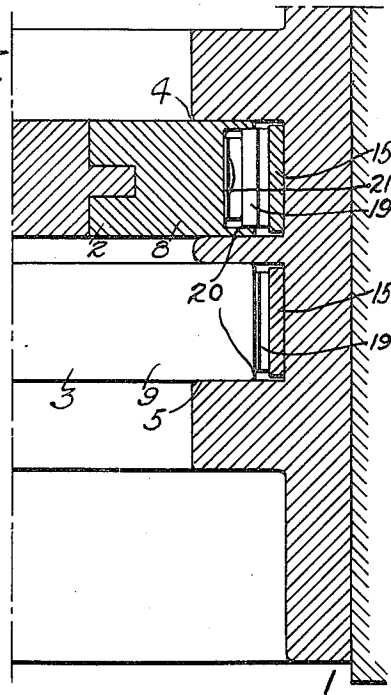
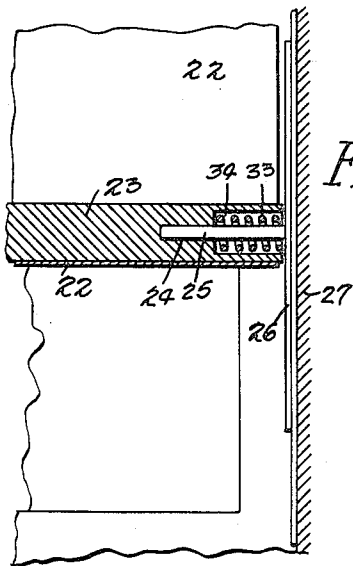


Fig. 7



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UNITED STATES PATENT OFFICE.

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MAGNETIC RETAINING DEVICE.

1,289,305.

Specification of Letters Patent.

Patented Dec. 31, 1918.

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To all whom it may concern:

Be it known that I, WILLIAM S. THOMAS, a citizen of the United States, residing at Lock Haven, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Magnetic Retaining Devices, of which the following is a specification.

My invention consists of a magnetic retaining device for window sashes, shades, curtains and the like.

One object of my invention is to provide means of simple construction which can be used to retain window sashes or the like in any of their adjustable positions.

Another object is to so construct and arrange the parts of my invention that they can be quickly and cheaply installed.

A further object is to provide a retaining device of the above mentioned type which will be durable and which will last for an exceptionally long time without requiring repair or replacement.

These objects, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which—

Figure 1 is a front elevation of a slidable sash and window having my invention thereon,

Fig. 2 is a sectional elevation taken on the line 2—2 of Fig. 3,

Fig. 3 is a fragmentary sectional plan taken on the line 3—3 of Fig. 2,

Fig. 4 is an enlarged fragmentary elevation, partly in section, of the upper portion of one of the window sashes and frame,

Fig. 5 is a section taken on the line 5—5 of Fig. 4,

Fig. 6 is a front elevation of a window and shade having my invention thereon, and

Fig. 7 is an enlarged fragmentary section of certain of the elements illustrated in Fig. 6.

Referring to Figs. 1 to 5, inclusive, of the drawing, 1 represents a window frame having an upper sash 2 and a lower sash 3 slidable therein. The frame 1 has slideways 4 and 5 formed in its opposite sides 6 and 7 and the edge portions 8 and 9 of the sashes 2 and 3 slide in these slideways 4 and 5.

The sides 6 and 7 of the frame 1 have recesses 10 and 11 at different levels and these recesses provide space for the housing of

the curved portions 12 of magnets 13 and 14. Each of the magnets 13 has extensions 15 and 16 which project upwardly and downwardly from the curved portions 12 and these extensions 15 and 16, as illustrated, are flat and are secured to the inner surfaces of the slideways 4 and 5 adjacent their tops. The lower magnets 14 have extensions 17 and 18 which project upwardly and downwardly from the curved portion 12 and are secured to the inner surface of the slideways 4 and 5 adjacent their bottoms.

These magnets 13 and 14 are preferably made of high carbon steel and are preferably made permanent in their magnetism through the well known method of heating the metal to be magnetized and then passing current through a surrounding coil.

Strips 19, made of metal which is attracted by magnetism are inserted within elongated cavities 20 which are formed in the edge portions 8 and 9 of the sashes 2 and 3. The strips 19 are preferably made of metal which will not rust, such for example as "Monel" metal. These strips 19 are backed by springs 21 so that they are pressed into engagement with the extensions 15, 16, 17, and 18 of the magnets 13 and 14 when the sashes are moved upwardly and downwardly within their respective slideways. Thus the strips 19 form the armatures of the magnets, the magnets being sufficiently strong in their attraction to hold the weight of the sashes, thereby securing the sashes in any of their adjustable positions.

By arranging the magnets as above described, the armatures 19 are always in contact with certain of the extensions of the magnets and the magnets, therefore, tend to retain their magnetism.

The springs 21 serve to keep the armatures 19 in an upright position irrespective of their positions with the magnets. In Fig. 6 I have illustrated my invention applied to a window shade, such for example as a shade used in railway cars. In this instance the shade 22 has a reinforcing bar 23 at its bottom and the opposite ends of this reinforcing bar have holes 24 in which slide rods 25. Strips 26 are secured to the outer ends of the rod 24 and are made of metal which is attracted by magnetism, such for example as "Monel" metal above mentioned.

The window frame 27 has recesses 28 in which fit the curved portions 29 of magnets

30. These magnets are constructed similar to the magnets 13 and 14 above mentioned and include extensions 31 and 32 which project upwardly and downwardly from the curved portions 29 and adjacent the inner surface of the window frame 27. Similar springs 33 are positioned within cavities 34 in the ends of the reinforcing bar 23. These springs 33 serve to hold the strips 26 in vertical positions. The magnets 30 will, by attracting the strips 26 which form their armatures, secure the shade 22 in any position into which it is manually moved.

While the springs 21 and 34 are not necessary in the actual retaining of the sashes, since the magnets are sufficient to perform this latter mentioned function, nevertheless these springs serve to keep the armature strips substantially vertical and insure an even contact at all times with the extensions of the magnets. It will be understood, however, that my invention can be used with advantage without the requirement of these springs.

It is easy to equip a window with the magnets and strips as above described since it is merely necessary to provide chambers or recesses for the housing of the curved portions of the magnets and to cut out the edge portions of the window sashes to permit the insertion of the strips 19.

While I have described the elements 2 and 3 as sashes and the element 22 as a shade, it will be noted that similarly movable elements may be used for other purposes, such for example as a slidable partition between communicating rooms or in any case where an article is to be moved into various positions and where it is desired to retain the article in any of said various positions.

While I have described my invention as taking a particular form, it will be understood that the various parts of my invention may be changed without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

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

1. The combination of a frame having

slideways formed therein; magnets in said frame having bowed portions terminating in extensions, said extensions projecting in opposite directions longitudinally of said slideways; and a member slidable within said slideways and having armatures adapted to engage the extensions of said magnets, substantially as described.

2. The combination of a frame having slideways formed therein; magnets in said frame having bowed portions terminating in extensions, said extensions projecting in opposite directions longitudinally of said slideways and having elongated flat contacting surfaces; and a member slidable within said slideways and having armatures adapted to engage the flat contacting surfaces of said extensions of the magnets, substantially as described.

3. The combination of a frame having an opening therein; magnets disposed at opposite sides of said opening and including bowed portions terminating in extensions, said extensions projecting in opposite directions adjacent said sides of the opening; a member movable longitudinally within said opening; armatures carried by said member and adapted to be magnetically attracted by said extensions of the magnets; and springs adapted to move said armatures toward the extensions of the magnets, substantially as described.

4. The combination of a frame having an opening therein; magnets disposed at opposite sides of said opening and including bowed portions terminating in extensions, said extensions projecting in opposite directions adjacent said sides of the opening; a member movable longitudinally within said opening; armatures carried by said member and adapted to be magnetically attracted by said extensions of the magnets; and means adapted to move said armatures toward the extensions of the magnets, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM S. THOMAS.

Witnesses:

MARY A. INGLAR,
CHAS. E. POTTS.