

Sept. 16, 1924.

1,508,524

O. W. OLSON

SCREEN DOOR PROTECTOR AND SPRING GUIDE

Filed July 9, 1923

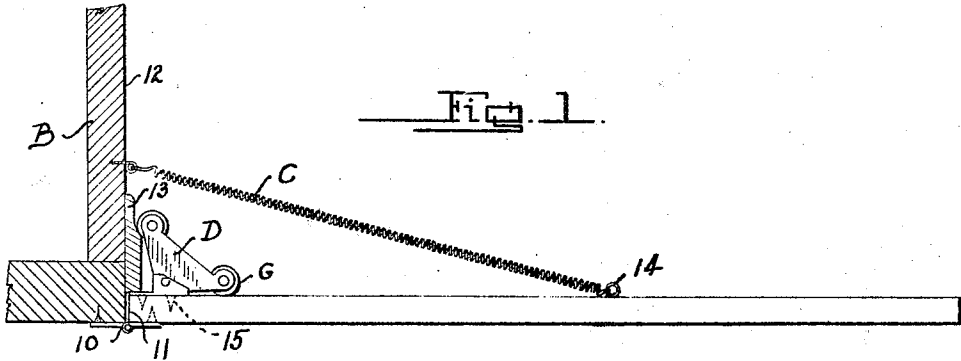


Fig. 5.

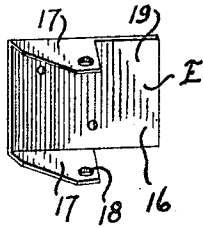


Fig. 2.

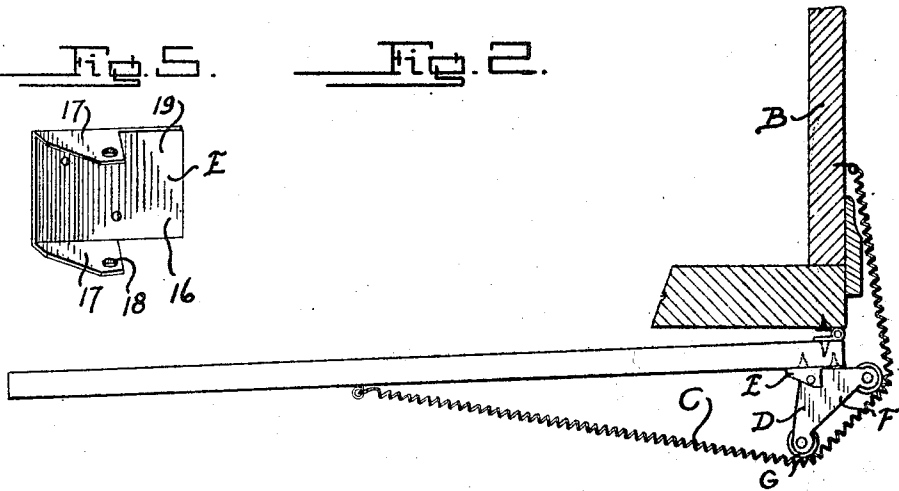


Fig. 3.

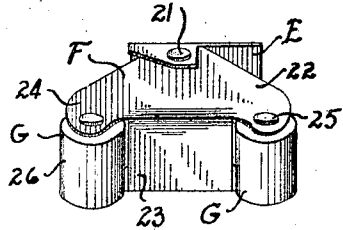
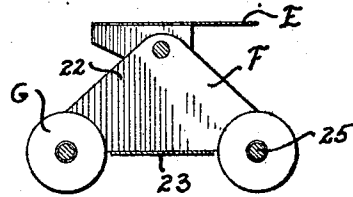


Fig. 4.



Inventor

Olaf W. Olson.

By *Lawrence A. Miller*
Attorney

UNITED STATES PATENT OFFICE.

OLAF W. OLSON, OF BURBANK, OKLAHOMA.

SCREEN-DOOR PROTECTOR AND SPRING GUIDE.

Application filed July 9, 1923. Serial No. 650,394.

To all whom it may concern:

Be it known that I, OLAF W. OLSON, a subject of the King of Great Britain, residing at Burbank, county of Osage, and State of Oklahoma, have invented certain new and useful Improvements in Screen-Door Protectors and Spring Guides, of which the following is a specification.

The present invention relates to attachments for screen doors or other hinged members which are normally retained in closed position by aid of contractile coil springs, in practice one end of the spring being connected to the door or other hinged member and the other end to some stationary object such as the door casing.

The principal objects of the invention are:—first, to provide a protection and guide which will effectively prevent a contraction spring from contacting with a screen door and casing when the door is being opened or closed or in a fully opened position, thereby protecting the door and casing from becoming marred; and second, to equally distribute the tension of the spring no matter how far the door may be opened, thereby preventing the jamming of the door and prolonging the life and usefulness of the spring.

Further objects and advantages will appear in the following detailed description, taken in connection with the accompanying drawings, and in which drawings:

Figure 1 is a plan view of my device attached to a screen door, the door being hingedly connected to a suitable casing, shown in section, and held in a closed position by means of the contraction spring.

Figure 2 is a similar view, the door being shown in an open position, and the protector preventing the spring from contacting with the screen door and casing.

Figure 3 is a perspective view of my device.

Figure 4 is a horizontal sectional view, thru the same; and,

Figure 5 is a detail perspective view of the bracket or base of the protector and guides adapted to be secured to the screen door.

In the drawings, where similar reference characters designate corresponding parts throughout the several views; the letter A indicates a screen door hinged in the usual manner; B, a casing for the door; C, a con-

traction spring connecting the door A and casing B; and D, a screen door protector and guide comprising a base or bracket E, a supporting frame F, and rollers G.

The screen door A may be of any approved style and construction and is shown as being hingedly connected to the casing B as at 10, having the edge 11 confronting the jamb 12 of the casing B. A stop bead 13 of any approved style may be attached to the jamb 12 of the casing B. A coil or contraction spring C is secured, one end to the casing B, and the other end to the door A, as by hooks 14, and is adapted to normally hold the door A in a closed position, as is shown in Figure 1.

Referring now to the door protector and spring guide D which is adapted to be carried by the door A in the horizontal plane of the spring C, it preferably comprises a base plate or bracket E, which is secured by suitable fastening elements, such as screws 15, to the inner face of the door A, and adjacent the edge 11 thereof. This bracket D includes a body portion 16 and is provided with a pair of outwardly extending flanges 17, said flanges having aligned perforations 18 therein. If desired, the flanges 17 need not extend the full length of the body portion 16, thereby rendering the end 19 of the body portion 16 plain and adapted to abut against the stop bead 13. This plain end 19 also acts as a striker plate for the frame F when the door is in an open position as is shown in Figure 2.

The supporting frame F is pivotally carried by the bracket E intermediate the flanges 17 by means of a pintle 21 passing through the aligned perforations 18 and corresponding perforations in the supporting frame F. This frame F includes a pair of spaced triangular shaped flanges 22, said flanges having a suitable connection 23 on the longest or hypotenuse side. This connection 23 acts as a brace for the spaced flanges 22 and holds them rigid. Extensions 24 are formed integral with the flanges 22 and at the terminals of the hypotenuse side of the triangular shaped flanges, said extensions adapted to extend beyond the connection 23.

The rollers G are adapted to be rotatably carried by these extensions 24 by means of suitable bearings 25 passing through aligned

perforations in said extensions and being riveted or otherwise secured. It will be noted that by so mounting these rollers they extend beyond the connection 23 and will not allow the spring C to contact therewith when in operation. The periphery 26 of the rollers G, as illustrated in the drawings, is cylindrical, but it is to be understood that the rollers may be made, if so desired, with the periphery grooved, (not shown) like a pulley.

When it is desired to install and use a device such as has been described, the bracket E is so secured to the door A adjacent the edge thereof, that the rollers G will be in the horizontal plane of the spring C. Now when the door A is swung outwardly the spring C will engage one of the rollers G and swing the frame F by means of the pivotal connection 21, so that the remaining roller will be engaged by spring C. No matter how far the door may be opened, the spring C will be caused to ride on the rollers G which will equally distribute the tension of the spring and cause the movement of the door to be uniform. It will be noted that, due to the peculiar construction of the device, the axes of the rollers G and the axis of the pivotal connection of the frame F defines an obtuse angle which positively prevents the door from jamming or remaining in a fixed open position. Even if the door A were to be swung open 18° or more the device D would effectively prevent the door from jamming due to the uniformity of tension.

From the foregoing description, it can be seen that a screen door protector and spring guide has been provided which will effectively prevent the spring from rubbing on the door and marring same, and which will allow the tension of the spring to be equally distributed and not allow the spring to catch on the corners of the door which usually stretches or distorts the spring beyond usefulness.

Changes in details may be made without departing from the spirit of the invention or scope of the claims.

I claim:

1. The combination with a door and door casing, and a coil spring connecting said door and casing for normally holding the door in a closed position, of a bracket carried by said door, a supporting frame pivotally carried by said bracket, and a pair of spaced rollers carried by said frame and adapted to engage said spring in spaced relation to each other longitudinally of the spring and prevent the spring from contacting with said door when the latter is opened and to prevent the spring from be-

ing bent at a sharp angle when the door is opened.

2. The combination with a door and door casing, and a coil spring connecting said door and casing for normally holding the door in a closed position, a bracket carried by said door, a supporting frame pivotally carried by said bracket, said frame including a pair of spaced flanges and a connection therebetween, said flanges being connected intermediate their length to said bracket, and a pair of rollers carried by said frame intermediate end portions of said flanges and adjacent the ends of said connection, said rollers adapted to engage said spring and prevent the spring from contacting with said door when the latter is opened.

3. The combination with a door and door casing, and a coil spring connecting said door and casing for normally holding the door in a closed position, of a bracket carried by said door, a triangularly shaped supporting frame pivotally mounted at its apex to said bracket, and a pair of rollers carried one adjacent each terminal of the hypotenuse of said triangular shaped frame, said rollers adapted to engage said spring and prevent same from contacting with said door when the latter is opened.

4. The combination with a door and door casing, and a coil spring connecting said door and casing for normally holding the door in a closed position, of a bracket carried by said door, a supporting frame pivotally carried by said bracket, and a pair of spaced rollers carried by said frame, the axes of said rollers and the axis of said frame's pivotal connection defining an obtuse angle, said rollers adapted to engage said spring and prevent same from contacting with said door when the latter is opened.

5. The combination with a door and door casing, and a coil spring connecting said door and casing for normally holding the door in a closed position, of a bracket carried by said door, a supporting frame pivotally carried by said bracket and including a pair of spaced triangular shaped flanges, extensions integral with said flanges at the terminals of the hypotenuse side of said triangular shaped flanges, a connection between said flanges and intermediate said extensions, and a pair of rollers carried by said extensions and extending beyond said connection, said rollers adapted to engage said spring and prevent same from contacting with said door when the latter is opened.

OLAF W. OLSON.