

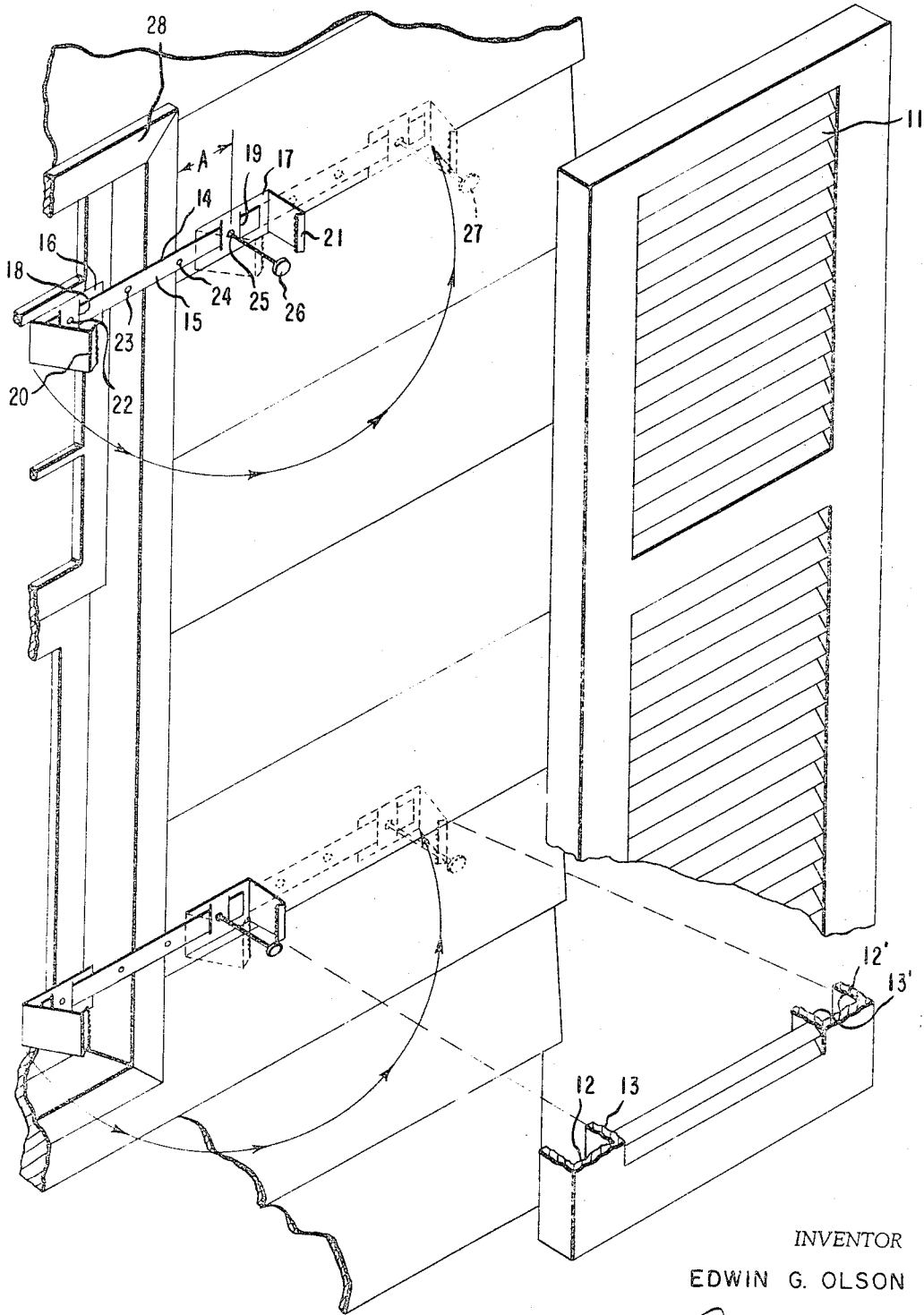
Sept. 19, 1967

E. G. OLSON

3,341,994

MOUNTED SHUTTER ARRANGEMENT AND METHOD OF MOUNTING

Filed May 27, 1965



INVENTOR
EDWIN G. OLSON

BY *Herbert M. Wilson*
ATTORNEY

1

2

3,341,994

MOUNTED SHUTTER ARRANGEMENT AND METHOD OF MOUNTING

Edwin G. Olson, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 27, 1965, Ser. No. 459,395

3 Claims. (Cl. 52-204)

This invention relates to a novel detachable shutter or similar structure and, more particularly, to novel means for mounting such structures.

In many instances, it is desirable to provide shutters, panels, etc. in which the exterior surfaces of the structure remains uninterrupted or unmarred when mounted. For example, when shutters or panels are composed of brittle or, in general, easily damaged materials, it is difficult to mount them by driving nails through them or by drilling holes for the placement of screws through them. Attempts to fabricate such structures with appropriate holes is also difficult, expensive and not always successful. Furthermore, it is usually preferred for such structures that no nailheads, screwheads, or the like appear on the exterior surface since such heads tend to detract from the appearance and also may corrode and discolor the structure upon continued exposure to the elements.

It is, therefore, an object of the present invention to provide a novel structure having an unmarred exterior surface that can be detachably secured to a supporting surface easily and rapidly. It is a further object to provide fastening or mounting means that can be applied to one side of the structure such as a shutter while leaving the other surface of the structure unmarred. Other objects will appear hereinafter.

The objects are accomplished by the use of a spring clip fastener composed of a substantially flat base adapted to be fastened to a substantially flat surface; and L-shaped projections, preferably non-integral with the base but rigidly secured to the base, from the opposite outer edges of the base and turned inwardly at an acute angle relative to the base, adapted to engage the inner rails of substantially U-shaped channels.

The objects and advantages of this invention will become apparent from the following description and the drawing which is a perspective view of a shutter structure and mounting system embodying the principles of this invention.

Referring to the drawing, 11 represents a shutter construction that includes longitudinal parallel U-shaped channels 12 and 12' in the undersurface. The inner rails of these channels are represented by 13 and 13'. The mounting system 14, as shown, is composed of three parts: base plate 15, and two end plates 16 and 17. The end plates are slotted at 18 and 19 so that the base plate 15 may be slidably fitted and rigidly secured to the end plates. It should be understood that the end plates and the base plate may be formed as a unitary construction. The L-shaped projections 20 and 21 of the end plates 16 and 17 are turned inwardly at an acute angle with the base 15. The value of this angle, of course, will depend upon the width of the channels 12 and 12'; the greater the width, the smaller the angle. The edges of the end plates 16 and 17 may be serrated or beveled or otherwise adapted to engage the inner rails 13 and 13' of the channels 12 and 12'. Although a single mounting plate may be used, it is preferred to use two or more of such plates in order to mount shutters securely. The two plates are mounted in such a manner that they engage the shutter at positions that are located about one-eighth the length of the shutter from the two longitudinal extremities of the shutter.

The structure to be mounted may be composed of any material including polymeric materials (polyamides, polyesters, etc.), metals (aluminum, copper, steel, etc.), wood, fiber board, etc. Preferably, the shutter is a molded or melt-formed article of a polymeric material such as the polyamide, polycaprolactam, that is pigmented as formed so that it does not require further painting during its lifetime. The base plate may be of any material, usually metal, e.g., steel, copper, etc. The end portions of the mounting system are composed of spring steel or other sheet metal, e.g., copper, aluminum, treated by heat or otherwise to provide the necessary resiliency which permits the end portions to be inclined when the shutter is mounted but has sufficient tendency to spring outwardly to grip the inner rails of the shutter securely after the shutter is mounted.

Simple and rapid mounting of decorative shutters is accomplished by using base plates that are predrilled with four holes 22, 23, 24 and 25. The distance "A" between holes 24 and 25 being substantially equal to the distance from the longitudinal edge of the shutter 29 to the inner rail 13 of the channel 12. It should be understood that the opening 24 may be a notch, line, etc. or any mark on said base plate that can be aligned with the edge of the window frame. In the first step, the mounting system is placed in a horizontal position about one-eighth the distance from the top or bottom edge of the window frame 28. The predrilled hole 24 is aligned with one vertical edge of the window frame; and the nail 26 is driven into the siding of the building through hole 25. The mounting system is then rotated through an angle of 180 degrees about nail 26 to the dotted horizontal position shown in the drawing and a second nail 27 is driven into the siding through hole 22. This procedure is repeated for the other mounting system and the shutter is then placed with its channels over the end plates and snapped into place.

It is apparent that the system of the present invention is applicable wherever the exterior surface of the structure to be mounted must remain unmarred. It is also particularly useful where the structure to be mounted must be mounted relatively easily and quickly. The system lends itself for use in prefabricated constructions where economy is vital.

What is claimed is:

1. A mounted shutter arrangement comprising a shutter having a substantially rectangular frame with two spaced longitudinal channels in the two vertical sections of the frame said channels including inner rails; a substantially flat base plate fastened in a horizontal position to the side of a building adjacent a window frame and two substantially L-shaped resilient projections from the opposite outer edges of said base plate, said projections being turned inwardly at an acute angle relative to said base plate engaging the inner rails of said channels of said shutter.
2. An arrangement as in claim 1 wherein two base plates with accompanying projections are provided to engage the inner rails of said channels of said shutter, said base plates disposed at a distance of about one-eighth the length of said shutter from the longitudinal extremities of said shutter.
3. A method of mounting a decorative window shutter having two spaced longitudinal channels provided with inner rails using mounting means composed of a substantially flat base plate and two L-shaped projections from the opposite outer edges of said base plate, the base plate having at least two predrilled openings and a mark on its surface located a distance "A" from one of said predrilled openings, the distance "A" being substantially equal to the distance between the longitudinal edge of said shutter and the inner rail of the adjacent channel, the L-

3

shaped projections being turned inwardly at an acute angle relative to the base plate so that the edges of said projections are substantially aligned with said predrilled openings, which comprises placing said mounting means in a horizontal position against the side of a building such that said mark is aligned with one edge of a window frame; driving a nail through the opening into the side of the building; rotating said mounting means about said nail until said mounting means is again in a horizontal position; driving a second nail through the second opening in said mounting means into the side of the building; duplicating the preceding procedure for a second mounting means, said two mounting means being spaced apart

4

a distance no greater than the length of said shutter; and placing said shutter over said two mounting means until said L-shaped projections engage the inner rails of the longitudinal channels of said shutter securely.

References Cited

UNITED STATES PATENTS

1,303,640	5/1919	Dutcher	-----	24—259	X
3,182,807	5/1965	Root	-----	248—200	X

JOHN E. MURTAGH, *Primary Examiner.*