Feb. 2, 1965 C. L. HUTCHISSON, JR 3,167,828

SECURITY GUARD FOR WINDOWS

Filed Jan. 24, 1963 3 Sheets-Sheet 1

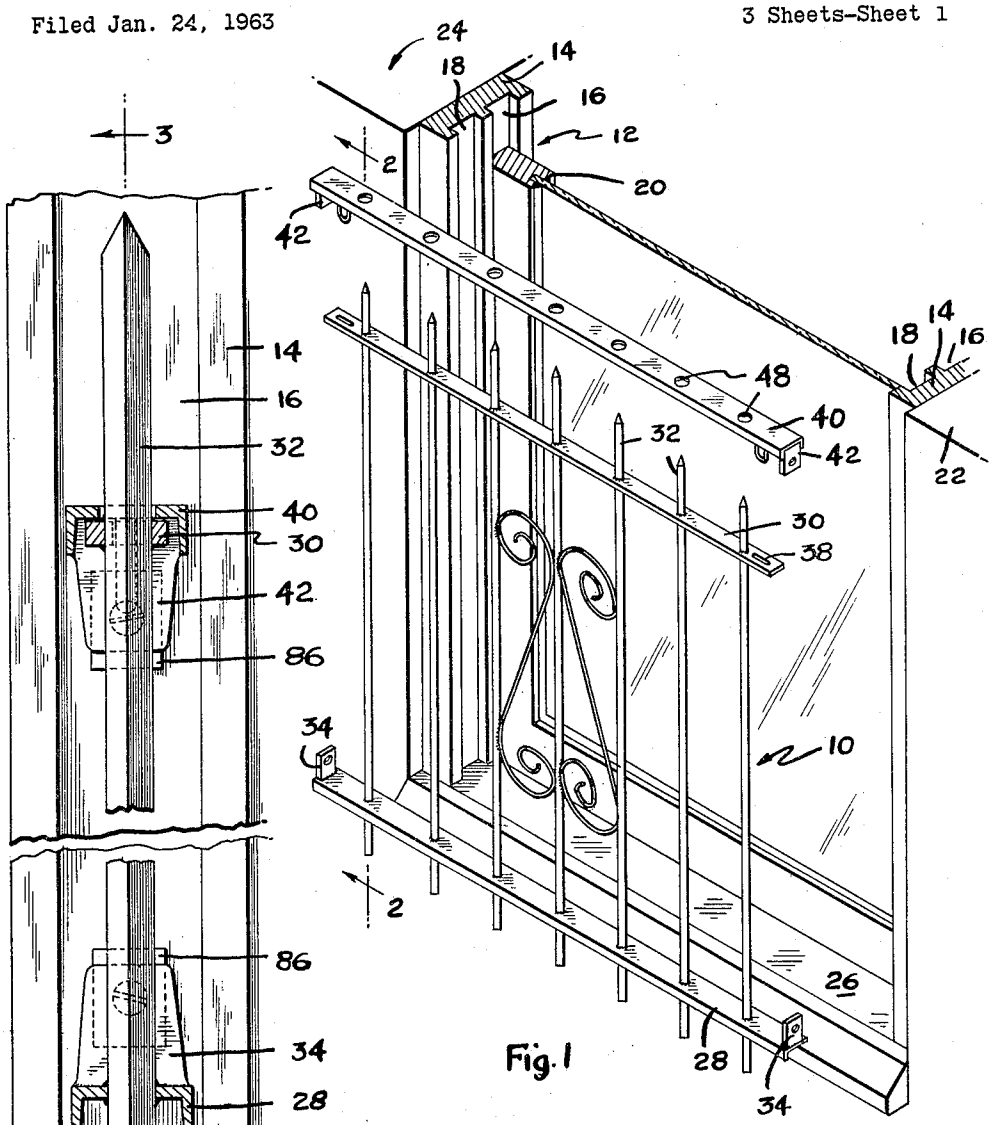


Fig. 1

Fig. 2

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SECURITY GUARD FOR WINDOWS

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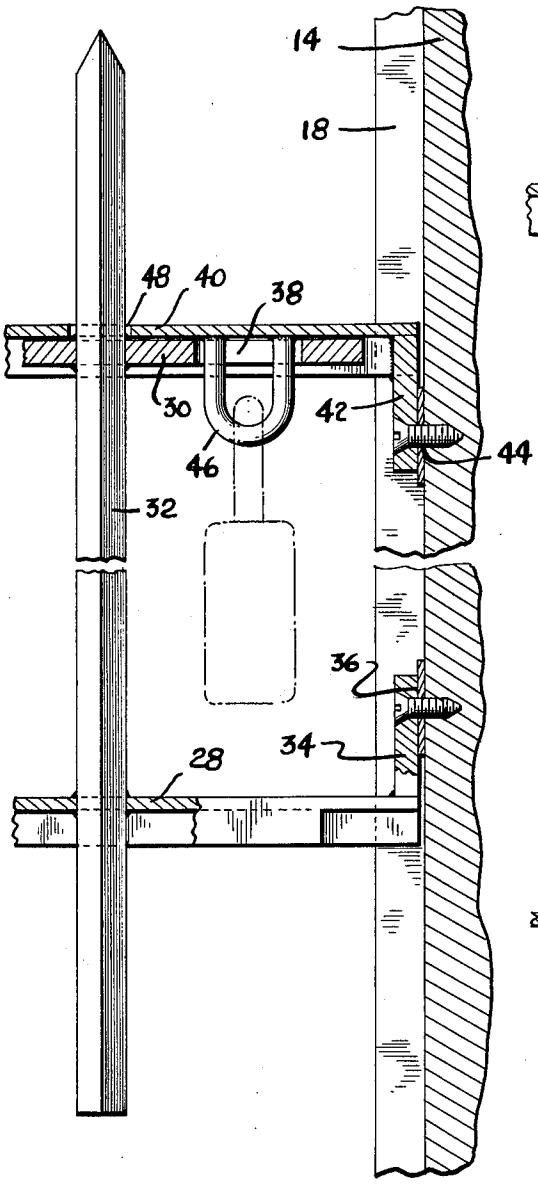


Fig. 3

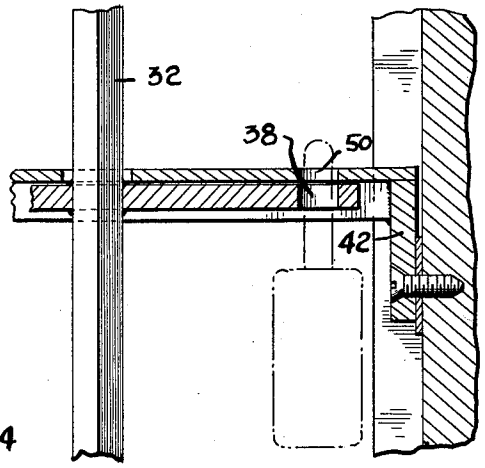


Fig. 4

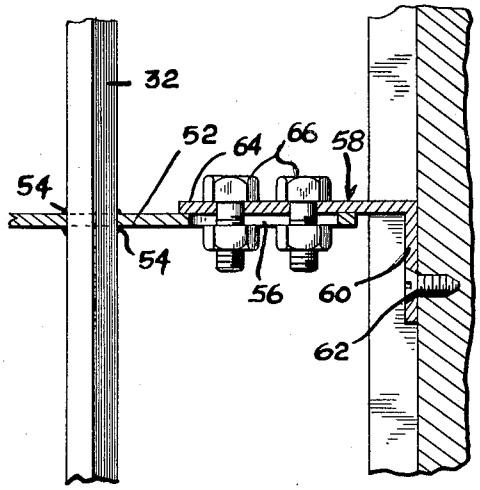


Fig. 5

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SECURITY GUARD FOR WINDOWS

Filed Jan. 24, 1963 3 Sheets-Sheet 3

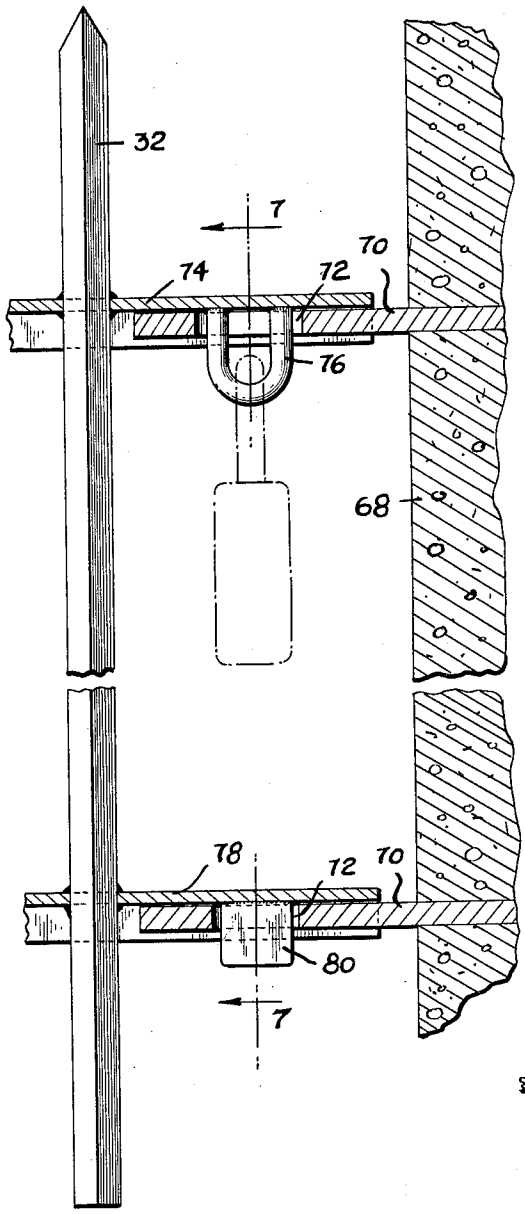


Fig. 6

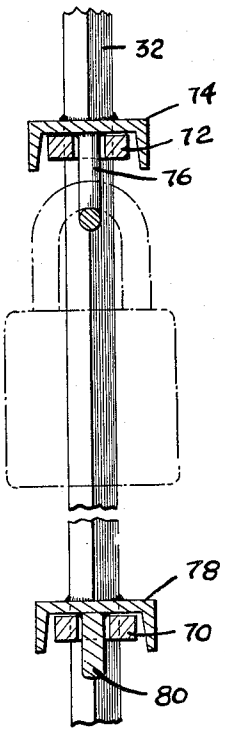


Fig. 7

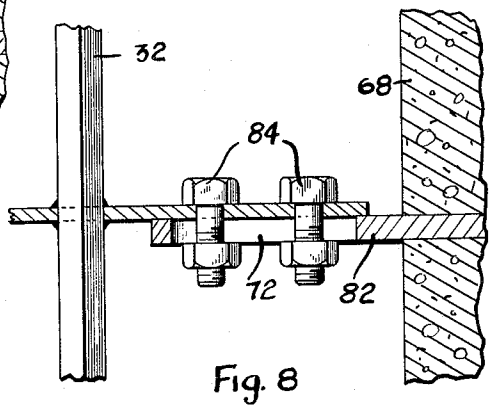


Fig. 8

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3,167,828

Patented Feb. 2, 1965

3,167,828

SECURITY GUARD FOR WINDOWS

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Filed Jan. 24, 1963, Ser. No. 253,588
4 Claims. (Cl. 20—71)

The present invention relates to new and useful improvements in window guards and more particularly and specifically to a novel and improved metallic grill for fixed installation in a window opening to prevent ingress and egress therethrough.

The prior art discloses various forms of fixed and removable security guards or grills for installation in window openings. Some of these prior art structures require alteration of the window framing or the building surrounding the window opening, and some do not. Most of the prior art structures are extremely complex, costly, and impractical, while others are ineffective for the purpose for which they are intended.

It is, therefore, a general object of the present invention to provide an extremely simple, inexpensive and effective security grill for quick installation in a window opening which will eliminate the numerous disadvantages inherent in prior art structures designed for like purposes.

Another object of the present invention resides in the provision of a metallic security guard or grill which may be quickly and easily installed in an existing window opening without removal or modification of any part of the window or window framing components.

A further object of the present invention lies in the provision of a metallic security guard or grill which may be quickly and easily removed from a window opening in which it has been previously installed without defacing the window or window framing components.

A still further object of the present invention rests in the provision of a metallic security guard or grill for a window opening which is quickly assembled from a partial knock-down condition and installed in place in a window opening to afford complete security against ingress and egress, and which affords a degree of security comparable to an integrally and permanently installed window guard.

Still another object of this invention is the provision of a metallic security guard or grill which is readily adaptable for manufacture in several forms rendering it adaptable for use in windows having wood, metal or masonry jambs or frames.

Still another object of this invention is the provision of a security guard for window openings which is relatively attractive and which affords a minimum of visual or aesthetic obstruction when installed.

Still further objects and advantages of the present invention will become more readily apparent to one skilled in the art when the following general statement and description are read in the light of the accompanying drawings.

The nature of the present invention may be stated in general terms as relating to a metallic security guard or grill for quick installation in an existing window opening consisting of vertically spaced upper and lower cross rail components, vertically disposed bar elements rigidly supported by said cross rail components at horizontally spaced intervals, rigid window frame engaging flanges on the remote ends of the lower cross rail component, a third cross rail component engaged on the upper cross rail component, fixed window frame engaging flanges on the remote ends of said third rail, and means for securely interlocking the third rail with the upper cross rail component.

Referring now to the accompanying drawings in which

like numerals designate similar parts throughout the several views:

FIG. 1 is a pictorial perspective view of the security guard rail positioned in knocked down condition adjacent a window opening in which it is to be installed;

FIG. 2 is a vertical section as if taken on line 2—2, FIG. 1, with the assembled grill installed in the window;

FIG. 3 is a fragmentary vertical section taken on line 3—3, FIG. 2;

FIG. 4 is a view similar to FIG. 3 of a modified form of the lock means;

FIG. 5 is a view similar to FIG. 3 of an intermediate cross rail form;

FIG. 6 is a view similar to FIG. 3 of a modified form of the invention for installation in masonry jamb windows;

FIG. 7 is a vertical section taken on line 7—7, FIG. 6;

FIG. 8 is a view similar to FIG. 5 of a modified intermediate bar structure for masonry jamb windows.

A security grill for a wooden framed, double-hung window is illustrated in FIGS. 1–5 of the accompanying drawings. In this embodiment of the present invention, a metallic security grill, generally designated **10**, is provided for installation in the lower half of a typical double-hung, wooden framed window **12**, below the upper outside sash element thereof, not shown. In FIG. 1 of the drawings, the typical window **12** is shown to include vertical side frame elements **14** each of which is provided in lateral opposition with recessed guide channels **16** and **18** in side by side relationship adapted to slidably receive the lower sash **20** and the upper sash, not shown. The frame elements are secured in typical fashion flush against the jamb portions **22** and **24** of the building structure defining the window opening. A typical sill member **26** completes the disclosed portion of the framing elements of the window.

The guard grill, generally designated **10**, constituting the preferred embodiment of the present invention, can be best seen in FIG. 1 of the drawings as including a bottom cross rail **28**, and an upper cross rail **30** in parallel with the bottom rail and spaced vertically thereabove. Vertical bar elements **32** are secured between the upper and lower cross rail elements and project above and below said cross rails for a spaced distance. The bar elements **32** are arranged in equally, laterally spaced relationship longitudinally of the cross rails and normally laterally of the window opening.

The lower cross rail element **28** is provided at each end thereof with a perpendicular flange **34** which is provided with a screw fastener opening **36** therethrough. The upper cross rail element **30** is of shorter length than the lower cross rail element and is provided adjacent the remote ends thereof with slotted openings **38** vertically therethrough. The third component of the grill consists of a third rail element **40**, shown in FIG. 1 in an elevated position above the previously described grill components. The third cross rail element **40** consists of a channel member having vertically depending perpendicular flange elements **42** at the remote ends thereof, similar to flanges **34** on the lower cross rail, and which are provided with screw fastening openings **44** therethrough. The upper cross rail is additionally provided adjacent each end thereof with a depending eye loop **46** vertically aligned above and in registry with the slotted openings **38** in the upper cross rail element **30**. The third cross rail element is further provided with a series of openings **48** vertically therethrough and spaced longitudinally thereof to register with the vertical bar elements **32** previously described.

In installation of the security grill, the unitary structure consisting of the upper and lower cross rails and vertical bars is grasped by the mechanic while standing facing the outside of the window opening into which the window

grill is to be secured. The guard grill is then inclined slightly to one side with the top slightly inclined toward the mechanic, whereupon the flange elements at the remote ends of the lower channel rail may be inserted in the opposed guide recesses for the upper sash element in the lower region of the window, and the flanges are slidably moved to position the grill with the upper and lower rails in horizontal position laterally of the window. Thereafter, the third rail element is inclined to permit the installation of the flange elements on the opposed ends thereof within the opposed channel recesses below the top sash element, the upper rail is moved inwardly of the window to assume a position in vertical alignment above the lower rail and in transverse alignment between the recessed channels in which the flange elements of the lower rail are then positioned, and the third rail element is then lowered telescoping the spaced openings therein about the upper projected ends of the vertical bar elements to bring the third rail element into juxtaposition with the upper cross rail element and to locate the eye elements on the remote ends thereof in dependency through the slotted openings in the remote ends of the upper cross element. The assembled grill may then be temporarily positioned vertically of the window opening between the sill and the bottom of the upper sash element by the use of a wedge block below the grill seated on the window sill, whereupon screw fasteners may be inserted through the openings provided in the flange elements on the lower cross rail and the third rail into the wooden frame elements. Thereafter the wedge block may be removed and padlocks may then be secured with their shackles interlocked through the depending eye formations on the third rail element below the upper cross rail thus securely interlocking the upper cross rail and the third rail element and securely locking the guard grill in the window opening.

In FIG. 4 of the drawings there is shown a modification of the structure disclosed in FIGS. 1 through 3 wherein the depending eye loop 46 of the third rail element is eliminated and replaced by a vertical slotted opening 50 through the third rail element which is located so as to register vertically above the vertical slotted opening 38 in the upper cross rail element adjacent the end thereof. As is seen in FIG. 4, the shackle of a padlock, shown in dotted line, will then be inserted through the two vertically aligned slotted openings in the adjacent rail elements to securely lock the elements one to the other for the reasons hereinbefore described.

In FIG. 5 of the drawings there is shown an alternate construction which may be used in connection with the burglar guard described in respect to FIGS. 1 through 3. This alternate construction consists of the use of an intermediate cross rail which would be necessitated only where the vertical height of the window and burglar guard were such as to require an intermediate strengthening member. In this alternate construction an intermediate or central cross rail element 52, taking the form of a flat metallic bar, is positioned transversely of the vertical bar elements which telescope through spaced openings in the rail element and which are welded, as at 54, thereto to rigidly interconnect the vertical bars and the rail element. The extreme ends of this intermediate rail element project laterally beyond each of the remote vertical bars of the guard for a distance substantially equal to the projection of the upper cross rail element. The projecting portion of the intermediate rail is provided with a slotted opening 56 adjacent its end. Cooperatively with the intermediate cross rail an L-shaped bracket 58 has the foot portion 60 thereof secured, as at 62, to the vertical window frame with the leg element 64 thereof horizontally overlying the adjacent end of the intermediate rail and two screw fasteners, 66, shown as nut and bolt combinations, are secured vertically through the L-shaped bracket and the slotted opening in the intermediate cross rail to interlock the bracket and the cross rail and to

securely fix the cross rail to the vertical window framing element.

In FIGS. 6, 7 and 8 there is shown a modified form of the security guard construction hereinbefore described which is particularly adapted for installation in windows having masonry jambs. In this modified form the masonry jamb, generally designated at 68, is equipped with vertically spaced horizontally projecting metallic lugs 70 the base ends of which are firmly embedded within the jamb. Each lug is provided adjacent its projected end with a vertical slotted opening 72.

The security guard assembly associated with the projecting lugs hereinbefore described consists of an upper cross rail 74 substantially identical to that described in connection with the preferred embodiment of this invention which includes a depending eye loop 76 adjacent each extreme end of the rail which register with and depend through the vertical slotted openings 72 in the uppermost projecting lugs in the masonry jamb. A padlock, shown in dotted line, is secured through the depending eye as hereinbefore described.

The lower cross rail element 78 of the modified form is substantially identical to the upper cross rail form except that the depending eye loop of the upper form is replaced by a vertically depending metallic tab 80 which projects vertically through the vertical slotted opening 72 in the lower projecting lug to locate and retain the lower rail and the lower lug in interlocked relationship.

The installation of the modified security guard in a masonry framed window is substantially identical in sequential steps as the installation hereinbefore described relative to the preferred embodiment.

In FIG. 8 of the drawings there is shown an alternate form of an intermediate cross rail for the modified form of the guard which is in substance identical with the intermediate rail of the preferred embodiment except that a third metallic lug 82 is embedded in the masonry jamb to project therefrom and to provide a vertical slotted opening for reception of the nut and bolt fasteners 84 which interlock the intermediate rail and the intermediate lug.

I have contemplated the use of shim plates, 86, between the frame engaging abutments and frame guides in the preferred embodiment of my invention. Such shims facilitate installation of the grill and allow for deviations in lateral dimensions between different windows.

The particular and specific forms and applications of the invention hereinbefore described are intended to illustrate the concepts of the invention, but they are not intended to limit the invention beyond the requirements of the prior art and the appended claims. For example, the dimensioning and spacing of the component elements may be varied, as may be their material, without departing from the spirit of the invention. The guard may be utilized full length of a window, door or other wall opening without departing from the intended scope of the disclosures and claims.

It is also contemplated that a sash stop, in the form of a rigid bar member, may be secured horizontally to the third rail of the guard element, or to the top rail of the modified embodiment, to project beneath the upper sash of the window to prevent lowering thereof. This sash stop would be utilized in those installations of the guard where the guard element would be offset from true vertical alignment beneath the outer upper sash of a window.

Having thus described and explained the construction of the combinations and sub-combinations constituting my invention, and the simplified method of installation of the several forms thereof, what I desire to claim is:

1. In combination with a framed window opening, a security grill comprising, vertically spaced horizontal cross rails positioned laterally of the framed opening, vertical bars secured in horizontally spaced relationship between said cross rails, flanged window frame engaging abutments fixed on the remote ends of the lowermost cross

rail, a third rail telescoping said vertical bars and disposed in juxtaposition with the uppermost cross rail, window frame engaging flanged abutments fixed on the remote ends of the third rail element, and padlock receiving eyes on said third rail projecting through laterally spaced openings in the uppermost cross rail.

2. In combination with a framed window opening, a security grill comprising, vertically spaced horizontal cross rails positioned laterally of the framed opening, vertical bars secured in horizontally spaced relationship between said cross rails, flanged window frame engaging abutments fixed on the remote ends of the lowermost cross rail, a third rail telescoping said vertical bars and disposed in juxtaposition with the uppermost cross rail, window frame engaging flanged abutments fixed on the remote ends of the third rail element, and padlock receiving openings in said uppermost cross rail and third rail registering at laterally spaced intervals therealong.

3. In combination with a window opening having metallic lugs projecting laterally thereinto at vertically spaced intervals, a security grill comprising, vertically spaced horizontal cross rails disposed laterally of the window opening with the extreme ends in juxtaposition with the projecting lugs, vertical bars secured between said cross rails in laterally spaced relationship, vertical slots formed in said laterally projecting lugs, tab elements depending from each of said cross rails adjacent the ends thereof in vertical alignment and registry with the slots in said lugs, and one of said tabs being adapted to receive and retain the hasp of a padlock therethrough beneath the adjacent cross rail.

4. A window security guard comprising, vertically spaced horizontal metallic rails, vertical metallic bars secured between said spaced rails in horizontally spaced relationship, the lowermost rail having window frame engaging abutments formed integrally with the remote ends thereof, a third rail having window frame engaging abutments formed integrally with the remote ends thereof, said third rail being provided with depending tab elements adjacent the ends thereof, the uppermost of the first-defined rails being provided with vertical slotted openings adjacent the ends thereof in vertical registry beneath said depending tab elements on said third rail, and said third rail being super-imposed on the uppermost of said first-defined rails placing the depending tab elements thereof in depending projection through the slots of said uppermost rail, and a padlock with the hasp thereof engaged with one of said depending tab elements beneath the uppermost rail.

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