

A HOOK MEANS FOR LOCKING A PICTURE BACK PROTECTION PANEL TO THE BODY OF A PICTURE FRAME

This invention concerns a hook means adapted to provide a locking connection between a back protection panel for a picture, like for instance a photograph or the like, and a picture frame body.

Hook means of the above type are known and in general they comprise a resiliently deformable metal plate provided, in general at the ends thereof, with suitable extensions adapted to become engaged into corresponding seats of said back protection panel and of the picture frame body. They get slightly deformed while being set in place and the hook means resiliency which tends to bring it back to the undeformed condition, is such that it provides forces which, owing to the hook means shape and to the way said hook means is connected to the panel and to the picture frame, cause mutual locking of these two members together.

Several types of hook means have been provided which, although they fulfill at a sufficient extent the function they are designed for, have a remarkable drawback in that their action is limited only to the lockingly connecting function while, as it is well known, the above mentioned lockingly connecting forces alone are not satisfactory for obtaining valuable results in providing stability to the assembly comprising the picture frame and the contents thereof. For instance, it is necessary that the hook means subjects to a stress action the assembly comprised of the back panel, the picture and the front transparent panel in order to keep said members in mutual contact and pressed against the picture frame body.

In order to meet the above requirement, various approaches have been taken which may be substantially grouped into two main classes, as it is pointed out in the following.

A first approach was to provide the hook means with an additional member, as for instance a tab or the like, with the purpose of keeping said members pressed against the picture frame body.

However, this type of hook means have drawbacks mainly in that manufacturing thereof is complicated and furthermore said additional member loses its effectiveness in time since its resilient pressure action on the back panel gradually vanishes.

A second type of approach was to provide two different kinds of hook means the first of which lockingly connects the back panel to the picture frame body, while the second keeps the panels and the picture mutually contacting, and the assembly thereof in contact with the picture frame.

However, this type of approach has serious drawbacks both because of the large number of

pieces to be used which eventually make the picture frame particularly expensive, and because setting said pieces into position or removing the same becomes especially time consuming and uncomfortable for the user.

There has now been contrived and it makes the subject of this invention a hook means which lockingly connects the picture back protection panel to the body of a picture frame, and overcomes all the drawbacks of conventional hook means.

According to one of the basic features of the hook means according to this invention, it is suitable for accomplishing both tasks explained above, without being provided with a tab or the like, and without requiring any provision for additional hook means.

The features as well as the advantages of the inventive hook means will become apparent from the following detailed description of a non limiting embodiment thereof, which refers to the attached figures, wherein:

Figure 1 is a perspective view showing the hook means according to this invention;

Figure 2 is a cross-section showing the hook means set in place on a picture frame.

Referring now to the above Figures, the hook means of this invention has an essentially U-shaped substantially central portion, shown in general at 10.

On the longer side 12 of central portion 10 there is provided a substantially triangular cutout 14 providing a means for hanging the picture frame on a wall.

One of the two arms of central portion 10, shown at 16, extends into a bent-over portion 18 which provides an extension adapted to be inserted into a suitable seat carved on picture frame back protection panel 20.

Said bent over portion 18 extends further into a tab 22 which remains slightly raised above back panel 20 when the hook means has been set into place, and said tab 22 is used to make removal of the hook means easier, concerning in particular portion 18 moving out of its seat in panel 20.

In Figure 2 the picture, for instance a photograph or the like, is shown at 24, while at 26 there is shown the front transparent pane made for instance of glass.

The second arm of central portion 10, shown at 28, extends into a substantially U-shaped end portion, shown in general at 30.

According to a first feature of said end portion 30, main side 32 thereof blends through a curved portion 34 into arm 28 of central portion 10. In

particular said curved portion 34 faces back panel 20 with its convex side, and engages therewith.

End arm 36 of end portion 30 engages into a recess 38 of a cavity 40 provided internally of picture frame body 42. As it is apparent in particular on Figure 2, end arm 36 of portion 30 engages against a protruding lip 44 of cavity 40. In addition, the side edges of transparent panel 26 engage into a part 46 of picture frame 42 adapted to locate said panel 26, picture 24 and back panel 20 which are pushed against it by the hook means of this invention.

Figure 2 still shows in particular that side 32 of end portion 30 lies at an angle towards back panel 20, whereby it supports and enhances the hook means pressure action against panel 20, as it is pointed out in the following.

When the hook means is set into position, central portion 10 thereof is slightly spread out whereby two forces, shown by the arrows F and G, are generated, the second being the force which cooperates to raise said hook means pressure action against panel 20. In fact, said force, using hook means end 36 received within recess 38 as a fulcrum, subjects the hook means to a pushing action towards panel 20, which pushing action is transmitted to said panel by curved portion 34 in contact therewith. As it was stated above, said action is supported by the unique inclination of side 32 of the hook means end portion 30.

From the above description it is apparent that the hook means performs a double action relative to the picture frame and to the members held therein. In fact, it allows both back panel 20 to be lockingly connected to the picture frame, and above all the two panels 20, 26 and picture 24 to be retained under pressure against the picture frame.

It should eventually be understood that variations and/or modifications can be made to the hook means of this invention without exceeding the scope of protection thereof.

Claims

1. A hook means for lockingly connecting the picture back protection panel to the body of a picture frame, having a first end adapted to hook onto said back panel and a second end adapted to be connected with said picture frame body, characterized in that it essentially comprises a substantially U-shaped central portion (10) whose arm (28), located on the side of picture frame body (42), extends to an as well substantially U-shaped end portion (30) in turn provided with an end (36) engaging into an inner cavity (40) of picture frame body (42), said arm (28) blending into said end portion (30)

through a convex curved portion (34) abutting against said back panel (20)

2. The hook means of claim 1, characterized in that main side (32) of end portion (30) lies at an angle towards back panel (20) when the hook means is set onto the picture frame.

3. The hook means of claim 1, characterized in that end (36) of portion (30) comprises an arm of said U shape, which is adapted to be inserted into a recess (38) of cavity (40) of picture frame body (42), in order to engage against a portion (44) defining said recess (38).

Fig. 1

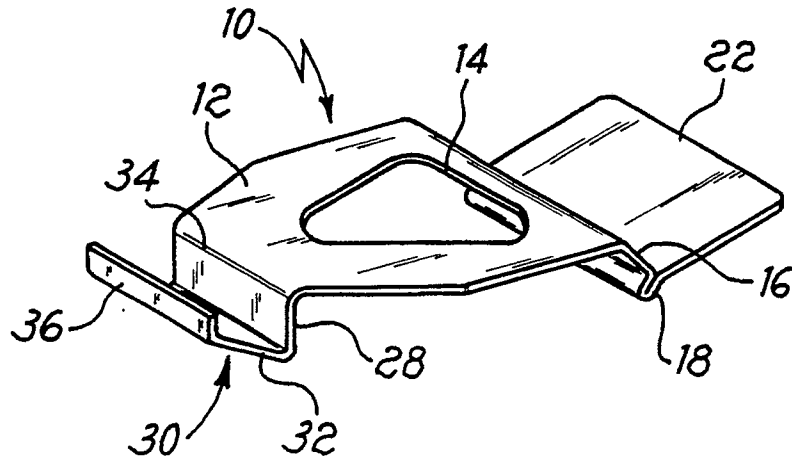
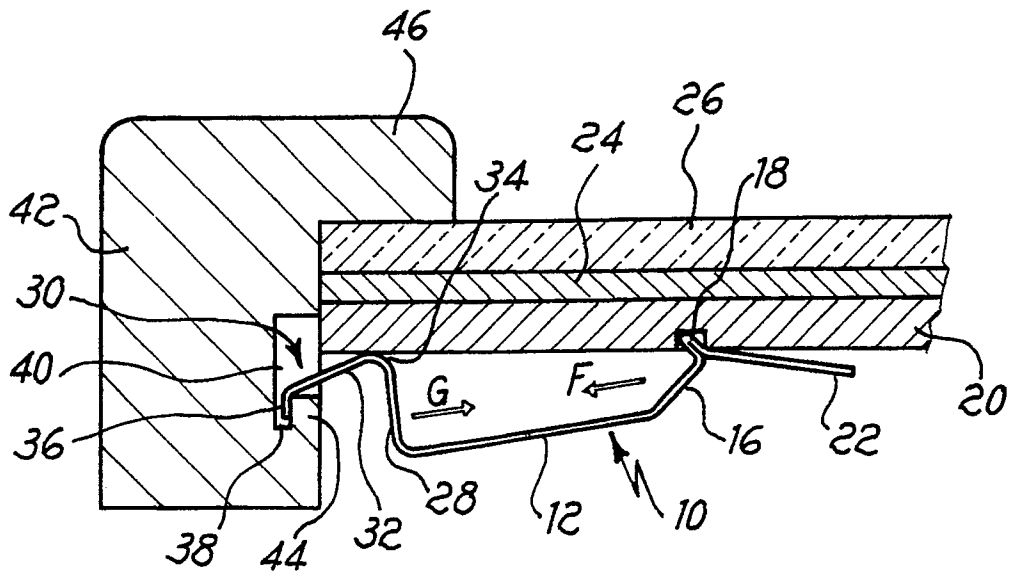


Fig. 2





European
Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 83 0522

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	DE-U-8 525 427 (STRELOW) * page 9, paragraph 2; figure 2 *	1-3	A 47 G 1/06
A	EP-A-0 262 282 (PICO-GLASS)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A 47 G
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 27 February 91	Examiner BEUGELING G.L.H.
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document			