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(12) # EUROPEAN PATENT SPECIFICATION

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(54) **Stacking element.**

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Description

The invention relates to an element for stacking frames formed by profiles preferably in the shape of an L, said element comprising a flat web provided at each of two edges thereof with a flange normal thereto, said flanges being at an angle α to one another which corresponds with the corner angle of the L-shaped profile to be stacked, and at least one rib parallel to and at a distance from a flange, said distance corresponding to the thickness of one limb of the L-shaped profile.

An element as set forth above is known from FR—A—1.396.479 said element being used as corner clip for assembling carton boxes or the like.

The invention has for its object to provide a cheap element that can be arranged in the corners of the frames so that the frames can be easily stacked without the risk of shifting or damage. The frames may be or not be provided with a panel clamped therein.

The element according to the invention is distinguished in that each flange terminates at a distance (e) from the imaginary corner of the element which is not less than the width of the other limb of the L-shaped profile.

Such an element is comparatively small and can be readily slipped onto one limb of the L-shaped profile near the corner of the frame. On both sides of the corner the outer rim of the frame is protected by the flanges, whilst the stacked frames do not touch one another owing to the flat web arranged between them. In this manner the frames are protected to the optimum with the aid of only one element arranged at each corner of a frame.

The element also permits of stacking frames of different sizes, wherein it is thus ensured that the web is in direct contact with a continuous frame rim of another frame on which a first frame is stacked.

In order to establish a sufficient firm connection it is preferred to provide the stacking element with a second rib similar to the first rib opposite the outer flange.

In order to establish a clamping connection between the element and the frame in a preferred embodiment of the invention the free rim of each rib extending parallel to the adjacent flange is inclined towards said flange.

The invention will be described more fully with reference to an embodiment.

The drawings shows in:

Fig. 1 a perspective view of an element embodying the invention,

Fig. 2 a perspective view of the inner corner of stacked frames,

Fig. 3 a complete stack of frames provided with stacking elements,

Fig. 4 a stack formed by frames of unequal sizes.

Reference numeral 1 designates the flat web of the stacking element provided with two flanges 2 and 3. The flanges are normal to the web plate 1 and are at an angle α to each other (by their prolongations). This angle α corresponds with the angle of the frames, usually an angle of 90°. The flanges extend one on each side of the plate-shaped web 1, whilst the upper part of fig. 1 is larger than the lower part of the flanges.

At a distance *a* from each flange 2, 3 is provided a rib 4, 5. These ribs extend parallel to the associated flange. The free rim 6 extending parallel to the web 1 is slightly inclined towards the associated flange so that a smaller distance *b* from the flange is obtained.

The frames to be stacked are each mainly formed by L-shaped frame profiles 7, one limb 7' forming the outer rim of the frame and the other limb 7" forming the front face of the frame. The thickness of the limb 7' is designated by *c*, it being noted for completeness' sake that the limb 7' has two open channels 8 and 9 for fastening the profiles to one another to fasten panels P in the frame by means of fastening means not lying within the scope of this invention. The panels P may be formed in order of succession by a glass plate, a picture and a back plate.

The width of the limb (7") is designated by *d*.

Each stacking element can be simply arranged in place by pressing the flat web 1 against the underside of the frame, the ribs 4, 5 getting on the inner side of the corner of the frame and the flanges 2, 3 on the outer side thereof. The distance *a* corresponds to the thickness *c* of the limb 7'. Since the distance *b* is smaller than *a*, the element will automatically clamp tight in the corner.

The frames can be stacked as shown in figs. 2 and 3, in which case the outer flanges 2, 3 grip around the outer side of each frame by the downwardly extending part. In this way a shift of frames of the same size is prevented in all directions. The frames may be bound together, for example, by means of stretching strips 10.

From fig. 3 it is apparent that the frames are lying at a distance from one another, said distance being equal to the thickness of the plate-shaped web 1. The outer side of the stack of frames is protected near the corners by the superjacent flanges 2, 3.

Fig. 4 illustrates a possibility of stacking frames of unequal sizes. For this purpose it is necessary for the standing rims of one flange 11 to be at a distance *e* from the prolongation of the other flange. This distance *e* corresponds to the width *d* of the limb (7") of each frame profile. Thanks to this precaution the stacked frame profiles are prevented from relatively shifting in place even if the frame does not have the same dimensions.

The invention is not limited to the embodiment described above; it is noted, for example, that one rib 4 or one rib 5 may be sufficient. The centering effect is maintained by the flanges 2 and 3, whilst one rib is sufficient to hold to elements in the corners.

Claims

1. A stacking element for stacking frames formed by profiles (7) preferably in the shape of an L, said element comprising a flat web (1) provided at each of two edges thereof with a flange (2, 3) normal thereto, said flanges (2, 3) being at an angle α to one another which corresponds with the corner angle of the L-shaped profile to be stacked, and at least one rib (4 and 5 respectively) parallel to and at a distance (a) from a flange (2, 3), said distance corresponding to the thickness (c) of one limb of the L-shaped profile characterized in that each flange (2 or 3) terminates at a distance (e) from the imaginary corner of the element which is not less than the width (d) of the other limb of the L-shaped profile.

2. An element as claimed in claim 1, characterized in that a second rib is provided for the other flange.

3. An element as claimed in claims 1 and 2, characterized in that the outer rim region of each rib extending parallel to the adjacent flange is inclined towards said flange.

Patentansprüche

1. Stapelelement zum Stapeln von Rahmen mit vorzugsweise L-förmigem Profil (7), wobei das Element einen ebenen Steg (1), der an jeder von zwei Kanten einen senkrecht zum Steg verlaufenden Flansch (2, 3) aufweist, wobei die Flansche (2, 3) in einem Winkel α zueinander stehen, der dem Eckwinkel der zu stapelnden, L-Profil-förmigen Rahmen entspricht, und wenigstens eine zu einem der Flansche (2, 3) parallele und in einem bestimmten Abstand (a) davon angeordnete Rippe (4, 5) aufweist, welcher der Dicke (c) des einen Schenkels des L-förmigen Profils entspricht, dadurch gekennzeichnet, daß jeder Flansch (2 bzw. 3) bis zu einem bestimmten Abstand (e) von der gedachten Ecke des Elements verläuft, der nicht kleiner als die Breite (d) des anderen Flansches des L-förmigen Profils ist.

2. Element nach Anspruch 1, dadurch gekennzeichnet, daß eine zweite Rippe für den anderen Flansch vorgesehen ist.

3. Element nach den Ansprüchen 1 und 2, dadurch gekennzeichnet, daß der äußere Randbereich jeder zum benachbarten Flansch parallel verlaufenden Rippe zu dem Flansch hin geneigt ist.

Revendications

1. Élément d'empilement pour l'empilement de cadres constitués de profilés (7), de préférence en forme de L, ledit élément comprenant une plaque plate (1) pourvue sur deux de ses rives d'une aile (2, 3) perpendiculaire à la plaque, lesdites ailes (2,3) formant un angle α l'une avec l'autre correspondant à l'angle de coin du profilé en L à empiler, et au moins une nervure (4 respectivement 5) parallèle à l'une des ailes (2, 3) et à une certaine distance (a) de celle-ci, ladite distance correspondant à l'épaisseur (c) d'une des branches du profilé en L, caractérisé en ce que chacune des ailes (2 ou 3) se termine à une distance (e) du coin imaginaire de l'élément au moins égale à la largeur (d) de l'autre branche du profilé en L.

2. Elément selon la revendication 1, caractérisé en ce qu'une seconde nervure est prévue pour l'autre aile.

3. Elément selon les revendications 1 et 2, caractérisé en ce que la région de rebord extérieure de chaque nervure s'étendant parallèlement à l'aile voisine est inclinée vers ladite aile.

FIG. 3

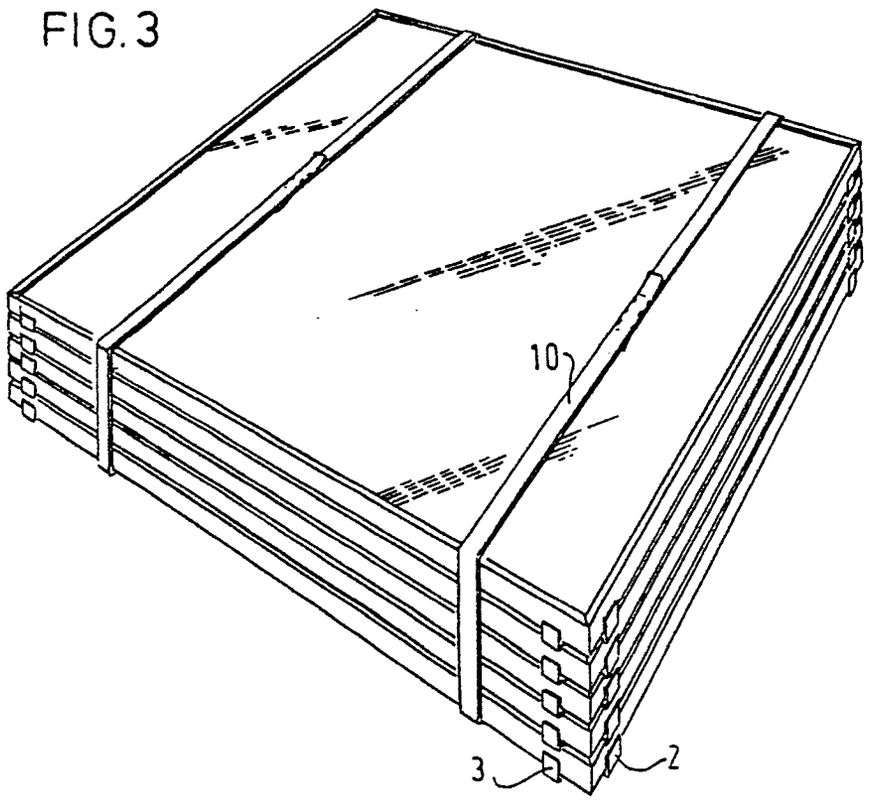

FIG. 4

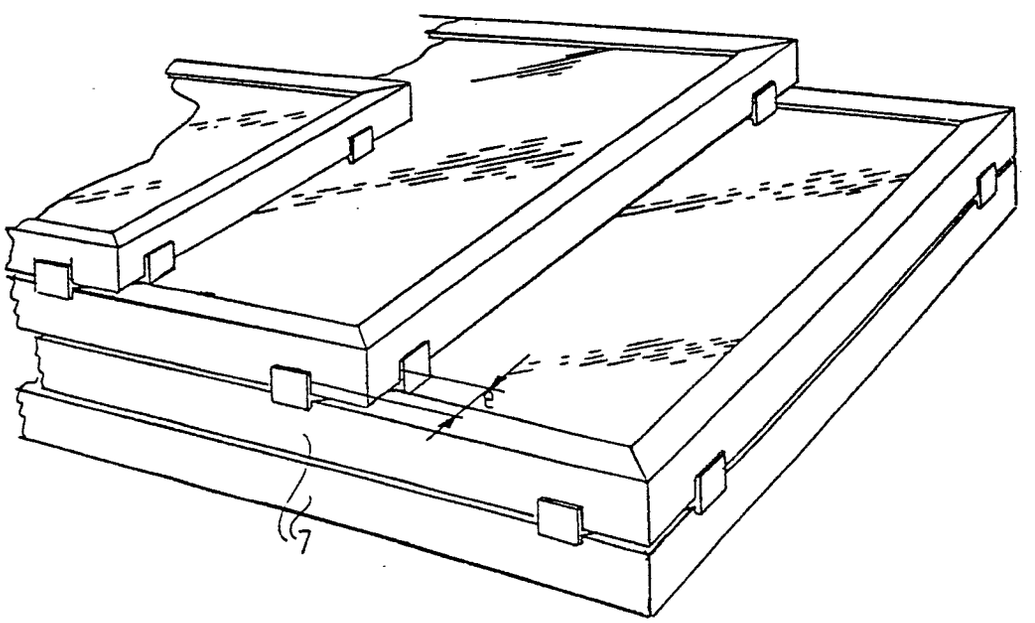

FIG.1

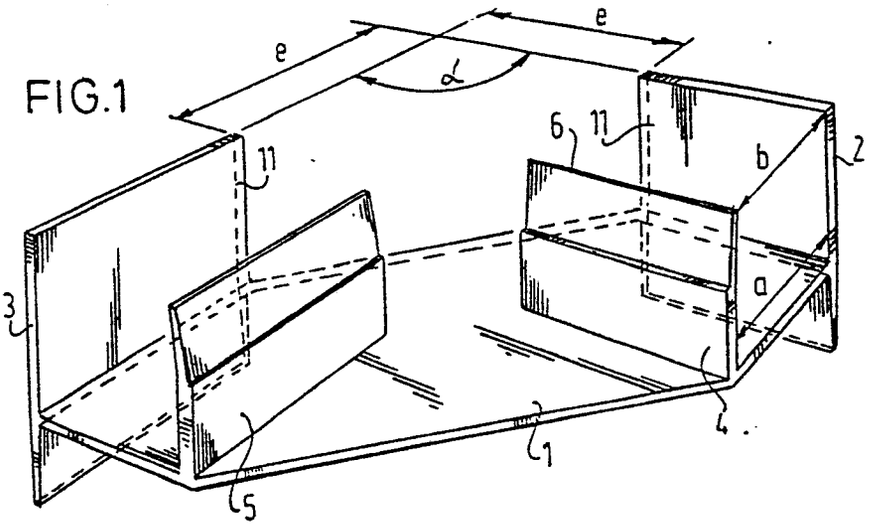

FIG. 2