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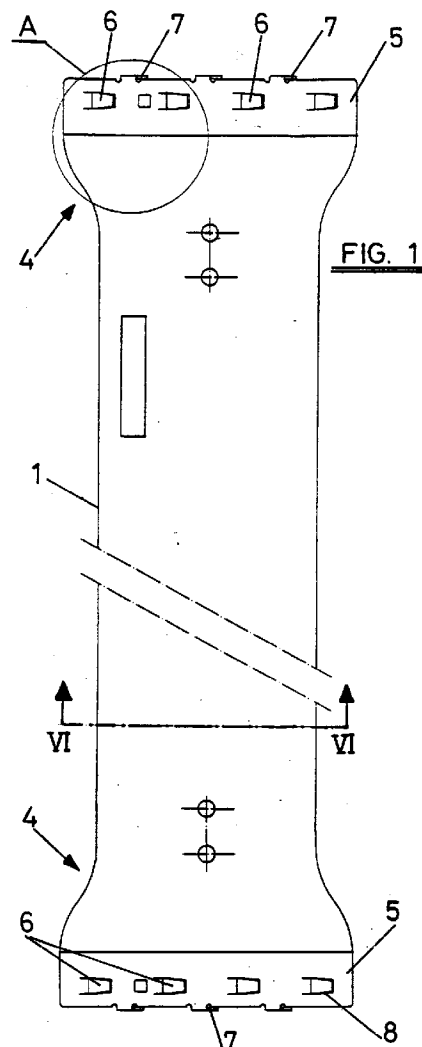
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(54) **Longitudinal bearer for forming shelving designed for palletized loads.**

(57) A longitudinal bearer for forming shelving designed for palletized loads, consisting of a metal profile (1), preferably of open cross section, whose end portions (4) are flattened such that they each define flat, transverse strips (5) on which the fixing elements are situated, said fixing elements consisting of kinked lugs (6), obtained by making U-shaped cuts, and end tabs (7).



The present invention relates to a longitudinal bearer for forming shelving designed for palletized loads, consisting of a metal profile terminating in end heads provided with fixing elements.

BACKGROUND OF THE INVENTION

More particularly, the longitudinal bearer of the invention is designed for forming shelving made of vertical posts, longitudinal bearers and cross members, which are connected and linked together by means of screws, and elements for fixing the longitudinal bearers. Due to the heavy weights which such shelving has to support, all of the component parts must be extremely robust and connected solidly together.

The longitudinal bearers for making this shelving consist of a metal profile with square angle bars welded perpendicularly to each of ends by means of one of their branches or wings, the free wing or branch of said angle bars being provided with kinked tabs, obtained by means of cuts, which constitute the fixing means.

This constitution requires that the profiles be cut into sections of the right length, that the end heads be cut from square angle bar profiles, and that these heads be welded to the ends of the profile. All of these operations, in particular the that of welding, imply a considerable increase in cost of the manufacturing process. Furthermore, the welding process eliminates any protective coating which the metallic parts may have.

DESCRIPTION OF THE INVENTION

The object of the present invention is a longitudinal bearer of the type described above, but constituted in such a way that the manufacturing operations or phases can be reduced, eliminating the welding operations, with all of the advantages that this implies.

Firstly, the most costly operation is eliminated and as a result the longitudinal bearer can be obtained at a lower cost.

Secondly, as there are no welding operations, they can be used to make longitudinal bearer profiles provided with a protective coating without the risk of said coating being destroyed.

One advantage of the invention is that the risk of possible welding defects are eliminated which otherwise could cause the longitudinal bearers to break, allowing the load supported to collapse.

The longitudinal bearer of the invention consists of a single profile which means it is possible to reduce the stocks of materials required as well as the number of cutting operations, and form the longitudinal bearer by means of a process which may be almost entirely automated, since the longitudinal bearer of the invention consists of a single piece at the ends of which the

setting elements are formed by means of system of presses, unlike the case of traditional longitudinal bearers where the end heads have to be welded to the profile which constitutes the longitudinal bearer.

According to the invention, the longitudinal bearer for forming shelving consists of a metal profile, preferably of open cross section, on which the end heads consist of flattened end portions of the profile, said end portions defining as many equal, flat, transverse strips on which the fixing elements are situated, said fixing elements being obtained from the strips themselves.

Preferably, the profile of the longitudinal bearer is of C-shaped cross section, partially closed by means of opposing prolongations of the lateral wings, the external surface of the central wing being partially sunken.

The fixing elements consist of intermediate kinked lugs and end tabs.

The lugs are obtained by making U-shaped cuts in the flattened end portions of the profile, perpendicular to the axis of said profile. These cuts define tongues which are pressed towards the concave side of the profile to form the kinked lugs, the end sections of said lugs running approximately parallel to the flat strip of the profile.

The tabs protrude perpendicularly from the transverse edges of the profile at each flattened end portion, said tabs being L-shaped and pointing towards the concave side of the profile. The end sections of the tabs are orientated in the same direction as the end sections of the intermediate lugs.

In this way, the ends of the longitudinal bearer are provided with different fixing elements, the intermediate lugs and the end tabs, all of them designed to be introduced into openings made in the posts. The longitudinal bearers and the posts of the shelving can thereby be fixed together with maximum solidity.

BRIEF DESCRIPTION OF THE DRAWINGS

In order that the characteristics and advantages described be better understood, the accompanying drawings show by way of non-limiting example one practical embodiment of the invention.

In the drawings:

Figure 1 is an upper plan view of a longitudinal bearer according to the invention.

Figure 2 is a lateral view of the longitudinal bearer of figure 1.

Figure 3 is a profile view of the longitudinal bearer of figure 1.

Figure 4 shows the detail A of figure 1 on a larger scale.

Figure 5 is a section taken along the line V-V of figure 4.

Figure 6 is a cross section of the longitudinal bearer taken along the line VI-VI of figure 1.

DESCRIPTION OF A PREFERRED EMBODIMENT

The longitudinal bearer shown in the drawings consists of a profile 1 which, as can be seen in figure 6, has an open, approximately C-shaped cross section, partially closed by means of prolongations 2 of its lateral wings and with an intermediate depression 3 in its central branch. The ends of the profile terminate in flattened portions 4 which define as many flat strips 5 of approximately the same width. The flattenings may be obtained by pressing.

The end strips 5 of each profile are approximately coplanar and constitute the end heads of the longitudinal bearer. The setting elements of these end heads consist of intermediate lugs 6 and end tabs 7.

The intermediate lugs 6 are obtained by making U-shaped cuts 8 in the strips 5 and then stamping them towards the concave side of the profile 1 in order to give them the kinked shape shown clearly in figure 5, the end sections 9 running approximately parallel to the strip 5.

The tabs 7, also obtained by stamping, protrude from the free edge of the strips 5, perpendicular to the axis of the longitudinal bearer 1. These tabs 7 extend perpendicularly towards the concave side of the profile 1 and are L-shaped, their end sections pointing in the same direction as the end sections 9 of the intermediate lugs.

The longitudinal bearer of the invention may be manufactured automatically, for example from a strip or band that is formed transversely into the shape of the profile shown in figure 6. The profile is then cut into sections of the required length and the end portions are flattened by means of a press to obtain the flat strips 5. Finally, the intermediate lugs 6 and tabs 7 are obtained by stamping.

The welding operations are totally eliminated from the process, such that if the profile is made with a pre-lacquered or pre-galvanized layer, the longitudinal bearer can come straight off the production line without having to be painted or touched up.

In summary, the manufacture of the longitudinal bearers with the constitution described considerably reduces the number of operations as well as the time of manufacture and makes the product much more competitive.

said fixing elements being obtained by the stamping of the strips (5) themselves.

2. A longitudinal bearer according to claim 1, characterized in that the fixing elements consist of intermediate kinked lugs (6), obtained by making U-shaped cuts in the flattened end portions (5), and end tabs (7), which protrude perpendicularly from the straight transverse edges of the profile (1), said lugs (6) pointing in a direction perpendicular to axis of the profile (1) and all of them towards the concave side thereof, such that their end sections are parallel to the flattened end portion (5); and said tabs (7) being L-shaped with their end sections pointing in the same direction as the end sections (9) of the intermediate lugs (6).

Claims

1. A longitudinal bearer for forming shelving designed for palletized loads, consisting of a metal profile (1), preferably of open cross section, which terminates in end heads provided with fixing elements, characterized in that said heads consist of flattened end portions (4) of the profile that define as many equal, flat, transverse strips (5) on which the fixing elements are situated,

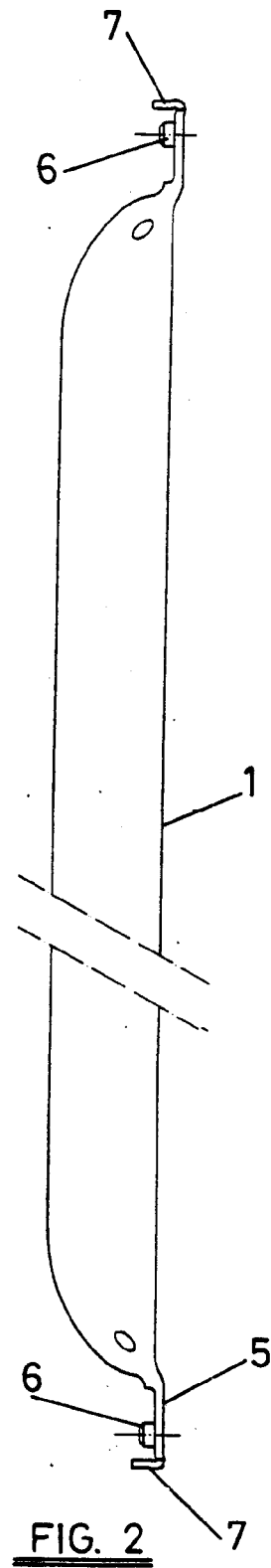
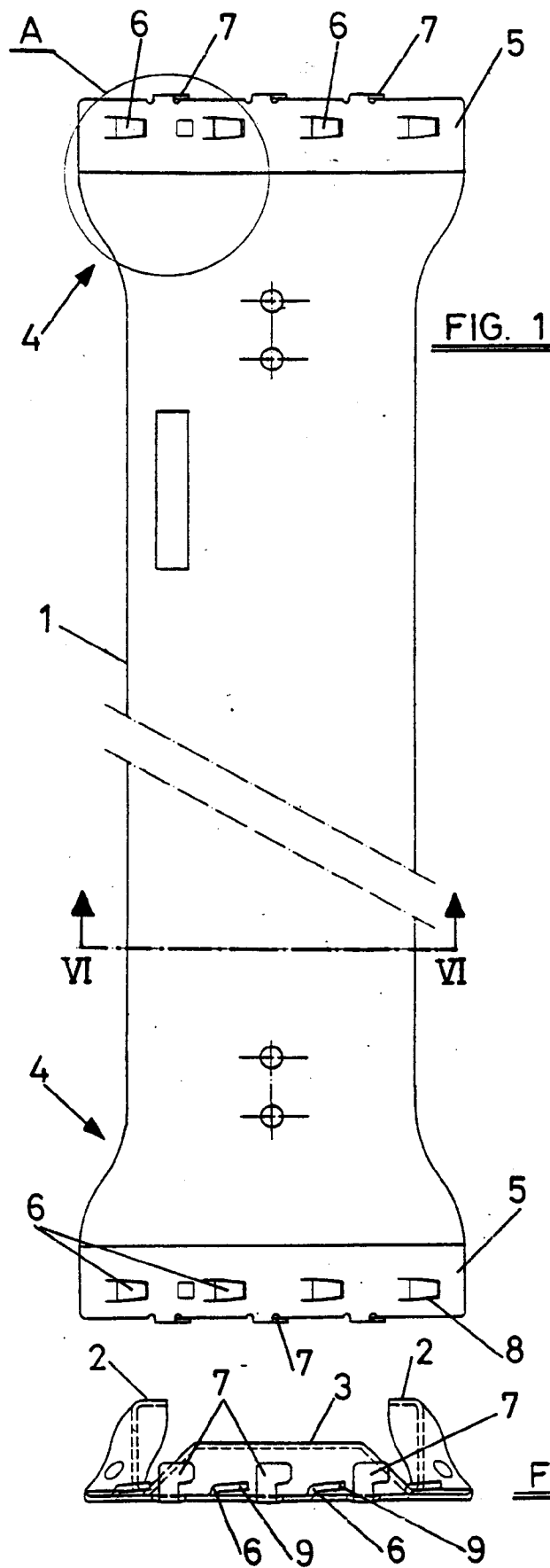
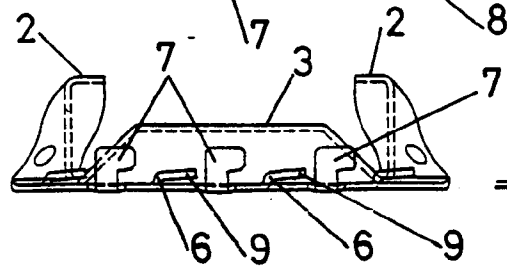


FIG. 3



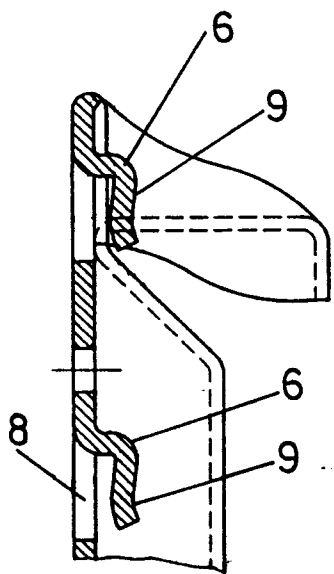


FIG. 5

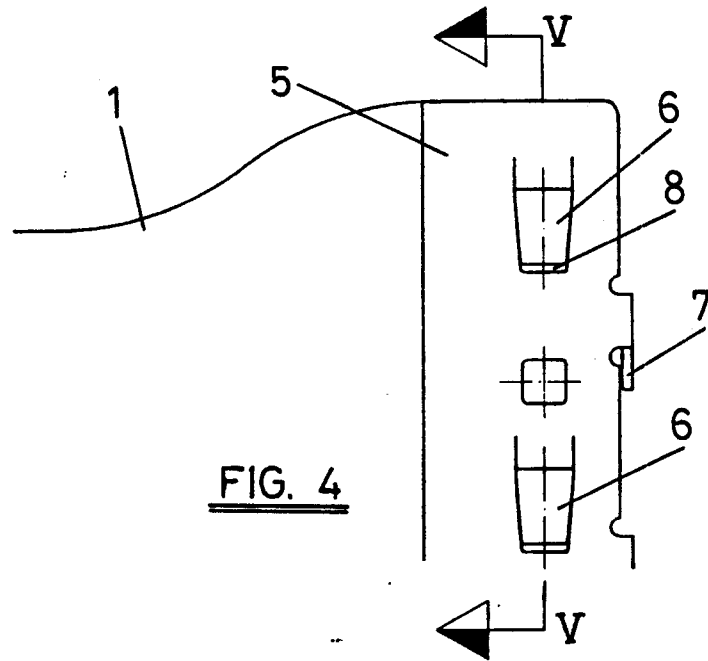


FIG. 4

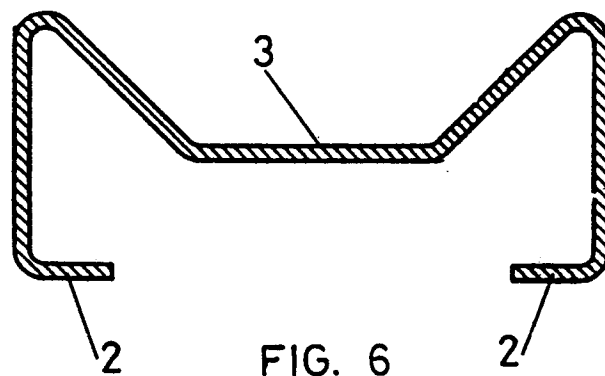


FIG. 6



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 94500138.6

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 6)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	GB - A - 2 157 547 (VOEST-ALPINE KREMS GESELLSCHAFT MBH) * Page 1, lines 46-53, 83-102; fig. 1-3 *	1	A 47 B 47/02 A 47 B 57/20
Y	--	2	
Y	FR - A - 2 499 382 (SALAGNAC) * Page 3, lines 2-15; fig. 2,3 * -----	2	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 6)
			A 47 B 47/00 A 47 B 57/00 A 47 B 96/00
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 10-10-1994	Examiner VELINSKY-HUBER
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			

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