

June 1, 1965

M. STRÄSSLE

3,186,561

PROFILED BAR

Filed Dec. 4, 1963

3 Sheets-Sheet 1

Fig. 1

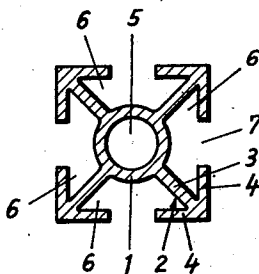


Fig. 5

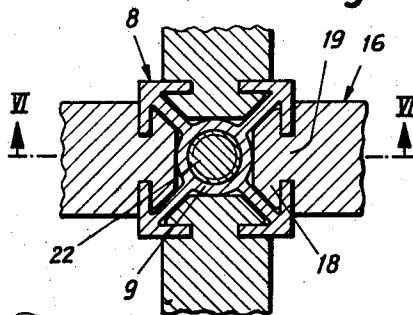


Fig. 6

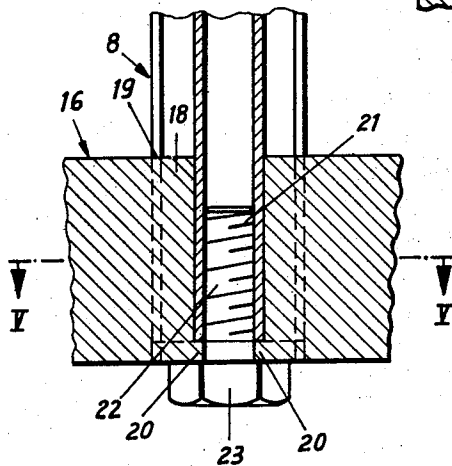
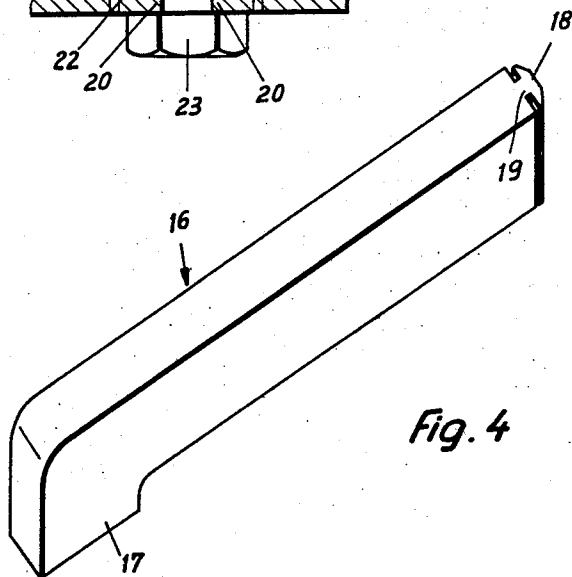


Fig. 4



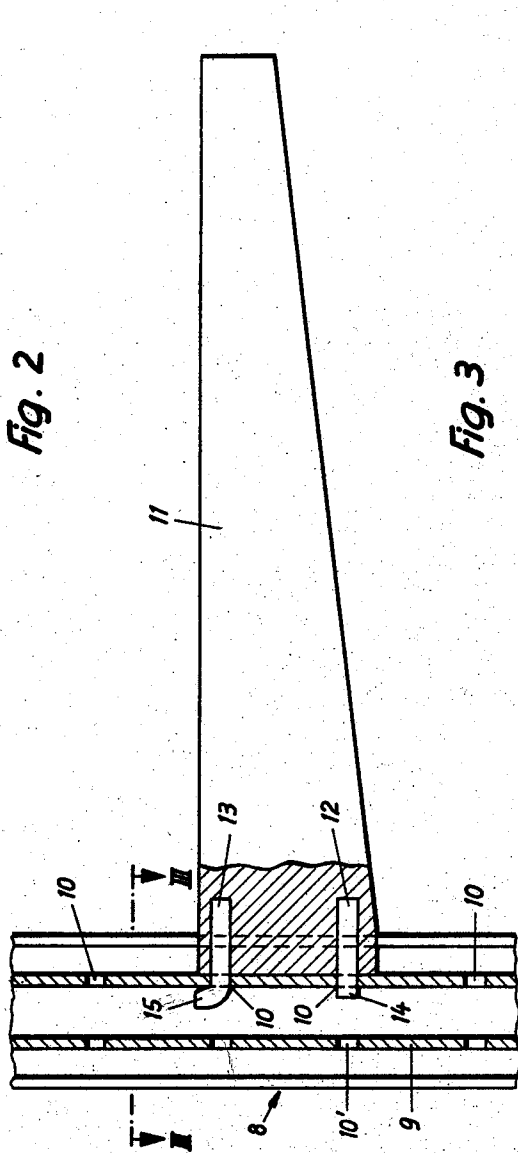
June 1, 1965

M. STRÄSSLE
PROFILED BAR

3,186,561

Filed Dec. 4, 1963

3 Sheets-Sheet 2



June 1, 1965

M. STRÄSSLE
PROFILED BAR

3,186,561

Filed Dec. 4, 1963

3 Sheets-Sheet 3

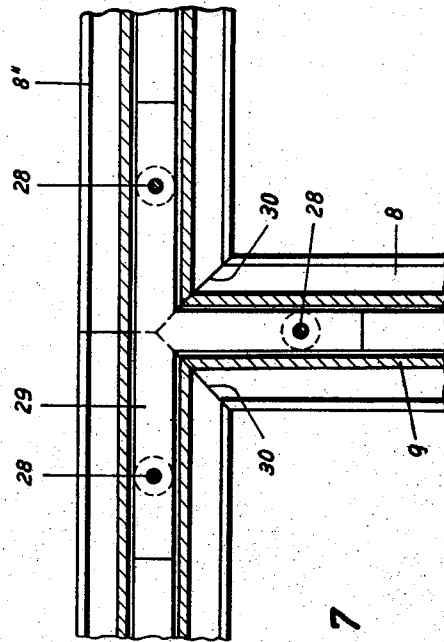


Fig. 7

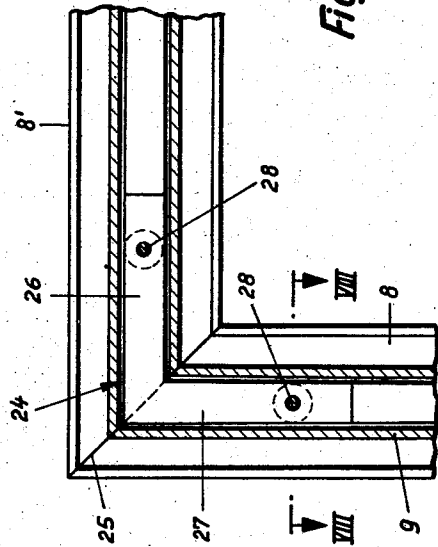
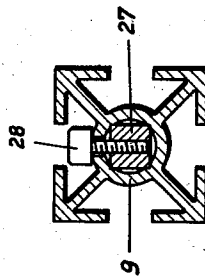


Fig. 8



1

3,186,561

PROFILED BAR

Marcel Strässle, Kirchberg, Sankt Gallen, Switzerland

Filed Dec. 4, 1963, Ser. No. 328,077

3 Claims. (Cl. 211-182)

The present invention relates to a profiled bar, and has a primary object of providing a bar which is capable of versatile use for example in combination with other bars of the same profile and with connecting elements for detachably connecting the same to structures, or in combination with movable elements, for example, as a curtain rail in combination with runners guided in parts of its profile.

With these and other objects in view which will become apparent later from this specification and the accompanying drawings, I provide a profiled bar having a central tubular portion and at least two identical arrow head profile portions, each arrow head profile having a shank radially extending from said central tubular portion and two barbs symmetrical with said shank, opposite barbs of adjacent arrow head profiles being in alignment with one another and including a gap between one another, at least one trapezium profile cavity being enclosed between said central tubular portion and said arrow head profile portions and accessible externally through a longitudinal slot formed by said gap.

These and other objects and features of my invention will be clearly understood from the following description of an embodiment and of several applications thereof given by way of example with reference to the accompanying drawings, wherein:

FIG. 1 is a cross section of a profiled bar;

FIG. 2 is a longitudinal section taken along line II—II of FIG. 3 showing the use of the bar as a pillar of a book-shelf;

FIG. 3 is a cross section taken along line III—III of FIG. 2;

FIG. 4 is a perspective view of a foot for the pillar according to FIGS. 2 and 3;

FIG. 5 is a cross section taken along the line V—V of FIG. 6 showing four feet of the kind shown in FIG. 4 attached to the lower end of a pillar;

FIG. 6 is a longitudinal section taken along the line VI—VI of FIG. 5;

FIG. 7 is a longitudinal section showing a frame-like connection on top of the bars according to FIG. 1 for a bookshelf;

FIG. 8 is a cross section taken along the line VIII—VIII of FIG. 7.

The profile of the bar shown in FIG. 1 in cross section is composed of a central circular ring 1 and of four identical arrow portions 2, which are arranged radially and offset 90° relative to each other on the ring 1, the arrow heads pointing outward. Each arrow portion 2 has a shank 3 and two barbs 4 forming its point, which are symmetrically inclined 45° to the shank, and accordingly include an angle of 90° with each other. The barbs 4 of adjacent arrow portions 2 are accordingly in alignment with one another, and all barbs 4 supplement one another to define a square external profile, which however is interrupted in the middle of each side of the square by a gap or slot 7 which extends longitudinally the length of the bar. The bar has accordingly a central cavity 5 of circular cross section, and four cavities 6 of approximately trapezium shaped cross section, each of the cavities 6 being externally accessible through the longitudinal slots 7.

The bar illustrated may be constituted for example of a synthetic plastic material, of aluminum or other light metal, and preferably is constituted of a light metal alloy.

2

The profile may for example have the following dimensions:

| | Mm. |
|--|-----|
| Inner diameter of the ring 1 ----- | 10 |
| Width of the longitudinal slot 7 ----- | 8.2 |
| Length of the side of the outer square ----- | 30 |
| Thickness of the ring 1, of the shanks 3 and barbs 4 of the arrows ----- | 2 |

The bar described may be used in many different ways, its central portion corresponding to the ring 1 being of very great advantage from the point of view of construction, quite apart from the fact that it increases the strength of the bar considerably as compared with a bar, whose profile is constituted only by four arrow portions radiating outward from a central point. This will be explained hereinafter with reference to some examples of applied use of the bar.

In FIGS. 2 and 3 a vertically arranged bar 8 of the kind described hereinabove serves as a pillar for a book-shelf. The central tube 9 of the bar is provided with a row of holes 10 opposite one of the longitudinal slots 7. A carrier arm 11 is provided at one end face with two pins 12 and 13, which partly protrude from this end face, pin 12 being straight and having a projection 14 whereas pin 13 has a hook-shaped projection. The pins 12, 13 may be screwed into the carrier arm 11 or may be attached to it in any other suitable way, such as for example being pinned to it. The projections 14 and 15 are inserted in two of the holes 10. Since the end face of the carrier arm 11 contacts the central tube 9 and its thickness corresponds exactly to the width of the slot 7, the carrier arm 11 is fixedly connected with the pillar 8 in a very simple manner. By turning the arm 11 in the counterclockwise sense in FIG. 2 it may be easily detached from the pillar and then re-engaged with it at a different level. Obviously the structure of the shelf comprises at least two pillars 8 each with a number of carrier arms 11, and a shelf board may be placed on any two arms located at the same level, after which books may then be placed on the board. The foot 16 shown in FIG. 4 intended for use with the pillar 8 has at its outer end a short base 17 to be placed on the floor, and has at its inner end a head 18, whose profile is complementary to that of the cavity 6 of the bar 8. A neck 19, by which the head 18 is connected with the body of the foot 16 corresponds in width to the longitudinal slot 7.

The heads 18 of four feet 16 are inserted in the manner illustrated in FIGS. 5 and 6 from below the bar into the cavities 6, small projections 20 being provided on these heads 18 for reaching under the lower end face of the central tube 9. The central tube 9 is provided at its lower end with an internal screw thread 21, with which a screw 22 may be threadably engaged, which screw by its head 23 fixes the feet 16 to the bar 8.

In FIG. 7 two vertical bars 8 of a book-shelf structure are connected on top by a horizontal bar 8' of the same kind. The bar 8' is connected at its left hand side end with the corresponding vertical bar 8 by means of a rectangular connector member 24, the two bars 8 and 8' abutting one another along 45° chamfer surfaces. The two legs 26 and 27 of the connector member 24 are inserted into the central tube of the bars 8 and 8', respectively, and are fixed therein by means of transverse screws 28.

The right hand side end of the horizontal bar 8' is connected by means of T-shaped connector members 29 with the corresponding vertical bar 8 and with a further horizontal bar 8'' which is in alignment with it. Accordingly the abutting bars 8, 8' and 8'' have chamfer surfaces 30 of 45° extending to the middle of the base,

3

the bars 8' and 8'' having half blunt end faces, and the bar 8 having a roof shaped double chamfer. The legs of the T-member 29 are likewise inserted into the central tubes of the bars and fixed therein by means of screws 28.

Although the examples described relate to a bookshelf, it is clear, that in a similar way by means of the bars described other structures of quite a different kind may be assembled, e.g. flower supports, support structures for wall panels, etc.

The same bar 8 may, however, be used for still other purposes, such as for example, a curtain rail in which case the suspension runners—sliders or rollers—are engaged in one of the cavities 6 and are supported on the portions of the bar corresponding to the barbs 4 of the arrows, while partly hanging down out of the longitudinal slot 7. For this and other applications the profile of the bar may have two arrow portions 2 only. For certain cases likewise a profile with three or more than four arrow portions 2 may be provided:

It is not indispensable that the ring 1 be circular; for example a square annulus may be provided. In other words, the central tube may have a square profile. If a central tube of a regular hexagonal profile is provided, six arrow portions may be provided, whose barbs supplement one another to define a regular hexagon, and six trapezium-shaped cavities with corresponding longitudinal slots. Moreover on the central ring 1, five arrow portions 2 may for example be provided, the angles included by the barbs of the arrow portions being so dimensioned that an external profile of a regular pentagon results.

While I have herein described and illustrated in the accompanying drawings what may be considered a typical and particularly useful embodiment of my invention, it is to be understood that I do not limit myself to the particular details and dimensions described and illustrated since obvious modifications within the scope of the invention will occur to those persons skilled in the art.

What I claim as my invention and desire to secure by Letters Patent is:

1. A structure comprising a plurality of profiled bars and at least one connecting member connecting the bars together, each bar being a profiled bar including a central tubular portion and at least two identical arrow head profile portions, each arrow head portion including a shank extending radially from said central tubular portion and two barbs symmetrically connected to said shank, opposite barbs of adjacent arrow head profiles being in alignment with one another and defining a gap between one another, at least one trapezium profile cavity being enclosed between said central tubular portion and said arrow head profile portions and externally accessible through said gap, said central tubular portion of said bars having a row of holes, the structure further comprising carrier arms including projections detachably engaging selected holes of said rows, said bars being adapted for being vertically mounted with a carrier arm mounted on each of two different profiled bars at the same level for being capable of supporting a shelf board.

4

2. A structure comprising a plurality of profiled bars and at least one connecting member connecting the bars together, each bar being a profiled bar including a central tubular portion and at least two identical arrow head profile portions, each arrow head portion including a shank extending radially from said central tubular portion and two barbs symmetrically connected to said shank, opposite barbs of adjacent arrow head profiles being in alignment with one another and defining a gap between one another, at least one trapezium profile cavity being enclosed between said central tubular portion and said arrow head profile portions and externally accessible through said gap, said central tubular portions of said bars each having a lower end portion with an internal thread, the structure further comprising feet for supporting associated bars, said feet including profiled heads complementary to said trapezium shaped cavities in said bars and inserted lengthwise into the said cavities, and a screw threadably engaging said internal screw threads of the associated bars and including a head fixing said profiled heads of said feet to said lower end of said tubular portions of the associated bars.

3. A structure comprising a plurality of profiled bars and at least one connecting member connecting the bars together, each bar being a profiled bar including a central tubular portion and at least two identical arrow head profile portions, each arrow head portion including a shank extending radially from said central tubular portion and two barbs symmetrically connected to said shank, opposite barbs of adjacent arrow head profiles being in alignment with one another and defining a gap between one another, at least one trapezium profile cavity being enclosed between said central tubular portion and said arrow head profile portions and externally accessible through said gap, said profiled bars being at least three in number, two of which are in alignment with one another and having half chamfered, half blunt faced ends, the third bar having a roof-shaped chamfered end abutting the half chamfered ends of said two aligned profiled bars and extending at an angle thereto, said connecting member being T-shaped having and including three legs each inserted into a respective end of a central tubular portion of said three abutting profiled bars and fixing means attaching said legs to the associated tubular portion.

References Cited by the Examiner

UNITED STATES PATENTS

| | | | |
|-----------|-------|-----------|-----------|
| 1,987,498 | 1/35 | Stolp | 189—34 |
| 2,816,632 | 12/57 | Nardulli | 189—76 |
| 2,930,638 | 3/60 | Morrissey | 248—188 X |
| 2,940,718 | 6/60 | Beal | 248—245 |
| 2,963,131 | 12/60 | Brockway | 189—42 X |
| 3,057,483 | 10/62 | Derman | 248—194 |
| 3,086,627 | 4/63 | Bernard | 189—58 |

FOREIGN PATENTS

83,485 4/54 Norway.

CLAUDE A. LE ROY, *Primary Examiner.*