PATENT SPECIFICATION

Convention Date (Italy): June 6, 1927. **291,733**

Application Date (in United Kingdom): June 1, 1928. No. 16,110/28.

Complete Accepted: Feb. 7, 1929.

COMPLETE SPECIFICATION.

Improvements in Spars or Frame Members for Motor Vehicles.

I, VICENZO LANCIA, trading as LANCIA & C., an Italian subject, of 99, via Monginevro, Turin, Italy, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to the construction of spars or frame members for motor vehicles and it has for its object a construction of a metal spar which is light and stiff in all directions and adapted to be of use for mounting several members.

According to the present invention the spar or frame member consists of a strip of sheet metal stamped to form flanges along its edges and thus form a substantially channel sectioned member, and also stamped to provide reinforcing recessed and projecting portions, said stamped member having a plate fastened thereon over its open side by the said flanges and recessed and projecting portions thus providing a box-like structure which is rigid in all directions.

In the annexed drawing is illustrated by way of example an embodiment of a spar in accordance with this invention.

In the said drawings, Figure 1 is a side view of the spar from inside.

Figure 2 is a sectional plan on line II—II of Figure 1;

Figure 3 shows to enlarged scale a section on III—III of Figure 1, and

Figures 4, 5 and 6 show, to an enlarged scale, vertical sections respectively on the lines IV—IV, V—V and VI—VI of Figure 1.

As shown in said figures, the spar consists of an element 1 of stamped sheet metal, which has the longitudinal shape required for the intended purpose, and is provided, along its edges, with an overturned flange 2 which imparts a channel-section to the spar, the bottom of which provides the internal side. The spar is completed by a second member consisting of a flat metal sheet 3 which closes the open side of the channel-section member, it being fastened on flanges 2, and thus the spar is wholly box-like in cross-section.

The member 1 is reinforced by embossed portions 4 either open on the bottom or not, which reach the plane of said side where they are fastened to the outer metal sheet 3, as well as by embossed portions projecting from the internal surface and extending in the longitudinal direction as ribs 5.

The depressions 4 of the element 1 will be connected to the side 3, for example, by autogenous welding between the said side 3 and the bottom of each depression 4, and when the latter is open by welding its edges.

Embossed portions 4 having a variable size and arrangement are provided along the spar 1 and are present in a larger number in portions where the spar is subject to heavier warping stresses. They may be of circular, elongated or polygonal shape and are arranged in such a manner as to provide in their interspaces a space for the attachment of members intended to be fastened onto the spars.

Thus, by way of example, in the construction illustrated in the front portion of the spar, which corresponds with the portion of the frame occupied by the engine, embossed portions 4 leave intermediate spaces 6—6^1 for attaching braces or the like to which the engine is secured, and in the intermediate portion of the spar said embossed portions 4 leave portions 7—7^1 for attaching the ends of one or more cross-members.

Ribs 5 provide longitudinal projections on more or less extensive portions of the spar and these are used for supporting the floor boards

The spar constructed in the manner described is rigid in all directions and has a high resistance to stresses acting to warp it, while its weight is exceedingly small.

It has further the advantage that ribs and embossed portions intended to stiffen it are useful for other purposes as already described.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A spar or frame member for motor

[*Price* 1/-]

vehicles, characterised by the fact that it consists of a strip of sheet metal stamped to form flanges along its edges and thus form a substantially channel sectioned member, and also stamped to provide reinforcing recessed and projecting portions, said stamped member having a plate fastened thereon over its open side by said flanges and by said recessed and projecting portions thus providing a box-like structure which is rigid in all directions.

2. A spar according to Claim 1, characterised by the fact that the recessed and projecting portions are located on the internal side of the spar.

3. A spar according to Claims 1 and 2, characterised by the fact that the recesses of its internal side are provided in such positions as spaces intermediate them provide for attaching members intended to be connected with the spar.

4. A spar according to Claims 1 and 2, characterised by the fact that said projecting portions provide longitudinal ribs which act to support the floor boards.

5. The spar or frame member for motor vehicles substantially as described or substantially as illustrated in the accompanying drawings.

Dated this 1st day of June, 1928.
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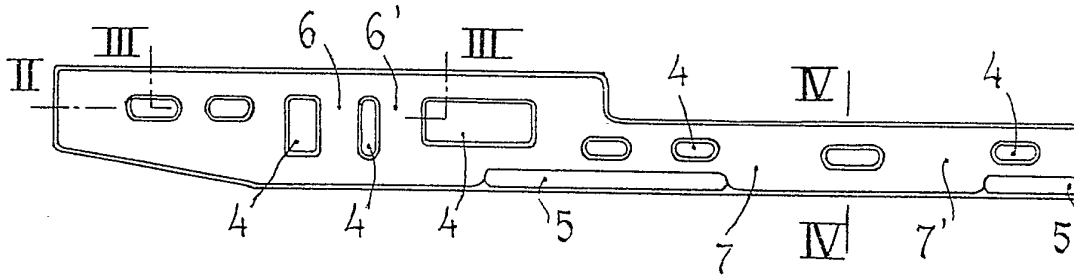
Chartered Patent Agents.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd. -1929



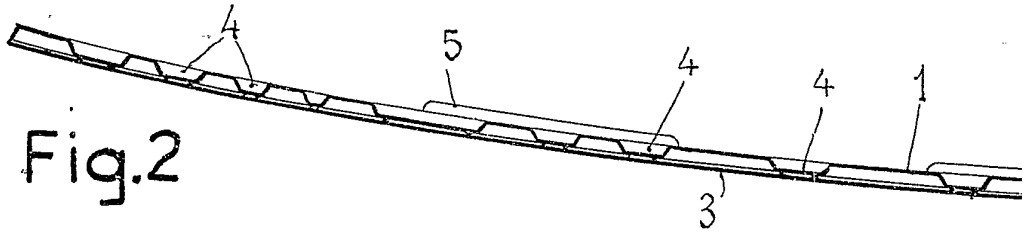
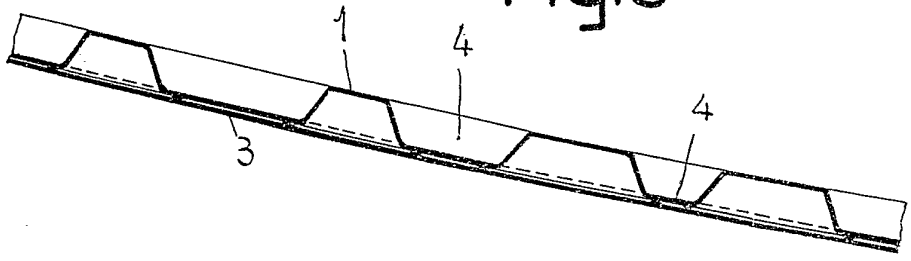


Fig.2

Fig.3



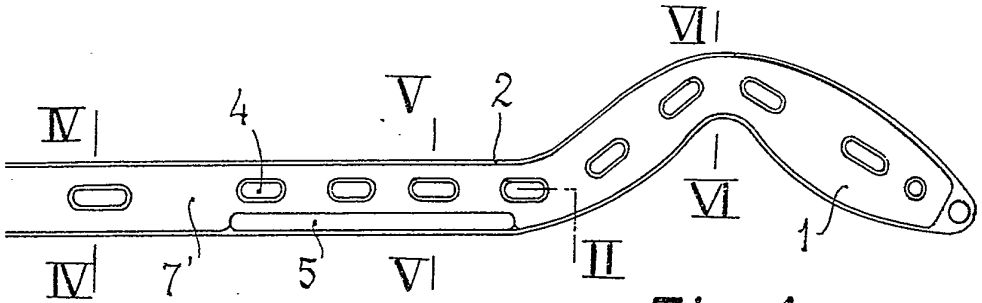
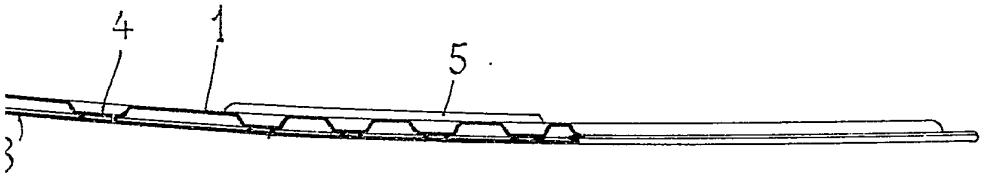


Fig.1



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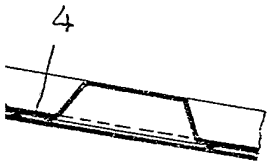


Fig.4

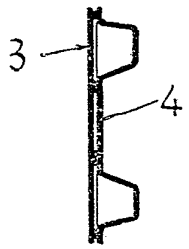


Fig.5

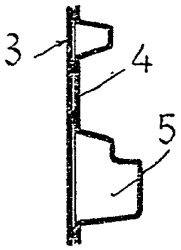
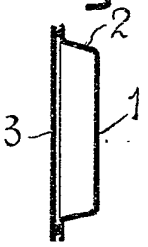


Fig.6



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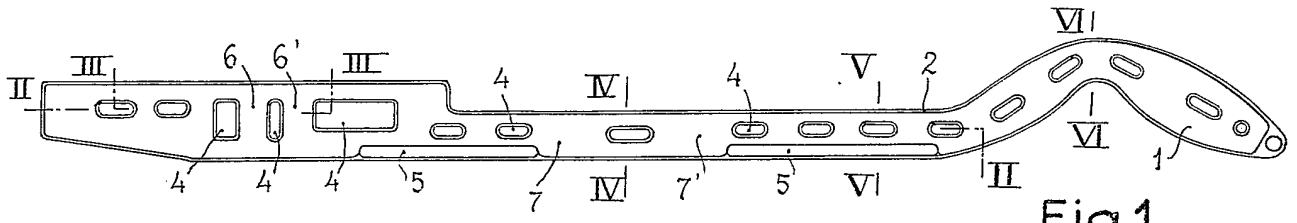

Fig.1

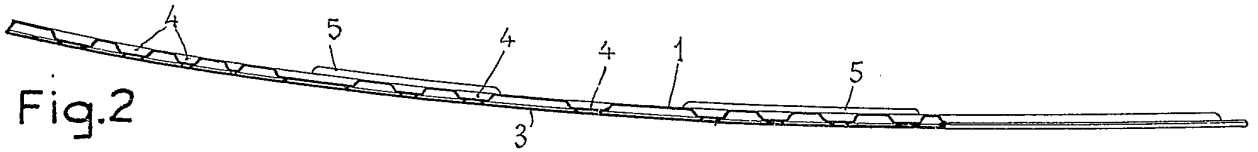

Fig.2

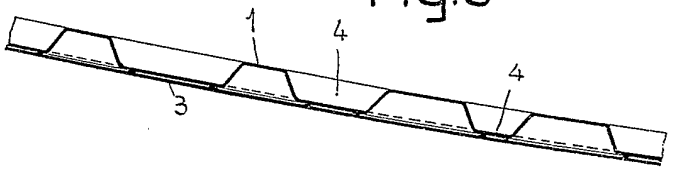

Fig.3

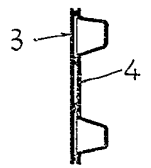

Fig.4

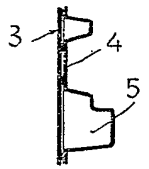

Fig.5

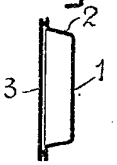

Fig.6