June 21, 1938. L. SAIVES 2,121,670

CONSTRUCTION OF FUSELAGES, VEHICLE BODIES, AND THE LIKE

Filed June 10, 1936

Fig-2

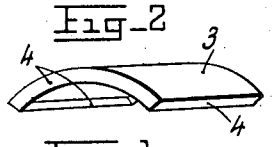


Fig-1

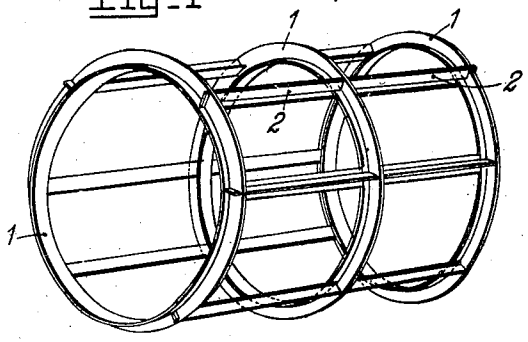
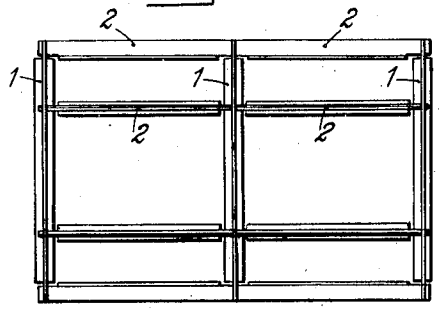


Fig-3



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CONSTRUCTION OF FUSELAGES, VEHICLE BODIES, AND THE LIKE

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Application June 10, 1936, Serial No. 84,568
In France October 31, 1935

2 Claims. (Cl. 29—148.2)

The present invention relates to a new method of construction which is chiefly applicable to the construction of aeroplane fuselages, motor car bodies, stacks and silos, and which affords absolute rigidity of such structures and also, a relative lightness, due to the use of metals which are determined by the nature of the construction to be obtained.

The present invention consists in forming a framework having either a flat, curved or even circular outline by means of supporting section bars having a particular cross section, and arranged in such manner as to form, by the particular crossing arrangement of the bars, spaces or supporting frames adapted to support suitable voussoirs or plates which are preferably produced by the stamping process and which are adapted to be welded to the sides of the bars forming the framework. With this arrangement it is possible by means of a suitably braced framework to construct all the surface members which are required for the construction of the plates forming the sides, for example, the rear and top portions of a motor car body, as also the different portions of an aeroplane fuselage, or stacks or silos adapted for the stocking of grain. The particular shape of the section bars used for the framework are selected with either a straight, curved or circular form according to the particular relation in which it is to be employed.

The invention will be more particularly described with reference to the accompanying drawing which shows by way of example an embodiment of the invention as applied to the construction of an aeroplane fuselage.

Fig. 1 is a perspective view of a portion of the framework adapted for the construction of an aeroplane fuselage, to which the voussoirs or plates are applied.

Fig. 2 is a perspective view of a voussoir or plate.

Fig. 3 is a longitudinal view of the framework shown in perspective in Fig. 1.

In the embodiment shown in Fig. 1, the framework adapted for the construction of an aeroplane fuselage is assembled by means of section bars 1 which may be of any suitable cross-section, such as T-bars, these bars being suitably curved so as to form a circular member. The section bars 1, which are disposed intermediate the corresponding end bars and suitably spaced apart from the latter and, are properly braced or connected together by longitudinal members 2 consisting of section bars, which also may be of T shape, and which are uniformly spaced in sufficient number to insure the rigidity of the whole framework.

This affords a framework in which the bars 1 and 2 of which it is formed, will provide open spaces between them, which are then filled up or closed by voussoirs or plates 3 which are formed so that the edges 4 accurately fit the openings provided by the framework and are retained in place by electric welding at certain points or by welding along continuous lines. The said voussoirs or plates 3 are formed by punch press operations and formed by one of the latter to produce the curved surface corresponding to the desired outline, i. e. in the construction represented, a cylindrical surface. Obviously, the plates can also be formed by other operations, such as by cutting, bending, and welding of the edges.

This will provide a fuselage of rigid construction, owing to the particular connection of the framework with the plates or voussoirs, and the lightness of the construction will also obviously depend upon the nature of the metals employed.

It is evident that in the construction of plates which are adapted to form the sides or top of a motor car body, the framework and the voussoirs will be so constructed as to offer flat or slightly convex surfaces.

This arrangement of framework and other assembled members may also be employed in the construction of stacks, silos, and in general for all kinds of light structures in which all the parts necessary for assembling the framework including the plates are adapted to be constructed at the factory in conformity to a predetermined standard size.

I claim:

1. A method of construction of a metal frame assemblage for a hollow body which consists in forming a hollow frame of bars having a T-shaped cross section having the bottom flanges thereof disposed inwardly and so arranged as to provide open spaces therebetween, placing plates having peripheral flanges in said open spaces so that the flanges abut the stems of the T-shaped cross sectioned bars, and finally in welding each bar in the same operation with the adjacent flanges of two adjacent plates.

2. A method of forming a rigid metal frame assemblage which consists in forming and connecting the supporting members thereof to provide open spaces therebetween, and placing curved convex metal plates therein having the outwardly disposed surfaces shaped to register with each other when assembled to form a continuous uninterrupted surface and being shaped to provide inwardly extending peripheral flanges, and welding the peripheral flanges of two adjacently disposed plates in a single operation to the intermediately disposed portion of a frame member to form the frame assemblage.

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