

PATENT SPECIFICATION



Application Date: Dec. 16, 1919. No. 31,451 / 19.

145,357

Complete Left: Mar. 2, 1920.

Complete Accepted: July 2, 1920.

PROVISIONAL SPECIFICATION.

An Improved Element for Use in Building Constructional Toys or Models.

I, FRANK HORNBY, of Meccano Limited, Binns Road, Old Swan, Liverpool, Engineer, do hereby declare the nature of this invention to be as follows:—

This invention relates to an improved construction of the part or element for use in the construction of toys or small engineering models as described in my prior Specification No. 116,370. This invention is an improvement in or modification of the invention described in my said prior specification. In that specification a triangular shaped stamped sheet metal element was described having apertures formed therein so as to leave material only along the base, perpendicular, and oblique sides.

In connecting such elements together, owing to the thickness of the metal the plates, when connected by their lugs overlapping and bolts being passed through perforations in the lugs, are not in the same plane.

According to this invention, in order to overcome this disadvantage of non-alignment of the plates one with the other when connected together the ends or sides of the elements are recessed back slightly and in this way when two correspondingly recessed parts are superimposed to connect the elements together the plate elements are exactly in the same plane.

In a suitable construction the top or apex metal of the triangular element is indented or recessed at the lug so that such lug is displaced slightly from the plane or the body of the element, and similarly the base of the triangular element is correspondingly recessed or displaced relatively to the body of the element. Instead of forming perforations only in the apex of the triangular element and in the lugs at the end of the base piece, such base piece may be perforated throughout its length with a series of equi-distantly pitched holes and the oblique webs of the triangular element may also be provided with one or more perforations. The recessed portions may be made at the same time that the holes are punched in the plate or before or after this punching operation.

By means of a recessed construction as described any number of such triangular girder elements may be assembled together with their lugs or ends overlapping and yet the main body of the plates be in the same plane which is a feature of considerable advantage in building up constructional toys.

Dated this 15th day of December, 1919.

For the Applicant,

A. J. DAVIES,

Patent Agent,

37, Moorfields, Liverpool.

COMPLETE SPECIFICATION.

35 An Improved Element for Use in Building Constructional Toys or Models.

I, FRANK HORNBY, of Meccano Limited, Binns Road, Old Swan, Liverpool, Engineer, 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 an improved
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construction of the part or element for use in the construction of toys or small engineering models as described in my prior Specification No. 116,370. This invention is an improvement in or modification of the invention described in my said prior specification. In connecting such elements together, owing to the



thickness of the metal the plates, when connected by their lugs overlapping and bolts being passed through perforations in the lugs, are not in the same plane.

According to this invention, in order to overcome this disadvantage of non-alignment of the plates one with the other when connected together the ends or sides of the elements recessed back slightly and in this way when two correspondingly recessed parts are superimposed to connect the elements together the plate elements are substantially in the same plane.

The invention is illustrated in the accompanying drawings, in which Fig. 1 is an elevation and Fig. 2, an end view of a triangular shaped plate. Fig. 3 is an elevation showing how such plates may be assembled to form a bridge girder. Fig. 4 is an end view corresponding to Fig. 2, but showing a series of plates with their recessed parts overlapped and bolted together.

As applied to a triangular plate element the top or apex metal of the triangular element is indented or recessed at the lug 1 so that such lug is displaced slightly from the plane or the body 2 of the element Fig. 2, and similarly the base 3 of the triangular element is correspondingly recessed or displaced relatively to the body 2 of the element. Instead of forming perforations only in the apex 1 of the triangular element and in the lugs 4 at the end of the base piece 3, such base piece may be perforated throughout its length with a series of equi-distantly pitched holes 5 and the oblique webs 6 of the triangular element may also be provided with one or more perforations 7. The recessed portions may be made at the same time that the holes are punched in the plate or before or after this punching operation.

By means of a recessed construction, as described, any number of such triangular girder elements may be assembled and bolted together at 8 with their lugs or ends overlapping, as for instance to form a girder, Fig. 3, and yet the main body of

the plates be in the same plane, which is a feature of considerable advantage in building up constructional toys.

The triangular element is lightened as in my previous specification by having apertures 9 punched therein so as to leave material only along the base, perpendicular, and oblique sides of the triangle.

Though the invention has been shown and described only in connection with a triangular shape element, it may be applied also to the other shapes of plate elements described and shown in my prior Specification No. 116,370.

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 sheet metal plate element for use in building constructional toys or models, the ends or sides of the plates being recessed back from the main body of the element so that when two or more such plates are assembled with the recessed parts overlapping the assembled plates shall be substantially in the same plane.

2. A triangular stamped sheet metal element having the apex portion of the triangle and the base part recessed or displaced relatively to the body of the element substantially as described.

3. A triangular sheet metal element, as claimed in Claim 2, having apertures stamped therein to leave material only along the base, perpendicular and oblique sides of the triangle and with equi-distantly pitched holes along the base, and one or more holes in the oblique side webs of the plate.

4. The improved element for use in building constructional toys or models substantially as described and shown in Figs. 1 to 4 inclusive of the accompanying drawings.

Dated this 24th day of February, 1920.

For the Applicant,
A. J. DAVIES,
Patent Agent,
37, Moorfields, Liverpool.

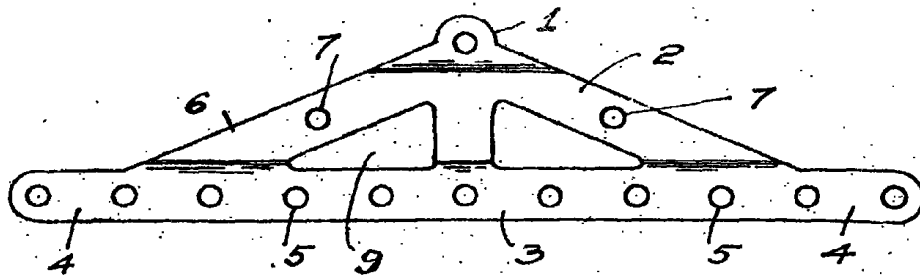


Fig. 1.

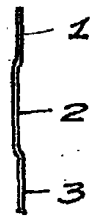


Fig. 2.

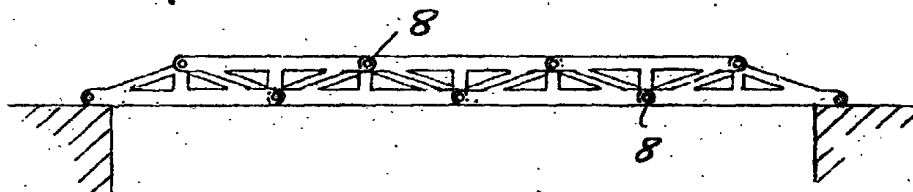


Fig. 3.

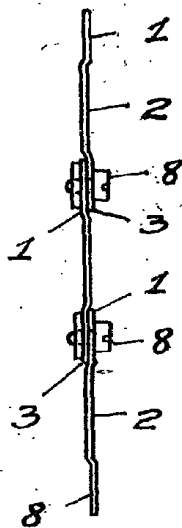


Fig. 4.

[This Drawing is a reproduction of the Original on a reduced scale.]

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