

N° 3646



A.D. 1913

(Under International Convention.)

Date claimed for Patent under Patents and Designs Act, 1907, being date of first Foreign Application (in Germany), } 16th Feb., 1912

Date of Application (in the United Kingdom), 12th Feb., 1913

At the expiration of twelve months from the date of the first Foreign Application, the provision of Section 91 (3) (a) of the Patents and Designs Act, 1907, as to inspection of Specification, became operative

Accepted, 8th May, 1913

COMPLETE SPECIFICATION.

Improvements in and relating to Toy Building-outfits.

I, FRANZ HENDRICH, of 28, Lindenallee, Charlottenburg, Germany, Chief 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:—

5 This invention relates to toy building-outfits of the type in which the bar-shaped units are interconnected by connecting pieces.

There are in existence toy building-outfits, the units of which consist of wood or a more or less elastic material and which by joining them together permit of a systematic construction of toy structures of all kinds.

10 Further various methods of connection have been suggested in connection with the use of toy building bricks and particularly in connection with wooden blocks in order to prevent a collapse of the erected structure which otherwise easily occurs on the slightest provocation.

15 Likewise there exist toys which comprise bar-shaped units and connecting pieces which permit of the erection of structures of all kinds by employing various methods, for instance, by interconnecting two such bar-shaped units at any desired point, which connections or joints may be the same as those at their extremities.

20 The object of this invention, however, is to produce a toy building outfit of the hereinbefore mentioned type for erecting all kinds of structures and the like, which renders it possible that the requirements which must be fulfilled in actual practice in connection with the erection of wooden or iron structures are complied with as much as possible and by means of which outfit only such combinations and connections can be produced in which the stresses only act at

25 the points of connection or joints.

Several forms of carrying the invention into effect are shown by way of example in the accompanying drawings in which:—
Fig. 1 shows in plan one form of a connecting piece together with the appertaining bar shaped units used in accordance with this invention, which latter

30 will hereinafter be briefly referred to as "connecting bars" or simply "bars".
Fig. 2 shows these parts in side elevation.

Fig. 3 shows in plan a connecting piece and bar joined together.

Fig. 4 shows the same in side elevation with an axle and wheel attached thereto.

[Price 8d.]



Heurich's Improvements in and relating to Toy Building-outfits.

Fig. 5 shows an example of one of the many combinations which can be constructed with the toy building-outfit forming the subject matter of this invention.

Figs. 6 and 7 show various details.

The small resilient connecting bars *a a* are provided at both ends which are forked with uniformly distributed holes *x x*. The connecting piece *b* is provided with small projections *y y* the spacing of which corresponds to the spacing of the holes *x x* provided in the bars.

The projections on the small connecting plates are formed by pressing, riveting or by any other means, and two of these plates are arranged parallel in relation to each other in such a manner that when introducing the slightly compressed bars, said bars, owing to their resiliency, are clamped in position by engaging with the said projections as shown in Figs. 3 and 4. By suitably arranging the projections, for instance at angles of 30, 45 and 90°, the bars may be arranged at definite angles. The bars which are thus connected are capable of withstanding relatively high tensile and compressive stresses. By joining together additional connecting pieces and bars, rigid triangular connections may be produced from which practically any desired roof or bridge truss structure or the like may be produced.

In addition to continuing the construction in the longitudinal direction of the connecting bars, it is possible to continue the construction also in the transverse direction.

A form of a connecting piece *c* suitable for transverse connections is shown by way of example in Fig. 7. This doubly bent piece *c* is likewise provided with projections of the aforementioned type for the purpose of engaging with the connecting bars. Further in this form, there is provided in the back of the piece *c* an aperture which tapers in one direction. By this means the piece *c* may be slipped over the slightly projecting head *d* of the rivet of the connecting piece *b* and thus be secured in position.

In order to arrange the piece *c* at certain angles in relation to the connecting piece *b* and to maintain it in these positions, small projections which are denoted by the reference letter *v* in Fig. 6 of the drawings are provided on the connecting piece *b*. These projections correspond to the apertures provided in the angle connecting piece *c*.

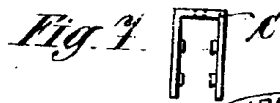
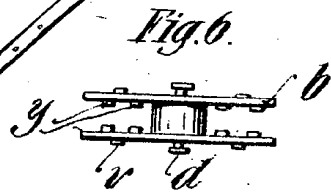
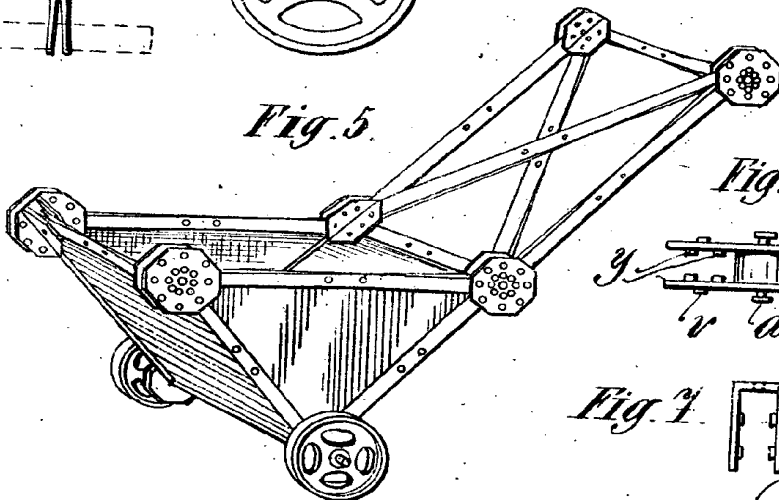
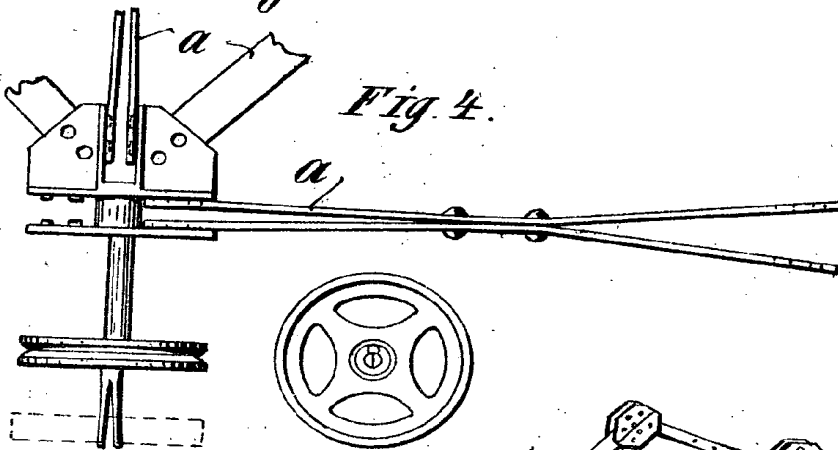
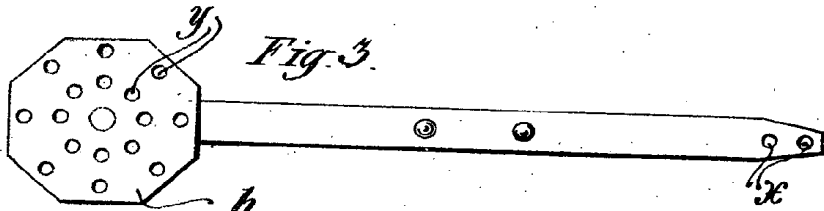
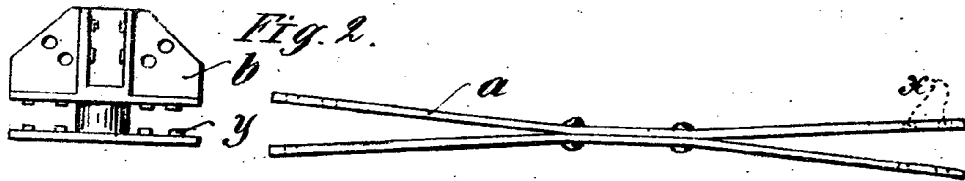
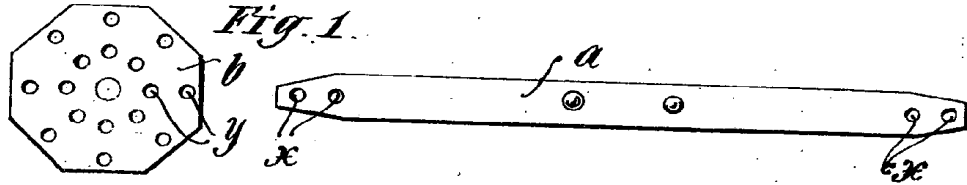
Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A toy building-outfit comprising bar shaped units which are interconnected by connecting pieces, in which the resilient forked ends of the bars are provided in the longitudinal direction of said bars with a plurality of holes, while the sides of the slots formed in each connecting piece are provided with corresponding projections which engage with the aforementioned holes of the bars when the same are inserted in the slots of said connecting pieces, substantially as hereinbefore described.
2. The improved toy building-outfit, substantially as hereinbefore described and as illustrated in the accompanying drawings.

Dated this 12th day of February, 1913.

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Agents.

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



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