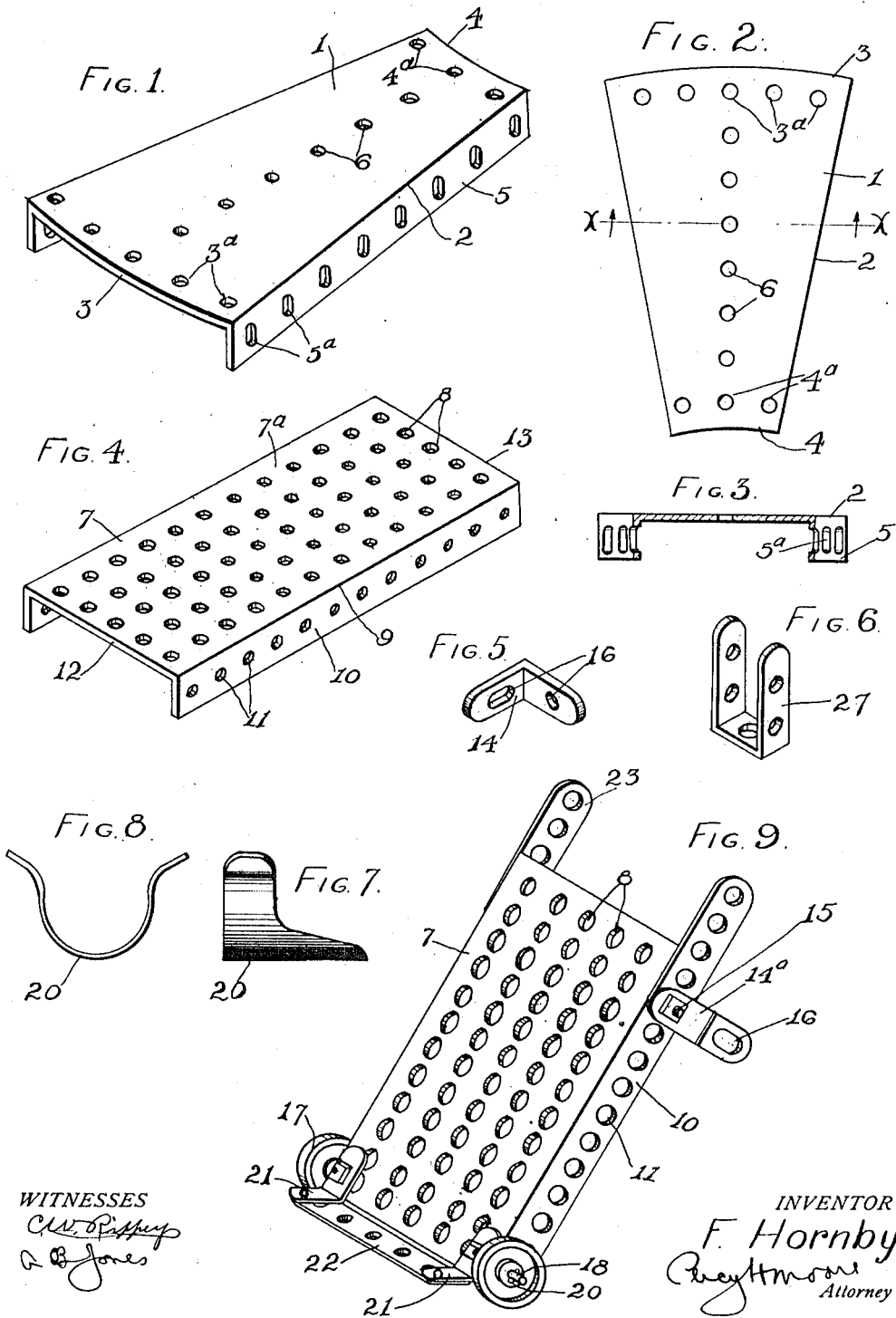


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 PERFORATED PLATE.
 APPLICATION FILED OCT. 14, 1912.

1,079,245.

Patented Nov. 18, 1913.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

FIG. 10.

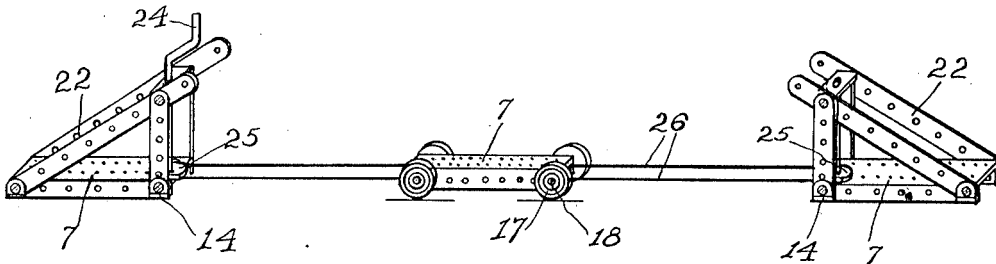


FIG. 11.

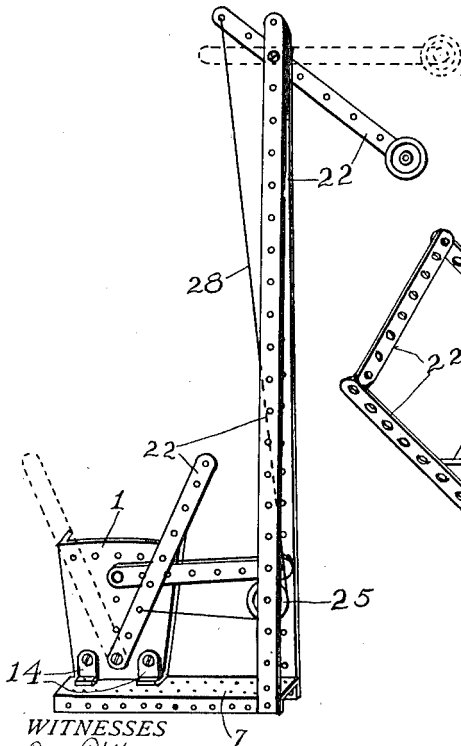
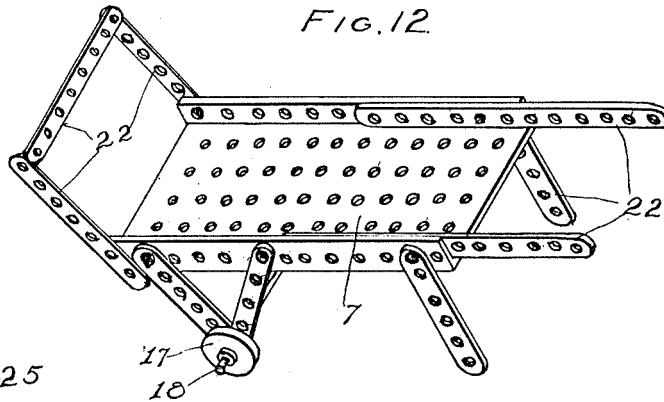


FIG. 12.



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3 SHEETS—SHEET 3.

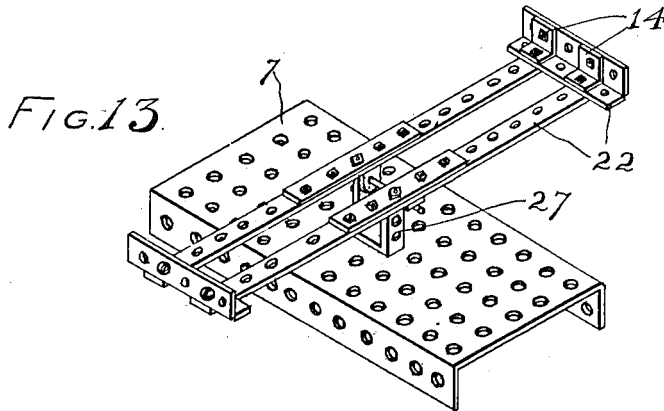
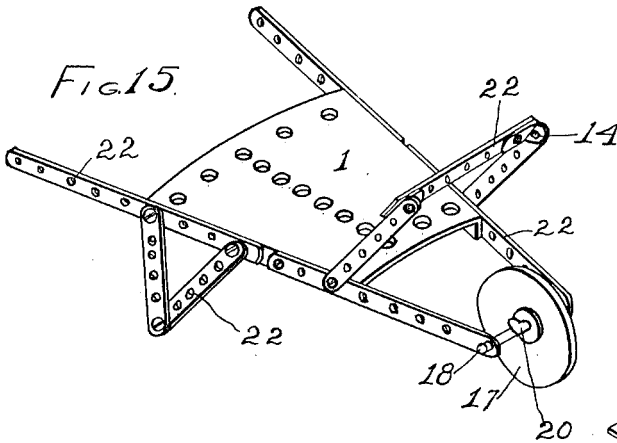
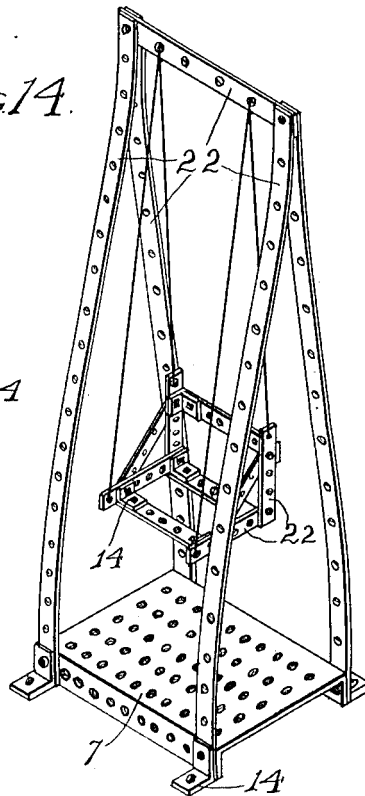


Fig. 14.



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PERFORATED PLATE.

1,079,245.

Specification of Letters Patent.

Patented Nov. 18, 1913.

Application filed October 14, 1912. Serial No. 725,653.

To all whom it may concern:

Be it known that I, FRANK HORNBY, a subject of the King of Great Britain, residing at Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in Perforated Plates, of which the following is a specification.

This invention relates to improved elements, and combinations of such elements with other elements or parts, to be used in the construction of toys or working models of machinery, structures, or similar mechanisms. In the making up of such models or toys according to the present system from perforated elements embodying also the use of gear wheels, pulleys, spindles and the like machine parts, and in which various members of the machine are adapted to be assembled together and mounted in the perforated elements and the latter connected by means of bolts and nuts, it has been found desirable in order to produce greater rigidity in the structures and also to avoid the undue multiplicity of small strengthening strips, to provide perforated flanged plates and angle brackets, the incorporation of which in the model or structure shall tend to increase the rigidity thereof, and at the same time simplify the construction.

The present invention relates to certain forms of perforated sheet metal elements for use as aforesaid. In all the forms, the plates having perforated flanges, preferably integral, are an essential feature of the invention.

The invention is illustrated in the accompanying drawings, in which some of the many practical uses to which the invention may be put are also illustrated.

In the drawings, Figure 1 is a perspective view of a sector shaped plate. Fig. 2 is a plan view of the same. Fig. 3 is a sectional view of Fig. 2 on line X X looking in the direction of the arrow. Fig. 4 is a perspective view of a rectangular shaped plate. Figs. 5 and 6 are perspective views of perforated brackets employed in connection with the plates shown in Figs. 1, 2, 3 and 4. Fig. 7 is a side view of the clip seen in Fig. 15. Fig. 8 is an end view of the same. Figs. 9, 10, 11, 12, 13, 14 and 15 are views showing various combinations of the plates of Figs. 1 and 4 with other elements in structures made up from such parts.

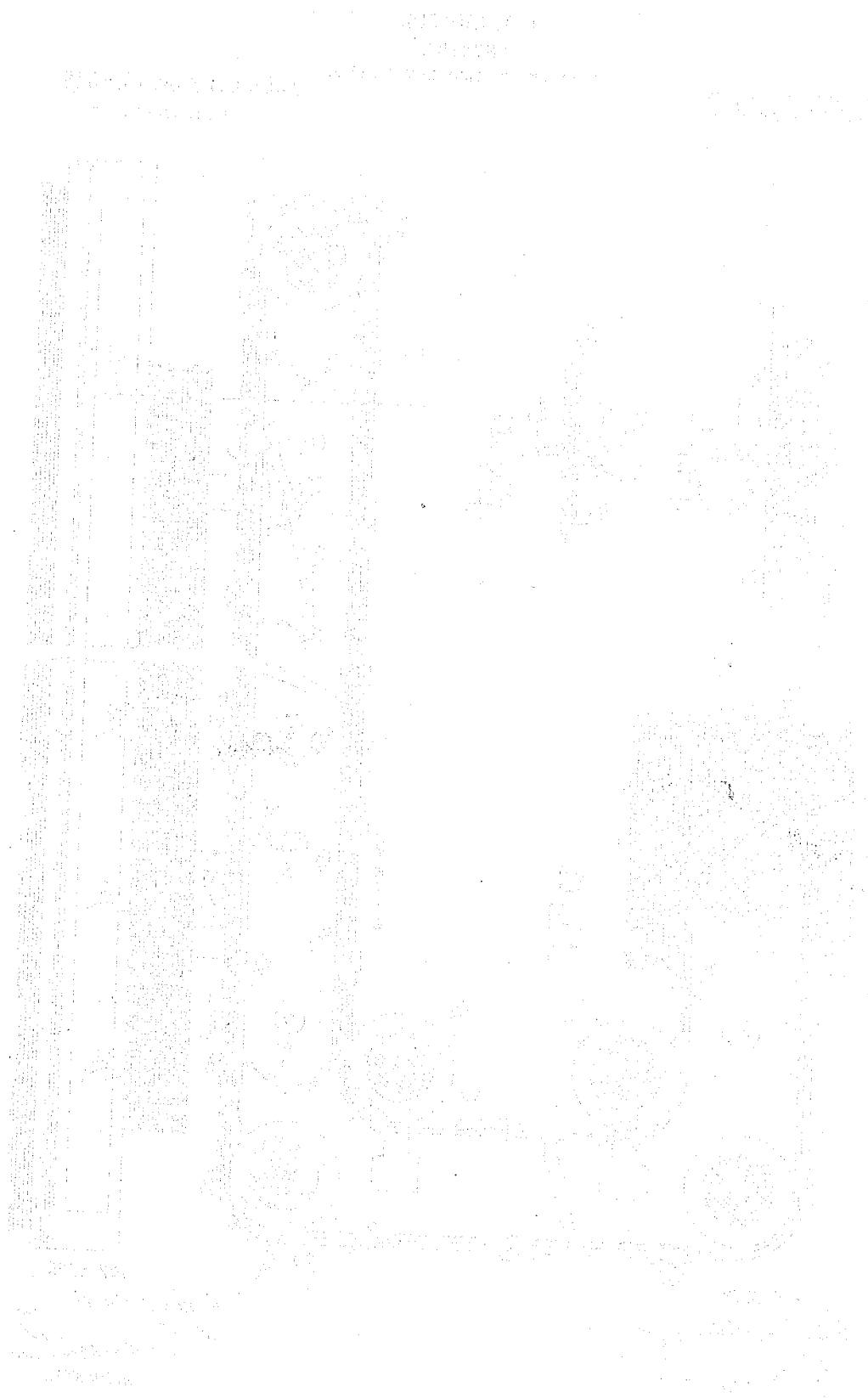
The sector plate 1, Fig. 1, is constructed

as shown of sheet metal with the longer edges 2 relatively inclined at any desired angle, and the shorter edges 3 and 4 preferably slightly curved as shown and without flanges. The oblique edges 2 are provided with integral flanges 5 turned up at right angles to the main body or table of the plate, and down the center of the plate is formed a longitudinal series of perforations 6, and across and near the shorter edges 3 and 4 further series of transverse perforations 3^a and 4^a respectively. These perforations in the plate are circular. In each edge flange 5 is a series of perforations 5^a, which may be circular, but are preferably elongated holes, as indicated, so as to provide for a slight adjustment of the connecting bolts therein as hereinafter described. All the holes in the table and flanges of the plate are pitched at equal distances apart. The plate may be put to a variety of uses in the construction of models, such as to form the table of a hand truck or barrow, etc., as will be described farther on.

In Fig. 4 is illustrated a rectangular shape of plate 7 in the body or table 7^a of which there are formed longitudinal and transverse series of perforations 8 covering the whole surface of the table, the longitudinal edges 9 of this plate being also provided with flanges 10, in which are formed series of holes 11 the remaining edges 12 and 13 being without flanges. All the holes in this rectangular form of plate including the flanges may be made circular, and as before are pitched at equal distance apart, but it is obvious that the holes may be elongated to allow for adjustment.

In order that the practicability of my invention may be readily understood, I will describe the convenient manner in which the various complete devices of Figs. 9 to 15 inclusive are put together.

The truck seen in Fig. 9 comprises the rectangular shaped plate 7 of Fig. 4 to the flanges 10 of which are secured legs 14^a (made of brackets 14 seen in Fig. 5) by means of bolts 15 passing through apertures 11 and 16 in said flange and leg respectively. A pair of wheels 17 are mounted on an axle 18 in turn passing through aligned openings 11 at the forward end of the flanges 10. The wheels 17 are secured upon the shaft by means of cotter pins, but if desired the cotter pins may be dispensed with and the clip 20 (Figs. 7, 8 and 15) substituted.



cal elements, and means engaging perforations in said other element or elements and said flanged plate for fastening the parts together.

- 5 10. The combination, in a working model, toy or the like, of a flanged metallic plate comprising a plate or main body portion with flanges at an angle to said body portion along two opposite edges thereof, said
10 flanges having therein a series of perforations extending in the direction of the body portion of the plate, one or a plurality of

other perforated mechanical elements, the perforations in said element or elements and in the flanges being equally pitched, and 15 means engaging perforations in said element or elements and said flanged plate for fastening the parts together.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK HORNBY.

Witnesses:

GEO. JONES,
H. WILLIAMS.