PATENT SPECIFICATION

384,215

Convention Date (France): Oct. 15, 1931.

Application Date (in United Kingdom): June 17, 1932. No. 17,168/32.

(Patent of Addition to No. 381,348. Convention Date (France): Oct. 21, 1930.)

Complete Accepted: Dec. 1, 1932.

COMPLETE SPECIFICATION.

Improvements in Constructional Toys.

We, SOCIÉTÉ INDUSTRIELLE DE FERBLANTERIE, of 39, Boulevard Beaumarchais, Paris, France, a body corporate, organised under the Laws of the French Republic, 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:—

The present invention is an improvement in or modification of the invention claimed in patent specification No. 381,348.

In the principal patent of the applicants there is described a complete building toy, that is to say one permitting the reproduction, in their order, of all the operations of an actual construction in order to obtain small models of the construction. This toy, produced in the form of a workshop-box, comprises in principle, materials forming the unfinished parts of the construction such as hoop irons, angle irons, a case of tools and machines which enable to be effected the various operations of laying out, cutting off or other operations, measuring instruments, parts for assembling the worked materials, a plate for fixing the machines and an improved measuring device.

One of the characteristics of the present invention resides in that the cover of the box is used as a base plate and is provided, for this purpose, with perforations or other fixing means conveniently arranged, in manner to enable to be fastened thereto the machines serving for the cutting off and piercing of the constructional parts.

One of the other improvements adds to the application as a toy a machine consisting of a frame, provided with notches and holes, upon which is pivoted a movable blade moving angularly under the action of an operating lever and a link, of such a nature that it may be possible to cut off with the same machine hoop irons, mouldings, as well as round iron rods or metallic wire, this machine being further provided with a guide adapted to support a measuring device enabling the constructional parts to be cut to determined lengths and without previously measuring or laying out.

Other characteristics will be noticed from the following description.

In the accompanying drawings, given simply by way of example, there is represented a mode of construction of the improvements according to the present invention.

Fig. 1 is a plan view of the box furnished with accessories, the cover being removed.

Fig. 2 is a plan view, partly broken away, of the cover alone.

Fig. 3 is a transverse section of the box and of the cover assembled.

Fig. 4 is a longitudinal section of the cover used as a floor and upon which are fixed the machines.

Fig. 5 is a side elevation of a bending tool.

Fig. 6 is an end view of the tool shown in Fig. 5.

Fig. 7 is a plan of another tool for bending.

Fig. 8 is a section on the line 8—8 of Fig. 7.

Fig. 9 is a perspective view of the machine for cutting off, showing the arrangement and the employment of the guide comprised in it.

Fig. 10 is an underside view of the improved rule or measuring device.

Fig. 11 is a longitudinal section of the rule represented in Fig. 10.

Fig. 12 is a section on the line 12—12 of Fig. 10.

Fig. 13 is a section on the line 13—13 of Fig. 10.

In the example represented the workshop-box is constituted by a box body 1 and a cover 2; these two parts are preferably made of metal, instead of being of cardboard as is usually employed for boxing games, so as to present greater solidarity. The cover 2 is furnished with feet 3 which engage in slots 4 on one side of the box 1, and with a lock 5. The box 1 is furnished with a handle 6; this arrangement of closing and the addition of the handle enabling the completely furnished box to be easily transported.

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One of the principal improvements resides in the fact that the ground or floor of the workshop is constituted by the cover 2 of the box, and that it is provided, for this purpose, with perforations 7 which enable various machines to be fixed to it, intended for cutting off and piercing the constructional parts, as represented in Fig. 4. The cover thus forms the floor of the workshop and replaces the plate that was used in the example described in the principal specification.

In the workshop-box are arranged the various accessories and parts for constructing such as angle irons 8, hoop bands 9, round iron rods 10, a hammer 11, a screwdriver 12, a spanner 13, measuring instruments 14, pulleys or wheels 15, piercing device 16, and other accessories and parts.

Another improvement forming the object of the present invention, which is represented particularly in Fig. 9 relates to the constitution itself of the machine 17 for cutting off, which is a pair of shears, having an angularly movable blade 17a, enabling the cutting off of iron plates and mouldings as well as round iron rods, metallic wires or other objects, by means of the notch 18 and the holes 19 through which the part to be cut is passed. The blade 17a hinged upon an axle 20 (Figs. 1 and 4), has holes passing over the holes 19 for cutting round rods and is connected by means of a link 21 to an operating lever 22; the point of articulation of the lever and those of the link upon the lever and the movable blade are placed in such a manner as to obtain a sufficient mechanical advantage in order that the cutting off of the materials may be easy.

In order to avoid the necessity for the child using the toy having to calculate the lengths to which he ought to cut the constructional parts, there is added to each box a sheet of instructions upon which there is indicated in a clear manner the parts to be used and the marks according to which the strips, angle irons and other parts ought to be pierced, to produce a model illustrated. The marks indicated upon the sheet correspond to the graduations carried by a measuring device 40. This device which is represented in Figs. 10 to 12 is of U form; it is graduated upon each face. For piercing, there are provided equally spaced holes 41; a stud 42 is riveted at one end of the measure, as stated in the principal patent specification; further, one of the side flanges has a notch 43; this notch is intended for fixing the measuring device 40 with respect to the knife 17a at the time of cutting by the shears 17.

In order to permit cutting off without previously laying out, the shears 17 are provided with a guide; this guide is constituted by a base plate 44 fixed upon the body itself of the machine; a foot 45 is provided in order that the base may rest firmly upon the floor formed by the cover 2. One end of the guide is bent up square at 46 and a square 47 is fixed on the other hand upon the base 44; the squares 46 and 47 have respectively parts cut away at 46a and 47a, formed in such a manner to receive the measuring device 40. The presence of the guide permits the use of the measuring device for cutting the parts which is done in the following manner. The measuring device is put into place in the notches 46a and 47a of the squares of the guide, taking care that the square 46 is engaged in the notch 43 of the measuring device; there is introduced into the U-shaped part of the measuring device the part to be cut and it is caused to slide until the end of this part is in front of the graduation corresponding to that indicated in the sheet of instructions. After having cut the part, the end to be used remains lodged in the U-shaped part from which it is withdrawn, the remainder falling on the other side of the shears.

There is provided further in the set of tools, a tool 23 for binding parts into curves and a tool 24 for bending parts at angles.

The tool 23 represented in Figs. 5 and 6 enables strips to be bent following curves of any radius and it is constituted by a head 23 upon which are fixed two studs 25 and 26 slightly separated one from the other. A bent handle 27 enables this tool to be easily manipulated.

The tool 24 represented more clearly in Figs. 7 and 8 is intended for bending all angles comprised between 90° and 180°; it is constituted by two fixed squares 28 and 29 mounted side by side upon a plate 30 prolonged by a handle 31; a space 32 is reserved between these two squares for the passage of the part to be bent; a movable square 33 is rigid with a part 34 rotatable in a suitable recess in the plate 30; a handle 35 enables the square 33 to be moved angularly and thus to bend to the desired angle, between 90° and 180°, the part to be made; a plate 36 riveted under the plate 30 ensures the fixture of the part 34 in its recess in a manner to prevent it coming out, the part 34 being maintained on the other hand under the squares 28 and 29.

It will be well understood that the invention is not limited to the method of construction described and represented which has only been chosen by way of example; the form and the dimensions of the box and cover can be modified. There

can thus be notably provided upon the cover other perforations than those represented, for the arrangement of supplementary machines, for example for a machine to rivet eyelets.

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

1. An improvement in or modification of the workshop-box, forming a complete constructional toy, as claimed in specification No. 381,348, in which the cover of the box constitutes the base plate on which the machines are to be mounted, the said cover being, for this purpose, provided with perforations or other fixing means arranged conveniently, in a manner to enable to be attached to it the machines serving for cutting off and piercing the constructional parts.

2. A workshop-box as claimed in claim 1 comprising a machine constituted by a frame provided with notches and holes upon which is pivoted a movable blade moving angularly under the action of an operating lever and a link of such a character that it is possible to cut off with the same machine bands, mouldings, round iron rods or metallic wire.

3. A workshop-box as claimed in claim 2 in which the cutting off machine is provided with a guide intended to support a measuring device enabling the constructional parts to be cut to determined lengths without previously measuring them or laying out.

4. A workshop-box as claimed in claim 1 comprising a bending tool enabling the constructional parts to be bent into any curves, the said tool being constituted by a plate provided with two teats conveniently placed and spaced one from the other and having an operating handle.

5. A workshop-box as claimed in claim 1 comprising a bending appliance enabling the constructional parts to be bent at any angle between 90° and 180°, the appliance being constituted by two fixed squares mounted upon a plate prolonged by a handle and by a movable square rigid with a part conveniently rotatable in a recess in the plate, a handle fixed to the movable square enabling the appliance to be operated.

6. A workshop-box as claimed in claim 1 comprising a sheet of instructions upon which are indicated the parts to be employed for the construction of a given model, and having marks corresponding with those of the piercing and cutting off measuring device to cut and pierce the parts at the desired dimensions.

Dated the 17th day of June, 1932.

HARRIS & MILLS,
Chartered Patent Agents,
34 & 35, High Holborn, London, W.C.1.

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

Fig. 1.

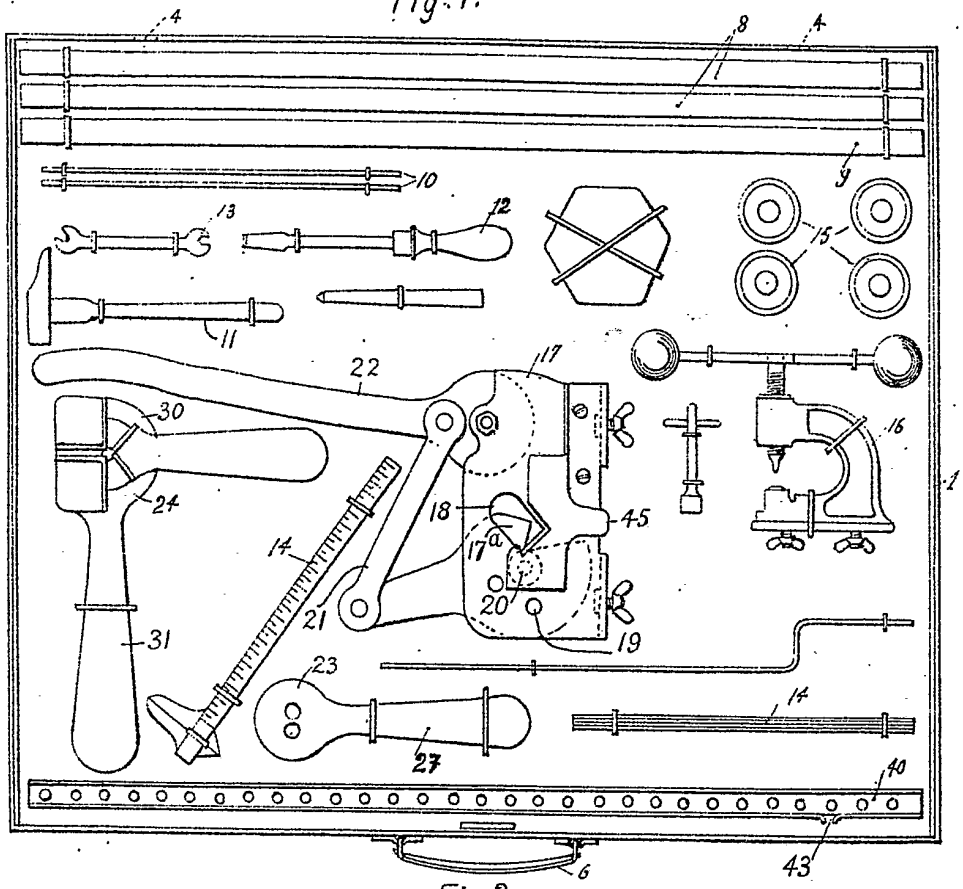


Fig. 2.

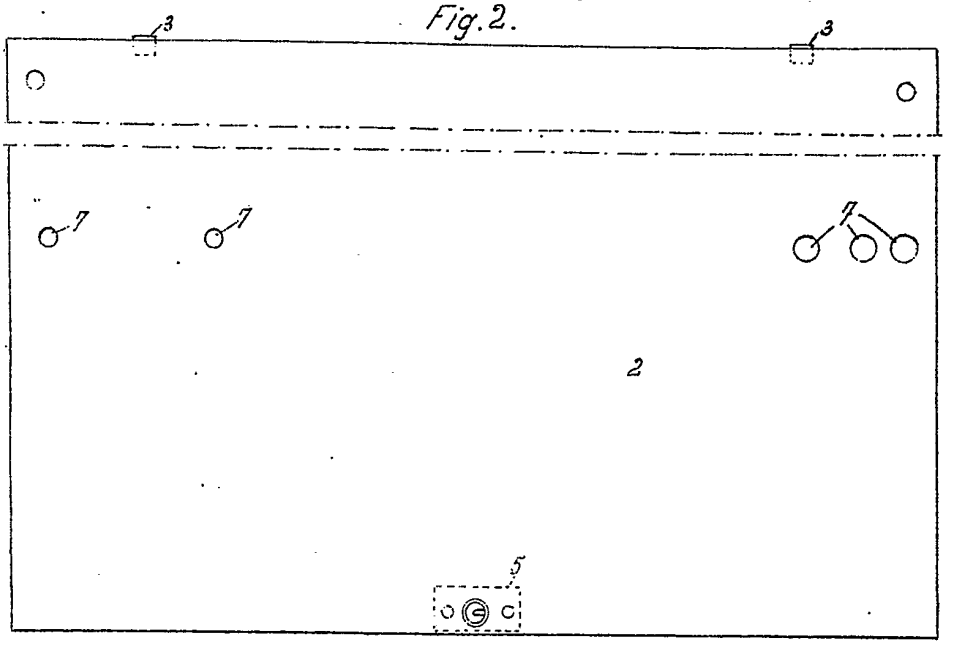
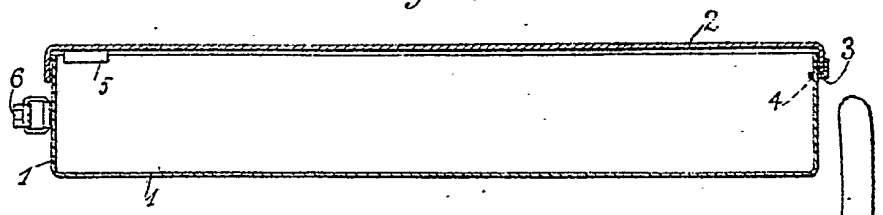


Fig. 3.



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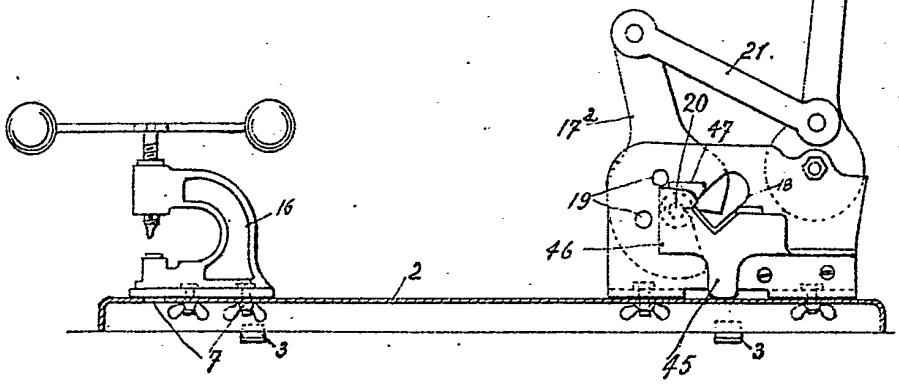

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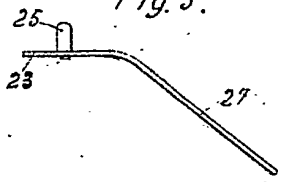

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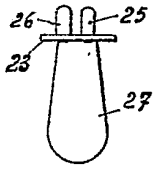
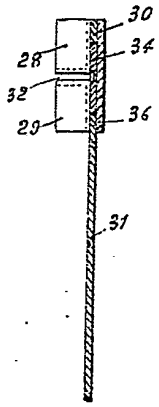


Fig. 8.



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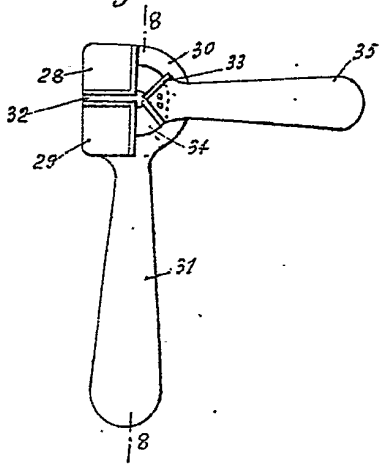

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Fig. 1.

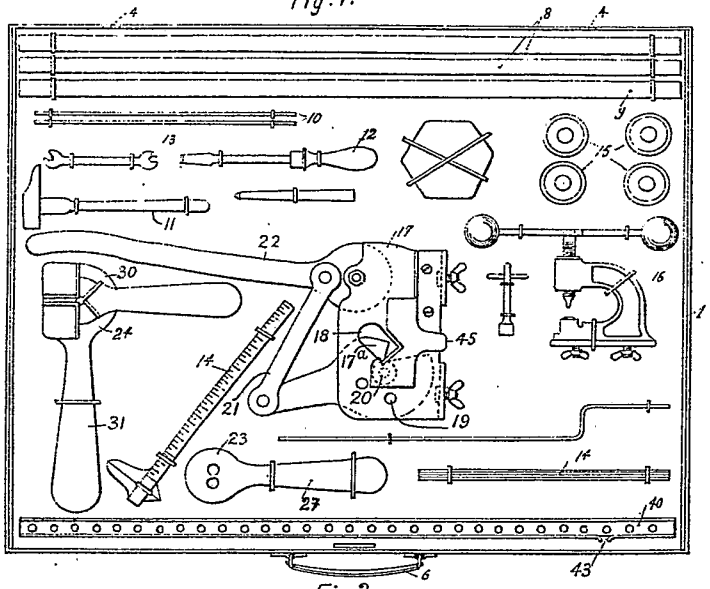


Fig. 2.

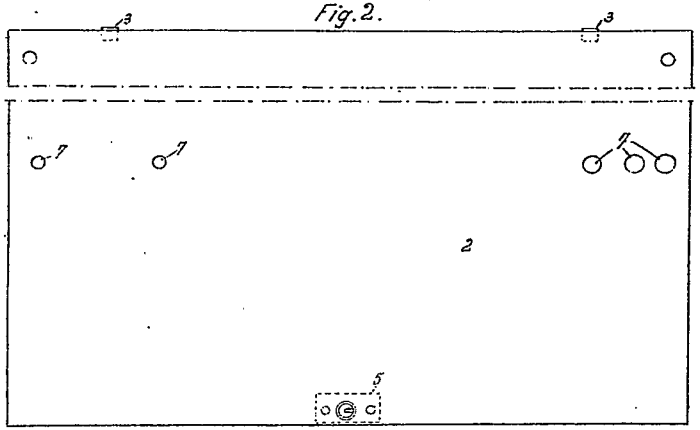


Fig. 3.

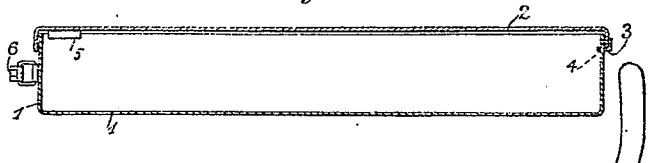
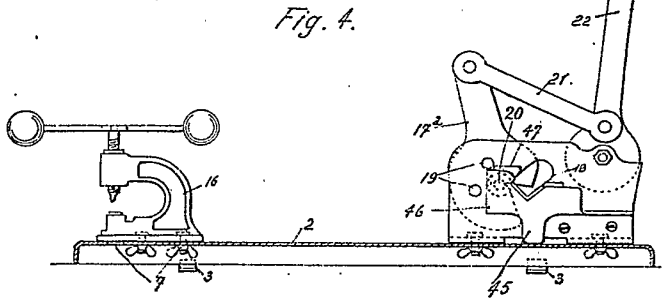


Fig. 4.



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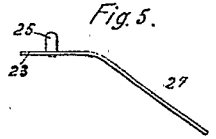

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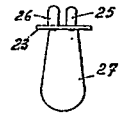

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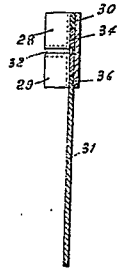

Fig. 7.

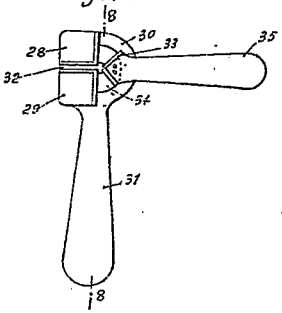

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Fig. 9.

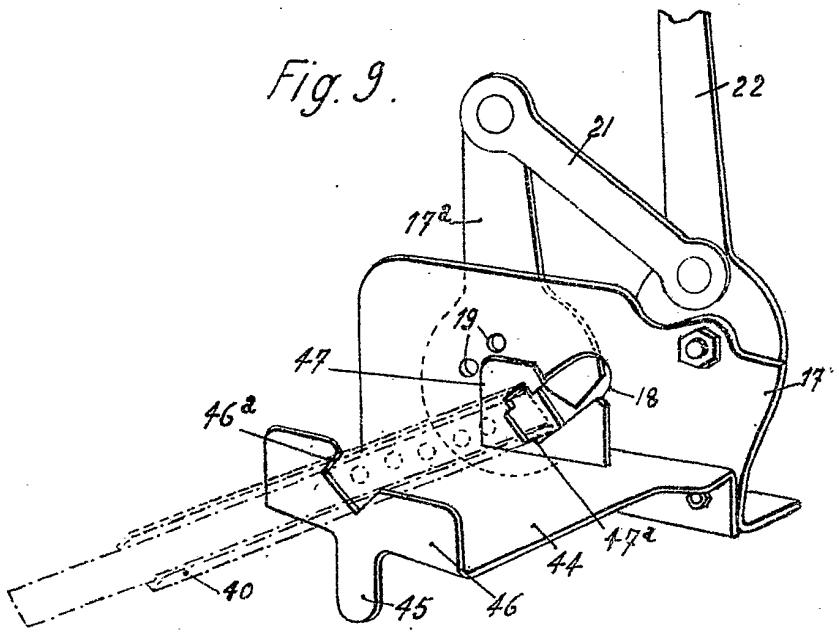

Fig. 10.

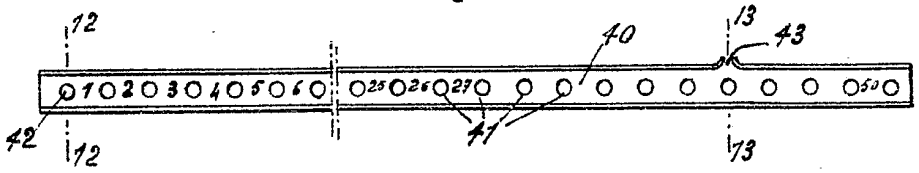

Fig. 11.

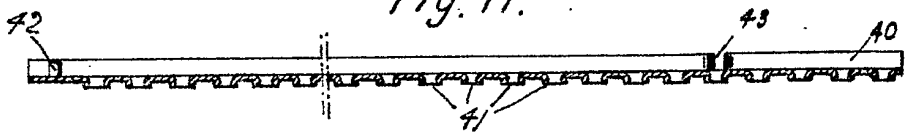

Fig. 12.

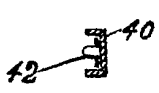

Fig. 13.

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