PATENT SPECIFICATION

Convention Date (France): Oct. 21, 1930.

381,348

Application Date (in United Kingdom): Oct. 21, 1931. No. 29,233/31.

Complete Accepted: Oct. 6, 1932.

COMPLETE SPECIFICATION.

An Improved Toy for Building Models.

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 invention has for its object to provide an improved toy for building models that enables a child to reproduce all the operations of an actual construction in their proper order, for the purpose of producing small models of buildings or other structures.

This toy is distinguished from other known building or constructing sets, in which the elements or parts furnished to the child are completely prepared, that is to say are already cut out, perforated and capable of being assembled, having a determined form and size of definite shape. The constructive effort demanded from the child who uses such a set is limited to the simple assembling of these completely prepared parts.

The workshop box constructed according to the present invention, which will be hereinafter described, is characterised, on the contrary, in that it places at the disposition of the child the materials, the machines (to a reduced scale) and the necessary tools that are generally found in a mechanical workshop.

The use of this box therefore awakens in the child a methodical mind and stimulates an effort of reflection.

According to the invention the workshop box comprises:

(1) Raw materials for making models, such as framing in the form of flat strips, to a reduced scale, hoops, angle irons and bars or mouldings of indefinite length but capable of being placed in the box.

(2) A tool or tools appropriate for the operation of setting out. These tools may comprise measuring instruments, such as sliding calipers, a rule and a perforating templet.

(3) A set of miniature machine tools for cutting off and perforating these materials such as a punching machine and a machine for cutting the flat strips and the angle irons.

(4) Means for connecting these materials after they have been perforated, such as screws, nuts, rivets or eyelets.

(5) A base plate having means such as bolts and nuts, so arranged that the bolts will pass through holes or notches in the bases of the said machine tools.

The perforating apparatus and that for cutting, having been previously fixed upon the said plate, and after the work has been set out, enable the child to prepare the parts which are to be assembled in various sizes and to perforate them with holes at suitable distances apart, thus providing the possibility of making extremely varied types of buildings or other constructions. It is important to state that between the points of assembly, these parts, contrary to those found in certain known building sets, are free from perforations, apertures or holes and are absolutely intact, so that the finished reduced model retains the character of a veritable construction.

Such a workshop box constitutes, due to its original character, a veritable new industrial product, compared with sets of apparatus used for building or constructing.

The invention is illustrated by way of example in the accompanying drawing in which:

Fig. 1 is a plan view of the box open, before mounting the tools and machines.

Fig. 2 is a transverse section of the same box on the line A—A of Fig. 1.

Fig. 3 is a view of the tool case or nest open.

Fig. 4 is an elevation of the machine tools fixed to the base plate.

Fig. 5 is a plan of a flat strip used for constructing.

Fig. 6 is a plan of a marking templet.

Fig. 7 shows the same templet with a flat strip placed in position for marking or perforating.

Figs. 8 and 9 are two sections on the lines B—B and C—C of Fig. 7.

The open box 1, exhibits a series of materials such as flat strips, angle irons, bars, 2, stacked in pigeon holes 3 upon

[Price 1/-]

one of the sides of the box.

The remaining surface, on the bottom of this box, is occupied by a base plate 4 upon which rest, lying down when the box is closed, a punching machine 5, a cutting off machine 6, a nest of tools 7, a box 8 for screws, nuts and other assembling parts, and finally a fly 9 for operating the punching and perforating machine. Some of these tools are attached to the said base plate.

The tool case 7 itself encloses various measuring instruments, such as sliding calipers 10, a rule 11, a punch 12 and tools, spanners 13 and 14, screw driver 15 and a hammer 16.

For setting up the workshop, the child fixes the machines 5 and 6 by means of nuts and bolts 17 which pass through the base plate 4 and which engage with the bases of said machines. The toy or set then presents the aspect shown in Fig. 4. It will be understood that it enables the carrying out of the succession of operations of setting out by the measure, of marking, of cutting off, of piercing and finally of assembling by means of nuts, screws, rivets, or eyelets, the child being simply guided, if desired, by a graphic representation, with letters of reference, of the model to be constructed, such as the frame of a building, of a bridge, of a crane or other structure.

Such a set of tools will be completed preferably by a marking templet, capable of replacing the measuring instruments and constituted, as seen in Figs. 7 to 9, by an angle iron 18, in which are formed numbered perforations 19, equally spaced for example every 10 millimetres apart. The strip 2 to be marked and cut, being first perforated with a hole 20, at one of its ends, by means of a punch, there is introduced into this hole 20 a pin or the like 21 fixed in one of the ends of the templet. By this means the strip or angle iron 2 is fixed upon the templet. It is then sufficient to place the whole strip and templet upon the model being constructed, at any chosen place and to read upon the templet the number that indicates the distance, in centimetres, where a new hole should be punched. Finally, the whole strip and templet are placed in the punching machine and the punch of this latter guided into the perforation selected, makes a hole at the desired point.

There might be employed, instead of the fixed pin 21, a movable pin which could be momentarily fixed at any desired point of the templet. It will be noted that by the use of this templet for perforating it is possible to perforate, at convenient distances apart, any lengths of bands, shorter or even longer than the templet itself. This tool, which renders possible the quick measurement of lengths and the guiding of the punch of the machine for perforating holes at the precise points required for the execution of the model, constitutes an important part of the invention.

The invention may naturally be carried into effect with various modifications. For example, the box may comprise, in addition to the above essential parts, various small accessories such as guiding pulleys, gear wheels, belts enabling the models to be driven by means of small auxiliary motors.

The cutting off machine may comprise two combined cutters, 22 for flat strips, 23 for angle irons, operated by the same lever 24.

The summit of the matrix of the perforating device will be formed in such a manner as to support the vertical wing of the setting out templet. The whole device will be fixed in a rigid manner upon a metal base bent into the form of a bridge to permit the escape of the refuse resulting from the perforating.

Finally it should be understood that the raw material placed at the disposition of the child is not only metal but also wood, cardboard, celluloid, or other materials capable of being perforated and cut up by means of small machines enclosed in the box.

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 improved toy for building models made in the form of a workshop box which contains raw materials for making such models, a tool or tools appropriate for the operation of setting out, a set of miniature machine tools for cutting off and perforating these materials, means for connecting these materials after they have been perforated such as screws, nuts, rivets or eyelets, and a base plate having means, such as bolts and nuts, so arranged that the bolts will pass through holes or notches in the bases of the said machine tools.

2. An improved toy for building models as claimed in claim 1 in which the box has pigeon holes upon one of its sides to contain the raw materials and in which the base plate occupies the remaining surface of the bottom of the box, the said tools and a nest of tools resting upon said base, and some of them being attached to said base substantially as shown and described.

3. An improved toy for building models

as claimed in claim 1 or claim 2 having a marking templet consisting of an angle iron in which are formed numbered perforations, equally spaced, said angle iron having a pin or the like upon which the raw materials, after having been perforated, may be placed for setting out or further perforating substantially as shown and described.

Dated the 21st day of October, 1931.
HARRIS & MILLS,
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34 & 35, High Holborn, London, W.C. 1.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1932.

Fig.1.

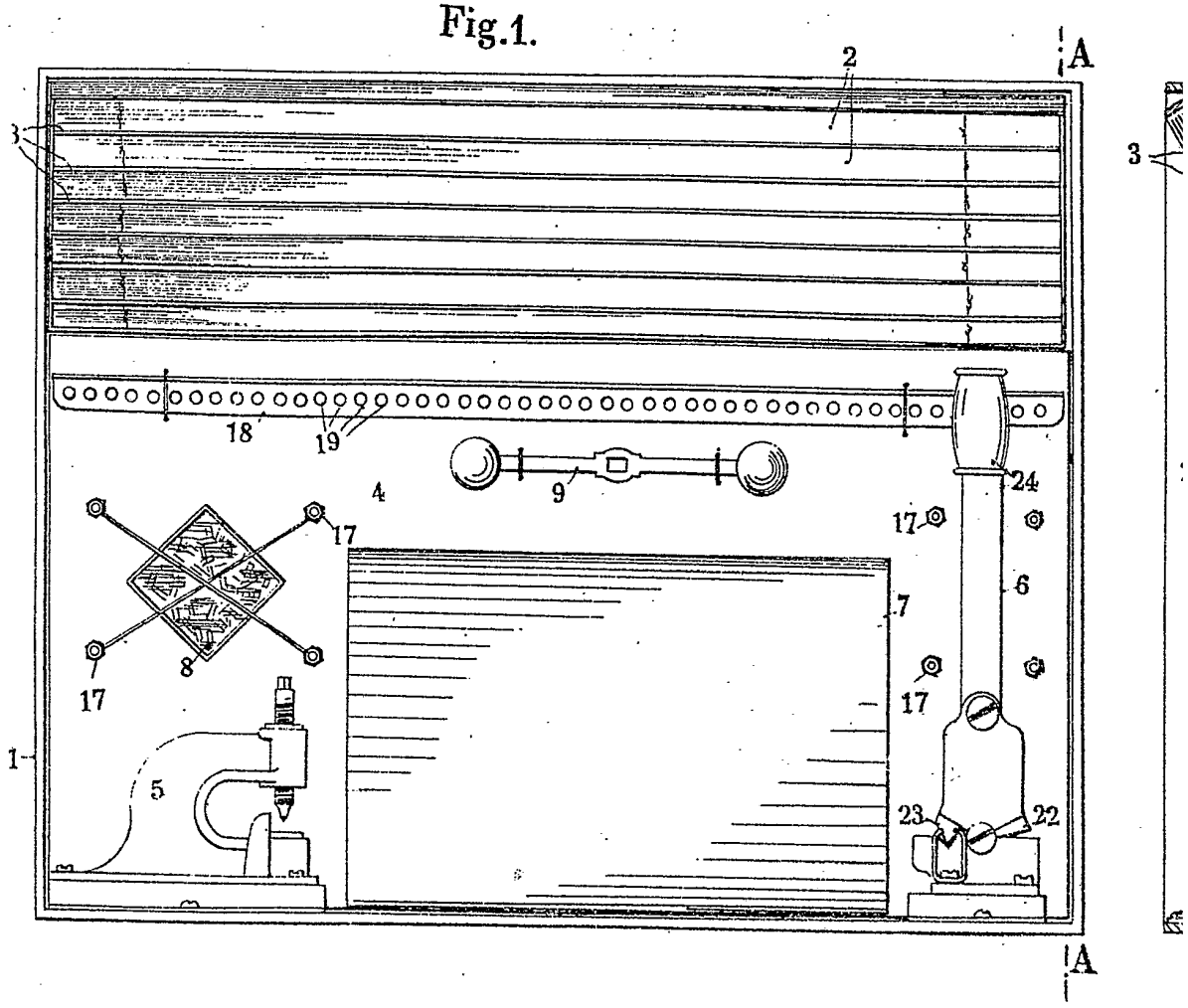


Fig.4.

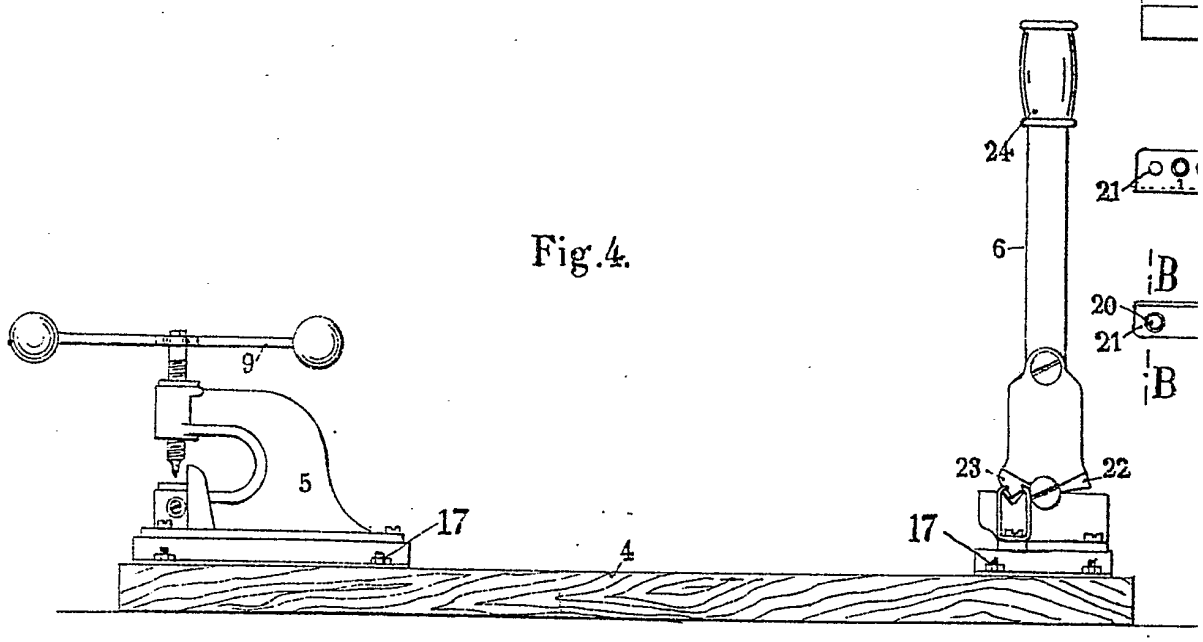


Fig .2.

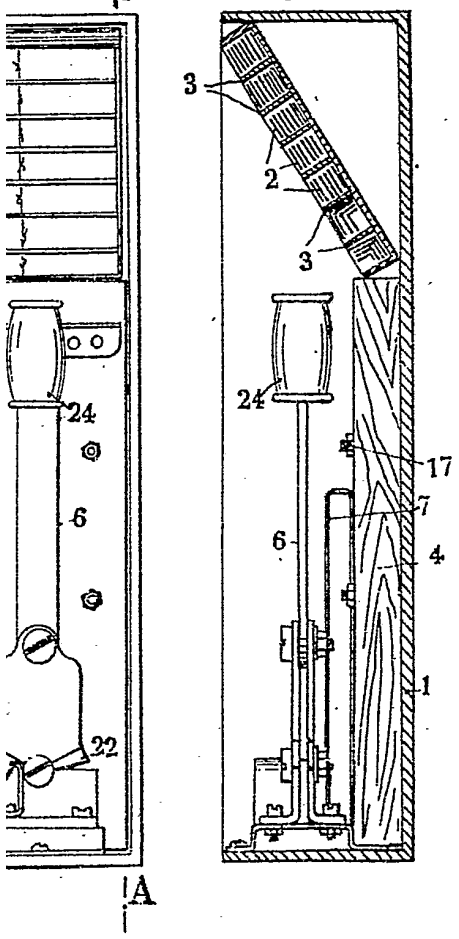


Fig .3.

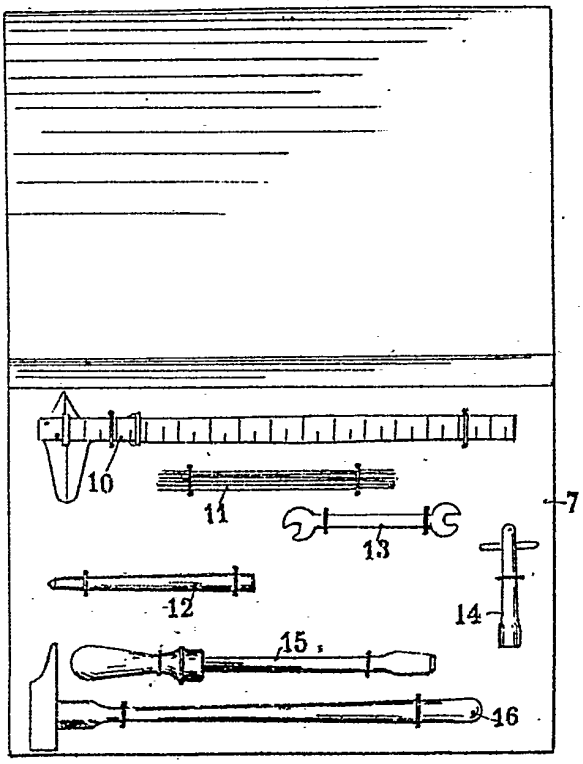


Fig .5.

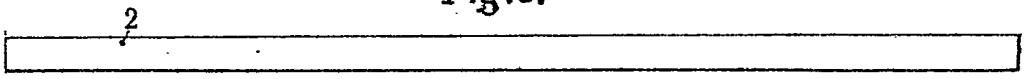


Fig .6.

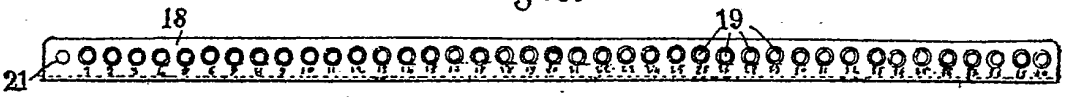
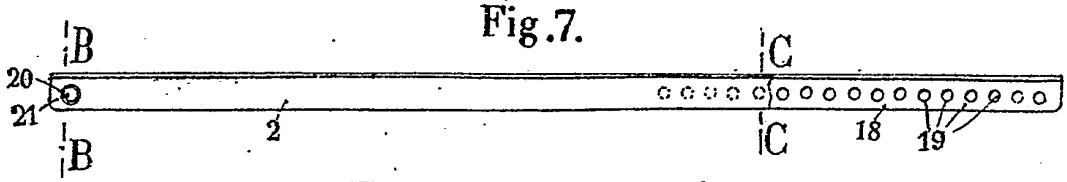


Fig .7.



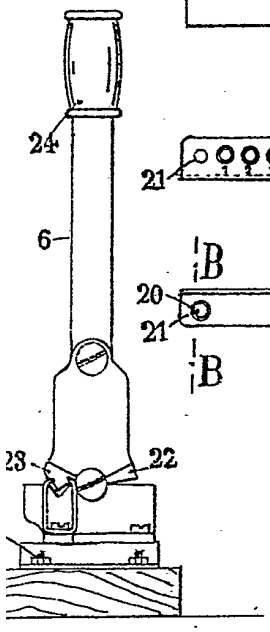


Fig .8.

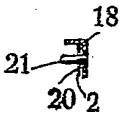
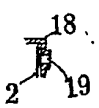


Fig .9.



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

Fig.1.

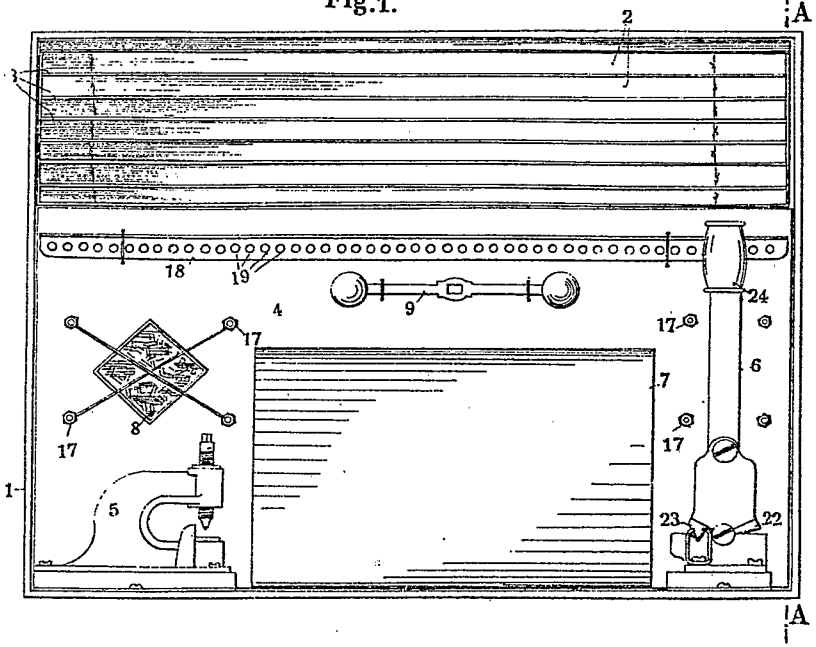

Fig.2.

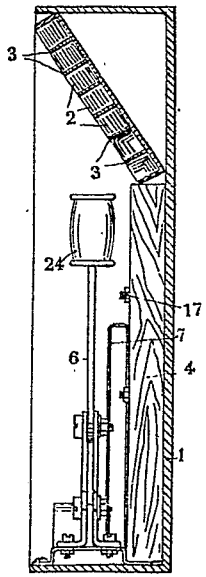

Fig.3.

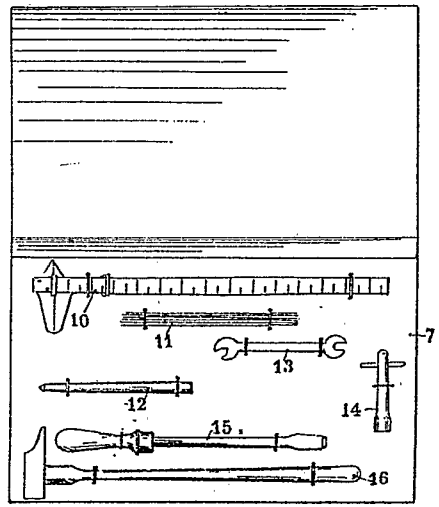

Fig.5.

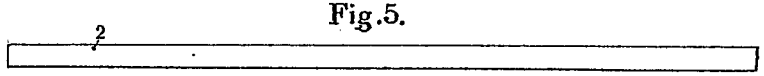

Fig.6.

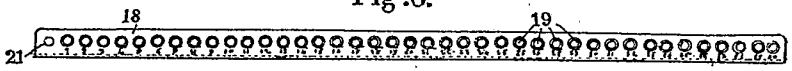

Fig.4.

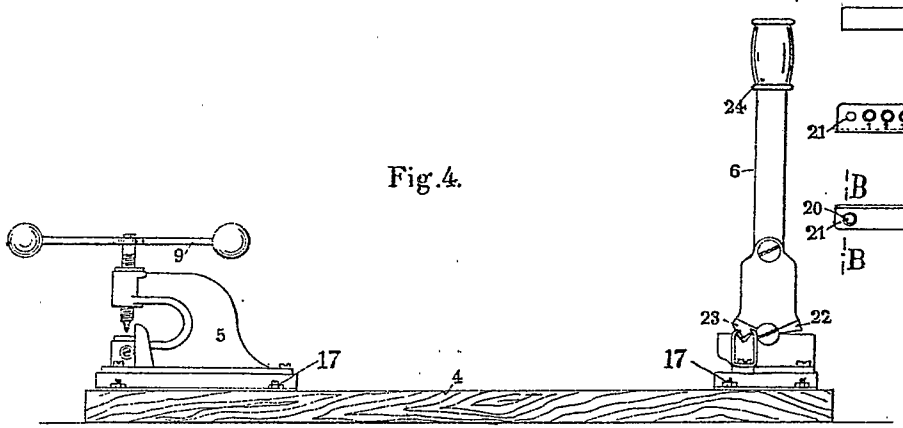

Fig.7.

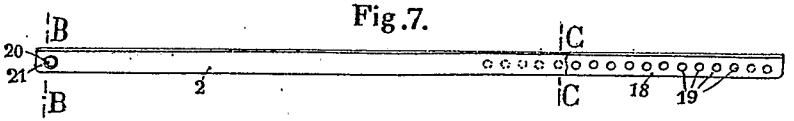

Fig.8.

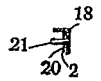

Fig.9.

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