Jan. 22, 1963 P. M. SLOANE 3,074,202

TOY CONSTRUCTION SETS

Filed Aug. 9, 1955 2 Sheets-Sheet 1

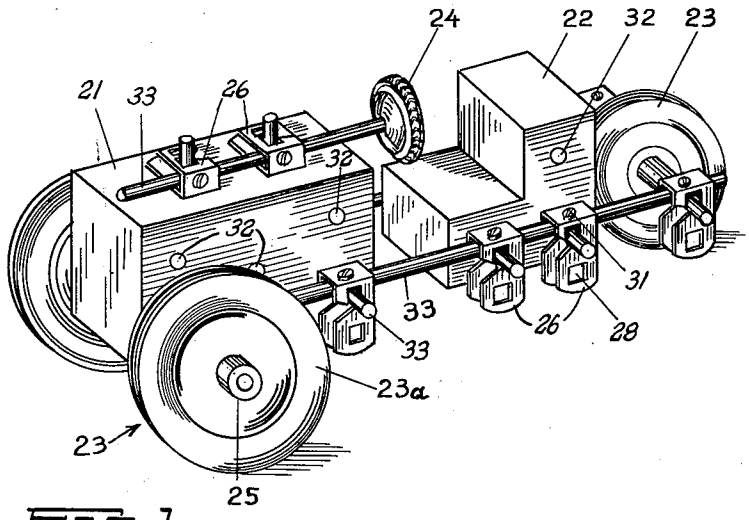



Fig. 1.

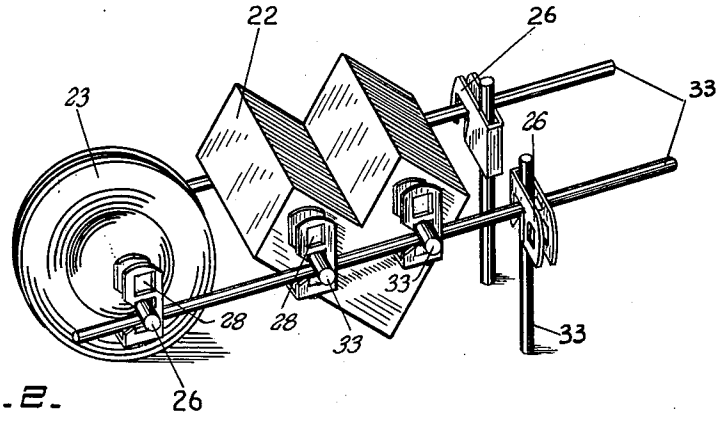



Fig. 2.

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TOY CONSTRUCTION SETS

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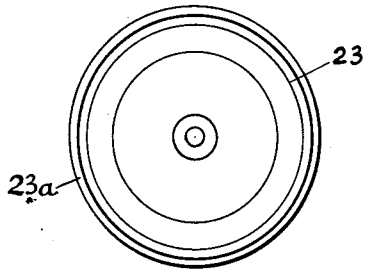



Fig. 3.

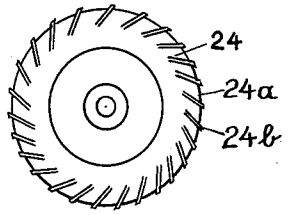



Fig. 4.

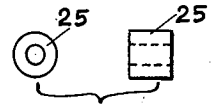



Fig. 5.

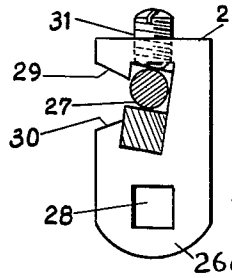



Fig. 6.

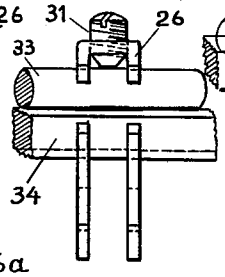



Fig. 7.

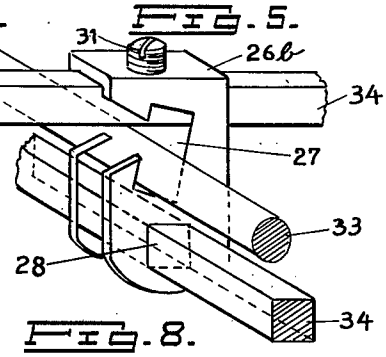



Fig. 8.

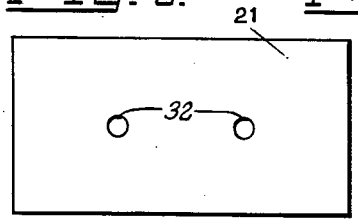



Fig. 9.

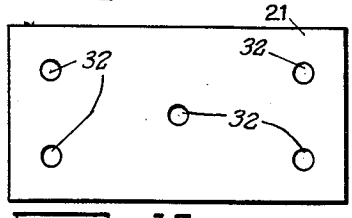



Fig. 10.

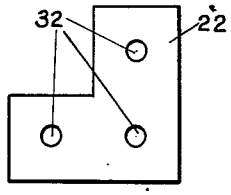



Fig. 11.

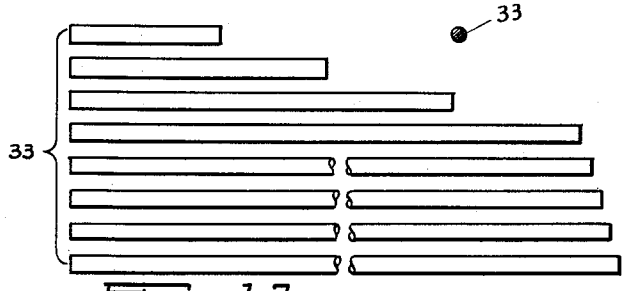



Fig. 12.

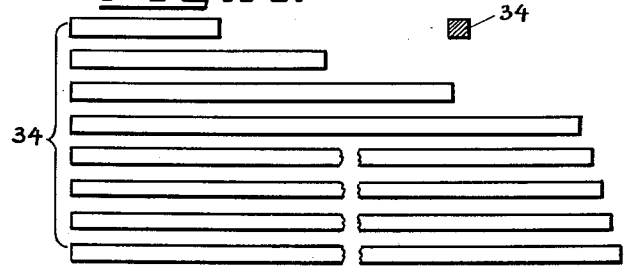



Fig. 13.

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United States Patent Office 3,074,202 Patented Jan. 22, 1963



3,074,202

# TOY CONSTRUCTION SETS

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3 Claims. (Cl. 46—17)

This invention relates to toy construction sets.

It is an object of the present invention to provide a plurality of construction parts or members by which, with the use of all or some of the same, various definite articles or apparatuses may be built or constructed.

It is a further object of the present invention to provide construction parts which may be easily assembled to produce a definite object and which later may be readily disassembled into its constituent parts without destruction or injury to any of them.

A still further object of the present invention resides in the provision of a novel clamp, support or joining member for some of the members or parts.

Various other and more specific objects, features, and advantages will clearly appear from the detailed description given below taken in connection with the accompanying drawings which form a part of this specification and illustrate by way of example a certain embodiment of the device of the invention.

In the following description and in the claims, parts will be identified by specific names for conveniences, but such names are intended to be generic in their application to similar parts as the art will permit. Like references and characters denote like parts in the several figures of the drawings.

Referring now to the drawings:

FIG. 1 is a perspective view of one of the devices or objects capable of being produced by the assembly of some of the parts embodied in the invention;

FIG. 2 is a perspective view of another device or object capable of being produced by the assembly of some of the parts embodied in the invention;

FIG. 3 is a view of a disc element employable in the invention as a wheel or the like;

FIG. 4 is a view of another disc, wheel or the like employable in the invention;

FIG. 5 illustrates front and side views of a retainer or nut;

FIG. 6 is a plan view of a U-clamp support or joining member employable in the invention, certain parts which are joined being shown in section;

FIG. 7 is a side view of FIG. 6;

FIG. 8 is a perspective view of a further application of the U-clamp seen in FIGS. 6 and 7, certain parts which are joined being shown in section;

FIGS. 9 and 10 are respective top and side views of a block employable in the invention;

FIG. 11 is a side view of another block employable in the invention;

FIG. 12 illustrates a plurality of cylindrical rods employable in the invention, including a cross-section view of one of the rods;

FIG. 13 illustrates a plurality of rectangular rods employable in the invention, including a cross-sectional view of one of the rods.

Referring now more particularly to the drawings, there are disclosed in FIGS. 3 to 13, inclusive, elements, members or parts from which a variety of different types of apparatuses or objects may be made, two of which are disclosed in FIGS. 1 and 2.

The toy construction set preferably includes at least four wheels, 23, one of which is depicted in FIG. 3, one or more smaller wheels, 24, depicted in FIG. 4, a plurality of nuts or retainers, 25, one of which is seen in FIG. 5, a plurality of U-clamp supports or joining members 26, at



least one block each of the blocks 21 and 22, depicted in FIGS. 9 and 10, and 11, a plurality of cylindrical rods 33, of various lengths, and a plurality of rectangular rods 34 of various lengths.

The wheel 23 preferably is provided with a resilient tire 23*a* made of any suitable material, simulating a combined vehicle wheel and tire. The wheel 24 is also preferably provided with a peripheral resilient member 24*a* having the anti-friction ribs 24*b*. For economy purposes, it is preferable to stamp or mould as integral units the entire wheels 23 and 24, (including their resilient tires or peripheral members).

FIGS. 12 and 13, depict various lengths of rods 33, 34, employable in the invention, the rods 33 being circular in section and the rods 34, being rectangular in section. The retainers or nuts 25 (FIG. 5) are employed to retain wheels 23 on respective rods 33, as for example, when rods 33 are used as axles, as seen in FIG. 1.

The clamps or supports 26 perform an important role in the invention and are salient features of the invention. They are employable for many different purposes. For example, in FIG. 1, they are used in the support and securement of the blocks 21 and 22, shaft 33, wheel 23, steering arm 33; in FIG. 2 in the support and securement of wheel 23, block 22 through shaft 33 and the rests or struts formed from shorter rods or shafts 33; in FIGS. 6, 7 and 8, to support cylindrical rods 33 and rectangular rods 34.

Each clamp or support 26 comprises a U-shaped member having the sides or side members 26*a* and bridge 26*b* connecting the sides or side members 26*a*. The bridge threadedly receives a locking screw 31. Each side or arm 26*a* has a cut-out or opening extending inwardly from an edge thereof below bridge 26*b* and being formed by the spaced inclined faces 29, 30, the cut-out or opening connecting with a preferably substantially rectangular slot 27 in each side 26*a* extending above and below the faces 29, 30, and preferably angular with respect to the side edges of the sides or arms 26*a*, as clearly seen in FIGS. 6 and 8.

Spaced from slot 27 and in each arm or side 26*a* is an opening 28, preferably rectangular in shape. The slots 27, as well as the cut-outs and openings 28 are in respective alignment.

FIGS. 6, 7, and 8, as well as FIGS. 1 and 2, give clear pictures of how the U-shaped supports or clamps may be employed.

It is apparent from the foregoing that a number of different types of articles may be constructed from the parts and that there has been provided herein an educational as well as a useful construction set. It is to be observed that the shape of the cut-out or opening having the slot 27, and the shape of opening 28 are such as to accommodate either rods 33 or 34.

While the invention has been described with respect to a particular preferred embodiment or example of a toy construction set which gives satisfactory results, it will be understood by those skilled in the art, after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended therefore in the appended claims to cover all such changes and modifications.

I claim:

1. A toy construction set comprising at least one block having a plurality of through holes, a plurality of rods of different lengths and selectively insertable through said holes, a plurality of wheels selectively mountable on said rods, retainers for retaining said wheels on said rods, a plurality of substantially U-shaped supports for joining together and supporting some of said rods, each of said supports comprising a pair of spaced apart side members

and a bridge connecting said members, each of said members having a cut-out extending inwardly from an edge thereof below said bridge and connecting with an elongate slot therein, said cut-outs of said side members being in alignment and said slots of said side members being in alignment and adapted to receive simultaneously a plurality of rods passing therethrough.

2. A toy construction set, according to claim 1, wherein each of said side members further has a hole spaced from said slot, said holes being in alignment and being adapted to accommodate another of said rods.

3. A toy construction set according to claim 1, including means to lock said rods in retained position.



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