Feb. 16, 1954 L. M. ORREN ET AL 2,669,061

MECHANIC SIMULATING TOY WITH SOUND EFFECT

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Fig. 1

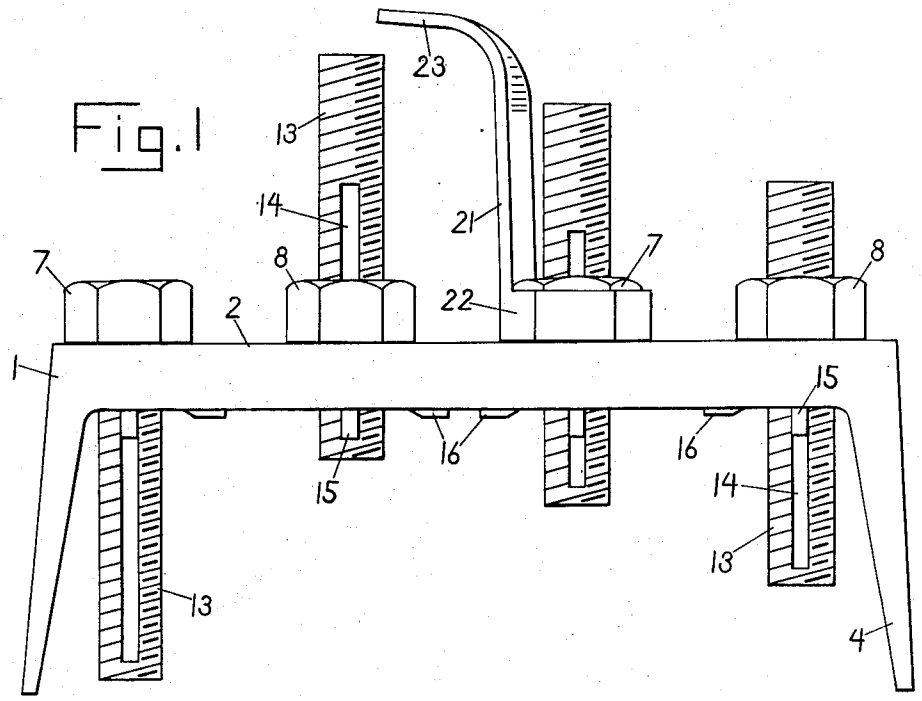
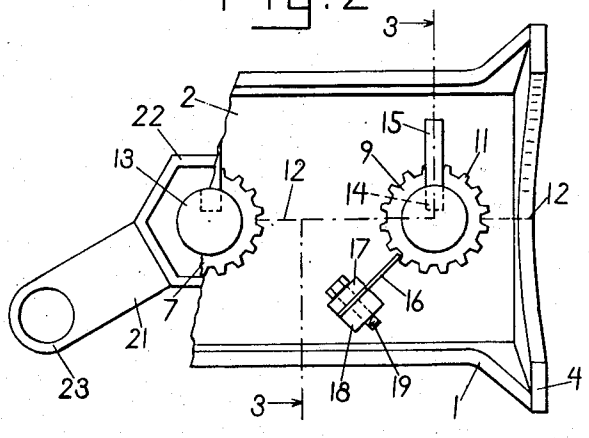


Fig. 2



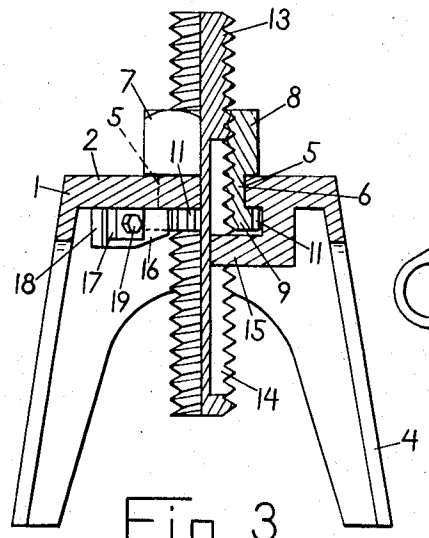


Fig. 3

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MECHANIC SIMULATING TOY WITH SOUND EFFECT

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1 Claim. (Cl. 46—39)

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Our invention relates to toys of the type that can be used by little children for simulating the working of a mechanic, and one of its objects is to provide a novel toy of this type which is entertaining as well as educational.

More specific objects are to provide a toy with one or several screw nuts rotatably connected with a plate or a table, thereby to enable a child to turn the nuts by hand or with a spanner, to make the child familiar with the use of a spanner, with the relative movements of nuts and bolts and with the work of a screwing mechanic, and thus to enable the child to simulate the workmanship of such a mechanic.

Other objects are to provide the toy with means producing visible and audible effects resulting from the screwing operation, to provide each nut with a screw bolt which rises or sinks when the nut is turned, to provide the toy with a noise-making device which sounds when the nut is turned, and to provide a noise-making device which produces a rattling sound simulating the usual noise of mechanic work.

Further objects are to adapt the toy for little children, to connect the nuts with the plate or table inseparably, to connect the bolts with the nuts and the table inseparably, and thereby to prevent children from swallowing or losing parts of the toy.

Still other objects are to achieve these results with simple and inexpensive means, and to provide an attractive toy that can be easily operated by a little child.

Still other objects and advantages will appear from the following description of an exemplifying embodiment of our invention, from the appended claim and from the accompanying drawing in which:

Fig. 1 shows a side view of an illustrative embodiment of our invention.

Fig. 2 shows a bottom view of a broken off portion of the embodiment shown in Fig. 1.

Fig. 3 shows a cross-section taken along the broken line 3—3 in Fig. 2.

Referring to the drawing, numeral 1 indicates a stand or table comprising a plate 2 and legs 4 supporting this plate.

The plate 2 is provided with bores or circular openings 5 through which necks 6 of nuts 7 pass rotatably. There may be, for example, four nuts 7 and four openings 5, one for each nut neck 6. Each neck 6 connects a nut part 8 positioned over the plate 2 with a nut part 9 positioned under the neck. The part 8 is adapted for being rotated. For example, this part is shaped like a hexagonal

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screw head. The part 9 may be a disk and may be provided with teeth 11 uniformly distributed over the circumference of the disk whereby the part 9 forms a toothed wheel.

The diameters of the head 8 and of the disk 9 are larger than the diameter of the opening 5 whereby the nut 7 is secured to the plate 2 inseparably. In order to position the nut 7 in this manner, either the nut 7 or the plate 2 must be made of parts which are united after the assemblage of nut and plate. Preferably, the nut is made of one piece, and the table 1 is made of two parts originally separated along a vertical plane 12 indicated by a dotted line in Fig. 2 and extending through the central axis of the openings 5. After the assemblage of the toy, these two table parts are permanently united. For example, the table is made of plastics, and its parts are united along the plane 12 under application of heat in well known manner so that the table finally forms one integral piece.

Each nut 7 has a threaded bore through which a fittingly threaded screw bolt 13 passes engagingly. The bolt 13 has a groove 14 extending in the longitudinal or axial direction of the bolt along one of its sides. A groove key 15 forms a projection of the plate 2 and extends into the groove 14. The key 15 prevents rotation of the bolt, but allows vertical movement of the bolt while sliding along the key.

Preferably, the grooves 14 are shorter than the bolts 13 and have both ends spaced from the ends of the bolts. Hence, the up and down movement of each bolt is limited and is stopped when the respective key 15 contacts one of the groove ends.

A thin, resilient blade or plate 16 is provided for each nut 7 and has a free end reaching into the toothed circumference of the disk or wheel 9. The other end of the blade 16 is affixed to the plate 2. For example, this latter blade end is held firmly between a rectangular washer or plate 17 and a lug 18 forming a projection of the table plate 2. The washer 17 is pressed toward the lug 18 by a headed screw 19 engaging a threaded bore of lug 18 and passing through bores of the blade 16 and of the washer 17. When the wheel 9 rotates, the blade 16 snaps over the teeth 11 and produces a rattling noise.

Each nut 7 may be rotated individually, preferably by means of a spanner 21 which has a hexagonal socket 22 fitting the heads 8, and has a handle 23 reaching sufficiently far upward for convenient operation.

When a nut 7 rotates, the bolt 13 engaged by the nut is prevented from participating in the

rotation by the key 15, and hence is forced to move in axial direction. For example, each bolt may move between a lowest position exemplified by the bolt shown in Fig. 1 near the left end of the table 1 and a highest position exemplified by the bolt which neighbors the lowest bolt in Fig. 1. While the bolt moves, the rotation of the nut 7 activates the noise-making device constituted by the wheel 9 and the rattle blade 16.

The shown embodiment has four identical units inseparately mounted on a common table and each comprising a nut, a bolt and a noise-making device. Instead, any other number of units may be incorporated in the toy, and the several units may differ from each other. For example, the individual bolts and nuts may be differently colored.

We desire it understood that our invention is not confined to the particular embodiment shown and described, the same being merely illustrative, and that our invention may be carried out in other ways within the scope of the appended claim without departing from the spirit of our invention as it is obvious that the particular embodiment shown and described is only one of the many that may be employed to attain the objects of our invention.

Having described the nature of our invention, what we claim and desire to protect by Letters Patent is:

A noise making toy for simulating a working mechanic, said toy comprising a plate having an opening and having two portions united along a plane passing through the axis of said opening; an internally threaded screw nut made of one piece, having a neck rotatably passing through

said opening and having two parts of larger diameters than said opening, said parts being positioned at opposite sides of said plate, one of said parts forming a screw head shaped like an ordinary nut; the other part being a toothed wheel; a resilient rattle blade having one end affixed to one of said plate portions and having another end reaching into the toothed circumference of said wheel said toothed wheel and rattle blade constituting a noisemaking mechanism; a screw bolt passing through and engaging said nut and having a longitudinal groove; and a key formed by a projection of one of said plate parts and extending into said groove in a direction perpendicular to said plane, said screw head adapted to be rotated by a spanner having a mouth fitting said screw head engagingly and separably to raise or lower said screw bolt and simultaneously actuate said noisemaking mechanism.

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