Sept. 18, 1951 A. L. NEWBERY 2,568,557

CONSTRUCTION TOY

Filed June 5, 1947 2 Sheets-Sheet 1

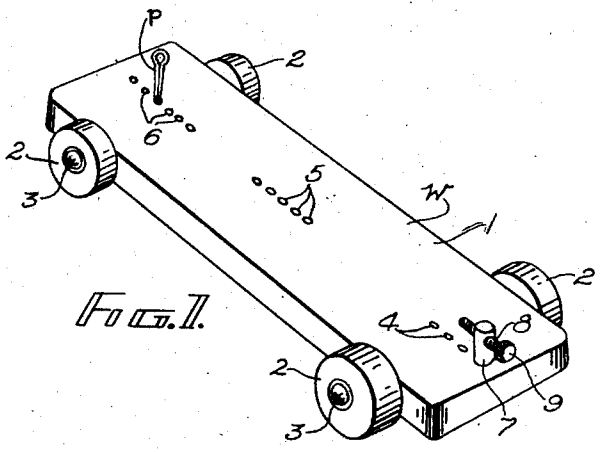
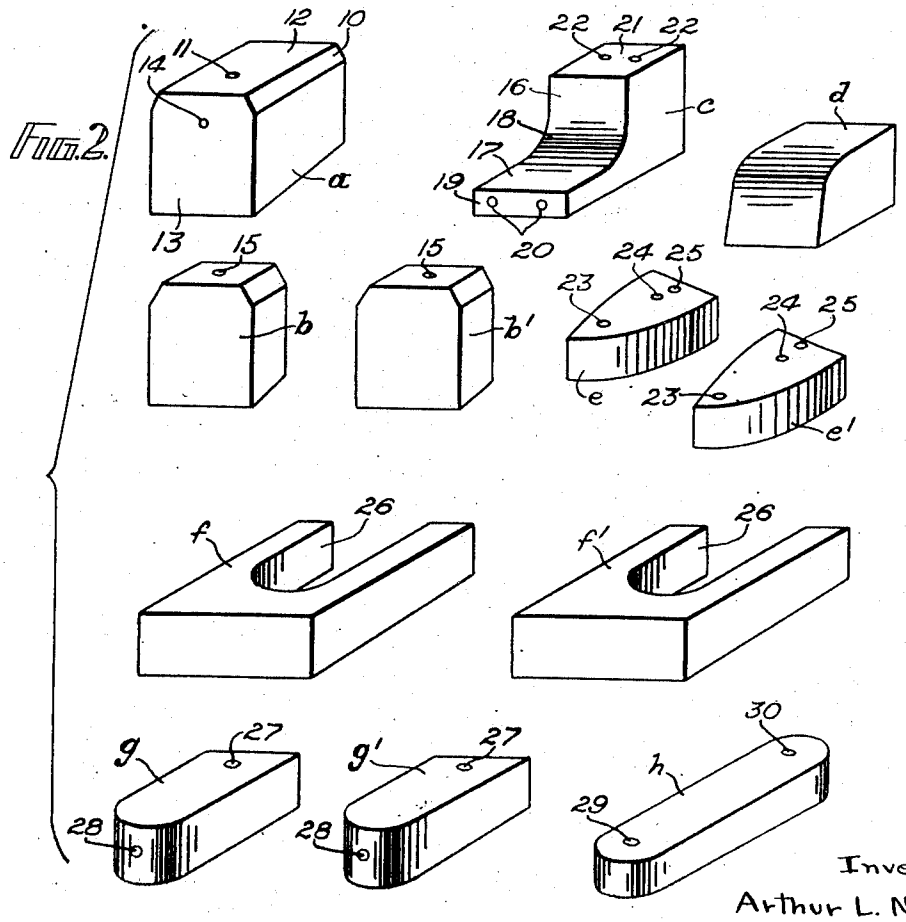


FIG. 1.

FIG. 2.

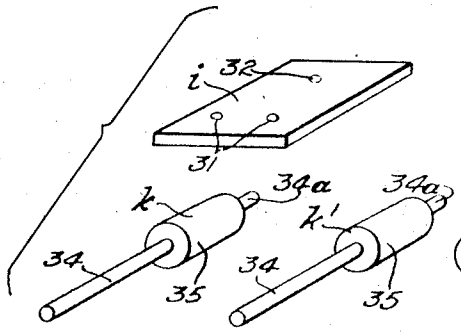


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CONSTRUCTION TOY

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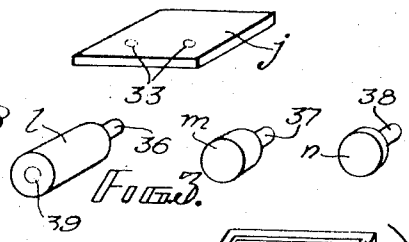


FIG. 3.

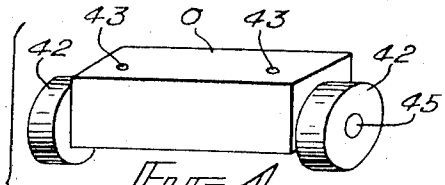
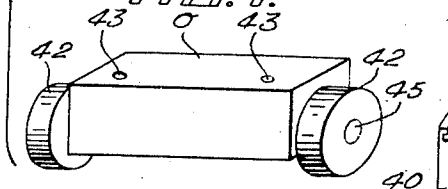


FIG. 4.



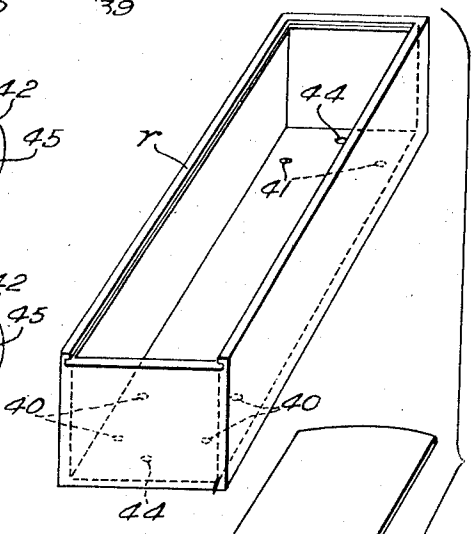


FIG. 6.

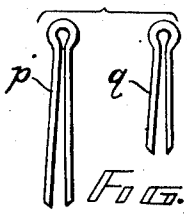
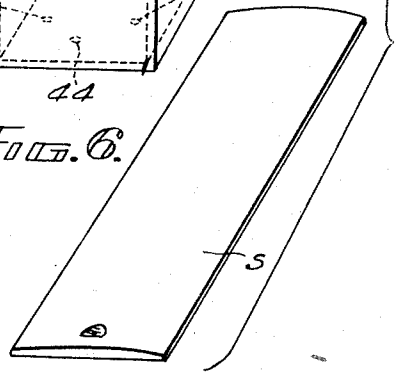


FIG. 5.



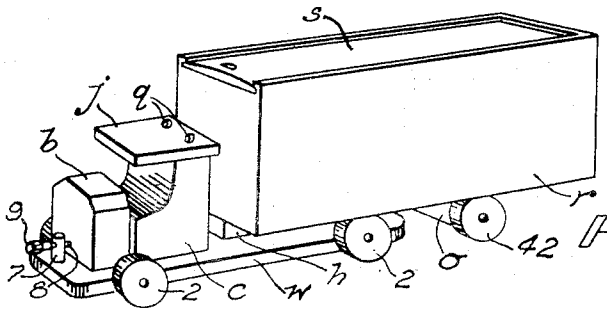


FIG. 7.

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CONSTRUCTION TOY

Arthur Leonard Newbery, Robertsbridge, England

Application June 5, 1947, Serial No. 752,702
In Great Britain January 29, 1940

Section 1, Public Law 690, August 8, 1946
Patent expires January 29, 1960

2 Claims. (Cl. 46—17)

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This invention relates to sets of toy-building units and has for its object to provide a new and improved set of such units by the use of which the most varied forms of toys or models may be built.

According to the invention a set of toy-building units comprises a base member, a plurality of blocks or other elements, and means associated with or adapted to be associated with the base member to clamp a plurality of the blocks or elements firmly together on the base member so that they are not readily displaceable therefrom, in order to form a toy.

Wheels are preferably provided together with means for attaching them to the base member in order to enable wheeled toys to be built. If desired, however, a wheeled base may be provided comprising a substantially rectangular base member with wheels already attached thereto, a pair of wheels, one on each side, being provided near each end of the rectangle.

A preferred embodiment of the invention will now be more particularly described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a base member, which as shown is a wheeled base as aforesaid, upon which blocks or other elements may be mounted,

Figure 2 is a perspective view of various blocks provided for mounting upon and/or attachment to the base member,

Figure 3 is a similar view of other elements which may be attached to certain of the blocks shown in Figure 2,

Figure 4 is a perspective view of wheeled block members provided for a purpose to be described.

Figure 5 illustrates two sizes of spring-jawed cotter pins which may be employed in the attachment of the blocks and other elements to the base member,

Figure 6 is a perspective view of the box in which the set of toy-building units is contained, and

Figure 7 illustrates in perspective one construction of toy built with certain of the units of the set.

In the set of toy-building units illustrated in the drawings the blocks *a* to *h*, Figure 2, are adapted for mounting upon the wheeled base *w*, for example when a vehicular toy is to be built, and when the selected blocks are mounted thereon they are clamped together by means provided upon or adapted to be attached to the base in order to form a toy or model, or the basis

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thereof, the various blocks of which are not easily displaced by inadvertence. Elements *i* to *n*, Figure 3, are in turn adapted for attachment to the blocks *a* to *h* or certain of them, as desired. The wheeled base *w* comprises a base member **1** in the form of a substantially rectangular piece of wood or other material provided with wheels **2**, a pair of which, one on each side, is attached to the base member **1** near each end thereof by headed pins **3**. The wheeled base *w* is provided, preferably along its longitudinal centre line, as shown, with a number of apertures **4**, **5** and **6**, preferably disposed in three series as illustrated in Figure 1 and which pass through the base from top to bottom. A spring-jawed cotter pin *p* or *q* or like member thrust into any of these apertures, usually one of the apertures **6**, forms an upstanding stud or pin acting as an abutment member in a manner to be described. Mounted upon one end of the base *w* and also on the longitudinal centre line thereof is a post **7** provided with a tapped horizontal aperture to form a stationary nut in which a set screw **8** is carried, the set screw being provided with a knurled head **9** to facilitate manipulation. The set screw **8** together with a cotter pin *p* or *q* thrust in one of the apertures, for example one of the series **6** towards the other end of the base, form the aforesaid means for clamping together a plurality of the blocks or elements *a* to *h* mounted on the base between the cotter pin and the set screw, the former being upstanding from the base, for example behind the furthest block of the plurality to provide an abutment, while the latter is screwed into firm contact with the nearest block of the plurality in order to exert endwise pressure on the plurality of blocks and clamp them firmly together upon the base, so that they are not readily displaceable from the latter.

If desired, other forms of holding or clamping means may be provided. For example, a spring bow or other suitable form of plate spring may be located at each end of the base *w*; or eccentrics or volute spring devices may be provided at one or both ends of the base for the same purpose, as will readily be understood.

The blocks or other elements are preferably of various shapes and sizes so chosen that the most varied forms of toys or models may be built. For example, the set of blocks or elements and the wheeled base may be so designed that a model motor truck, trailer, railway engine, sports car, boat, steam truck, or like toys may be built therefrom. As will be evident from

Figure 2, the block *a* is more or less parallelopipedic in form and is of substantially square cross-section with its upper edges chamfered at **10**. A bore **11** is provided in the upper surface **12** of the block towards the front surface **13** thereof and a second bore **14** is provided in the front surface **13** towards the upper surface **12**. The bores **11** and **14** lie in the central vertical longitudinal plane of the block and thus intersect but preferably do not extend completely through the block. The two blocks *b* and b^1 are similar to each other and are similar to the block *a* except that they are only half its length and have a bore **15** only in their upper surface. Each of the blocks *a*, *b* and b^1 is useful, for example, in forming the bonnet of a toy motor vehicle as well as for other purposes. The block *c* may be formed from a parallelopipedic piece of material from which a part of over half its length and depth is cut away to leave a vertical surface **16** and a horizontal surface **17** joined by a bend **18**. The remaining shallow front surface **19** of the block *c* is provided with two bores **20** while the upper horizontal surface **21** is provided with two bores **22** of the same spacing. The block *c* is useful, for example, in forming a portion of the driver's cabin of a model motor truck and the part cut away from the original block from which *c* is produced constitutes the block *d* which may be employed to represent the boot or rear portion of a toy motor vehicle body. Two blocks *e* and e^1 are provided which are similar in all respects. These blocks are of approximately half the depth and the same width as the blocks already described and are of the bowed shape shown with bores **23**, **24** and **25** disposed therethrough on their longitudinal centre lines. The spacing of the bores **24** and **25** is equal to that of the apertures **4**, **5** and **6**. These blocks *e* and e^1 may be used for example as bow and stern portions in the construction of a model boat. The two blocks *f* and f^1 are also identical with each other and are of the same depth and overall width as the blocks *e* and e^1. Each consists of a piece of material of rectangular shape in plan with a U-shaped portion removed therefrom at **26**, as shown, to leave an arch-shaped block. The portions removed from the spaces **26** of the blocks *f* and f^1 are used to form two identical blocks *g* and g^1 which are shorter than the said portions due to short lengths having been cut from the rectangular ends of the said portions. Each of the blocks *g* and g^1 is provided with a vertical bore **27** extending therethrough from top to bottom near the rear or plane end of the block and a second bore **28** extending horizontally from the centre of the arcuate surface of the block. These blocks *g* and g^1 are applicable as gun turrets in the construction of model armoured cars or like toys, or as swivel members, packing pieces or the like. A block *h* of substantially rectangular shape in plan with arcuate ends is provided with bores **29** and **30** extending therethrough from top to bottom these bores being formed on the longitudinal centre line of the block as shown. This block may be employed as a packing element.

The blocks *a* to *h* already described are employed, as a rule, by mounting them upon the wheeled base *w* although they need not necessarily, of course, be so used. In addition to the blocks *a* to *h* other elements *i* to *n*, Figure 3, may be provided which may be attached, and are primarily intended for attachment, to certain of the blocks *a* to *h* by means of cotter pins. Thus,

the element *i* is a thin rectangular sheet which may, for example, be attached to the block *c* to form the roof of a driver's cabin of a motor vehicle, apertures **31** of the same spacing as the bores **20** or **22** being provided for this purpose. A further centrally disposed aperture **32** is preferably formed towards the other end of the element *i*. The element *j* is similar to that just described except that it is shorter and is not provided with a further aperture such as **32**; the apertures **31** and **33** of the elements *i* and *j* respectively are of course spaced the same distance apart. Elements *k* and k^1 each consist of a rod **34** and a short sleeve **35** fixed thereon, as shown, the shorter end **34***a* of the rod being adapted to be thrust into an aperture such for example as the bores **28** in the blocks *g* and g^1 or the bores **15** of the blocks *b* and b^1 to form a model gun to be mounted, for example, upon a toy armoured car. The elements *l*, *m* and *n* consist of cylindrical blocks of different lengths, each having a short peg **36**, **37** and **38** respectively projecting concentrically from one end while the element *l* also has a concentric bore **39** in the opposite end. These elements may be used to represent funnels of toy railway engines, boats or the like.

A plurality of cotter pins, preferably of two different sizes as shown at *p* and *q*, are provided and it will be understood that in building a wheeled toy or model, various of the blocks *a* to *h*, some of which may have one or more of the other elements *i* to *n* attached thereto by short cotter pins *q* or in the case of elements such as *l*, *m* and *n*, for example, by thrusting the pegs **36**, **37** and **38** into bores such as **11** and **15**, are mounted upon the wheeled base *w* and when the various blocks are properly mounted in position a cotter pin, either *p* or *q* as is found most suitable, is thrust through the aperture such as **6** in the base nearest the block at one end to form a stop and the set screw **8** is then screwed against the block at the other end so that the various blocks forming the toy or model are clamped or held together upon the base.

The various blocks of the set, or at least the blocks *a* to *h*, are preferably all cut from a single length of wood or substantially square cross-section and it has been assumed in the foregoing description, particularly in relation to the blocks *c*, *d*, *f*, f^1, *g* and g^1, that the blocks are so made. It will be understood however that they may equally well be moulded in a synthetic resin or other thermo-plastic material. If desired the wheeled base and blocks or other elements may be contained in a wooden box *r* Figure 6, with a slider lid *s*. This box *r* in the preferred embodiment of the invention illustrated in the drawings is provided with suitable pairs of apertures **40** and **41** in its bottom to enable wheels, similar to the wheels **2** of the wheeled base *w*, to be secured therebeneath. Thus, by the provision of two additional pairs of wheels **42**, Figure 4, mounted upon blocks *o* and o^1 forming cross members or axle blocks having pairs of apertures **43** therein of the same spacing as the pairs of apertures **40** and **41**, the box *r* may have an axle block and wheels secured therebeneath at one or both ends. It will be appreciated that the pairs of apertures **43** pass through the blocks *o* and o^1 from top to bottom and are offset from the centre line of the blocks so that pins **45** by which the wheels **42** are secured to the blocks do not obstruct the apertures. The bottom of the box is also provided with a single further aperture **44** at each end to enable the box to be secured to the wheeled

base w by passing a cotter pin p or q through the respective apertures **6** and **44** so that, with the blocks or elements mounted on the wheeled base to form a toy motor truck, a six- or eight-wheeled truck is formed by the attachment of the box.

A six-wheeled toy motor truck so constructed is illustrated in Figure 7. It will be seen that one of the blocks b or b^1 is mounted on the wheeled base w adjacent the screw **8** to form the bonnet of the vehicle while the block c is mounted therebehind. The element j is secured upon the block c as shown by thrusting two cotter pins q into the registering apertures **33** and **20** of the element and block respectively so that together they form the driver's cabin of the truck. Immediately behind the block c a cotter pin p is thrust into one of the apertures **5** of the base w and the screw **8** is tightened to clamp the blocks b and c rigidly between the screw and the cotter pin. The box r has one of the wheeled axle blocks o or o^1 secured therebeneath by two of the cotter pins p thrust through apertures **41** and **43** respectively and is articulated to the wheeled base w by a cotter pin q thrust through the front aperture **44** of the box and into one of the apertures **5** in the wheeled base, the element h being interposed so that the cotter pin also passes through the apertures **29** or **30** thereof in order to secure horizontal alignment of the box r with the wheeled base w.

It will be appreciated that models constructed as described form rigid and durable toys, the various parts of which are not easily displaced by inadvertence, which may however be readily dismantled when desired and the blocks or elements utilised to build other models.

I claim:

1. In a device of the character described, a wheeled base including a rectangular shaped body member, a series of apertures spaced along the longitudinal center line of the body member, an upstanding post fixed to the front end of the body and having a tapped horizontal bore therethrough, an adjustable set screw in the horizontal bore, and a vertically extending stop pin mounted in a selected one of the apertures, and a plurality of separable blocks mounted on the base, said blocks defining a toy character, the

stop pin engaging the rearmost side of the rear block and the set screw engaging the foremost block of the assembled blocks to thereby clamp and hold the blocks in assembled relation.

2. In a toy trailer truck, the combination comprising a truck member having a wheeled base, a trailer body having a removable top plate, apertures through the bottom of the trailer body and front and rear detachable wheel sections attached to the body bottom by pins extending through the apertures and into the wheel sections, a connecting block having vertical apertures through the front and rear ends thereof, and a pin extending through the truck bottom and into the rearmost aperture of the connecting block, said connecting block being attached to the truck member base, and a vertical post having a horizontal bore therethrough and extending from the front side of the truck base, an adjustable set screw in the bore, and a plurality of separable blocks, the rearmost of which abuts the front of the trailer body, said set screw engaging the frontmost block and adjustable to clamp the blocks between the trailer body and the set screw.

ARTHUR LEONARD NEWBERY.

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