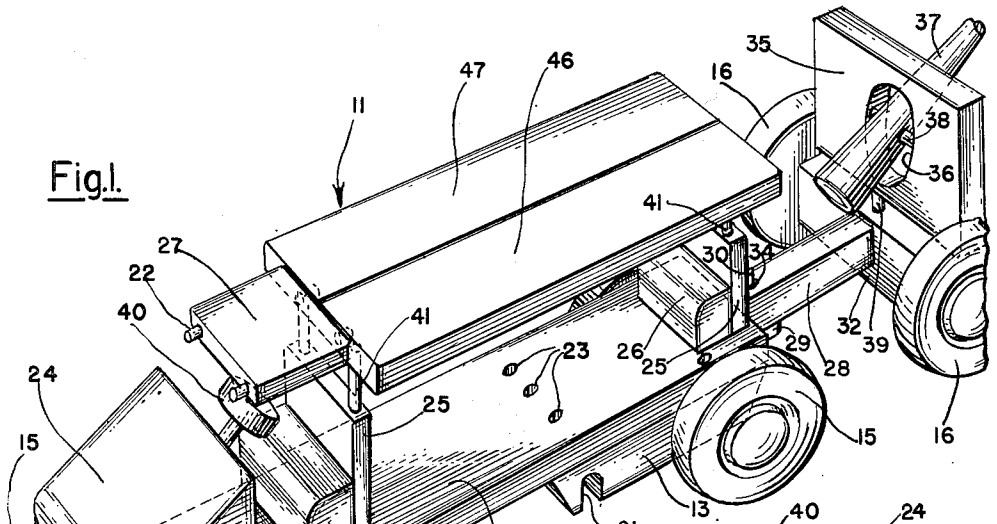
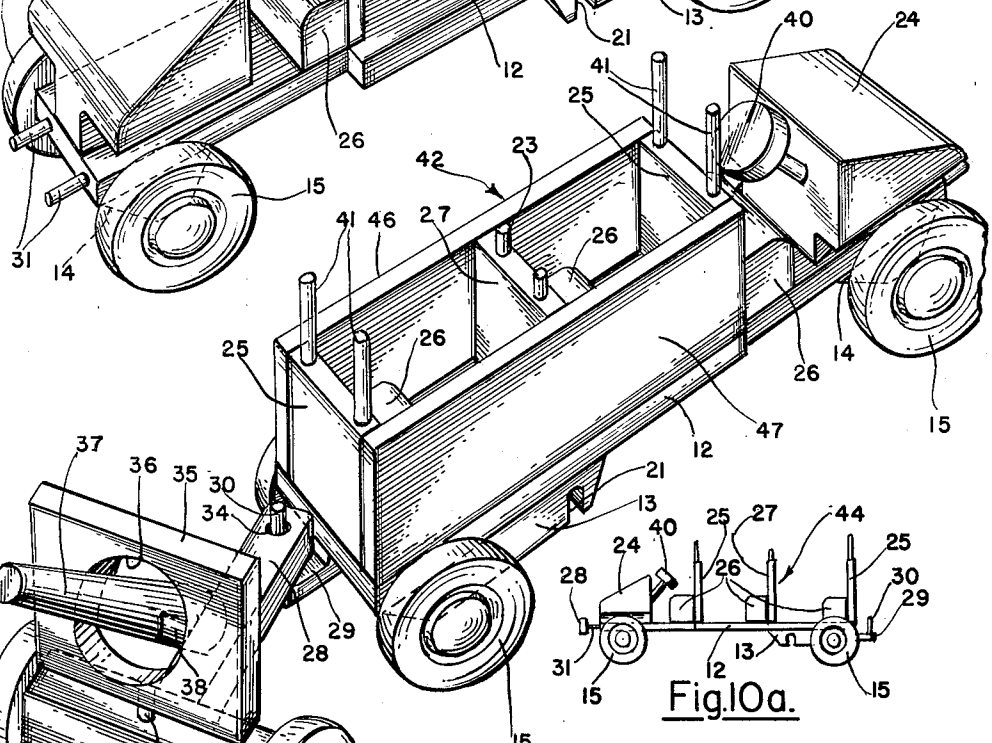
March 13, 1951 N. A. LOGAN 2,545,155

VEHICLE CONSTRUCTIONAL TOY

Filed Sept. 30, 1948 3 Sheets-Sheet 1

Fig.1.





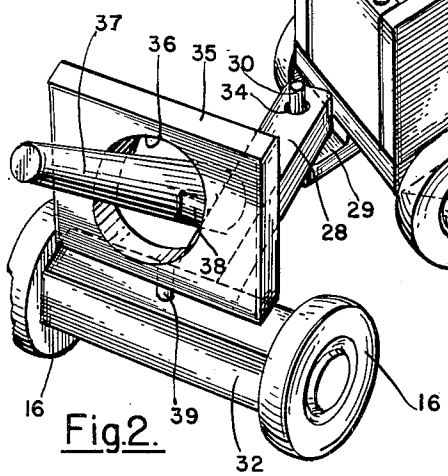


Fig.2.

Fig.10a.

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VEHICLE CONSTRUCTIONAL TOY

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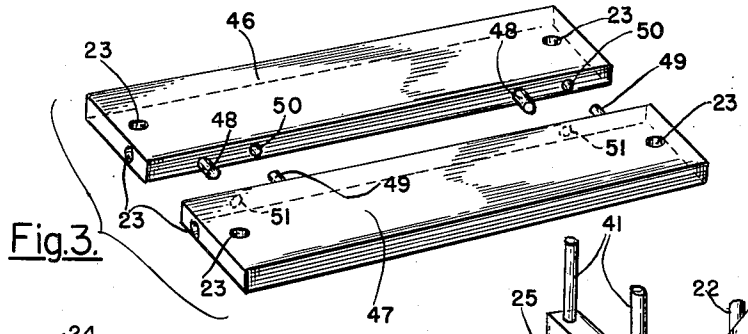

Fig.3.

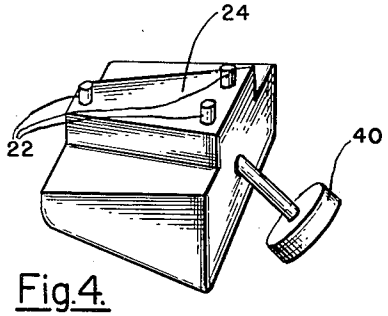

Fig.4.

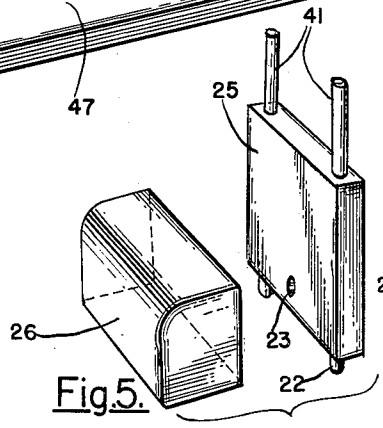

Fig.5.

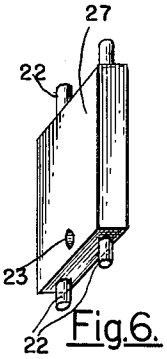

Fig.6.

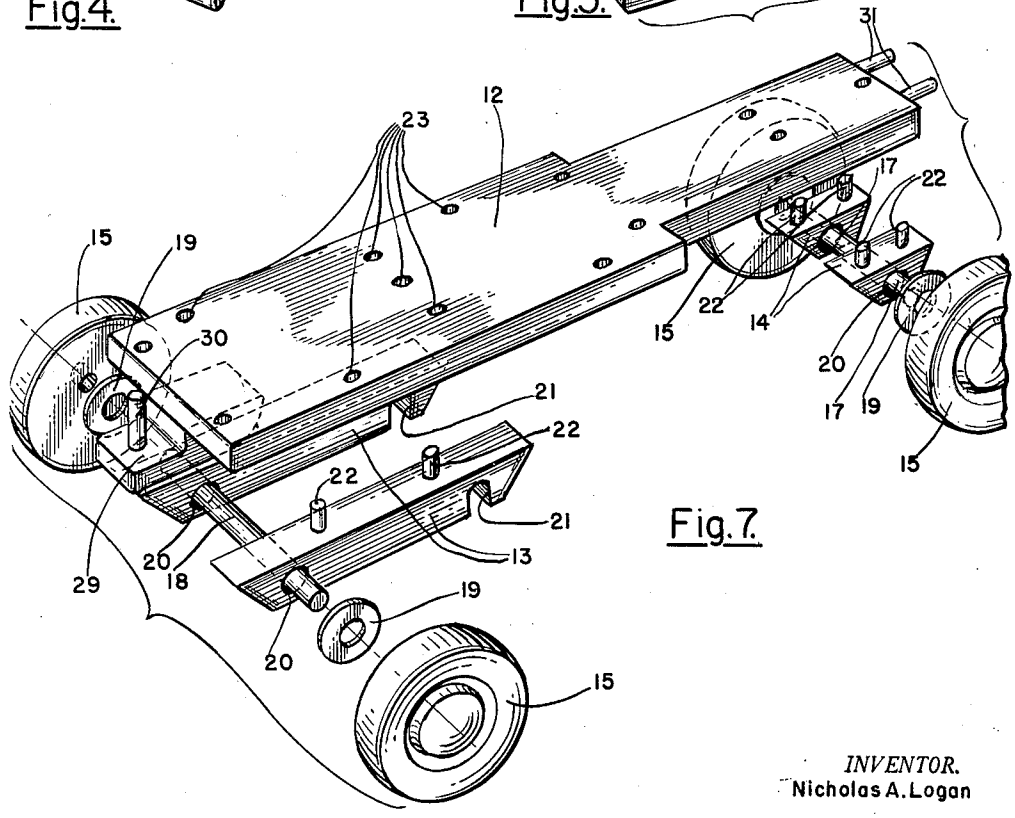

Fig.7.

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VEHICLE CONSTRUCTIONAL TOY

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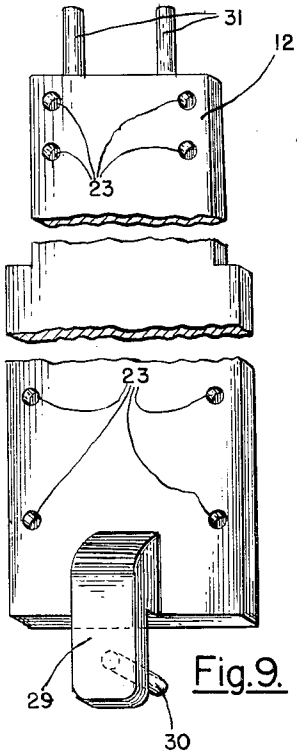

Fig.9.

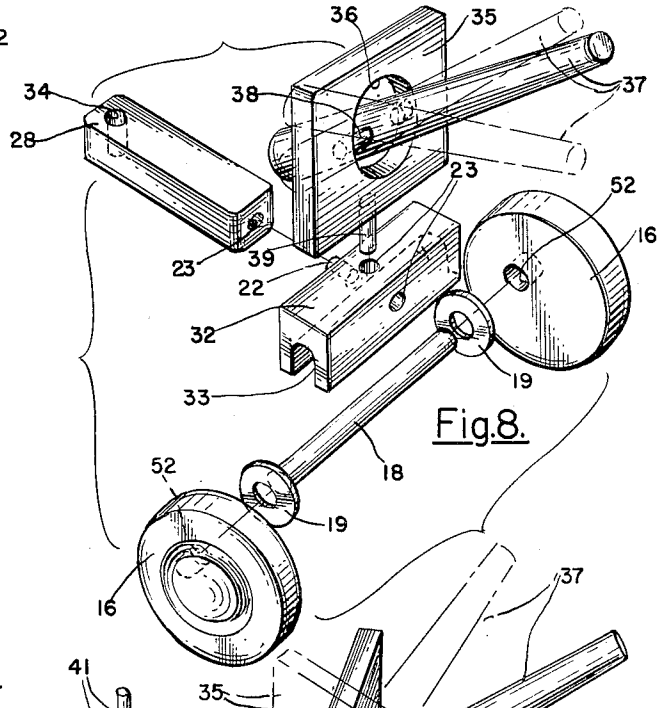

Fig.8.

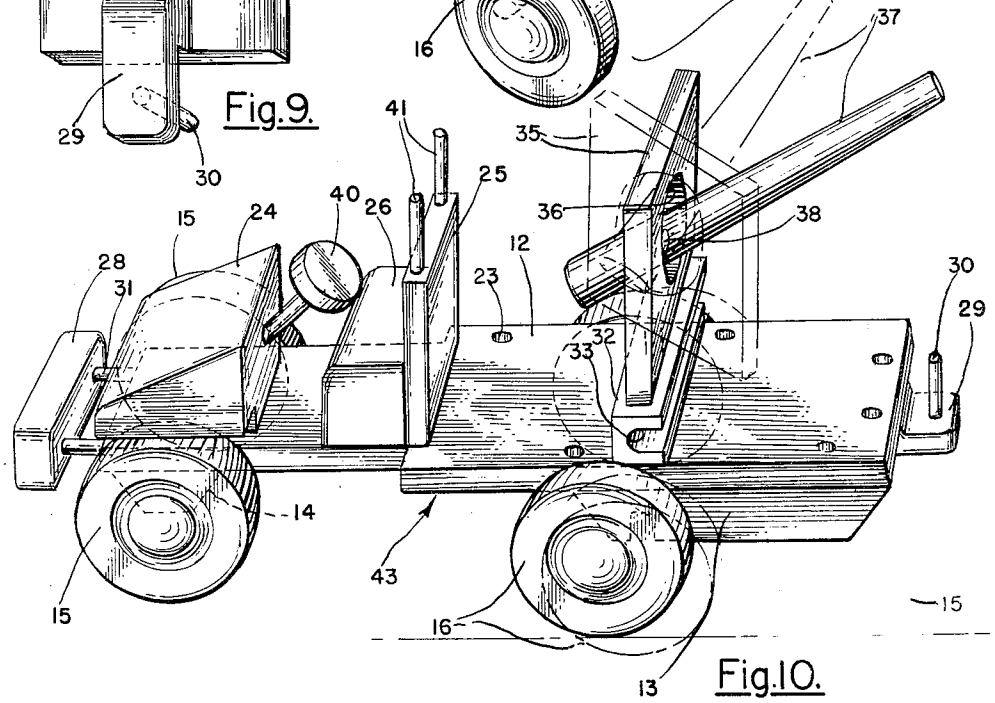

Fig.10.

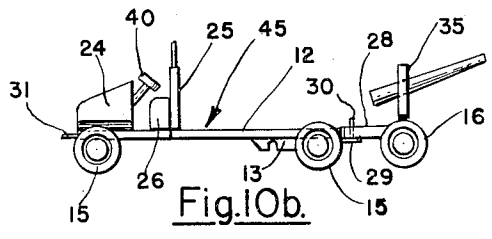

Fig.10b.

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2,545,155

UNITED STATES PATENT OFFICE

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VEHICLE CONSTRUCTIONAL TOY

Nicholas A. Logan, Gary, Ind.

Application September 30, 1948, Serial No. 51,971

11 Claims. (Cl. 46—17)

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My invention relates to constructional toys and has particular reference to constructional toys of a military character.

A most important object of my invention is to provide a constructional toy of the above described character, made up of various interchangeable elements from which numerous combinations of a military character, such as trucks, gun carriages, and mounted guns.

A further object of my invention is to provide a constructional toy, the various interchangeable elements of which are attachable one to another by means of mating dowel pins and dowel fitting holes on the edges and sides on the elements thereof.

A still further object of my invention is to provide a constructional toy, having a number of sets of interchangeable wheels and also having one set of excentrically mounted wheels usable either on the gun carriage combination or the truck combination to produce a motion of rough terrain when the said constructional toy is moved or propelled forward or backward on a smooth surface, such as the floor.

A further object of my invention is to provide a constructional toy, which, while providing amusement and entertainment, is also educational and requires ingenuity in its assembling and is, furthermore, of such strong construction and simple design as to withstand rough usage.

A further object of my invention is to provide a constructional toy that may be economically manufactured in large quantities.

Other objects and advantages embraced in my invention will be disclosed in the following description and the accompanying illustrations, in which like parts are designated by like numerals and in which;

Fig. 1 is a perspective view of my invention in which various elements thereof are combined into a military truck with top with a trailing gun carriage.

Fig. 2 is a perspective view of my constructional toy wherein the various component parts are combined to form a truck with sides and seats with a trailing gun carriage.

Fig. 3 is an exploded perspective view of the mating side and roof elements comprising important parts of my invention.

Fig. 4 is a perspective view showing the underside attaching means of the engine and steering wheel block, forming one of the elements of my invention.

Fig. 5 is a perspective view of one of the seat blocks of my invention, shown exploded from

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the seat back and roof supporting block used in connection therewith.

Fig. 6 is a perspective view of the seat back and cab roof block comprising an element of my invention.

Fig. 7 is an exploded perspective view of the truck platform, together with the front and rear wheel bearing block and wheel assemblies attachable thereto.

Fig. 8 is an exploded perspective view of the gun and gun carriage, together with the eccentric wheel assembly and carriage hitch block, comprising a number of the important elements of my invention.

Fig. 9 is a perspective view with parts cut away, showing dowel fitting holes on the underside of the truck platform of my invention.

Fig. 10 is a perspective view of one of the combinations possible with my invention, showing a military truck with a gun carriage and gun mounted thereon.

Fig. 10*a* is a small side view of one of the many combinations possible with my constructional toy showing a military truck with seats only.

Fig. 10*b* is a small side view, showing another one of the many combinations possible with my invention, showing a stripped military truck with a gun carriage trailing.

Referring to the illustration, Figs. 1, 2, 10, 10*a* and 10*b* illustrate a number of the possible combinations that may be achieved by combining the elements of my constructional toy which are designated **11**, **42**, **43**, **44** and **45** respectively.

One of the important elements of my invention is the truck platform designated **12** which has the general shape of a military truck platform, and which is provided on its upper and lower surfaces with numerous dowel fitting holes **23**. Two bumper attaching dowel pins **31** are fixedly attached to the front end of truck platform **12** and a gun carriage attaching bracket portion **29** is fixedly attached to the underside of the rear thereof. A gun carriage hitch pin **30** is vertically fixed to the said gun carriage attaching bracket portion **29**. A pair of excentric and rear wheel bearing blocks **13** are attachable by means of dowel pins **22** fixed thereon to mating dowel fitting holes **23** on the underside of truck platform **12**. A pair of front wheel bearing blocks **14** are attachable by means of dowel pins **22**, together with mating dowel fitting holes **23** on the underside of truck platform **12**. Said excentric and rear wheel bearing blocks **13** and front wheel bearing blocks **14** are provided with axle bearing holes **20**. Axle bearing slots **21** are also provided

in the excentric and rear wheel bearing blocks 13, spaced far enough from the axle bearing holes 20 to permit the two sets of wheels 15 and 16 to be mounted on the bearing blocks 13. A front wheel axle 17 and rear wheel or gun carriage axles 18 provide the means of attaching the interchangeable truck or gun carriage wheels 15 and 16. Washers 19 mounted on front and rear wheel axles 17 and 18 prevent friction between the interchangeable truck or gun carriage wheels 15 and truck platform 12. The dowel pins and dowel fitting hole attaching means 22 and 23, and the wheels 15 with 16 and axles 17 and 18, are held together by frictional fit. A pair of excentric truck or gun carriage wheels 16 is provided with excentric wheel mounting holes 52 as shown in Fig. 8, which, together with the said axle means 18, impart an up and down motion simulating travel on rough terrain, when my constructional toy is propelled forwardly or backwardly even on a smooth surface as the floor. An engine and steering wheel block 24, having a steering wheel 40 and being formed to resemble the engine compartment of a military truck, is mountable by means of dowel pins 22 in dowel fitting holes 23 on the front upper surface of truck platform 12. Seat back and roof supporting blocks 25 are attachable at various positions on the upper surface of truck platform 12 by means of dowel pins 22 and mating dowel fitting holes 23 as shown in the various views. Elongated roof mounting dowel pins 41 are fixed on the top edges of the said seat back and roof supporting blocks 25 to support mating side and roof elements 46 and 47. The said mating side and roof elements 46 and 47 are attachable to each other by means of staggered dowel pins 48 and 49 and mating staggered dowel fitting holes 50 and 51 therein. The said staggered dowel pins 48 and 49 are also attachable in dowel fitting holes 23 along the edges of the upper surface of truck platform 12 to form truck sides of the side and roof elements 46 and 47 as shown in Fig. 2. Seat block elements 26 are attachable, if desired, by means of dowel pins 22 and dowel fitting holes 23 to the seat back and roof supporting blocks 25 to form truck seats resembling military truck seats as best shown in Figs. 2 and 10. A seat back and cab roof block 27 is attachable by means of dowel pins 22 and dowel fitting holes 23 and serves either as a seat back on truck platform 12 or as a cab roof when attached to mating side and roof elements 46 and 47 as shown in Fig. 1. A bumper or gun carriage hitch block 28 may serve as a bumper when attached to bumper attaching dowels 31 or may serve as a gun carriage hitch block by means of gun carriage hitch hole 34 therein in connection with gun carriage hitch pin 30. To attach a gun carriage 32 to the rear of my constructional toy, said gun carriage 32 is provided with an axle bearing slot 33 which provides bearing for the axle 18 to be used in connection with either the interchangeable truck or gun carriage wheels 15 or the excentric truck or gun carriage wheels 16. A gun mounting block 35 may be mounted by means of swivel pin 39 and either of two dowel fitting holes 23 in gun carriage 32 as best shown in Fig. 8. A clearance hole 36 is formed in gun mounting block 35 to provide support for the trunnions 38 on gun 37. Figs. 1, 2, 10, 10*a* and 10*b* show some of the principal combinations of military toys possible by combining the elements of my constructional toy. Other military toy combinations not illustrated are also possible. The excentric truck or gun carriage wheels 16 may be mounted either on the gun carriage as shown in Figs. 1 and 2, or on the military truck as shown in Fig. 10 to impart an irregular motion to the truck or gun carriage when propelled forwardly or backwardly to resemble passing over rough terrain when on a smooth surface such as a floor. Fig. 10 also shows the gun carriage 32, together with gun 37 mounted on the truck platform 12. In this case the gun carriage 32 is turned sideways and dowel pins 22, together with dowel fitting holes 23 therein, hold the said gun carriage 32 firmly in a vertical position.

Among the advantages of my constructional toy are the simplicity of its various elements which conform to simple elemental shapes and have no unnecessary parts that may be knocked or broken off. At the same time, when the various elements of my invention are combined to form one of the military truck or gun carriage combinations, the resultant combination very closely resembles an actual military truck or gun carriage in one of its various forms.

Further advantages of my invention are the ease with which the various elements are attached to each other or taken apart in forming the many military toy combinations possible, together with the obvious educational and constructional entertainment features.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

Having thus disclosed and revealed my invention, what I claim as new and desire to secure by Letters Patent is:

1. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably removably and rotatably mounted in the said open axle bearing slot, and wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block, the said front wheel bearing blocks, and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, bumper attaching dowel pins secured to the forward edge of the said truck platform, bumper means provided with dowel holes secured removably to the said bumper attaching dowel pins, seat back and roof supporting blocks means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, and mating side and roof elements provided with dowel pins on one of their side edges, the said dowel pins removably securable to mating holes in the said truck body to form truck sides.

2. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, seat back and roof supporting block means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, mating side and roof elements provided with dowel pins on one of their side edges, and further provided with dowel holes on the said sides adjacent the said dowel pins, the said last-mentioned dowel pins and dowel holes securable to form a truck roof, and dowel holes on the lower faces of the said truck roof attachable removably to the said dowel pins on the top edge of the said seat back and roof supporting block means.

3. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, bumper attaching dowel pins secured to the forward edge of the said truck platform, bumper means provided with dowel holes secured removably to the said bumper attaching dowel pins, seat back and roof supporting block means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, mating side and roof elements provided with dowel pins on one of their side edges, and further provided with dowel holes on the said sides adjacent the said dowel pins, the said last-mentioned dowel pins and dowel holes securable to form a truck roof, and dowel holes on the lower faces of the said truck roof attachable removably to the said dowel pins on the top edge of the said seat back and roof supporting block means.

4. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably removably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

5. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably removably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, bumper attaching dowel pins secured to the forward edge of the said truck platform, bumper means provided with dowel holes secured removably to the said bumper attaching dowel pins, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

6. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear

wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably removably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, seat back and roof supporting block means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

7. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, bumper attaching dowel pins secured to the forward edge of the said truck platform, bumper means provided with dowel holes secured removably to the said bumper attaching dowel pins, seat back and roof supporting block means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, the said truck platform with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

8. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and excentrically wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

9. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, bumper attaching dowel pins secured to the forward edge of the said truck platform, bumper means provided with dowel holes secured removably to the said bumper attaching dowel pins, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and excentrically wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

10. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle,

the said engine and steering wheel block the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with mating dowel holes, seat back and roof supporting block means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and excentrically wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

11. A constructional toy resembling a military truck comprising, a truck platform, an engine and steering wheel block mounted on the forward end of the said truck platform, front wheel bearing blocks mounted below the forward end of the said truck platform, excentric and rear wheel bearing blocks mounted below the rear end of the said truck platform, an axle rotatably mounted in the said front wheel bearing blocks, wheels frictionally mounted on the termini of the said axle, the said excentric and rear wheel bearing blocks provided with an open axle bearing slot adjacent the inner end thereof, an axle slidably and rotatably mounted in the said open axle bearing slot, wheels excentrically mounted on the termini of the said last-mentioned axle, the said engine and steering wheel block, the said front wheel bearing blocks and the said excentric and rear wheel bearing blocks provided with dowel pin means, the said truck platform provided with

mating dowel holes, bumper attaching dowel pins secured to the forward edge of the said truck platform, bumper means provided with dowel holes secured removably to the said bumper attaching dowel pins, seat back and roof supporting block means provided with dowel means at the top and bottom edges thereof, the dowel means at the bottom edge thereof securable removably to the dowel holes in the said truck platform, the said seat back and roof supporting block means provided with a dowel hole on one of its faces, seat block means provided with dowel means removably securable to the said dowel hole, the said truck platform provided with a gun carriage attaching bracket portion on its rear edge, bumper or gun carriage hitch block means articulately secured to the said gun carriage attaching bracket portion, and excentrically wheeled trailer gun carriage means removably secured to the free end of the said bumper or gun carriage hitch block means.

NICHOLAS A. LOGAN.

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