3 Sheets—Sheet 1

M. BRADLEY.

Toy Cars and Station.

No. 218,700. **Patented Aug. 19, 1879.**

Fig 1

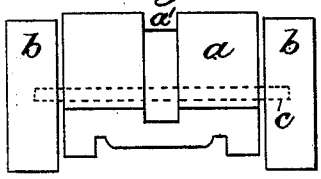


Fig 2

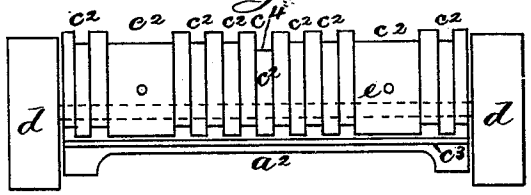


Fig 3

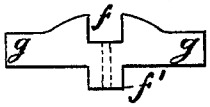


Fig 4

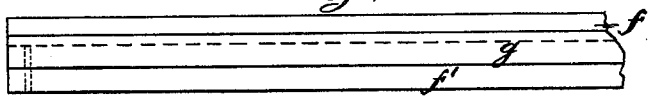


Fig 5

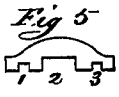


Fig 6

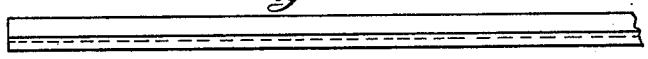


Fig 7

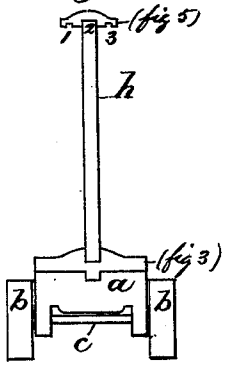


Fig 8

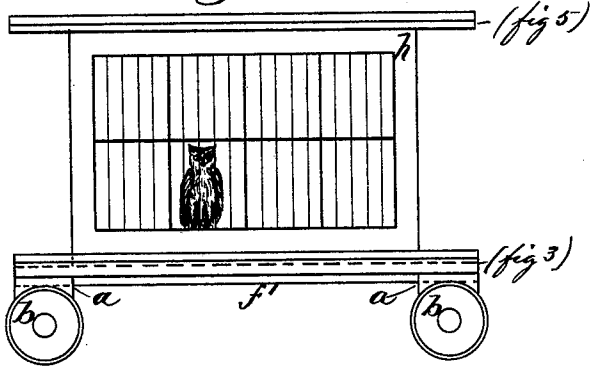


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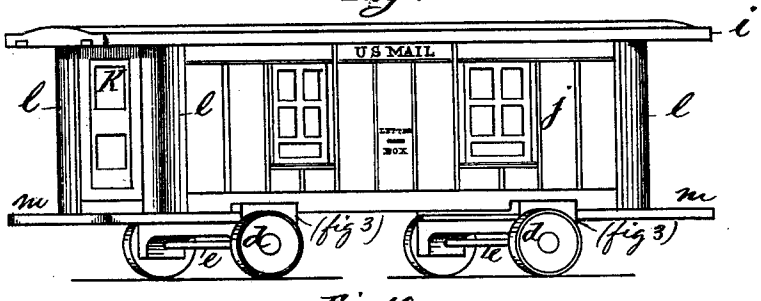
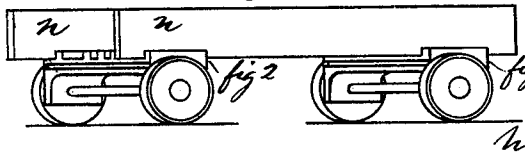


Fig 10



Witnesses
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Fig 11

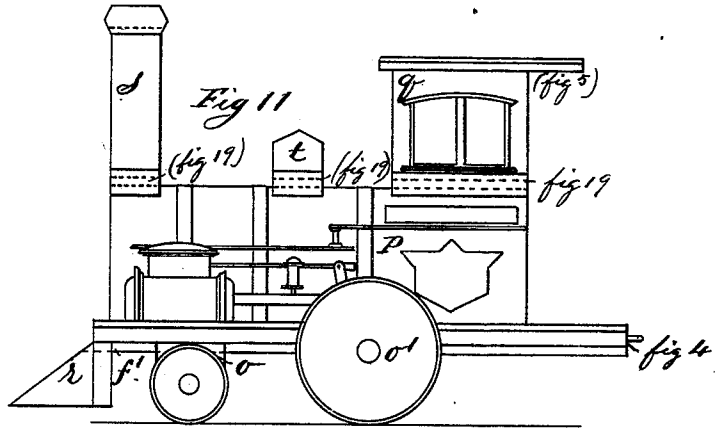


Fig 12

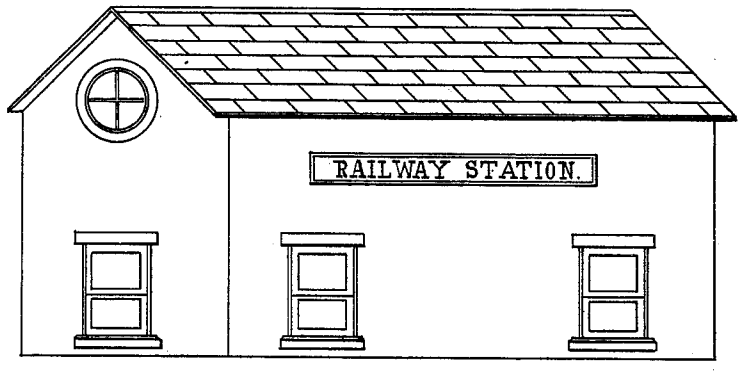


Fig 14

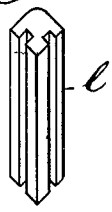


Fig 13

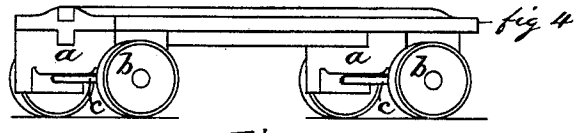
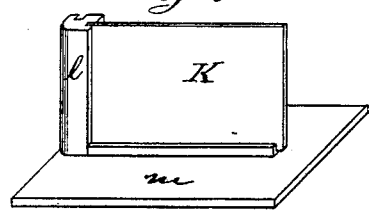


Fig 15



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3 Sheets—Sheet 3.

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Fig 16

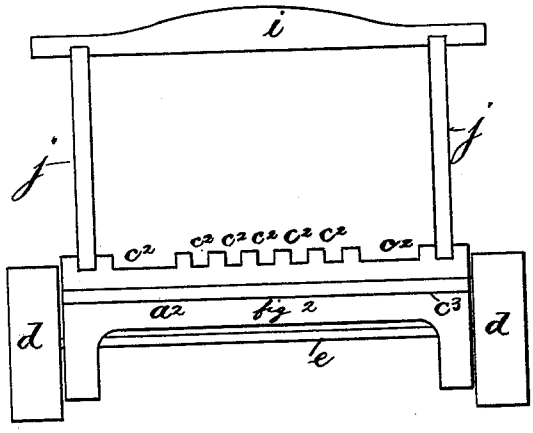


Fig 17

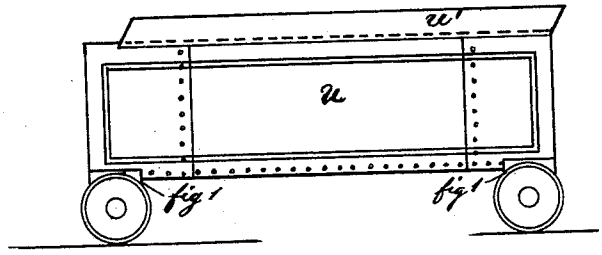
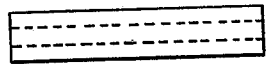


Fig 18



Fig 19



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UNITED STATES PATENT OFFICE.

MILTON BRADLEY, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN TOY CARS AND STATION.

Specification forming part of Letters Patent No. **218,700**, dated August 19, 1879; application filed June 18, 1879.

To all whom it may concern:

Be it known that I, MILTON BRADLEY, of Springfield, county of Hampden, and State of Massachusetts, have invented new and useful Improvements in Combination Mechanical Toys, which improvements are fully set forth in the annexed specification and in the accompanying drawings.

The object of my invention is the production of a variety of pieces of toys capable of being assembled into different forms and different articles; and it consists in constructing wheel-trucks for cars and locomotives and other parts of said articles, and pieces representing a variety of other carriages and objects, in and upon which are formed proper corresponding grooves and tongues, by means of which said parts may be assembled together to form an infinite variety of objects for the amusement and instruction of children.

Referring to the drawings, which consist of three sheets and nineteen figures, Figure 1 is a view of a truck with a single groove in it. Fig. 2 is a view of a truck with a variety of grooves therein. Fig. 3 is an end view of Fig. 4, which is a tongued-and-grooved bed-piece. Fig. 5 is an end view of Fig. 6, which is a grooved cap-piece. Fig. 7 is an end view of Fig. 8, the latter being a side elevation of one of a series of menagerie-wagons. Fig. 9 is a view of a railway-car. Fig. 10 is a view of two of trucks, Fig. 2, united by connecting-strips inserted in the grooves in the trucks. Fig. 11 is a side elevation of a locomotive. Fig. 12 is a view of a railway-station. Fig. 13 shows two of trucks, Fig. 1, united with the bed-piece, Fig. 4, to form a carriage. Fig. 14 is a view of a grooved corner post to car, Fig. 9. Fig. 15 is a view of the end platform to the car, Fig. 9, showing the end piece and corner post setting thereon. Fig. 16 is an end elevation of the car, Fig. 9, with the end and end platform removed. Fig. 17 is a side elevation of an engine-tender. Fig. 18 is an end view of a grooved molding, Fig. 19.

In the drawings, in Fig. 1, a is the truck, having a transverse groove, a^1. b b are the wheels. c is the axle. (Shown in dotted lines.)

In Fig. 2, a^2 is the truck, having transverse grooves c^2 therein, and a longitudinal groove, c^3, on its sides. d d are the wheels, and the axle e is shown in dotted lines. c^4 is a vertical groove on one side.

In Fig. 4, f is the groove; f', the tongue, and g g the edges of the bed-piece. In Fig. 5 the grooves in the cap-piece are designated by figures 1 2 3. In Figs. 7 and 8 is the cap-piece, Fig. 5. h is a representation of a double-sided car-body or menagerie-cage.

In Fig. 9, i is the roof to the car. j is the side. k is the end. l are corner posts. m is the platform.

In Fig. 10, n are two strips fitting edgewise into grooves c^2 in truck, Fig. 2. In Fig. 11, o is the forward, and o' the rear, truck of the representation of a locomotive, said trucks being secured to a bed-piece, Fig. 3, as heretofore described. p is the body of the engine. q is the cab, surmounted by a cap, Fig. 5. r is a cow-catcher, and s is the smoke-stack. t is a steam-dome. The parts s t q are united to the part p by sections of the grooved molding, Figs. 18 and 19.

In Fig. 17, u represents the body of a locomotive-tender, with the top piece w'.

The railway-station, Fig. 12, forms a box, whose cover hinges at the apex of the roof, arranged to contain several sets of car-trucks and other parts of the toy vehicles, and the several detached parts going to complete a locomotive and tender, as shown; also, various interchangeable parts are packed in said box, which, assembled with many of the first-named parts, form vehicles of other and great variety of interesting combinations for the amusement and instruction of children.

The leading principle upon which my combination toys are constructed is that of corresponding tongues, grooves, and edges formed on the various parts, by means of which they are interchangeable, so as to form a great variety of vehicles other than those which represent simply a railway-train or a menagerie.

In explanation of the foregoing I refer to Fig. 1, which shows a two-wheeled truck. This truck is constructed of four parts—the body a, axle c, and wheels b. On the top of body a is cut a transverse groove, a^1. A hole is made through each of its down-projecting ends for the insertion of the axle c, and the wheels are

forced solidly onto the ends thereof, so that the wheels and axle revolve together.

The truck, Fig. 2, is of the same general construction as that shown in Fig. 1; but it is provided with more grooves, c^2, across its top, a vertical groove, c^4, on one edge, and a longitudinal groove on its side.

The bed-piece, Figs. 3 and 4, is provided with a groove, *f*, of the same width as groove a^1 in truck *a*, Fig. 1, and the tongue *f'*, Figs. 3 and 4, is of the same thickness as the width of the said grooves a^1 and *f*; also, the edges *g g* of the bed-piece, Figs. 3 and 4, are of the same thickness as the said tongue *f'*.

The cap-piece, Figs. 5 and 6, is provided with three longitudinal grooves, as shown, one of which, 2, is of a uniform width with the above-named grooves a^1 and *f* in Figs. 1 and 3.

The representation of a menagerie-wagon, Fig. 8, of which Fig. 7 is an end elevation, is constructed by connecting two trucks, Fig. 1, by the bed-piece, Figs. 3 and 4, as shown in Fig. 13, inserting the piece *h*, having on its sides the representation of a cage, edgewise into groove *f*, Figs. 3 and 4, and by placing the cap-piece, Figs. 5 and 6, onto the top edge of the latter, groove 2 fitting thereon. Thus, by having a number of trucks, bed-pieces, and cap-pieces, and a variety of pieces, *h*, with representations of different animals in cages on the sides thereof, a train of wagons representing a menagerie can be easily made.

The railway-car, Fig. 9, is constructed by inserting the edges of the car sides *j* into the grooves in two of trucks, Fig. 2, nearest the wheels, putting the roof *i* onto said sides, with the top edges of the latter in the grooves in said roof, as seen in Fig. 16, inserting the back edge of platform *m* in groove c^3 in the side of truck a^2, placing the end *k* in the grooved strip on top of the platform, and putting in the grooved corner-pieces *l*.

Fig. 10 shows a maner of constructing an ordinary four-wheeled truck, by inserting the edges of two strips, *n n*, into grooves on the top of two of trucks, Fig. 2. Strips of other form, to fit the wider grooves shown on said trucks, are provided, so that other descriptions of carriages may be made.

Fig. 11 represents a locomotive, the trucks of which, *o o'*, are made substantially like the truck, Fig. 1, only that one, *o'*, has larger wheels to represent driving-wheels. Upon said trucks is secured, by the tonge and groove above described, the bed-piece, Figs. 3 and 4, and upon one end, on the under side, is placed the cow-catcher *r*, of the usual form, as shown, having a groove in its highest point, into which tongue *f'* fits.

The body P of the engine, on the sides of which are printed or otherwise formed representations of the steam-cylinder and other machinery parts, is of rectangular form, and of such a thickness as will cause it to fit edgewise into groove F in said bed-piece in the position shown.

Sections of the grooved molding, Figs. 18 and 19, are then placed on the top edge of said body P, and the smoke-stack *s*, steam-dome *t*, and cab *q* are inserted in the grooves on the upper side of said sections of moldings, Figs. 18 and 19; and upon the top edge of said cab is placed, by means of the groove 2 therein, a section of the cap-piece, Figs. 5 and 6. The enlarged upper end of the stack *s* is grooved to fit onto the end of the latter.

The represention of an engine-tender, Fig. 17, is made by setting the rectangular-shaped piece *u*, which represents the body, and on the sides of which are printed or otherwise formed figures to imitate iron plates and rivets, edgewise into the grooves a^1 of two of the trucks, Fig. 1, and by attaching piece *w'* to its upper edge. Simple staple or other connections, for uniting several vehicles in a line, may be provided in the ends of the bed-pieces, as shown in Fig. 11.

It will be seen that, by the employment with my grooved trucks, Figs. 1 and 2, of pieces of such thickness as will allow of their being inserted either edgewise or endwise into the grooves therein, a great variety of forms of vehicles may be interchangeably constructed therefrom.

When desired, pieces representing wagon-shafts may be inserted endwise into the groove c^3 in the truck-body a^2.

The parts of these combination-toys are simply and strongly made, and well calculated for the use for which they are intended.

What I claim as my invention is—

1. The combination of the grooved trucks and the bed-piece provided with the tongue *f'* and groove *f*, substantially as and for the purpose set forth.

2. The combination, with the grooved trucks, of the bed-piece provided with the tongue *f'* and groove *f*, the piece *h*, representing a menagerie-cage or analogous object, and the cap-piece, substantially as set forth.

3. The combination, with the grooved trucks, constructed as shown, of connecting-strips *n*, arranged to fit into said grooves, substantially as set forth.

4. The combination, with a one or more grooved truck-body, of an axle, *c*, inserted through said body, as shown, and having permanently fixed upon the ends thereof the wheels *b b*, substantially as described and shown.

5. The combination, with the grooved trucks, of the sides *j*, the roof *i*, the ends *k*, and the grooved corners *l*, substantially as set forth.

6. The bed-piece constructed with its edges *g g* and tongue *f'* of corresponding thickness, and having in it the groove *f*, whose width is equal to the thickness of said edges and tongue, substantially as and for the purpose set forth.

7. The combination of the grooved trucks *o o'*, the tongued-and-grooved bed-piece, the cow-catcher *r*, and the superposed parts, as shown, representing a locomotive, substantially as set forth.

8. A combination-toy, representing a locomotive-engine, tender, and railway-cars, formed of interchangeable parts, and a box, representing a railway-station, for containing the various parts of said vehicles, substantially as herein shown and described.

9. The combination, with the grooved trucks, of the bed-piece, the piece *u*, representing the body of an engine-tender, and the top piece *u'*, substantially as described and shown.

MILTON BRADLEY.

In presence of—
GEO. H. IRELAND,
H. A. CHAPIN.