No. 699,834. Patented May 13, 1902.

E. A. CANNON.

TOY BLOCKS.

(Application filed Feb. 2, 1901.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.

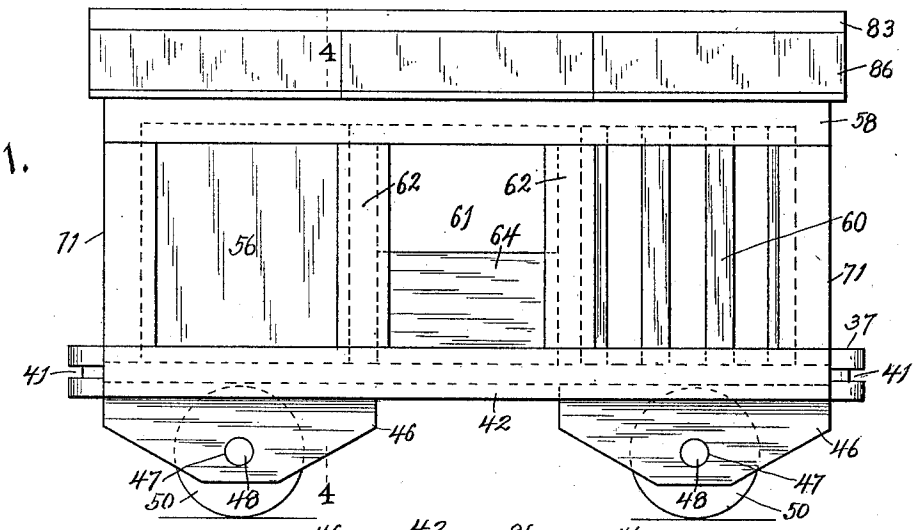


Fig. 2.

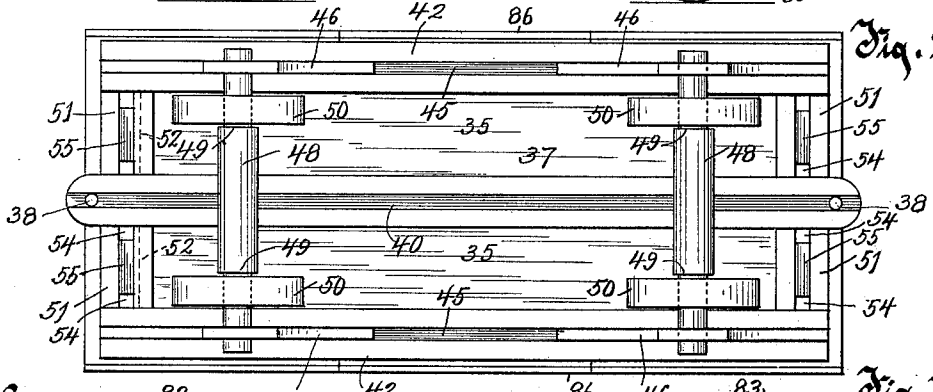


Fig. 3.

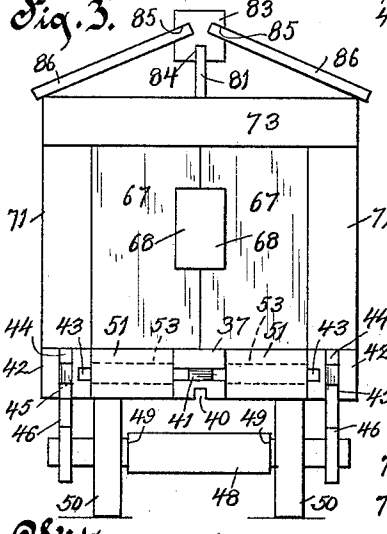


Fig. 6.

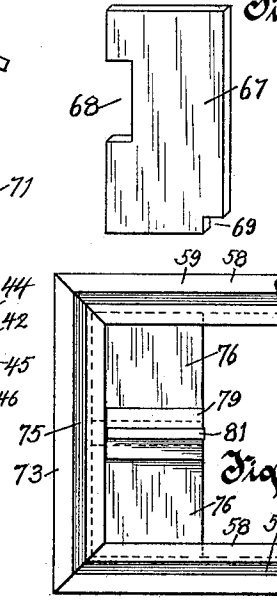
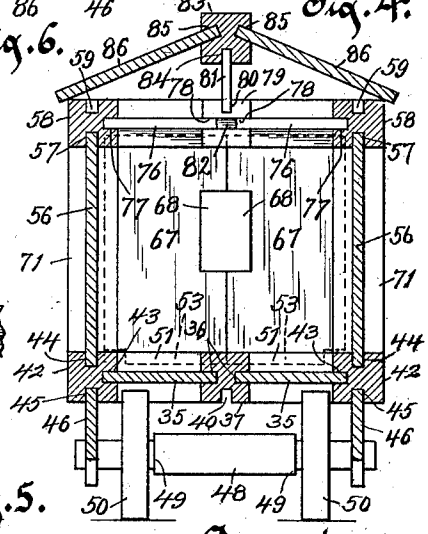


Fig. 5.

Fig. 4.



Witnesses.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 699,834. Patented May 13, 1902.

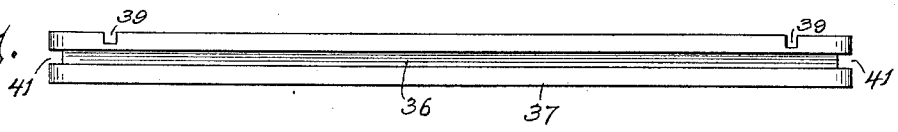
E. A. CANNON.

TOY BLOCKS.

(Application filed Feb. 2, 1901.)

(No Model.) 4 Sheets—Sheet 2.

Fig. 7.



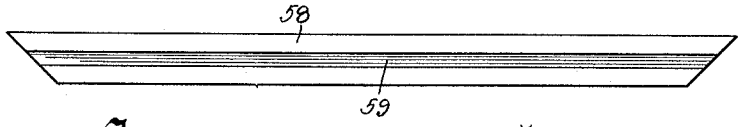


Fig. 8.

Fig. 10.

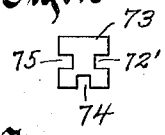


Fig. 9.

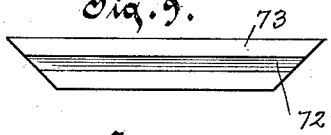


Fig. 11.

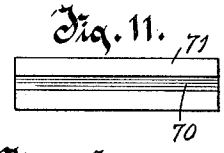


Fig. 12.

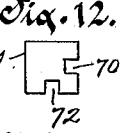


Fig. 12r.

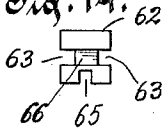


Fig. 13.

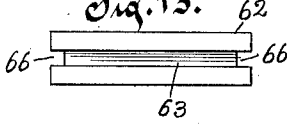


Fig. 15.

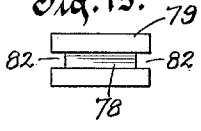


Fig. 16.

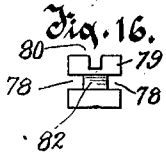


Fig. 17.

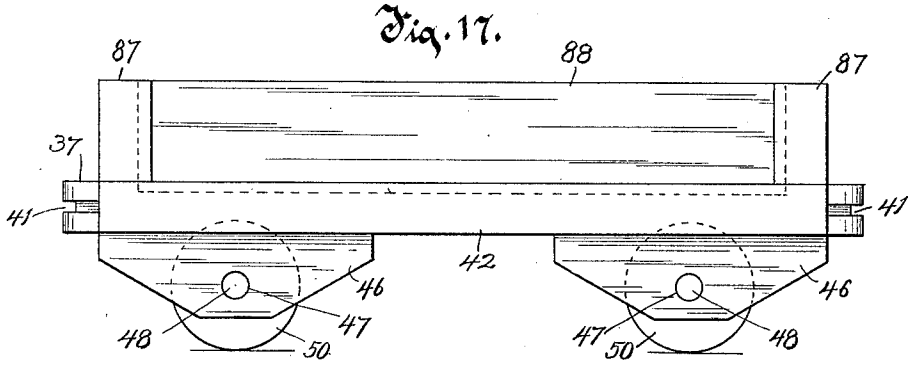
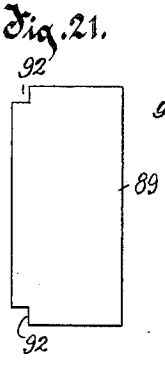


Fig. 21.



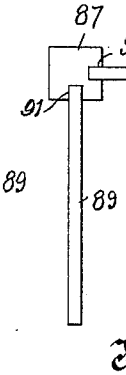


Fig. 18.

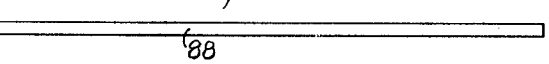


Fig. 19.

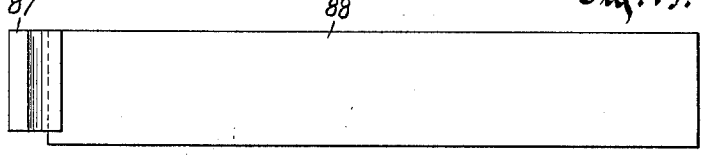
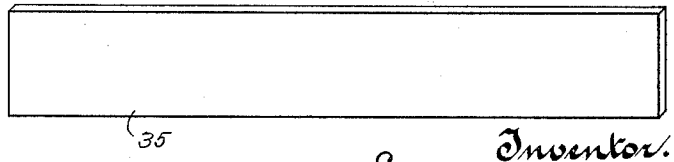


Fig. 20.



Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 699,834. Patented May 13, 1902.

E. A. CANNON.

TOY BLOCKS.

(No Model.) (Application filed Feb. 2, 1901.)

4 Sheets—Sheet 3.

Fig. 22.

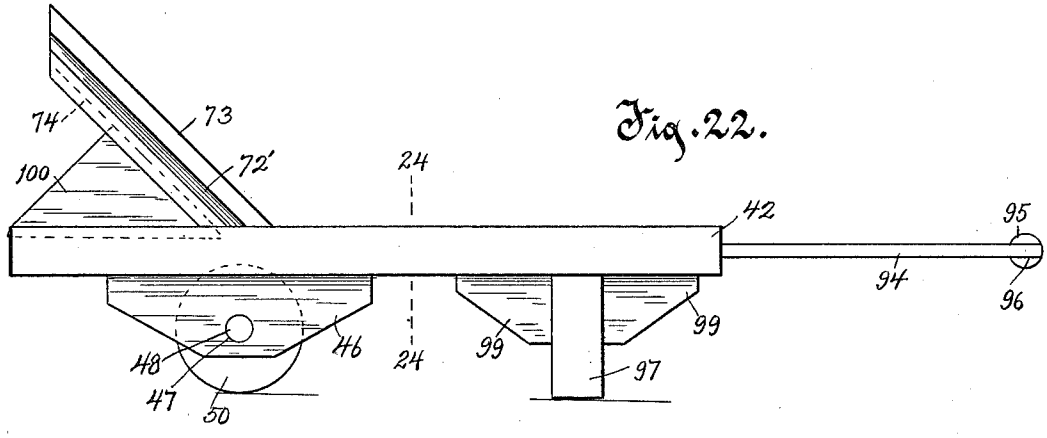


Fig. 23.

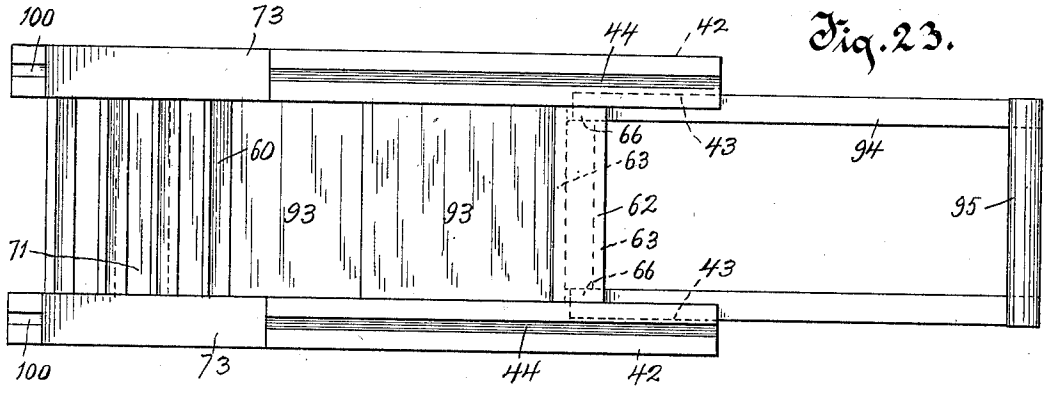


Fig. 24.

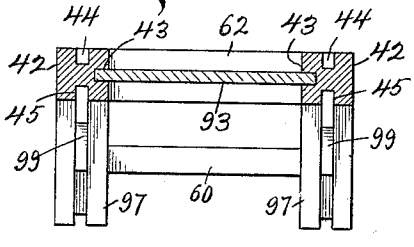


Fig. 25.

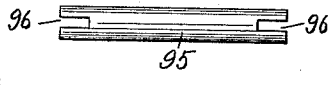


Fig. 26.

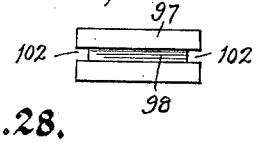


Fig. 27.

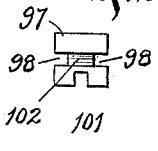
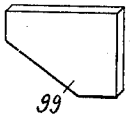


Fig. 28.



Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 699,834. Patented May 13, 1902.

E. A. CANNON.

TOY BLOCKS.

(Application filed Feb. 2, 1901.)

(No Model.) 4 Sheets—Sheet 4.

Fig. 29.

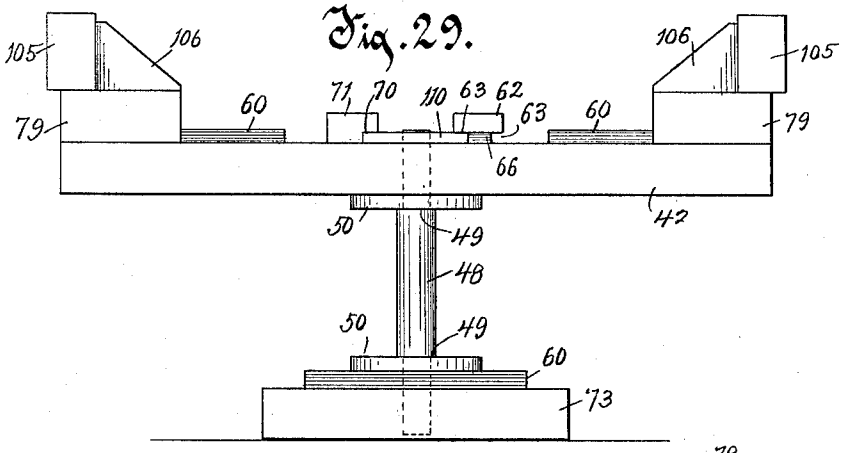


Fig. 30.

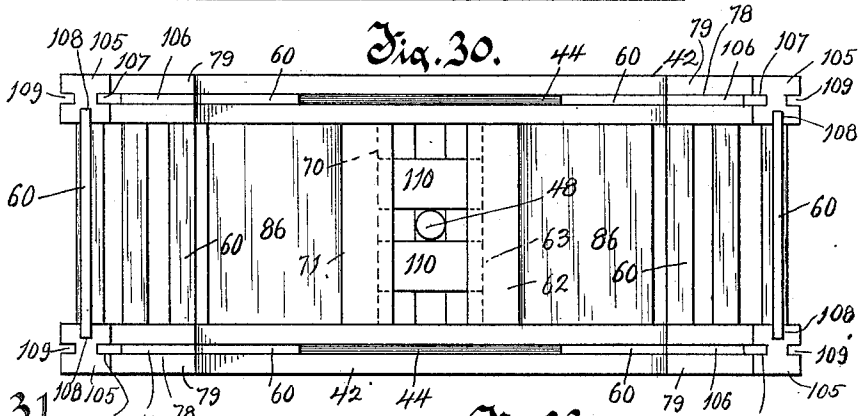


Fig. 31.

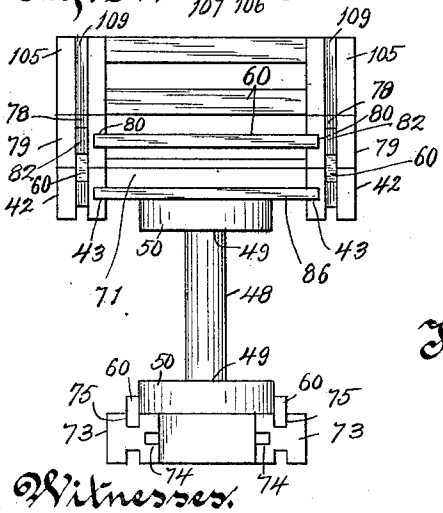


Fig. 33.

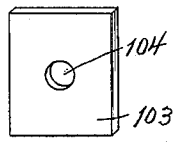


Fig. 34.

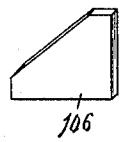
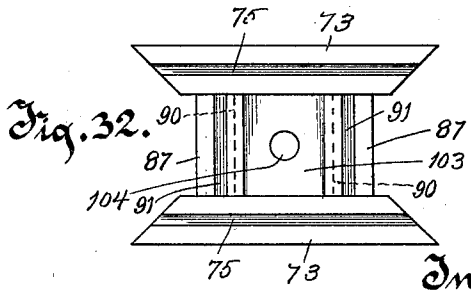


Fig. 32.



Witnesses.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD A. CANNON, OF GREENBAY, WISCONSIN.

TOY BLOCK.

SPECIFICATION forming part of Letters Patent No. 699,834, dated May 13, 1902.

Application filed February 2, 1901. Serial No. 45,679. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. CANNON, residing in Greenbay, in the county of Brown and State of Wisconsin, have invented a new and useful Improvement in Toy Blocks, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in toy blocks.

The object of the invention is to provide an improved set of toy blocks of simple construction and capable of making a variety of different articles, as the ingenuity of the child may suggest and without the necessity of employing a permanent fastening means—such as glue, nails, or rivets—to hold any of the parts together, the blocks themselves being so constructed that the parts of the different articles which are formed are detachably held together and with sufficient security to enable the article to be used as freely as if glued or otherwise fastened and yet being capable of being readily taken apart.

With the above primary object in view the invention consists of the different blocks, their peculiar construction and combination, or their equivalents, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of some of the blocks of the set formed into a combination freight and live-stock car. Fig. 2 is an inverted plan view of Fig. 1. Fig. 3 is an end view of Fig. 1. Fig. 4 is a section on the line 4 4 of Fig. 1. Fig. 5 is a fragmentary view of the upper portion of the car, showing means for securing the roof in place. Fig. 6 is a detail view of the block forming one of the end panels of the car. Fig. 7 is a detail view of the block forming the draw-bar of the car. Fig. 8 is a view of the block forming one of the longitudinal connecting-pieces at the upper portion of the side of the car. Fig. 9 is a view of the block forming one of the upper end pieces. Fig. 10 is an end view of Fig. 9. Fig. 11 is a view of the block forming one of the upright corner-pieces of the car. Fig. 12 is an end view of Fig. 11. Fig. 13 is a detail view of the block forming one of the side jambs of the doorway. Fig. 14 is an end view of Fig. 13. Fig. 15 is a detail view of the roof-supporting block. Fig. 16 is an end view of Fig. 15. Fig. 17 is a side elevation of a coal-car formed from my improved blocks. Fig. 18 is a plan view of the blocks which form one side, one corner, and one end piece of the coal-car. Fig. 19 is a side elevation of the blocks connected together which form one side piece and the corner-post of the coal-car. Fig. 20 is a detail view of the block which forms one-half of the bottom of the car illustrated in Fig. 1 and also the coal-car illustrated in Fig. 17. Fig. 21 is a detail view of the block forming one of the end pieces of the coal-car. Fig. 22 is a side elevation of a baggage-truck formed from my improved blocks. Fig. 23 is a plan view of Fig. 22. Fig. 24 is a cross-section on the line 24 24 of Fig. 22. Fig. 25 is a detail view of the block forming the handpiece of the handle of the truck. Fig. 26 is a detail view of the block forming one of the legs of the truck. Fig. 27 is an end view of Fig. 26. Fig. 28 is a detail view of one of the angle brace-blocks between the legs and the body of the truck. Fig. 29 is an elevation of a "merry-go-round" formed from my improved blocks. Fig. 30 is a plan view of Fig. 29. Fig. 31 is an end view of Fig. 29. Fig. 32 is a detail view of the blocks forming the base of the merry-go-round. Fig. 33 is a detail view of the center block which binds the base-blocks together, and Fig. 34 is a detail view of one of the angle brace-blocks forming one of the side arms of the seat of the merry-go-round.

On Sheet 1 of the drawings is illustrated a combination freight and live-stock car formed from some of my improved blocks, and Figs. 6 to 16, inclusive, represent certain blocks in detail which go to make up portions of this car. The bottom of the car is made up of two long blocks 35 35, which are fitted at their inner edges in side grooves 36 36, formed in a long central block 37. (Shown in detail in Fig. 7.) The ends of this block 37 project beyond the ends of the car, thereby forming a draw-bar, openings 38 38 being formed through the projecting ends for the connection thereto of coupling-links. In the upper side of the block 37, near opposite ends thereof, are formed cross-grooves 39 39 for the accommodation of the lower edges of the panel-blocks forming the ends of the car or for the

accommodation of the lower ends of slat-blocks when said slat-blocks are used at the end or ends of the car. The block 37 may also be provided upon its under side and throughout its length with a groove 40 and, furthermore, at its extremities with grooves 41 41. The groove 40 and grooves 41 41, while not performing any function in the construction of the combination freight and cattle car, may be found useful in building other combinations with the blocks.

To the outer edges of the panel-blocks 35 are connected the lower side blocks 42 42, said outer edges of the panel-blocks fitting in longitudinal grooves 43 43, formed on the inner sides of said blocks 42. The upper sides of these lower side blocks 42 are provided with longitudinal grooves 44 44 for the accommodation of the lower edges of the side panel-blocks of the car or for the reception of the lower ends of the slat-blocks, as the case may be. The said lower side blocks 42 are also provided longitudinally of their lower sides with grooves 45 for the accommodation of the upper edges of blocks 46 46, said blocks 46 being provided with openings 47, which openings form bearings for the reduced ends of spindle-blocks or axle-blocks 48 48. The reduced ends of each spindle-block form two shoulders 49 49, and on said reduced ends between the shoulders 49 and the inner sides of the lower side blocks 42 are loosely mounted wheel-blocks 50. This is an important feature of my invention, inasmuch as by the construction shown and described I am enabled to mount the axles which carry the wheels in bearings without the necessity of gluing any of the parts or of using nails, rivets, or any securing means other than the fitting of the several blocks together in the manner described. It will be seen that by the particular construction adopted neither end of the axle can be disengaged from the opening of the bearing-block 46, inasmuch as in the case of lengthwise movement of the axle-block the wheel-block will contact with the inner side of the lower side block 42 before the extremity of the axle-block can become disengaged from said bearing-block.

The numerals 51 51 indicate lower end blocks. Each of these blocks is formed on its inner side with a longitudinal groove 52, in which the end edge of the bottom panel 35 fits. The top of each of these blocks is also provided with a longitudinal groove 53, which is adapted to receive the lower edge of an end panel-block of the car or the lower ends of slat-blocks, as the case may be. Each block 51 is also shown as provided with grooves 54 54 in opposite ends thereof, and which grooves are continuous with the upper groove 53, and said blocks 51 are further provided each with a bottom groove 55, which is continuous with the end grooves 54 54. While the grooves 54 54 and 55 have no particular function in the construction of the car now being described, yet they may be found useful in other combinations in which the blocks may be employed. The side panel-blocks of the car are indicated by the numerals 56 and are of rectangular form, with their lower edges fitting in the longitudinal grooves 44 in the upper sides of the lower side blocks 42 and their upper edges fitting in longitudinal grooves 57 on the under sides of upper longitudinal side blocks 58, one of said side blocks 58 being shown in detail in Fig. 8. Each upper side block 58 may also be provided on its upper side with a longitudinal groove 59, which while not serving any particular purpose in the construction of the car, yet may be found useful in other combinations of the blocks. In Fig. 1 of the drawings I have shown a portion of the side of the car as closed by the described panel-block 56, while the remaining portion of the side of the car is built up with slat-blocks 60, thereby forming a combination freight and live-stock car. The lower ends of the slats 60 are fitted in the grooves 44 of the lower side blocks 42, and the upper ends of said slat-blocks are fitted in the longitudinal grooves 57 of the upper longitudinal side blocks 58.

A doorway is provided at the center of each side of the car, (indicated by the numeral 61,) and the side jambs of each doorway are formed by blocks 62 62. (Shown in detail in Figs. 13 and 14.) Each of these blocks 62 is provided longitudinally of opposite side edges thereof with grooves 63 63. The outer of these grooves of one of the blocks receives the inner edge of the panel-block 56, and the outer of said grooves of the other block 62 receives the edge of the innermost slat 60. The inner grooves 63 of the respective blocks 62 receive the opposite side edges of a panel-block 64, which is adapted to fill in the lower portion of the doorway, and thereby form a door, partly closing said doorway. Each block 62 may be provided upon its inner side with a longitudinal groove 65 and at opposite ends with grooves 66 66. The groove 65 and the grooves 66 66 while not subserving any useful function in the construction of the car, yet may be found useful in other combinations of the blocks.

The numerals 67 67 indicate the solid end panels at the end of that portion of the car representing a freight-car, one of said panels being shown in detail in Fig. 6. Each of these panels is provided at a medial point of its inner edge with a recess 68, which when the two panels are properly adjusted register and form a window or opening, as clearly shown. The lower edges of these panels, as previously stated, fit in the grooves 53 in the top edges of the lower end blocks 51. The outer lower corner of each of these blocks is cut away to form the angle-recess 69. These angle-recesses fit over the tops of the lower side blocks 42, and the longitudinal edge of each panel-block 67 above the angle-recess fits in a longitudinal recess 70 in the inner side of the upright corner-block 71. (Shown in detail in

Figs. 11 and 12.) Each of these blocks 71 is also provided on its side facing the side panel-blocks 56 or side slat-blocks 60 with a longitudinal groove 72, which receives therein the edge of said side panel-block or the side slat-block, as the case may be. There are four of the corner-blocks 71, all constructed as described; but at the opposite end of the car or the end of the car devoted for live stock the slat-blocks 60 are employed. The upper edges of the end panel-blocks 67 are received in a longitudinal groove 72′, formed on the under side of a top-end connecting-block 73. (Shown in detail in Figs. 9 and 10.) Each of these blocks 73 is also formed on its inner side with a longitudinal groove 74. The top of said block may also be provided with a longitudinal groove 75. This latter groove 75 is not necessary to the car construction, but may be found useful in other combinations of the blocks. The ends of the upper end blocks 73 and the ends of the upper side blocks 58 are beveled off, as clearly shown in Figs. 8 and 9, so that the meeting ends of said several blocks will form a square joint.

The numerals 76 76 indicate two rectangular blocks, there being two of these blocks at opposite ends of the upper portion of the car. The side edges of these blocks fit in longitudinal grooves 77 77 upon the inner sides of the upper side blocks 58. The inner edges of each set of these blocks 76 fit in side grooves 78 78, formed in short blocks 79 79, one of said blocks being shown in detail in Figs. 15 and 16, while the end edges of these blocks 76 fit in the longitudinal grooves 74 in the top end blocks 73. In the upper edge of each of these blocks 79 is a longitudinal groove 80, and in these grooves are fitted the lower edges of rectangular blocks 81. Each block 79 may also be provided at opposite ends with grooves 82 82, which are continuous with the side grooves 78. These end grooves perform no function in the construction of the car, but may be found useful in other combinations of the blocks. The upper edges of the rectangular blocks 81 form a convenient means for detachably connecting a longitudinal ridge-block 83, said ridge-block being provided longitudinally on its under side with a groove 84, which receives the upper edges of the blocks 81. This ridge-block is provided upon opposite sides with downwardly-slanting grooves 85 85, which receive the inner edges of the slanting roof-blocks 86 86, the outer edges of said roof-blocks resting upon and being supported by the longitudinal upper side blocks 58. From this construction of the roof portion it will be seen that I provide a most convenient means for readily fitting the roof-sections together and as readily disconnecting the same.

In Figs. 17 to 21, inclusive, I illustrate some of the blocks of my set fitted together to form a coal-car. Referring now particularly to these figures, I use the blocks 42, the lower end connecting-blocks 51 51, the draw-bar block 37, the bottom blocks 35 35, the wheel-blocks 50, the axle-blocks 48, and the bearing-blocks 46, exactly the same as in the construction of the combination freight and cattle car. The upper portion of the coal-car consists of the four corner-blocks 87, the longitudinal side blocks 88, and the end blocks 89. The lower edges of the side blocks 88 are fitted in the grooves 44 in the upper sides of the blocks 42, and the opposite ends of said side blocks are fitted in grooves 90, formed in the corner-blocks 87. The opposite end edges of each end block 89 are fitted in grooves 91, formed in the inner faces of the corner-blocks. The lower edge of each end block 89 at opposite corners is formed with angle-recesses 92 92. These angle-recesses permit said end blocks 89 to fit snugly against the inner sides of the longitudinal side blocks 42 when the end edges of said side blocks 89 are fitted in the grooves 91.

On Sheet 3 of the drawings I show my improved blocks built up to represent an ordinary baggage-truck. In this construction the same longitudinal blocks 42 are employed as used in the construction of the combination freight and cattle car and in the coal-car, and also employ on the under side of the truck, near the front end thereof, the bearing-blocks 46, in which the axle 48 is journaled, and on said axle the wheels 50, said bearing-blocks being fitted in the longitudinal grooves 45 on the under side of the blocks 42. The bottom of the truck is made up of flat blocks 93 93, two preferably being employed, although one long block might be used. These blocks 93 are fitted in the grooves 43 43 of the side blocks 42. At the forward end of the truck I employ an end piece, and for this end piece I use one of the corner-blocks 71 (shown in detail in Figs. 11 and 12) of the combination freight and cattle car, and in the groove 70 of this block is fitted the forward edge of the forward bottom block 93. I also employ a rear end piece, and for this end piece I use one of the blocks 62 forming one of the side jambs of the doorway of the combination freight and cattle car, said block being shown in detail in Figs. 13 and 14. In one of the grooves 63 of this block is fitted the rear edge of the rear bottom block 93, while in the end grooves 66 66 of said block 62 and in the inner grooves 43 of the blocks 42 are fitted long blocks 94 94, which extend rearwardly for a desired distance, forming handle-bars, their rear extremities being connected by means of a cylindrical block 95, having the slotted ends 96 96, in which the ends of the handle-bar blocks 94 are fitted. The truck is provided with rear legs, and these legs are formed by blocks 97 97, one of said blocks being shown in detail in Figs. 26 and 27. Each of these blocks is provided upon opposite side edges with grooves 98 98, and in these grooves are fitted angle brace-blocks 99 99. The upper edges of these brace-blocks fit in the grooves 45 on the under sides of the side blocks 42. One of the slat-blocks

60 may extend across from one leg 97 to the other, the ends of said block 60 fitting in grooves 101 on the inner sides of the legs. The legs may also be provided at opposite ends with grooves 102, continuous with the side grooves 98. These grooves 102 perform no useful function in the construction of the truck, but may be found of advantage in other combinations in which the blocks may be used. At the forward end and upon the upper side of the truck is an inclined portion which I form from the blocks 73. (Shown in detail in Figs. 9 and 10.) In the slots 75 of these blocks are fitted the opposite ends of the slat-blocks 60. The blocks 73 are held in the inclined positions shown by means of substantially triangular brace-blocks 100, one edge of each of these blocks being fitted in the groove 74 of one of the blocks 73 and the lower edge of each of said blocks 100 being fitted in the groove 44 of the side bar 42.

On Sheet 4 of the drawings I show my improved building-blocks combined to form a so-called "merry-go-round." First describing the base of this merry-go-round, the blocks 73, which form the top end pieces of the combination freight and cattle car, are employed to form the side pieces of the base. In the top grooves 75 of these blocks 73 are fitted the slat-blocks 60. In the inner side grooves 74 of these blocks 73 are fitted the outer edges of a rectangular block 103, (see Fig. 33,) having a central opening 104. For the end pieces of the base I use the blocks 87 87, which were employed for the corner-blocks in the construction of the coal-car. In the grooves 90 of these blocks 87 are fitted the opposite side edges of the block 103. For the spindle on which the body of the merry-go-round revolves I employ one of the axle-blocks 48. I also mount on the spindle or axle block 48 and against the shoulders 49 thereof two of the wheels 50. The lower end of the spindle-block enters the opening 104 of the block 103, and the lower wheel-block 50 rests on top of the base and between the two slat-blocks 60. The wheel-block 50 thus resting on the base between the two slat-blocks 60 serves to prevent the spindle-block from sidewise tilting. The upper portion or body of the merry-go-round is composed of the longitudinal side blocks 42, and the inner side grooves 43 of said blocks receive the opposite side edges of the floor of the merry-go-round. This flooring is made up of the blocks 86, which go to make up the slanting roof of the combination freight and cattle car. In the upper grooves 44 of the longitudinal blocks 42 are fitted lengthwise the slat-blocks 60. Fitted lengthwise of these slat-blocks 60 are the blocks 79 (shown in detail in Figs. 15 and 16) and which were used in the construction of the combination freight and cattle car in assisting to support the roof. In the grooves 80 of these blocks 79 are fitted the opposite ends of other of the slat-blocks 60, said slat-blocks extending transversely and forming the bottoms of the seats at opposite ends of the merry-go-round. Extending upwardly from the outer ends of the blocks 79 79 are upright blocks 105 105. Substantially triangular blocks 106 are fitted in grooves 107, formed in one side of the blocks 105. The lower edges of the triangular blocks 106 fit in the grooves 78 of the blocks 79. The blocks 105 are also provided upon their inner faces with longitudinal grooves 108, and in these grooves are fitted other of the slat-blocks 60, said slat-blocks forming the back of the seat. The upright blocks 105 are also shown as provided on their outer faces with longitudinal grooves 109. These grooves, however, perform no useful function in the construction of the merry-go-round, but may be found useful in other combinations of the blocks. In order to prevent the body of the merry-go-round from sidewise play or tilting, it is necessary to provide a construction for that purpose. It will be noticed that the upper reduced end of the spindle-block 48 passes into a space formed between the inner non-meeting edges of the floor-blocks 86 86. The mechanism for preventing this tilting is formed by taking one of the blocks 62 (shown in Fig. 13) and the block 71 (shown in Fig. 11) and in using in connection therewith two transverse blocks 110 110 and fitting the opposite ends of said transverse blocks 110 in the respective inner grooves 63 and 70 of the blocks 62 and 71. The structure thus formed is then forced in between the longitudinal side blocks 42, as most clearly shown in Fig. 30, so that the upper reduced ends of the spindle 48 will be between the blocks 110. It is evident that from this construction the body of the merry-go-round cannot move or tilt laterally. It is of course obvious that instead of using one of the blocks 62 and one of the blocks 71 the block 71 could be omitted and two of the blocks 62 employed or the block 62 could be omitted and two of the blocks 71 employed.

The construction of the combination freight and cattle car, the coal-car, the baggage-truck, and the merry-go-round necessitates the use of all the blocks composing the set of my improved blocks. These blocks, however, can be combined together to effect almost an endless variety of combinations.

What I claim as my invention is—

1. The combination of longitudinal side connecting-blocks having longitudinal grooves on their under sides, a bottom block or blocks fitted to said longitudinal connecting-blocks, bearing-blocks fitted in the longitudinal grooves on the under side of the side connecting-blocks, said bearing-blocks provided with openings therethrough, axle-blocks having reduced ends fitting in the openings of the bearing-blocks, and wheel-blocks mounted on the reduced ends of the axle-blocks between the shoulders of said axle-blocks and the inner sides of the side connecting-blocks.

2. The combination of side connecting-

blocks provided with longitudinal grooves upon their inner sides, and with longitudinal grooves upon their under sides, end connecting-blocks provided with longitudinal grooves upon their inner sides, a bottom block or blocks having its or their side edges fitting in the side grooves of the side connecting-blocks, and its end edges fitting in the grooves of the end connecting-blocks, bearing-blocks fitted in the longitudinal grooves on the under sides of the side connecting-blocks, said bearing-blocks provided with openings therethrough, axle-blocks having reduced ends fitting in the openings of the bearing-blocks, and wheel-blocks mounted on the reduced ends of the axle-blocks between the shoulders of said axle-blocks and the inner sides of the side connecting-blocks.

3. The combination of side connecting-blocks provided with longitudinal grooves on their inner sides, a central longitudinal block provided with longitudinal grooves on its opposite side edges, and bottom blocks having their outer edges fitting in the grooves on the inner sides of the side connecting-blocks, and having their inner edges fitting in the grooves on the opposite side edges of the central longitudinal block.

4. The combination of side connecting-blocks provided with longitudinal grooves on their inner sides, a central longitudinal block provided with longitudinal grooves on its opposite side edges, two connecting end blocks at each end, and between the inner ends of each set thereof the ends of the central longitudinal block fit, said end connecting-blocks provided upon their inner sides with grooves, and bottom blocks having their outer side edges fitting in the grooves of the side connecting-blocks, and their inner side edges fitting in the side grooves of the central longitudinal block, and their end edges fitting in the inner grooves of the end connecting-blocks.

5. The combination of side connecting-blocks provided with longitudinal grooves on their inner sides, a central longitudinal block provided with longitudinal grooves on its opposite side edges, two end connecting-blocks at each end, and between the inner ends of each set thereof the ends of the central, longitudinal block fit, and project outwardly therefrom to form projecting draw-bars, said end connecting-blocks provided upon their inner sides with grooves, and bottom blocks having their outer side edges fitting in the grooves of the side connecting-blocks, and their inner side edges fitting in the said grooves of the central longitudinal block, and their end edges fitting in the inner grooves of the end connecting-blocks.

6. The combination of side connecting-blocks provided with longitudinal grooves on their inner sides, a central longitudinal block provided with longitudinal grooves on its opposite side edges, two end connecting-blocks at each end, and between the inner ends of each set thereof the ends of the central longitudinal block fit and project outwardly therefrom to form projecting draw-bars, said draw-bars having vertical openings therethrough, and said end connecting-blocks provided upon their inner sides with grooves, and bottom blocks having their outer edges fitting in the grooves of the side connecting-blocks, and their inner edges fitting in the side grooves of the central longitudinal block, and their end edges fitting in the inner grooves of the end connecting-blocks.

7. The combination of lower side connecting-blocks having longitudinal grooves in their upper sides, and also upon their inner sides, lower end connecting-blocks having longitudinal grooves in their upper sides and also in their inner sides, a bottom block or blocks having its or their outer side edges fitting in the inner side grooves of the lower connecting-blocks, and their end edges fitting in the inner grooves of the lower end connecting-blocks, upper longitudinal side connecting-blocks having longitudinal grooves upon their under sides, upper end connecting-blocks having longitudinal grooves upon their under sides, and side and end blocks forming side and end pieces, and having, respectively, their lower ends fitting in the upper grooves of the lower side and end connecting-blocks, and their upper ends fitting in the under grooves of the upper longitudinal side and end connecting-blocks.

8. The combination of lower side connecting-blocks provided with longitudinal grooves on their inner sides and also upon their upper sides, a central longitudinal block provided with longitudinal grooves on its opposite side edges and also with cross-grooves on its upper side near opposite ends thereof, two lower connecting-blocks at each end, and between the inner ends of each set thereof the ends of the central longitudinal block fit, and said lower end connecting-blocks provided upon their inner sides with grooves and also upon their upper sides with grooves, bottom blocks having their outer edges fitting in the grooves on the inner sides of the lower side connecting-blocks, and their inner edges fitting in the side grooves of the central longitudinal block, and their end edges fitting in the inner grooves of the lower connecting end blocks, upper longitudinal side connecting-blocks having grooves on their under sides, upper end connecting-blocks having grooves on their under sides, and side and end blocks forming side and end pieces and having, respectively, their lower ends fitting in the upper grooves of the lower side connecting-blocks, and in the upper grooves of the lower end connecting-blocks, and the cross-grooves of the central longitudinal block, and their upper ends fitting in the under side grooves of the upper longitudinal and end connecting-blocks.

9. The combination of a structure having side pieces, at opposite sides and ends, upper

longitudinal side connecting-blocks to which said side pieces are connected, said side connecting-blocks provided upon their inner sides with longitudinal grooves, upper end connecting-blocks to which the end pieces of the structure are connected, said upper end connecting-blocks provided upon their inner sides with grooves, two flat blocks at opposite ends, the outer edges of each of these blocks fitting in the side grooves of the upper longitudinal side connecting-blocks, and their end edges fitting in the grooves of the upper end connecting-blocks, the inner edges of said flat blocks being out of contact with each other, coupling-blocks provided with grooves in opposite sides in which grooves the inner edges of the flat blocks fit, said coupling-blocks provided upon their upper sides with longitudinal grooves, upright blocks fitting in the upper grooves of these coupling-blocks, and a roof having the ridge block or piece thereof provided upon its under side with a longitudinal groove which receives the upper edges of the upright blocks.

10. The combination with a structure having upright blocks extending upwardly from opposite ends thereof, a longitudinal ridge-block provided upon its under side with a longitudinal groove which receives the upper edges of the upright blocks, and said ridge-block provided upon opposite sides with downwardly-slanting grooves, and roof-blocks having their inner edges fitting in the slanting grooves of the ridge-block.

11. The combination of lower longitudinal side connecting-blocks having grooves upon their upper sides, lower end connecting-blocks having grooves upon their upper sides, a bottom piece connected to the lower side and end connecting-blocks, upright corner-blocks each having grooves in its two inner faces, upper longitudinal side connecting-blocks having grooves upon their under sides, upper end connecting-blocks having grooves upon their under sides, side blocks forming side pieces and having their lower ends fitting in the upper grooves of the longitudinal lower side connecting-blocks, and their upper ends fitting in the under grooves of the upper longitudinal side connecting-blocks, and their end edges fitting in one of the grooves of the upright corner-blocks, and two end blocks for forming each end of the structure, the lower ends of said blocks fitting in the upper grooves of the lower end connecting-blocks, and the upper ends thereof fitting in the under grooves of the upper end connecting-blocks, and the outer side edges of said end blocks being cut away at two corners, the longitudinal projecting edge of each between said cut-away portions fitting in one of the grooves of the upright corner-blocks.

12. The combination of lower longitudinal connecting side blocks having grooves upon their upper sides, lower end connecting-blocks having grooves upon their upper sides, a bottom piece connected to the lower side and end connecting-blocks, upper longitudinal side connecting-blocks having grooves upon their under sides, upper end connecting-blocks having grooves upon their under sides, side blocks forming side pieces and having their lower ends fitting in the upper grooves of the lower side connecting-blocks, and their upper ends fitting in the under grooves of the upper side connecting-blocks, and two end blocks forming the end piece at each end, the lower ends of said end blocks fitting in the upper grooves of the lower end connecting-blocks, and the upper ends thereof fitting in the under grooves of the upper end connecting-blocks, the inner edges of said end blocks or pieces, at medial points, provided with recesses which, when the end pieces are adjusted, register and form a window.

13. The combination of upper and lower side connecting-blocks and upper and lower end connecting-blocks, blocks forming side pieces and having their opposite ends connected to said upper and lower side and end connecting-blocks, a space being left between the inner edges of the innermost side blocks or pieces to form a doorway, blocks forming the side jambs of the doorway, said blocks provided upon their outer sides with grooves to receive the inner edges of the side blocks or pieces.

14. The combination of upper and lower side connecting-blocks and upper and lower end connecting-blocks, blocks having their opposite ends connected to said upper and lower side and end connecting-blocks and forming side pieces, a space being left between the inner edges of the innermost of the side blocks or pieces to form a doorway, blocks forming the side jambs of the doorway, said blocks provided upon their inner edges with grooves and upon their outer edges with grooves the latter grooves to receive the inner edges of the side blocks or pieces, and a door-block having its opposite side edges fitting the inner grooves of the jamb-blocks.

15. The combination of longitudinal side connecting-blocks having grooves upon their upper sides, connecting end blocks having grooves upon their upper sides, side blocks forming side pieces and having their lower edges fitting in the upper grooves of the longitudinal side connecting-blocks, and end blocks forming end pieces having their lower edges fitting in the upper grooves of the end connecting-blocks.

16. The combination of longitudinal side connecting-blocks having grooves upon their upper sides, end connecting-blocks having grooves upon their upper sides, upright corner-blocks each having longitudinal grooves in two of its faces, side blocks forming side pieces, the lower edges of said side pieces fitting in the grooves in the upper sides of the side connecting-blocks, and their end edges fitting in one of the grooves of the corner-block, and end blocks forming end pieces, said end blocks or pieces having their lower edges

fitting in the grooves of the upper sides of the end connecting-blocks, and their end edges fitting in the other side grooves of the corner-blocks.

17. The combination of side connecting-blocks having grooves in their inner sides and grooves upon their under sides, a bottom block or blocks having its or their outer edges fitting in the inner grooves of the side connecting-blocks, bearing-blocks fitting in the grooves on the under sides of the side connecting-blocks, an axle-block having its ends mounted in openings in the bearing-blocks, wheel-blocks mounted on the axle-block, leg-blocks at the rear and on the under side of the side connecting-blocks, said leg-blocks having longitudinal grooves upon opposite sides, and brace-blocks each having one edge fitting in one of the side grooves of the leg-block, and another edge fitting in the under groove of the side connecting-block.

18. The combination of side connecting-blocks having grooves in their inner sides, a bottom block or blocks having its or their outer edges fitting in the inner grooves of the side connecting-blocks, handle-bar blocks fitting in the inner grooves of the side connecting-blocks, and a handle-block connecting the ends of the handle-bar blocks.

19. The combination of side connecting-blocks having grooves in their inner sides, a rear end block having a groove upon its inner side, and provided at opposite ends with grooves, a bottom block or blocks having its or their outer side edges fitting in the inner grooves of the side connecting-blocks and the rear edge fitting in the inner groove of the rear end block, handle-bar blocks fitting in the inner grooves of the side connecting-blocks and the end grooves of the rear end block, and a handle-block connected to the ends of the handle-bar blocks.

20. The combination of side connecting-blocks having grooves in their inner sides and also upon their upper sides, a bottom block or blocks having its or their outer edges fitting in the inner grooves of the side connecting-blocks, blocks projecting upwardly from the upper sides of the forward ends of the side connecting-blocks and at a forward incline, said inclined blocks provided upon their inner sides with grooves and upon their forward sides with grooves, slat-blocks connecting the inner grooves of the inclined blocks, and brace-blocks fitted to the forward grooves of the inclined blocks and to the upper grooves of the side connecting-blocks.

21. The combination of a base-block provided with an opening therein, a spindle or axle block having its lower end revolubly fitting in said opening, longitudinal side connecting-blocks, a bottom block or blocks connected to the side connecting-blocks, and said bottom block or blocks being revolubly mounted on the upper end of the spindle-block.

22. The combination of a base-block provided with an opening therein, a spindle or axle block having its lower end revolubly fitting in said opening, longitudinal side connecting-blocks having grooves on their inner sides, a bottom block or blocks having its or their outer edges fitting the inner grooves of the side connecting-blocks, and said bottom block or blocks being revolubly mounted on the upper end of the spindle-block.

23. The combination of a base-block provided with an opening therein, blocks provided upon their inner sides with grooves which the side edges of the base-block fit, a spindle or axle block having its lower end revolubly fitting in the opening of the base-block, longitudinal side connecting-blocks, a bottom block or blocks connected to the side connecting-blocks, and said bottom block or blocks being revolubly mounted upon the upper end of the spindle-block.

24. The combination of a base-block provided with an opening therein, side bordering-blocks provided upon their inner sides with grooves which the side edges of the base-block fit, and upon their upper sides with grooves, slat-blocks fitting in the upper grooves of the border-blocks, a wheel-block seated on the base-block between the slat-blocks, the opening of said wheel-block registering with the opening of the base-block, a spindle or axle block having its lower end reduced, said reduced end revolubly engaging the registering openings of the wheel-block and the base-block, longitudinal side connecting-blocks, and a bottom block or blocks connected to the side connecting-blocks, and said bottom block or blocks being revolubly mounted on the upper end of the spindle-block.

25. The combination of a base-block provided with an opening therein, side bordering-blocks provided upon their inner sides with grooves which the side edges of the base-block engage, end border-blocks provided upon their inner sides with grooves which the end edges of the base-block engage, a spindle or axle block having its lower end revolubly fitting in the opening of the base-block, longitudinal side connecting-blocks, and a bottom block or blocks connected to the longitudinal side connecting-blocks, and said bottom block or blocks being revolubly mounted upon the upper end of the spindle-block.

26. The combination of a base-block provided with an opening therein, a spindle or axle block having its lower end revolubly mounted in the opening of the base-block, the upper end of said spindle-block being reduced, a wheel-block mounted on said reduced end, longitudinal side connecting-blocks, and a bottom block or blocks connected to the longitudinal side connecting-blocks and resting upon the wheel-block, the said bottom block or blocks being revolubly mounted upon the upper end of the spindle-block.

27. The combination of longitudinal side connecting-blocks having grooves upon their

upper sides, a bottom block or blocks connected to the side connecting-blocks, slat-blocks fitted in the upper grooves of the side connecting-blocks at the ends thereof, blocks (as 79) having grooves upon their under sides which the slat-blocks engage, and also provided with grooves upon their inner sides and upon their upper sides, slat-blocks having their opposite ends engaging said inner grooves and forming the bottom of a seat, upright blocks extending upwardly from the ends of the blocks 79, said upright blocks having grooves upon two of their faces, slat-blocks connecting the opposed grooves on the inner faces of said upright blocks, and forming the back of the seat, and brace-blocks engaging the other grooves of the upright blocks and also engaging the grooves in the upper sides of the blocks 79, said brace-blocks forming the side arms of the seat.

28. The combination of a base-block, a spindle revolubly mounted in said base-block, longitudinal side connecting-blocks, bottom blocks connected to the longitudinal side connecting-blocks, the inner edges of said bottom blocks being out of contact and thereby forming a space in the bottom, in which space the spindle extends, blocks seated upon the bottom blocks and between the inner sides of the longitudinal side connecting-blocks, said blocks provided upon their inner faces with longitudinal grooves, and cross-blocks having their opposite ends extending into said grooves, the space between the cross-blocks receiving the upper extremity of the spindle-block revolubly therein.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD A. CANNON.

Witnesses:

H. R. ERICHSEN,

JOHN SMITH.