March 31, 1936. L. MARX 2,035,487

TOY RAILROAD DEPOT WITH CROSSING GATE

Filed Feb. 6, 1935 2 Sheets-Sheet 1

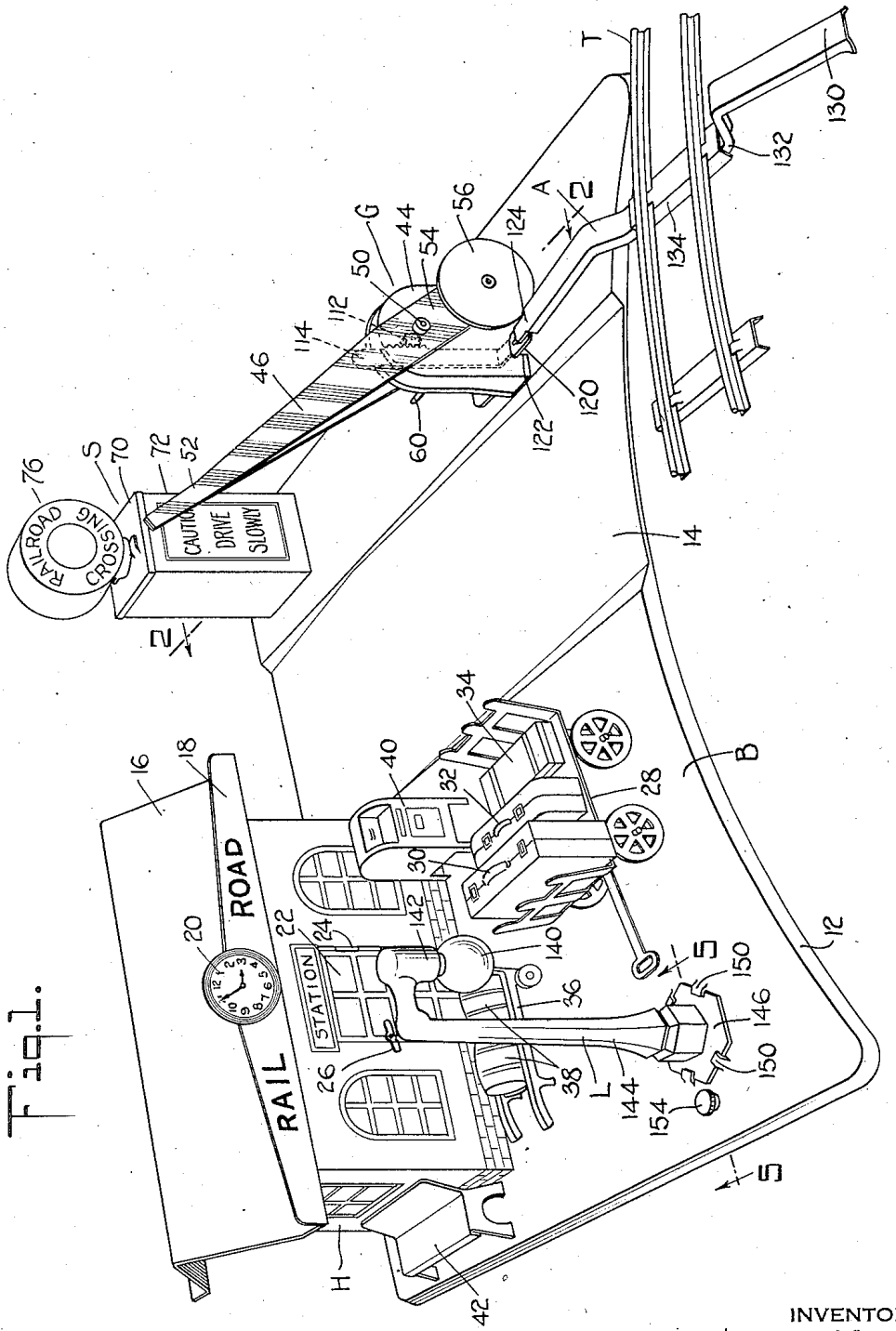


Fig. 1.

INVENTOR
Louis Marx
BY
James & Franklin
ATTORNEYS

March 31, 1936. L. MARX 2,035,487

TOY RAILROAD DEPOT WITH CROSSING GATE

Filed Feb. 6, 1935 2 Sheets-Sheet 2

Fig 2.

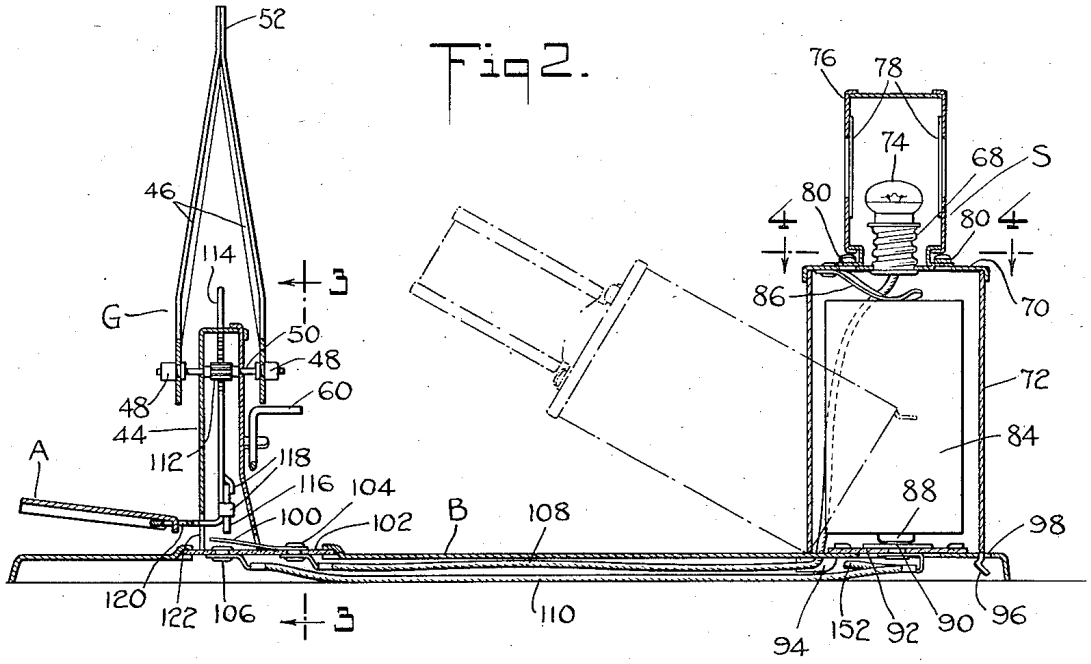


Fig 3.

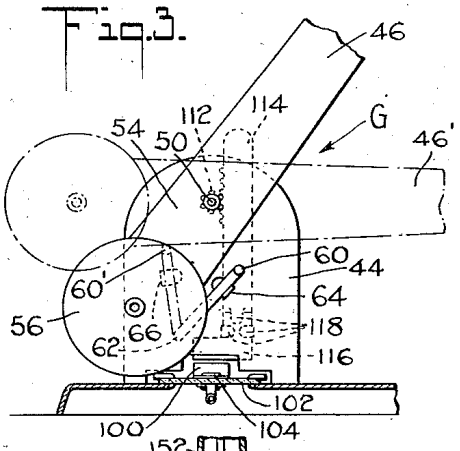


Fig 8.

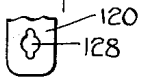


Fig 4.

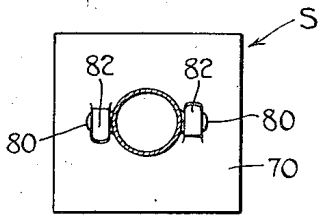


Fig 9.

Fig 5.

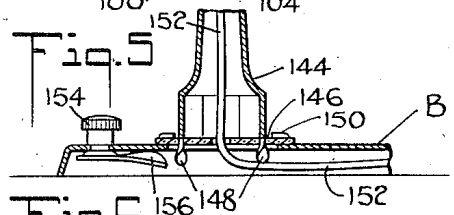


Fig 7.

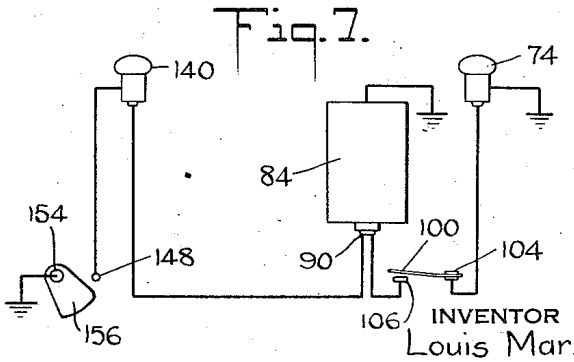
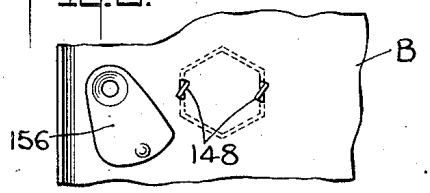


Fig 6.



INVENTOR
Louis Marx

BY
James & Franklin
ATTORNEYS

Patented Mar. 31, 1936 2,035,487

UNITED STATES PATENT OFFICE

2,035,487

TOY RAILROAD DEPOT WITH CROSSING GATE

Louis Marx, New York, N. Y.

Application February 6, 1935, Serial No. 5,208

23 Claims. (Cl. 46—216)

This invention relates to toys and more particularly to a toy railroad depot preferably combined with street crossing warning mechanism.

The primary and general object of my invention resides in the provision of a novel form of toy railroad depot or station. The toy preferably includes accessories such as a hand-car, a baggage truck and the like, which lend realism to the toy and which make the same useful with or without a toy railroad.

A further object of my invention is to increase the play value of the toy by combining therewith suitable warning mechanism such as a crossing gate or an electrically lighted danger signal, and as here illustrated the toy employs both. A street light or platform light may also be provided and is preferably energized from the same source as the signal light, said source preferably being a flashlight battery cell.

In accordance with further objects of my invention I provide manual means for operating the crossing gate and additional means interconnecting the crossing gate and the danger signal for simultaneous operation of both warnings.

While the toy railroad station is useful even without associating the same with a toy railroad, I provide additional means readily attachable to or detachable from the toy for affording automatic operation of the warning mechanism upon approach of a toy train. In accordance with a further object and feature of my invention the desired automatic operation is obtained while using standard sections of toy railroad track. The toy station may therefore be used with a variety of kinds of toy railroad and regardless of whether electrically or mechanically operated, and may be used at any desired point on the regular track system of the toy railroad.

To the accomplishment of the foregoing and other objects which will hereinafter appear, my invention consists in the toy railroad depot and crossing mechanism elements and their relation one to the other as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawings in which:

Fig. 1 is a perspective view of a toy embodying features of my invention;

Fig. 2 is a transverse section taken on the plane of the line 2—2 of Fig. 1;

Fig. 3 is a partially sectioned elevation of the crossing gate mechanism, taken on the plane of the line 3—3 of Fig. 2;

Fig. 4 is a horizontal section taken on the plane of the line 4—4 of Fig. 2;

Fig. 5 is a vertical section through the base of the lamp post taken on the plane of the line 5—5 of Fig. 1;

Fig. 6 is an inverted plan view of the lamp post switch mechanism;

Fig. 7 is a schematic wiring diagram for the toy; and

Figs. 8 and 9 are details of the detachable connection for a track supporting arm.

Referring now to the drawings, and more particularly to Fig. 1, the toy railroad station comprises a base B having mounted thereon a station building or house H, crossing gate G, danger signal S, and a street or platform light L. The warning mechanism including either signal S or gate G or both, may be operated manually whether or not the station is used in association with a toy railroad, the track of which is indicated at T, but if associated with a toy railroad, the warning mechanism and track T are preferably interconnected for automatic operation as by means of the depressible support arm A.

Considering the arrangement in greater detail, the base B is preferably formed of a single piece of sheet metal pressed to desired configuration and stiffened and elevated by a peripheral flange 12. A part of the base is depressed as indicated at 14, thus providing a street passage running transversely of the crossing gate and railroad track and adapted to be traversed by ordinary spring wound toy automobiles, trucks, and the like.

The building or house H probably needs no detailed description, being formed of sheet metal secured to the base by conventional tongue and slot connections and having a roof 16 turned upwardly at 18 to form an appropriate sign board with simulated clock 20 thereon. The building is provided with a door 22 hinged at 24 and latched at 26, the doorway being suitably dimensioned to receive sundry accessories which I provide with the toy to increase its realism and play value. One such accessory is the miniature baggage truck 28 with simulated pieces of baggage 30, 32 and 34. Another accessory is the hand-car 36 carrying kegs 38. It will be understood that the luggage and kegs are discrete and may be transferred from a toy train into the building or on to a toy truck or the like. A mail box 40 and bench 42 are also provided for local color.

Referring to Figs. 1, 2 and 3, the crossing gate G comprises a pedestal 44 assembled of two pieces of sheet metal secured together and to the base B by appropriate tongue and slot connec-

tions. The gate per se is formed of similar members 46 symmetrically mounted with respect to pedestal 44, the members 46 being secured by collars 48 to a spindle 50 passing through pedestal 44. The members 46 taper in width and converge at the free end 52. The pivoted ends of members 46 are extended or prolonged beyond spindle 50 to form counterweight arms 54 receiving counterweights 56. It will be understood from inspection of Figs. 1 and 3 that the latter parts are so dimensioned with respect to pedestal 44 that there is no interference with opening of the gate.

The gate is so counterweighted as to normally move to open position. It may be closed manually by means of a crank handle 60 best shown in Fig. 3 and preferably formed of a single piece of stiff wire bent to crank shape and having its axis portion 62 passing through and pivotally mounted in pedestal 44. The innermost portion of crank handle 60 underlies one of the counterweight arms 54 (see Fig. 2) and movement of handle 60 upwardly or counter-clockwise from the position shown in solid lines at 60 to the position shown in broken lines at 60' (see Fig. 3), causes the same to bear against and to upwardly move counterweight arm 54, thus moving the crossing gate from the open position 46 shown in solid lines to the closed position 46' shown in broken lines. It should also be noted that the handle 60' has been moved slightly past dead center and thus serves to maintain the gate in closed position against the action of the counterweights. The motion of crank 60 is preferably limited by stops 64 and 66 struck outwardly from the wall of pedestal 44.

Referring now to Figs. 1, 2 and 4, the danger signal S comprises a lamp socket 68 mounted and grounded on the top plate 70 of preferably hollow signal support or base 72. A flashlight bulb is screwed into socket 68 and is protected by a lamp housing 76, the opposite circular faces of which are cut away and provided with windows 78 preferably made of red celluloid or like material. Housing 76 is mounted on plate 70 and is readily removable therefrom by a connection including lugs 80 projecting outwardly from the neck of the housing and received in spring fingers 82 struck upwardly slightly from plate 70. It will be understood that the lamp housing is readily removed by rotating the same in order to free lugs 80 from retaining fingers 82. This affords access for replacement of lamp 74.

The hollow base or support 72 of the danger signal is preferably used to conceal a flashlight battery cell 84. The base of the cell is grounded by means of a spring contact 86, while the positive pole 88 is pushed downwardly against an eyelet 90 in an insulation slab 92 secured over a cut-away portion of base B located beneath support 72. To replace flashlight cell 84, I pivot support 72 on base B by means of a pair of L-shaped tongues 94 at one side of support 72. The support is normally held in place by a spring tongue or detent 96 passing through a mating slot 98 in the base.

While the danger signal may be independently controlled if desired, I prefer to operate the same in unison with the crossing gate. To this end I provide a normally open switch at the crossing gate, said switch comprising a leaf spring 100 mounted on a strip of insulation 102 by means of an eyelet 104 and adapted when compressed to make contact with an eyelet 106. Eyelet 104 is connected by a conductor 108 to the center terminal of lamp socket 68, while eyelet 106 is connected by a conductor 110 to eyelet 90. The switch is accordingly connected in series with the signal lamp circuit and when depressed the circuit is closed and the lamp energized.

Any desired means may be used to depress the switch upon closing of the gate. In the present case I employ pinion and rack mechanism including a pinion 112 mounted on gate spindle 50 and meshing with a vertically reciprocable rack 114, the upper end of which passes through and is guided by a slot at the top of gate pedestal 44. A piece of insulation 116 is connected near the bottom of the rack by bent tongues 118. It will be manifest from inspection of the figure, that upon closing of the crossing gate, rack 114 is moved downwardly, thus causing the piece of insulation 116 to depress switch 100 thereby energizing the danger signal.

The rack and pinion mechanism serves another function in connection with automatic operation of the gate and signal mechanism. Referring to Figs. 1 and 2, it will be noted that the lower end of rack 114 is bent outwardly toward track T forming a foot 120. The side of pedestal 44 near its base is cut away to form a passage 122 affording clearance for vertical movement of foot 120.

When the toy is used apart from a toy railroad, the foot 120 is inconspicuous and unused. A track support arm A is supplied with the toy, but also is not used. When the toy station is combined with a toy railroad, the track supporting arm A is connected to foot 120 as is shown in Figs. 1 and 2. The depressible end 124 of the arm is connected to foot 120 by means of a downwardly bent T connection 126 at the end of the arm (see Fig. 9) adapted to be received in a slot 128 in foot 120 (see Fig. 8). The arm is applied to the foot in a position parallel to the gate and is then swung at right angles to the gate.

The opposite end 130 of the arm is adapted to rest directly on the floor and acts as a fulcrum during depression of the arm. An intermediate portion 132 of the arm is shaped and dimensioned to receive a standard section of toy track and the relation of the track to the arm is preferably made definite by placing one of the conventional downwardly bent sheet metal ties 134 of the track directly over the intermediate portion 132 of the arm. It will be understood that while the intermediate portion of the arm is shown downwardly bent, it nevertheless supports the track a slight amount above floor level. It will also be understood that the counterweighting of the crossing gate is sufficient to hold the gate open even when loaded with arm A and track T. When this load is increased, however, as upon the approach of a toy train on the track, the track and arm are depressed, thereby closing the crossing gate and illuminating the danger signal. During passage of the train the depressed part 132 of the arm preferably rests on the floor. When the train passes or leaves the station, the gate is automatically opened and the signal extinguished.

Steady illumination of the toy may be provided for night-time operation by means of the street or platform light L which will be described with reference to Figs. 1, 5 and 6. The light comprises a bulb 140 threadedly received in the grounded socket end 142 of a simulated lamp post 144 preferably made of sheet metal. The base of lamp post 144 is secured to a piece of insulation 146 by means of tongue and slot connections 148.

The piece of insulation 146 is itself secured to base B by appropriate fingers 150. The center terminal of the lamp and the lamp socket are connected to a single insulated wire 152 which runs downwardly through the hollow lamp post and beneath base B all the way to the eyelet 90 beneath battery cell 84. The circuit of the street light is controlled by means of a switch 154 comprising a metallic knob passing through base B and connected beneath the base to a metallic switch plate 156 so dimensioned as to be movable beneath and to contact with one of the tongues 148 formed integrally with the lamp post structure. It will be manifest that upon closing switch 154, the lamp circuit is completed by grounding the lamp post.

The electrical wiring of the toy may of course be varied, but a wiring diagram for the particular form here illustrated is given in Fig. 7, from inspection of which it will be seen that flashlight battery cell 84 energizes street-lighting bulb 140 upon closing of grounding switch 154 which may be left in either closed or open position. Danger signal light 74 is temporarily energized upon depression of spring switch member 100, which, however, returns to open position when the signal gate is elevated.

It is believed that the mode of constructing and using, as well as the many advantages of my improved railroad depot with crossing mechanism, will be apparent from the foregoing detailed description. The toy may be sold and used apart from a toy railroad. It has its own independent lighting system, is manually operable, and because of the accessories and the ability to use the same with a toy auto or truck, possesses considerable attraction and play value wholly apart from the possibility of combining the same with a toy railroad.

The toy is instantly convertible for automatic operation with a toy railroad and in such case may be used with all types and makes of toy railroad and regardless of whether mechanically or electrically operated. The station may be placed at any part of the railroad system and only ordinary track sections are used, it being unnecessary to purchase and insert in the track system special complex fittings with depressible rail segments. Even when associated with a toy railroad, the crossing mechanism may be operated manually as well as automatically, and in fact the automatic feature may be eliminated by removal of the track support arm, should the user prefer to employ manual operation alone.

The toy is simple and inexpensive to construct and operate and may be sold at a low price, and may be used with toy railroads of even the most inexpensive type. Because of the combination of crossing gate and lighting system, the toy is realistic in operation under both day-time and night-time conditions.

It will be apparent that while I have shown and described my invention in preferred form, many changes and modifications may be made in the structure disclosed, without departing from the spirit of the invention, defined in the following claims.

I claim:

1. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, means to normally cause opening of the gate, a member having a part acting as a shaft and another part acting as a crank handle, said member being freely oscillatably mounted on another part of said pedestal, the gate and the member being so relatively located that movement of the member causes the same to move into engagement with the gate to move the gate from its open to its closed position and to maintain the same in closed position against the action of the means which normally opens the gate.

2. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted on the upper part of said pedestal, the pivoted end of said gate being projected beyond said pivot, means to normally cause opening of the gate, a crank handle oscillatably mounted on the lower part of said pedestal, the movable part of said handle coming beneath the projecting end of the gate so that upward movement of the handle causes the same to bear against and elevate the projecting end of the gate, thereby moving the gate from its open to its closed position.

3. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, the pivoted end of said gate being projected beyond said pivot, means to normally cause opening of the gate, a crank handle oscillatably mounted on said pedestal, the movable part of said handle coming beneath the projecting end of the gate and being so positioned that oscillation of the handle causes the same to bear against and to elevate the projecting end of the gate, thereby moving the same from its open to its closed position, and a stop for limiting the upward movement of the handle to a position beyond dead center in order to maintain the gate in closed position.

4. Toy railroad crossing mechanism comprising a base, a warning device mounted thereon, depressible means to operate the same, and a depressible track-supporting arm connected at one end to said means, an intermediate part of said arm being downwardly bent and so dimensioned as to receive and support a standard section of toy track, the downwardly bent intermediate part of said arm being elevated only a little above the floor level when the arm is not depressed by a passing train.

5. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, depressible means to operate said gate, and a track-supporting arm connected at one end to said means, an intermediate part of said arm being downwardly bent and so dimensioned as to receive a standard section of toy track, said track-supporting portion of said arm being normally elevated above the floor level but being depressed to the floor level on passage of a train.

6. Toy railroad crossing mechanism comprising an electrically lighted danger signal, a support therefor, a flashlight battery cell mounted in said support, normally open switch mechanism connected in the lighting circuit of said signal, depressible means to close said switch, and a track-supporting arm connected at one end to said means, an intermediate part of said arm being dimensioned to receive a standard section of toy track, said track-supporting portion of said arm being normally elevated only slightly above the floor level when the arm is not depressed by a passing train.

7. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, means to normally open the gate, a vertically reciprocable rack in said pedestal meshing with a pinion on said gate, and a track-supporting arm connected at one end to said rack, an intermediate part of said arm being dimensioned

to receive a standard section of toy track running transversely of the arm, said track-supporting portion of said arm being normally elevated above the floor level, the means to open the gate being so proportioned that the gate is normally opened but is moved to closed position upon the approach of a toy railroad train on said track.

8. Toy railroad crossing mechanism comprising a base, a pedestal on one part of said base, a crossing gate pivotally mounted on said pedestal, manually operable and automatically operable means for operating the gate, an electrically lighted danger signal mounted on said base remote from said pedestal, a normally open switch at said pedestal connected in the lighting circuit of said signal, and means for closing said switch upon operation of the signal gate.

9. Toy railroad crossing mechanism comprising a base, a pedestal on one part of said base, a crossing gate pivotally mounted on said pedestal, means normally moving the gate to open position, mechanical means for closing the gate, an electrically lighted danger signal, a support therefor mounted on said base remote from said pedestal, a flashlight battery cell mounted in said support, a normally open switch at said pedestal connected in the lighting circuit of said signal, and means for closing said switch upon closing of the signal gate.

10. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, depressible means to operate the gate, a track support arm readily detachably connected at one end to said means, an intermediate portion of said arm being dimensioned to receive a standard section of toy railroad track, and a handle oscillatably mounted on said pedestal and arranged to operate said gate, whereby said gate may be operated either manually or automatically and may be used with or without a toy railroad.

11. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, means to normally open the gate, depressible means for closing the gate, a track support arm readily detachably connected at one end to said means and resting at its other end on the floor, an intermediate portion of said arm being dimensioned to receive a standard section of toy railroad track, said intermediate portion being located above floor level, and a handle oscillatably mounted on said pedestal and arranged to close said gate, whereby said gate may be operated either manually or automatically and may be used with or without a toy railroad.

12. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, the pivoted end of said gate being extended, means to normally open the gate, a vertically movable rack in said pedestal, a pinion on said gate meshing therewith, a track support arm readily detachable connected at one end to said rack and resting at its other end on the floor, an intermediate portion of said arm being dimensioned to receive the tie of a standard section of toy railroad track, said intermediate portion being located above floor level, and a handle oscillatably mounted on said pedestal, a part of said handle bearing against the extended end of the gate for elevating the same upon movement of the handle, whereby said gate may be operated either manually or automatically and may be used with or without a toy railroad.

13. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, an electrically lighted danger signal at another part of said base adjacent said roadway, a crossing gate at another part of said base movable to block said roadway, and means interconnecting the danger signal and crossing gate for simultaneous operation.

14. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, a street or platform light at another part of said base, an electrically lighted danger signal at another part of said base adjacent said roadway, a single source of electrical energy, and independent switch mechanism for energizing said platform light and said danger signal from said source.

15. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, a street or platform light at another part of said base, a danger signal at another part of said base adjacent said roadway, a crossing gate at another part of said base movable to block said roadway, a single source of electrical energy, means connecting the same to the light and to the signal, and means interconnecting the danger signal and crossing gate for simultaneous operation.

16. A toy railroad depot comprising a base, a railroad station building at one part of said base, a street or platform light at another part of said base, a danger signal and hollow support therefor at another part of the base, a flashlight battery cell housed in said support, a switch for said light, a normally open switch for said signal, and wiring appropriately interconnecting the street light, the danger signal, the cell, and said switches.

17. A toy railroad depot comprising a base, a railroad station building at one part of said base, a danger signal and hollow support therefor at another part of the base, a flashlight battery cell housed in said support, a pedestal on said base, a crossing gate pivotally mounted on said pedestal, means to normally cause opening of the gate, means for closing said gate, a normally open switch at said pedestal with means for closing the same upon closing of the gate, and wiring appropriately interconnecting the danger signal, the cell, and said switch.

18. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, a street or platform light at another part of said base, a switch therefor, a danger signal at another part of the base adjacent said roadway, a concealed flashlight battery cell, a pedestal on said base, a crossing gate pivotally mounted on said pedestal and movable to block said roadway, means for operating said gate, a normally open switch at said pedestal with means for closing the same upon closing of the gate, and wiring appropriately interconnecting the street light, the danger signal, the cell, and said switches.

19. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, a danger signal at another part of the base adjacent said roadway, a pedestal on said base, a crossing gate pivotally mounted on said pedestal and movable to block said roadway, means for connecting the same with a toy railroad track for automatic operation, a normally open switch at said pedestal

with means for closing the same upon closing of the gate, and wiring appropriately interconnecting the danger signal, and said switch, said roadway and track being disposed transversely of one another.

20. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, a danger signal at another part of the base adjacent said roadway, a pedestal on said base, a crossing gate pivotally mounted on said pedestal and movable to block said roadway, depressible means to operate said gate, a track-support arm connected to said means at one end, an intermediate portion of said arm being dimensioned to receive a standard section of toy railroad track, a normally open switch at said pedestal with means for closing the same upon closing of the gate, and wiring appropriately interconnecting the danger signal, and said switch, said roadway and track being disposed transversely of one another.

21. A toy railroad depot comprising a relatively large base having a part simulating a roadway, a railroad station building at one part of said base adjacent said roadway, a street or platform light at another part of said base, a switch therefor, a danger signal at another part of the base adjacent said roadway, a flashlight battery cell, a pedestal on said base, a crossing gate pivotally mounted on said predestal and movable to block said roadway, depressible means to operate said gate, a track-support arm readily detachably connected to said means at one end and resting on the floor at its other end, an intermediate portion of said arm being dimensioned to receive a standard section of toy railroad track, a handle on said pedestal for manually operating said gate, a normally open switch at said pedestal with means for closing the same upon closing of the gate, and wiring appropriately interconnecting the street light, the danger signal, the cell, and said switches, said roadway and track being disposed transversely of one another.

22. A toy railroad depot comprising a base, a railroad station building at one part of said base, a street or platform light at another part of said base, a switch therefor, a danger signal and hollow support therefor at another part of the base, a flashlight battery cell housed in said support, a pedestal on said base, a crossing gate pivotally mounted on said pedestal, means to normally cause opening of the gate, a vertically reciprocable rack in said pedestal, a pinion on said gate meshing with said rack, a track-support arm readily detachably connected to said rack at one end, an intermediate portion of said arm being dimensioned to receive a standard section of toy railroad track, a handle on said pedestal for manually closing said gate, a normally open switch at said pedestal with means for closing the same upon closing of the gate, and wiring appropriately interconnecting the street light, the danger signal, the cell, and said switches.

23. Toy railroad crossing mechanism comprising a pedestal, a crossing gate pivotally mounted thereon, depressible means to operate the gate, a track support arm connected at one end to said means, an intermediate portion of said arm being dimensioned to receive a standard section of toy railroad track extending transversely of said arm, and a handle oscillatably mounted on said pedestal and arranged to operate said gate, whereby said gate may be operated either manually or automatically.

LOUIS MARX.