Nov. 29, 1955 H. G. FISHER ET AL 2,724,925

TOY VEHICLE WITH MOVABLE FIGURE

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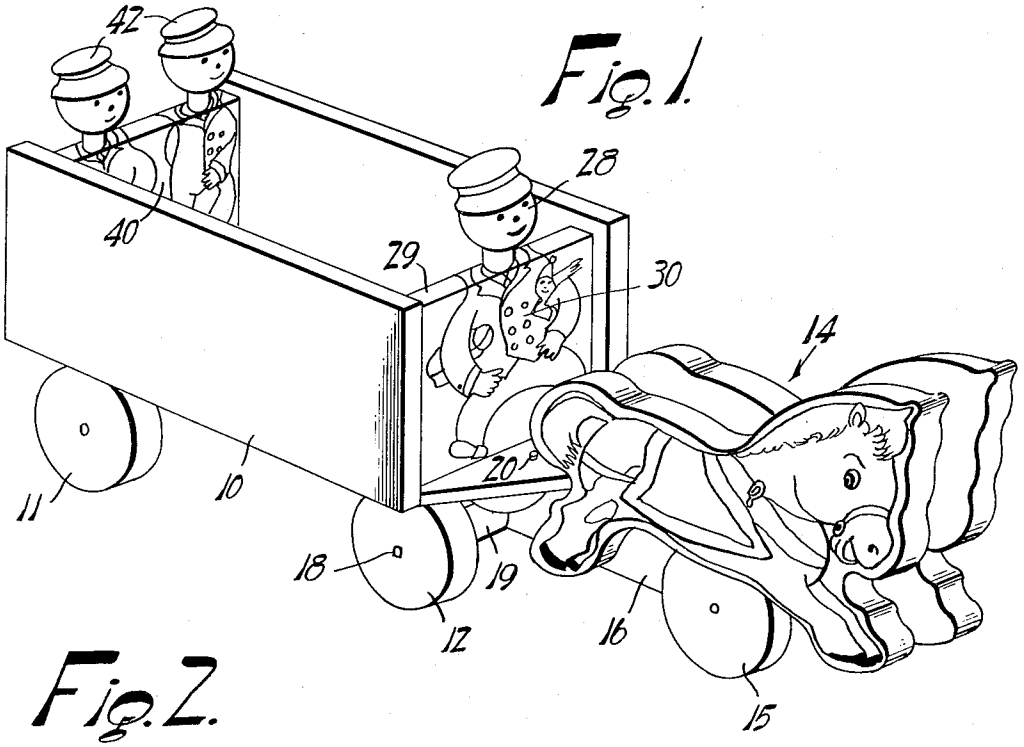
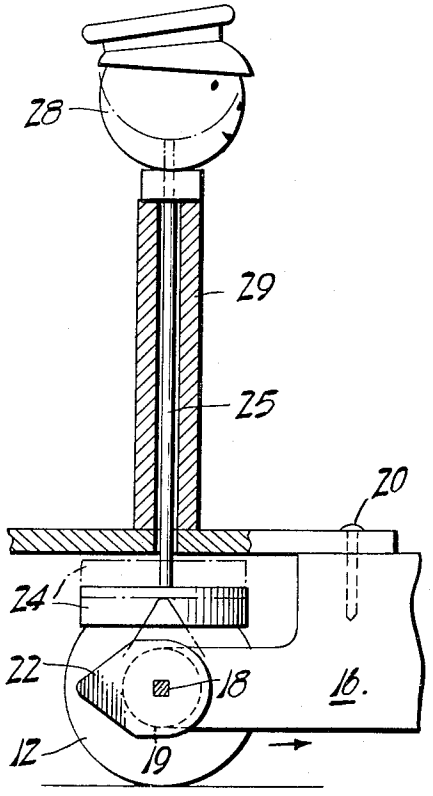


Fig. 1.

Fig. 2.



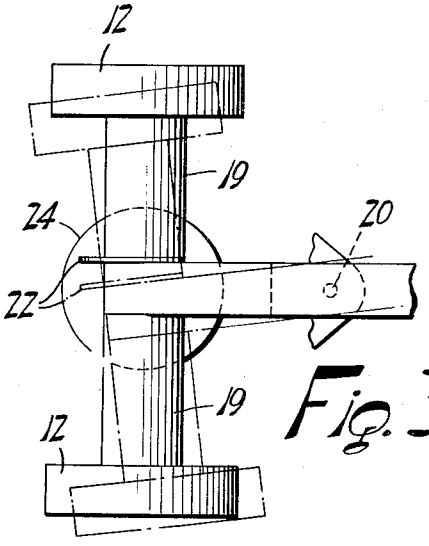


Fig. 3.

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TOY VEHICLE WITH MOVABLE FIGURE

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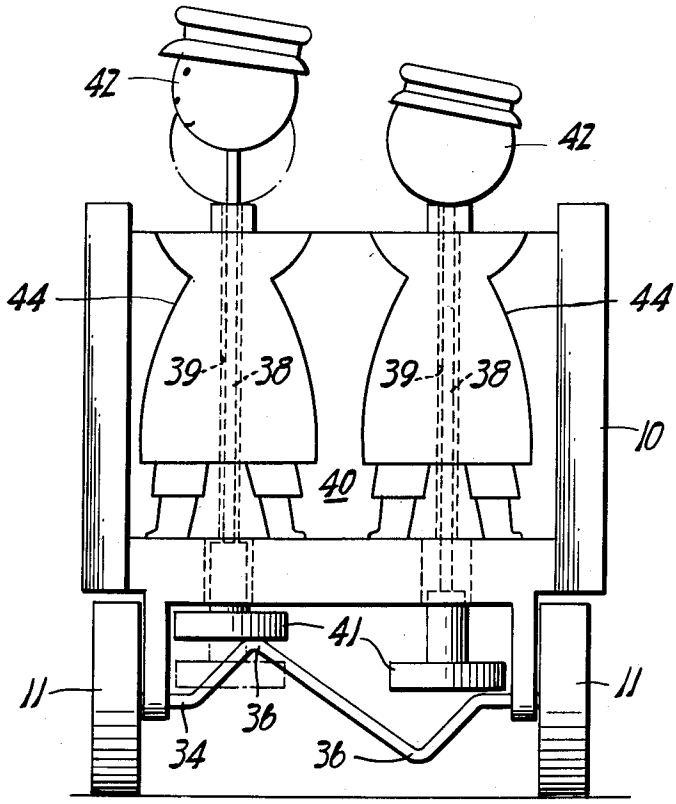


Fig. 4.

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TOY VEHICLE WITH MOVABLE FIGURE

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Application November 20, 1951, Serial No. 257,214

2 Claims. (Cl. 46—107)

This invention relates to action toys, and more particularly to toys of the type designed to be pushed or pulled across a floor or like surface and having elements thereof actuated in response to such movement.

An object of the present invention is to provide an improved toy of the aforesaid type embodying novel action effects.

Other objects and advantages of the invention will appear from the specification hereinafter.

In the drawing:

Fig. 1 is a perspective view of a toy of the invention;

Fig. 2 is a fragmentary sectional view, on an enlarged scale, through an operative portion of the toy;

Fig. 3 is a bottom plan view of the mechanism of Fig. 2; and

Fig. 4 is a rear end elevational view of another action portion of the toy.

The invention is illustrated in the drawing by way of one example thereof in conjunction with an action toy of the type simulating a delivery wagon or fire truck or the like which is horse-drawn and having a driver and riders. More specifically, as shown in the drawing the invention is embodied in a toy comprising generally a wagon-like body **10** having rear wheels **11** and front wheels **12** which are carried by a tractor unit **14** which includes a forward wheel or wheels **15** and a tongue or a beam **16**. The wheels **12—12** are mounted by means of an axle **18** at the rear end of the tongue beam **16**; the wheels **12** being maintained in proper spaced positions on the axle by means of spacers **19**. The tongue **16** is pivotally connected forwardly of the axle **18** by means of a king pin **20** to the front end of the wagon bed **10**. As shown in Fig. 2 and Fig. 3, the axle **18** is disposed rearwardly of the king pin **20**, and thus it will be appreciated that the tractor unit **14** is pivotable as a unit about the axis of the king pin **20** relative to the wagon bed **10**; and that pivotal movements of the unit **14** relative to the wagon are accompanied by angular displacements of the axle and wheel unit relative to the wagon bed, as illustrated in Fig. 3.

The axle **18** is provided with a radially extending cam element **22** which rotates with the axle, and is arranged to bear upwardly against the pedestal portion **24** of a support post in the form of a push rod **25** (Fig. 2) which extends vertically through the wagon structure and carries at its upper end a figure simulating head **28**. Thus, as shown in Figs. 1 and 2, the rod portion **25** may conveniently be extended through a suitably bored portion of the front end wall **29** of the wagon bed, and other portions of the figure anatomy corresponding to the head portion **28** may be conveniently imprinted or otherwise placed upon the bed panel **29**, as indicated at **30** (Fig. 1) Thus, the head portion **28** is disposed at the top of the wagon panel **29**, and is arranged to be alternately raised and lowered relative to the wagon bed by reason of the action of the cam device **22** against the pedestal portion **24** upon rotation of the axle **18**. Preferably the cam member **22** is offset relative to the center of the pedestal **24** in plan view, so that as the wheels **12** rotate the axle

and cam **22**, the latter not only alternately lifts up and lowers the rod **25** but simultaneously wipes against the pedestal **24** in such manner as to rotate the latter, thereby giving the head portion **28** of the toy an intermittent rotating action as well as an up and down jogging movement.

Thus, the figure head **28** is given a realistic bouncing movement as well as a sidewise turning movement such as are typical of wagon drivers. As shown in Fig. 3, the offset displacements of the king pin **20** and the push or lift rod **25** provide for radial displacements of the cam member **22** relative to the pedestal **24** incidental to wagon steering movements of the tractor unit **14**. For example, as shown in broken lines in Fig. 3, when the lead unit is pivoted to the left the cam member **22** is moved over toward the center of the pedestal **24** whereby the rotating movements imparted to the pedestal by the cam will be of reduced amplitude incidental to lifting movements of the same amplitude under any condition of steering of the lead unit. This further adds to the interest of the toy because it imparts a variable movement effect to the bouncing head **28** of the driver.

As shown in Fig. 4, the rear wheels **11—11** are carried by an axle **34** which is in the form of a bent wire or rod having a pair of eccentric extending portions **36—36** which rotate in registry with corresponding push or lift rods **38—38** which slide-fit through vertical openings **39—39** formed in the wagon tail board **40**. Pedestals **41—41** are carried at the bottom ends of the rods **38—38**, and the high portions **36—36** of the axle **34** are arranged to bear against pedestals **41** but eccentrically of the axes of the rods **38—38** whereby when the axle **34** rotates the eccentrics **36—36** alternately rise and fall and lift and lower the push rods **38—38** and simultaneously rotate the latter. Thus, the head simulating portions **42—42** at the tops of the rods **38—38** are caused to alternately bounce and turn as the toy wagon is pulled along.

It is a particular feature of the invention that the construction thereof employs the vertically standing end walls **29, 40** of the wagon to function also as journals for the lift rods **25, 38** and also as supports for the figure simultaing decor as indicated at **30** (Fig. 1) and at **44** (Fig. 4).

Although only one form of the invention has been shown and described in detail, it will be apparent to those skilled in the art that the invention is not so limited but that various changes may be made therein without departing from the spirit of the invention or the scope of the appended claims.

We claim:

1. In an action toy, a wagon bed having front and rear end walls, a lead unit comprising a tongue device and an axle mounting support wheels at the rear end of said tongue device, said lead unit being pivotally connected to the wagon bed at a position ahead of said front end wall, a cam member extending radially from said axle and rotatable therewith, a vertical push rod and means mounting said rod for vertical sliding upon the front end wall of said wagon, the lower end of said rod being in registry with said cam member for intermittent lifting and lowering of said push rod in response to rotation of said axle, a figure simulating member mounted upon the top end of said push rod, said push rod being formed at its lower end with means adapted to frictionally cooperate with said cam member at different positions eccentrically of the vertical central axis of said push rod, whereby upon steering movements of said lead unit relative to the wagon bed said cam member frictionally contacts the lower end portion of said push rod at various positions eccentrically thereof for simultaneously lifting said push rod and imparting to the latter a variable rotational speed

depending upon the degree of steering adjustment of said lead unit relative to the wagon bed.

2. In an action toy, a base, a rotatable axle mounting support wheels under said base, a cam extending radially from said axle and rotatable therewith, a vertical push rod slidably mounted upon said base and provided with a lower end portion in registry with said cam for intermittent lifting and lowering of said push rod by said cam in response to rotation of said axle, a figure simulating member mounted upon the top end of said push rod, said push rod lower end portion being adapted to frictionally contact said cam at a position eccentrically of the vertical central axis of said push rod and said cam and said axle being

mounted for movement as a unit about an axis substantially parallel to said push rod axis for shifting said frictional contact position toward and away from said push rod axis, whereby upon rotation of said axle said cam frictionally contacts said lower end portion of said push rod for simultaneously lifting said push rod and imparting thereto a variable rotational speed.

References Cited in the file of this patent

UNITED STATES PATENTS

2,404,186	Mariani	July 16, 1946
2,419,872	Beder	Apr. 29, 1947