April 28, 1953 J. J. MORSCH 2,636,315

BALLOON INFLATING PUSH TOY

Filed Dec. 13, 1951

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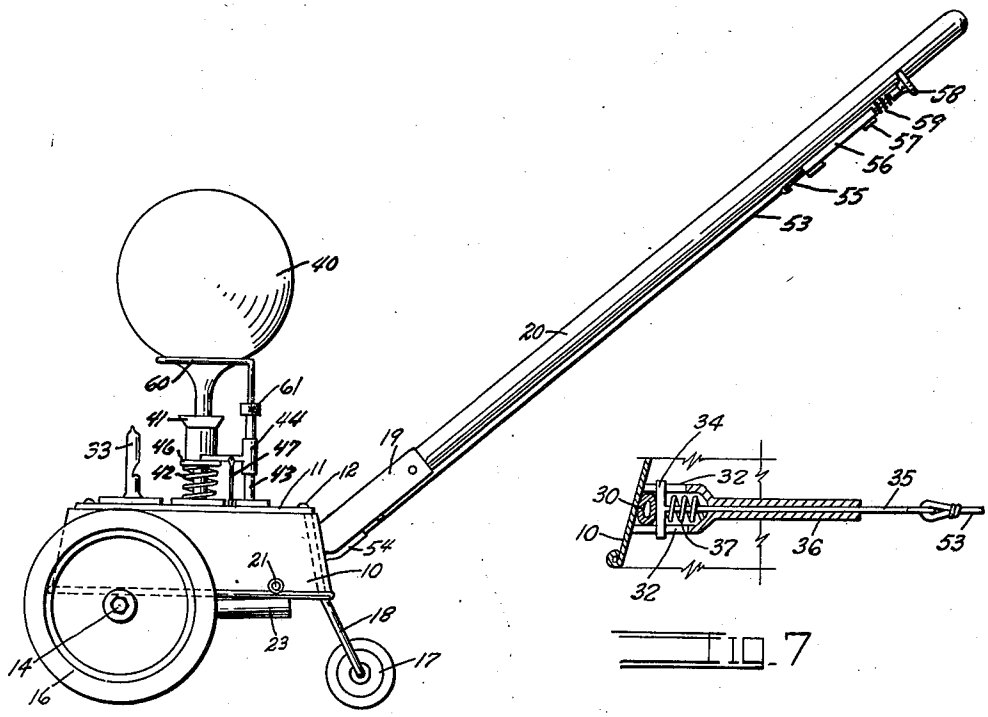


Fig. 1

Fig. 7

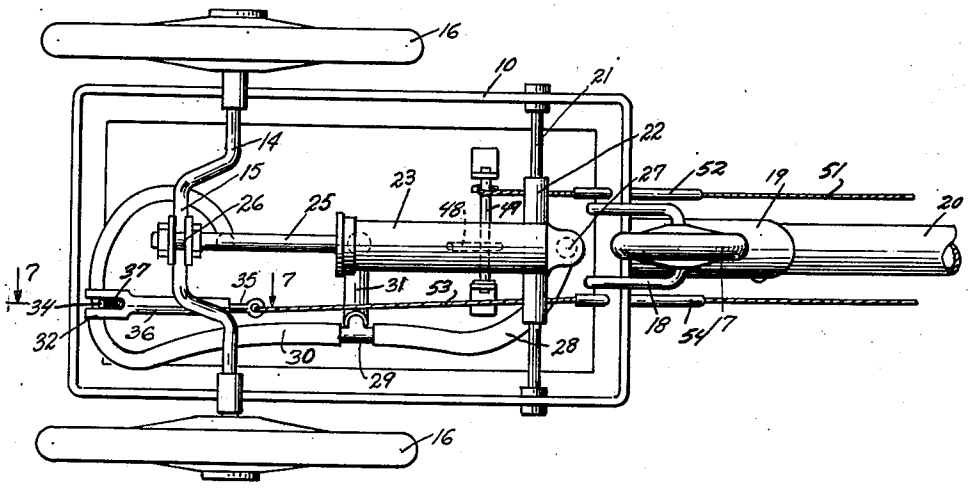


Fig. 2

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BALLOON INFLATING PUSH TOY

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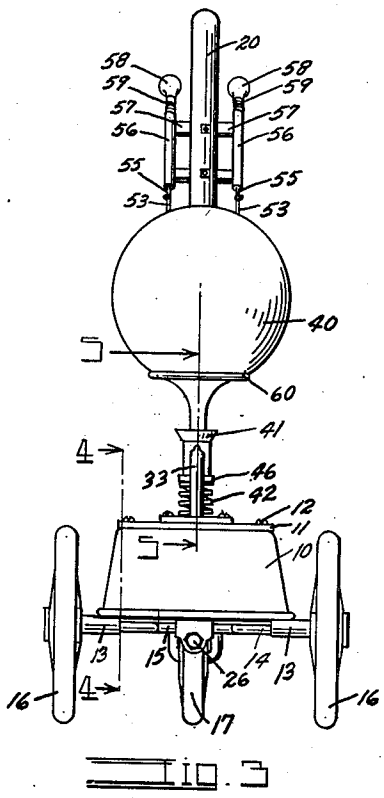


Fig. 3

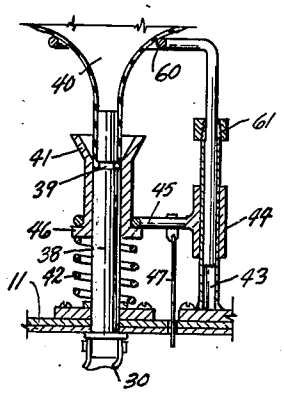


Fig. 5

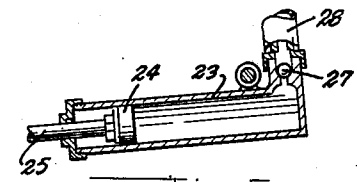


Fig. 6

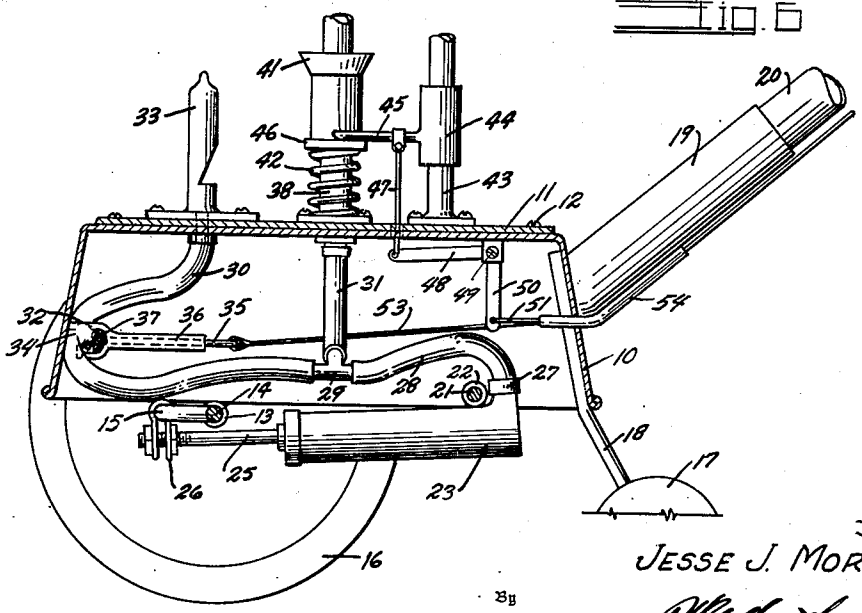


Fig. 4

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Patented Apr. 28, 1953

2,636,315

UNITED STATES PATENT OFFICE

2,636,315

BALLOON-INFLATING PUSH TOY

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Application December 13, 1951, Serial No. 261,453

2 Claims. (Cl. 46—88)

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This invention relates to a child's push toy or vehicle, and has for its principal object the provision of a toy vehicle which, when pushed along the floor, will act to compress air to inflate a balloon mounted on the toy for amusement and educational purposes.

Another object of the invention is to provide a toy vehicle with traction-actuated, balloon-inflating means, and to utilize the balloon as a compressed air reservoir for the purpose of blowing whistles and actuating other air-operated devices to enhance the child's interest in the toy.

A further object is to provide means for easily and instantly releasing an inflated balloon from a toy to allow the balloon to fly into the air with a jet-like action.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side view of the improved child's push toy;

Fig. 2 is an enlarged bottom view of the vehicle portion of the toy;

Fig. 3 is a front end view of the toy on the same scale as Fig. 1;

Fig. 4 is an enlarged, longitudinal section through the vehicle portion, taken on the line 4—4, Fig. 3;

Fig. 5 is a fragmentary, vertical, detail section through a balloon clamping and releasing device employed on the toy;

Fig. 6 is a similar fragmentary, detail section through an air pump employed on the toy; and

Fig. 7 is an enlarged, detail section of a hose-closing valve employed in the improved toy, taken on the line 7—7, Fig. 2.

The improved toy consists of an open-bottomed, sheet metal pan 10 having a top stiffening plate 11 secured over its top by means of suitable screws 12. Two aligned, axle sleeve bearings 13 are soldered or otherwise secured to the lower side edges of the pan adjacent the forward extremity thereof. The bearings 13 rotatably support a wheel axle 14 having a medial offset crank portion 15.

A traction wheel 16 is mounted on each extremity of the axle 14. At least one of the wheels

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16 is fixedly secured to the axle 14 to rotate the latter as the toy is pushed along the floor. A rear follower wheel 17 is mounted in a wheel bracket 18 which supports the rear extremity of the pan.

A handle socket member 19 projects rearwardly and upwardly from the pan 10 to receive and support a handle 20, by means of which the toy is pushed or pulled.

A pump hinge shaft 21 extends across the lower portion of the pan 10 adjacent the rear extremity thereof, upon which a pump-supporting sleeve 22 is mounted. The sleeve 22 is secured to and supports an air pump cylinder 23 in which a pump piston 24 is reciprocated by means of a piston rod 25. The piston rod 25 terminates in a crank bearing member 26 rotatably mounted on the crank portion 15 of the axle 14. It can be readily seen that rotation of the axle 14 will cause the piston 24 to pump air from the pump cylinder 23.

The air discharges from the cylinder 23 through a suitable non-return check valve 27 into a flexible pressure hose 28 terminating in a T-fitting 29. A flexible balloon-inflating hose 31 and a similar flexible whistle hose 30 lead from the T-fitting 29.

The whistle hose 30 leads through a valve yoke 32 to the stem of an air whistle 33 mounted on and projecting upwardly from the top plate 11. The valve yoke 32 is U-shaped and is secured at its extremities to the end wall of the pan 10. A plunger head 34 is movably mounted in slots in the legs of the yoke and is guided by the latter to and from the hose 30. The head 34 is mounted on the extremity of a plunger stem 35 which slides in a tubular guide sleeve 36 formed on the yoke. A spring 37, which surrounds the stem 35 and is compressed between the head 34 on the plunger and the extremity of the sleeve 36, constantly urges the head against the hose 30 to contact and close off the latter.

The balloon-inflating hose 31 leads to and connects with a riser pipe 38 which is mounted in and extends upwardly from the top plate 11. An encircling groove 39 is formed in the riser pipe adjacent its upper extremity to receive the conventional neck bead of a rubber balloon 40 when the stem or neck of the latter is forced over the upper extremity of the riser pipe 38. The neck bead is locked in the groove 39 by means of an internally tapered collet sleeve 41, the internally tapered extremity of which is constantly urged upwardly over the bead of the balloon 40 by means of a compression spring 42 which encircles the

pipe 38 and is compressed between the collet sleeve and the top plate 11.

A vertical guide rod 43 is mounted on the top plate 11 adjacent the pipe 38 and serves as a guide for a sliding sleeve 44 from which a bifurcated yoke arm 45 extends to partially encircle the collet sleeve 41 and bear against a terminal flange 46 formed on the latter.

The yoke arm 45 can be drawn downwardly to compress the spring 42 by means of a connecting cord 47 which extends into the pan 10 and terminates in one arm 48 of a bell-crank lever mounted on a rotatable lever shaft 49. The other arm 50 of the bell-crank lever extends downwardly from the shaft 49.

A balloon-releasing cord 51 extends from the arm 50 rearwardly through a guide tube 52 and upwardly along the handle 20. A whistle cord 53 extends from the valve plunger rod 35 rearwardly through a second guide tube 54 and upwardly along the handle 20.

The two cords 51 and 53 terminate in pull rods 55 which are slidably mounted in guide tubes 56 which are secured to the handle 20 adjacent the upper extremity of the latter by means of suitable bracket straps 57. Each pull rod 55 terminates in a finger button 58 which is constantly urged away from the adjacent tube 56 by means of a relatively light compression spring 59. The springs 59 are only of sufficient strength to remove any slackness from the cords 51 and 53.

A balloon-supporting ring 60 is adjustably mounted in a clamping fitting 61 on the guide rod 43 to support the balloon in a vertical position. The supporting ring is particularly valuable for supporting the exceedingly long inflatable balloons at present on the market. It may be adjusted to any desired height in the fitting 61 to fit the particular balloon being used.

Let us assume that a balloon is in place on the pipe 38 and is locked thereon by means of the collet sleeve 41. The child now pushes the toy along the floor, causing the crank axle to actuate the pump and inflate the balloon to any desired degree. If the finger button 58 connected with the whistle cord 53 be drawn rearwardly, the plunger 34 will be withdrawn from the hose 31 and the air under the pressure of the balloon will flow to the whistle to produce a loud whistling sound. If the finger button 58 connected with the balloon-releasing cord 51 be drawn upon, the collet sleeve 41 will be drawn downwardly to release the neck bead of the balloon to allow it to fly into the air under the jet action of the air escaping therefrom.

The extremity of the riser pipe above the groove 39 is reduced in diameter to facilitate gripping and releasing the balloon.

While a specific form of the improvement has been described and illustrated herein, it is to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A child's pull toy comprising: a supporting frame; a crank axle supporting said frame; supporting wheels mounted on said axle, one of said wheels being affixed to said axle; a pump cylinder reciprocally mounted in said frame; a pump plunger extending from said cylinder and connected to said crank axle so that rotation of said axle will actuate said plunger in said cylinder to pump air; an expansible reservoir supported from said frame in communication with said pump cylinder for storing the air pumped therefrom; a standpipe supported by said frame and communicating with said expansible reservoir to support and inflate the latter; releasable means securing said reservoir to said pipe so that the reservoir may be released to allow air to escape therefrom; a handle extending rearwardly and upwardly from said frame for pushing the latter; a hand-actuated member mounted on said handle; and means extending from said latter member to said releasable means for actuating the latter.

2. A child's pull toy comprising: a supporting frame; a crank axle supporting said frame; supporting wheels mounted on said axle, one of said wheels being affixed to said axle; a pump cylinder reciprocally mounted in said frame; a pump plunger extending from said cylinder and connected to said crank axle so that rotation of said axle will actuate said plunger in said cylinder to pump air; an expansible reservoir supported from said frame in communication with said pump cylinder for storing the air pumped therefrom; an air-actuated whistle supported by said frame; a conduit communicating between said whistle and said expansible reservoir; valve means for controlling the flow of air through said conduit; a handle extending rearwardly and upwardly from said frame for pushing the latter; a hand-actuated member on said handle; means extending from said latter member to said releasable means for actuating the latter; a second manually actuated member on said handle; and means extending from said second member to said valve for opening the latter to actuate said whistle.

JESSE J. MORSCH.

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