Feb. 12, 1935. K. MATSUMOTO 1,990,793

TOY

Filed Oct. 6, 1933

Fig. 1.

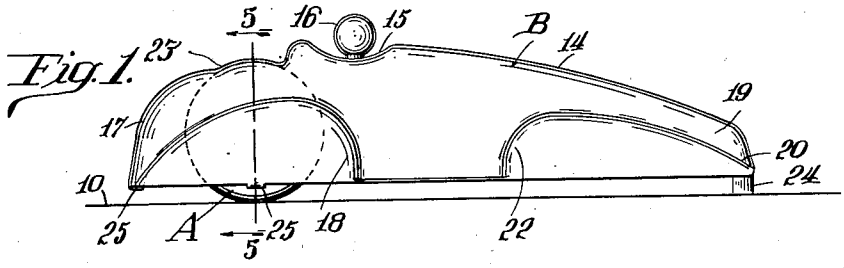


Fig. 2.

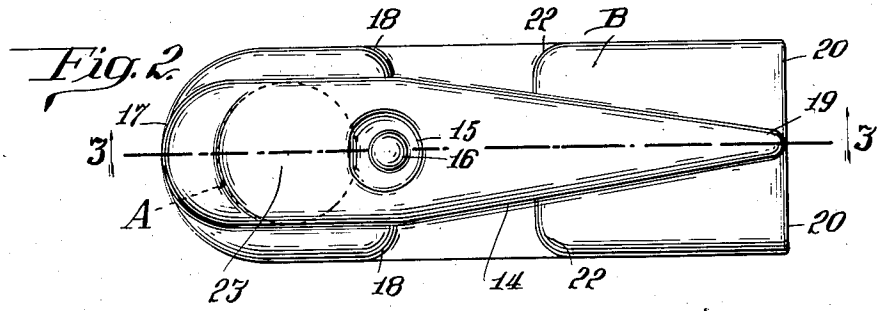


Fig. 3.

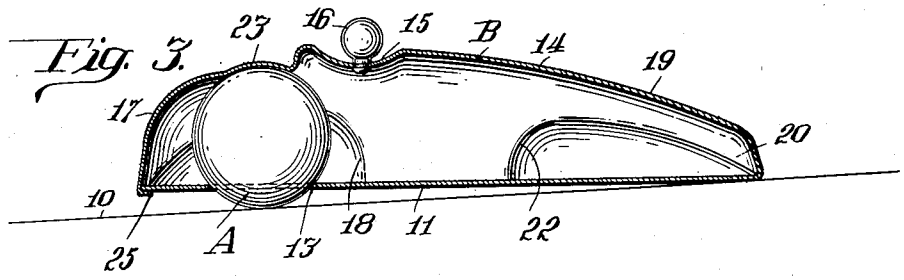


Fig. 4.

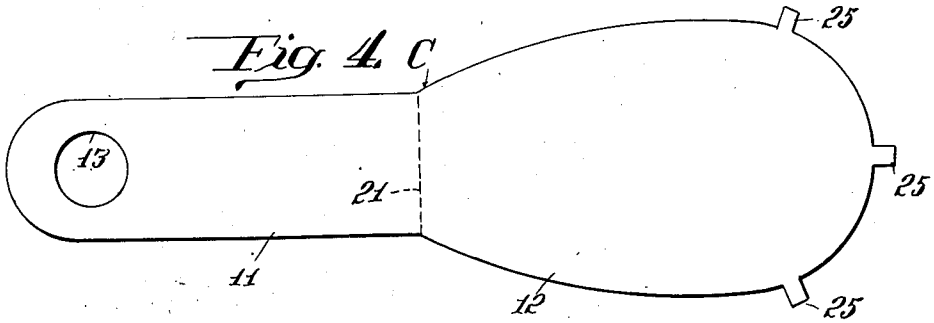
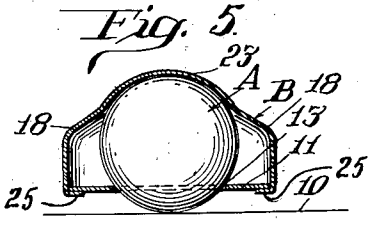


Fig. 5.



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Patented Feb. 12, 1935 1,990,793

UNITED STATES PATENT OFFICE

1,990,793

TOY

Kankuro Matsumoto, Chicago, Ill.

Application October 6, 1933, Serial No. 692,486

1 Claim. (Cl. 46—48)

The present invention relates to toys and has to do particularly with movable toys made up to simulate movable objects as automobiles, wagons and like vehicles, or as mice, beetles and other creatures which move about over flat surfaces.

In carrying out the invention I employ a heavy ball which will readily move about over a flat surface in response to slight tiltings of the surface in different directions, and then mount upon the heavy ball a light body which will be carried by the ball and moved with it in its travels over the supporting surface, but in each instance the light body has a part which engages the surface upon which the device travels and thus provides a drag which in a measure retards the travel of the device but in doing so guides it in a definite direction. This dragging function is an important feature of the present invention and clearly distinguishes it from other similar devices which if guided at all are guided by quite different means. The light bodies may be made up in different ways and of different light materials and to simulate all sorts of moving objects.

In the present instance the body simulated is an automobile of racing design. This is, of course, only typical. Since the invention may take quite different forms than the one illustrated dependence is placed upon the appended claim to cover all those forms which rightly come within the scope of the invention.

For a better understanding of the invention reference should be had to the following detailed description taken in connection with the accompanying drawing wherein Fig. 1 is a side elevation of a toy constructed in accordance with the present invention showing the tail of the toy blocked up so as to maintain the bottom of the body parallel to the supporting surface.

Fig. 2 is a plan view of the same structure.

Fig. 3 is a central longitudinal section of the same showing the ball in elevation, the plane of section being indicated by the line 3—3 of Fig. 2, the tail of the body in this case engaging the supporting surface which is shown inclined.

Fig. 4 is a plan view of the blank out of which the body is formed, the scale being somewhat reduced over that of the other figures of the drawing.

Fig. 5 is a transverse section taken on a plane indicated by the line 5—5 of Fig. 1.

Throughout these views like characters refer to like parts.

The toy consists essentially of the heavy ball A and the light body B.

The ball A is preferably a metal ball composed of lead, steel, or other heavy material. If desired it may be a ball of the kind employed in ball bearings. It freely travels over the supporting surface 10.

The body B is, in the present instance, formed out of a blank C. This blank includes a bottom portion 11 and a top portion 12 all made out of a continuous sheet of material. The bottom 11 is provided with a circular opening 13 near one end of the blank. As clearly shown the opening 13 is large enough to allow the ball A to protrude through it but not large enough to pass the ball. The opening 13 might thus be called a socket opening. It receives and holds the ball against escape.

The top portion 12 of the blank C is given sufficient width so as to furnish the material necessary to the shaping of this portion of the blank into the finished top 14 of the body B which is carried by the ball. As before noted the body is shown as that of an automobile and includes a depressed portion 15 corresponding to the cockpit of a racing machine. In this cockpit is a ball 16 which simulates the head of the driver seated down in the cockpit. The forward end 17 of the top 14 is curved downward and side projections 18 occur to simulate forward fenders while the rear of the body has an upper portion somewhat pointed as indicated at 19 while the rear end of the body provides a flat tail portion 20 which joins with the bottom 11 along the meeting line 21 at which the blank parts are folded to bring them together in assembled relation. Rear fender portions 22 are also indicated by suitable elevations upon the top 14 of the body.

The portion of the body just forward of the cockpit 15, which portion is designated 23, is spaced from the bottom 11 far enough to insure that the ball A, when bearing against the portion 23, will extend a sufficient distance through the opening 13 to properly engage the surface 10. The portion 23 thus constitutes a bearing for the ball A and this bearing, it will be noted, is located directly above the opening 11. The concave under surface of the portion 23 is spherical and thus closely engages the ball surface. This partial spherical portion 23 cooperates with the opening 13 to provide what may be termed a cage bearing for the ball A. The latter is free to rotate but is, as it were, caged and cannot escape.

If it is desired to keep the bottom of the body B parallel to the supporting surface 10 then a block 24 or other means must be employed to hold up the surface engaging tail 20 of the device. Otherwise it will drop down into contact with the surface 10 as indicated in Fig. 3. This latter

position is the one it normally occupies when traveling over the supporting surface. As clearly shown the tail 20 engages the supporting surface and provides a drag upon the traveling body B. The end of the body B which carries the ball A moves freely about as it is carried by the ball but the tail 20 is in constant contact with the supporting surface and so travels along behind the ball. Thus the general direction of travel is determined and the end 17 is always the forward end of the device and the tail 20 the rear end. Prior art devices fail to provide this tail and its directional control although some similar devices employ balls as the element for devising a light superposed structure.

It will also be noted that the bottom 11 extends a considerable distance laterally out from opposite sides of the ball A and the ball opening 13 as will appear more fully in Figs. 2, 4 and 5.

The top portion 12 of the blank is provided with a plurality of extending prongs or fingers 25 which may be readily turned over the edge of the body 11 when the top has been properly formed and the two portions bent along the line 21 so as to bring them together in final position with the ball in place. Of course, other ways of connecting the top and bottom may be employed.

It should also be noted that the material out of which the body B is formed may vary. In some instances it may be desirable to employ celluloid or other light and workable material. It is also found that sheet metal such as tin or the like may be employed. Of course, in such case the metal is very thin.

Obviously in carrying out the invention many changes may be made in respect to the materials employed and the manner of connecting them together as well as in other details without departing from the spirit and scope of the invention. I therefore do not wish to be unduly limited in this respect but aim to cover by the terms of the claim all those alterations and modifications that rightly come within the scope of the invention.

A toy comprising a relatively heavy ball adapted to roll about over a supporting surface, and a light body carried about by said ball, said body having a top of thin material shaped to simulate a traveling object and having a partial spherical inner surface for engaging the top of said ball as a bearing therefor, said body also having a bottom of thin material having a socket opening in it directly below said partial spherical surface, said opening being of sufficient size to allow said ball to protrude therethrough when in engagement with said partial spherical surface above, said bottom at a point away from said ball engaging said supporting surface and providing a drag on the toy as the latter moves about over the supporting surface, the tail following the ball in its travels, said tail being the only portion of said body which engages the supporting surface.

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