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MOVING SURFACE BALL GAME

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Fig. 1

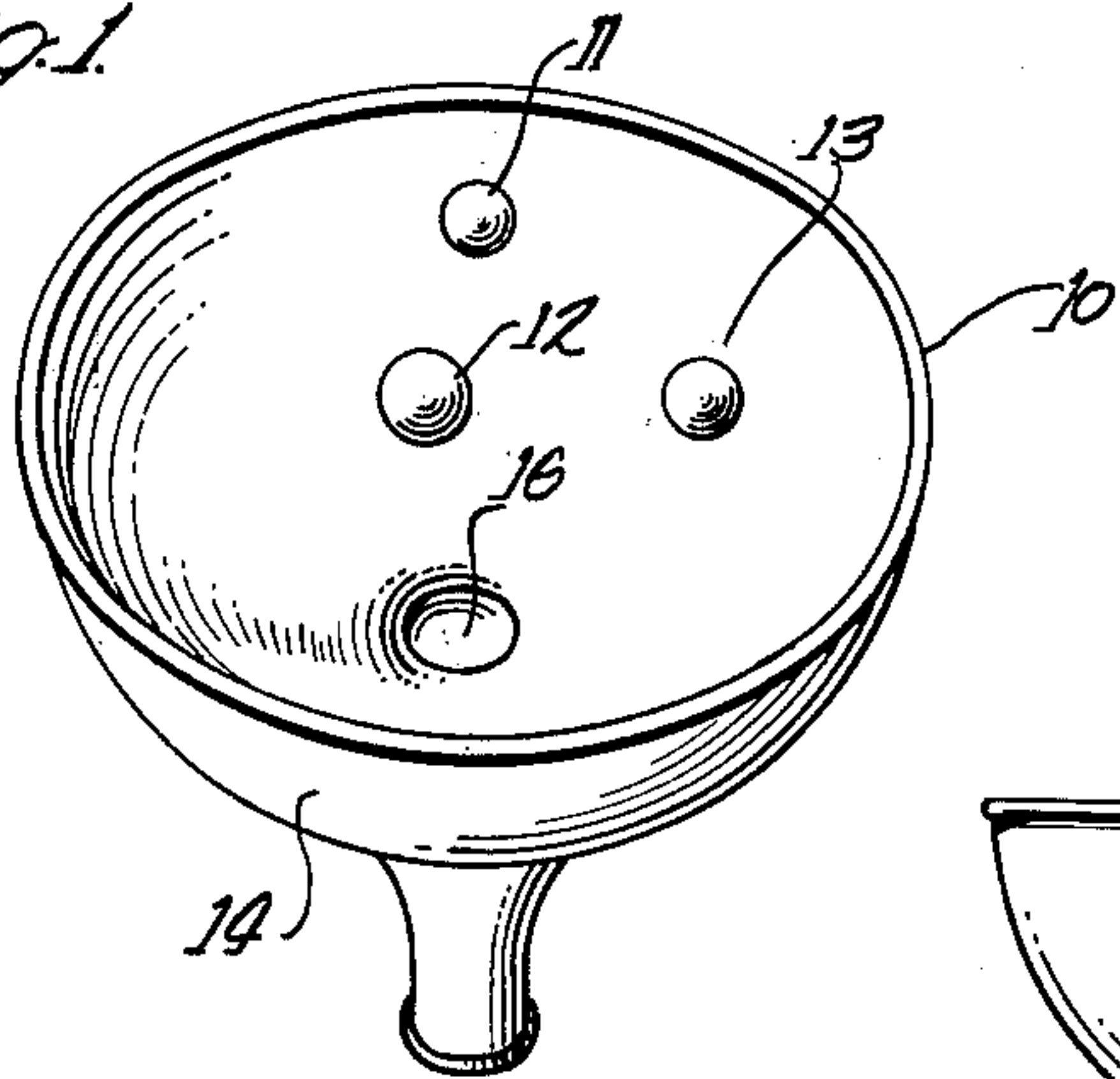


Fig. 2

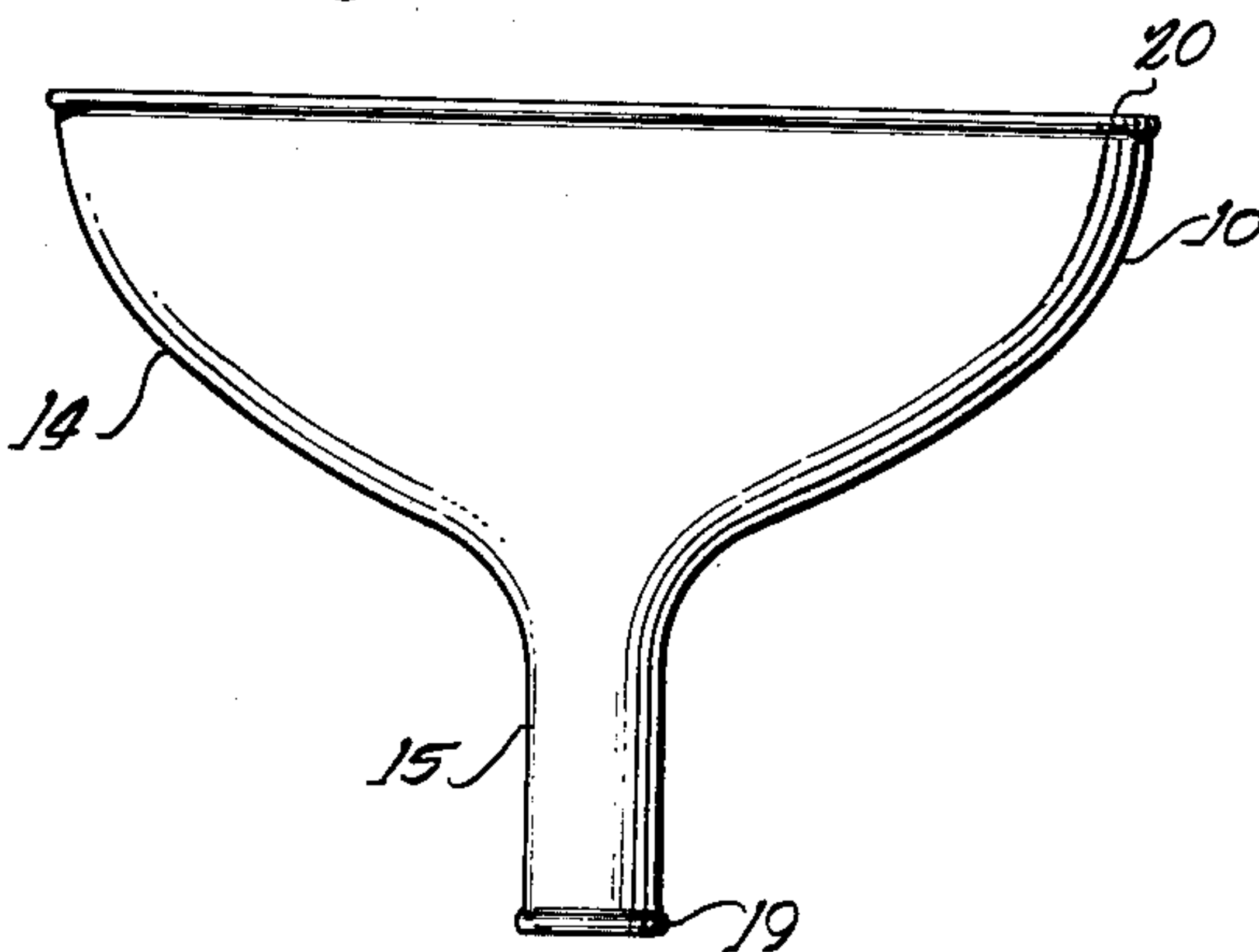


Fig. 3

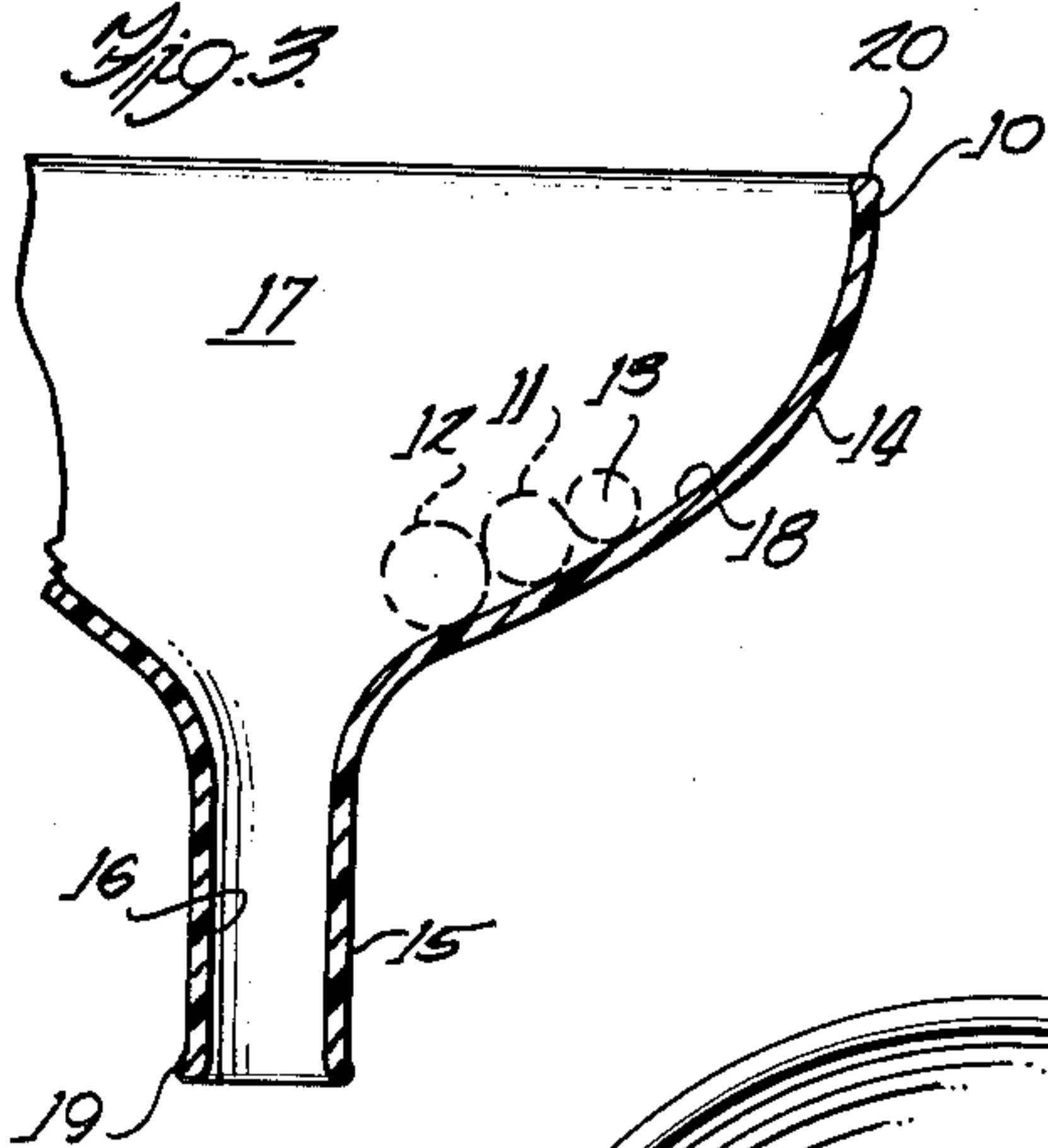
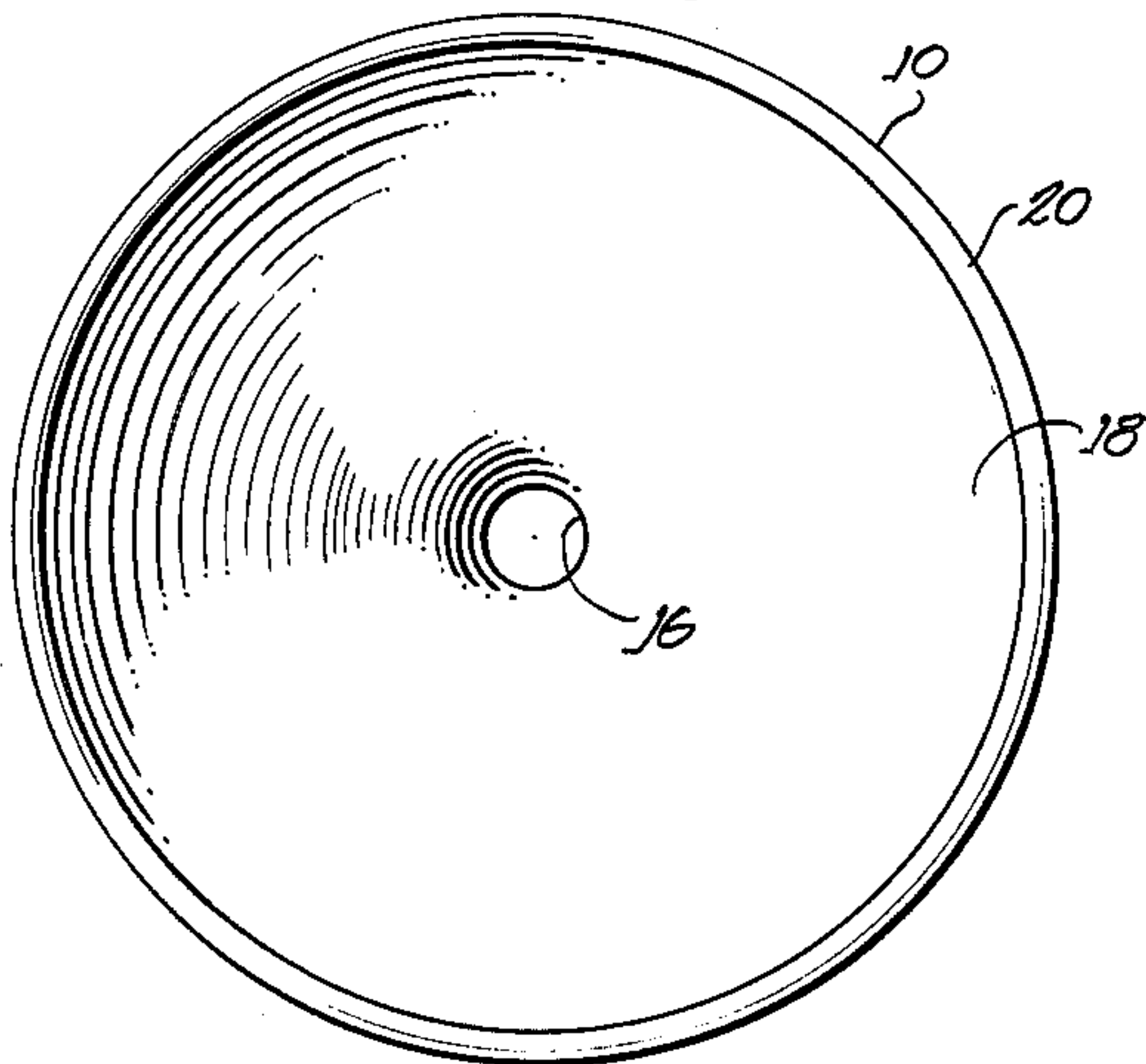


Fig. 4



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MOVING SURFACE BALL GAME

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4 Claims. (Cl. 273-113)

This invention relates to an amusement device and, more specifically, to a device adapted to be manipulated by a user for the purpose of entertainment and for improving coordination.

A principal object of the present invention is to provide an action toy adapted to be manipulated by a user, the toy requiring for its proper manipulation a careful control of the effects of inertia and of gravitational and centrifugal forces on the components thereof. Another object is to provide a sturdy toy of simple construction which is suitable for either indoor or outdoor use. A further object is to provide an amusement device requiring skill and coordination for its proper manipulation, the device including parts which separate upon improper manipulation.

Other objects will appear from the specification and drawings in which:

FIGURE 1 is a perspective view of the amusement device embodying the present invention, the balls being shown in partially suspended condition for clarity of illustration;

FIGURE 2 is a side elevational view of the holder component of the device;

FIGURE 3 is a broken vertical sectional view of the holder;

FIGURE 4 is a top plan view of the holder.

The amusement device of the present invention comprises a holder 10 and a plurality of balls 11, 12 and 13. While three balls are illustrated in the drawing, it is to be understood that a greater or smaller number may be used. The holder may be formed of any suitable material although a light weight plastic such as high-impact polystyrene is preferred. Other plastic materials, such as polyethylene or polypropylene may also be used. The balls may also be formed of plastic (either hollow or solid), but other materials such as rubber, metal or even wood have been found effective. For reasons which will presently appear, it may be desirable in some cases to form the several balls from different materials or from different thicknesses of material so that the balls differ considerably from each other in mass. All of the balls 11, 12 and 13 are spherical in shape and have smooth and regular surfaces.

As shown most clearly in FIGURES 2 and 3, the holder is generally funnel-shaped, being provided with a bowl-like upper portion 14 and an integral neck or lower portion 15. Both the upper and lower portions are circular in horizontal section throughout their entire vertical extent.

The lower portion 15 constitutes a handle for the holder and also is an outlet for at least some of the balls. Referring to FIGURES 3 and 4, it will be noted that the tubular lower portion 15 has a cylindrical passage 16 extending axially therethrough. The passage communicates at its upper end with the cavity 17 of the bowl-shaped upper portion 14, the inner surfaces of the tubular neck or lower portion 15 blending smoothly with the outwardly and upwardly sloping inner surface 18 of the upper portion. The neck is open at its lower end and, if desired, may be provided with a reinforcing bead 19. Similarly, the rim of the open-topped upper portion may be provided with a bead 20.

At least one of the balls of the group is of sufficiently smaller diameter than the inside diameter of the tubular neck so that it is capable of dropping or rolling there-

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through. In the illustration given, balls 11, 12 and 13 are all of different size but all are smaller than the passage 16 and can pass freely therethrough. The balls should be of different mass as well as of different size so that the forces required to overcome their inertia will be of different magnitude. Thus, considerable skill is necessary to start the balls in motion while at the same time retaining them within the holder.

In the operation of the device embodying the present invention, a user grips the tubular neck portion 15 in one hand and, with the holder tipped slightly to one side, drops two or more balls on to the inner surface of the holder's upper portion and adjacent the beaded rim thereof. Then, by moving the holder to overcome the inertia of the balls, and by commencing an oscillating movement of the holder while it is held in upright position, the user, if he has sufficient skill and coordination, causes the balls to roll circumferentially about the holder's inner surface 18. If the oscillation is too rapid, one or more of the balls may attain an excessive speed and fly out of the open top of the holder. On the other hand, if the oscillation is too slow, the gravitational force may exceed the centrifugal force acting on one or more of the balls and such balls, being smaller than passage 16, will drop downwardly therethrough. Therefore, the object of the game is to acquire sufficient skill and coordination to keep all of the balls revolving in the bowl-shaped holder without flying off of the upper edge thereof or dropping downwardly through the tubular handle.

While it is not necessary for operation of the device, it may be desirable to include in the group of balls a ball of large diameter such as ball 13 which, if it does not revolve rapidly enough within the holder, will drop downwardly and seat in the mouth of the tubular neck 15.

In the foregoing specification I have disclosed an embodiment of the invention in considerable detail for purposes of illustration, but is to be understood by those skilled in the art that many of these details may be varied without departing from the spirit and scope of the invention.

I claim:

1. An amusement device comprising an open-topped funnel-shaped holder having a bowl-shaped upper portion and a tubular lower portion, said lower portion comprising a handle for said holder and having a cylindrical passage extending axially therethrough and communicating at its upper end with the interior of said bowl-shaped upper portion, said handle being open at its lower end, and a plurality of balls disposed within said holder, at least one of said balls having a diameter smaller than the diameter of said passage and being capable of passing completely therethrough.

2. An amusement device comprising an open-topped funnel-shaped holder having an open-topped bowl-shaped upper portion and an integral tubular lower portion, said lower portion comprising a handle for said holder and having a smooth-walled cylindrical passage of substantially uniform diameter extending axially therethrough, said handle being open at its lower end, said bowl-shaped upper portion having a smooth inside surface merging gradually with the smooth walls of said passage, and a plurality of balls disposed within said holder, at least one of said balls having a diameter smaller than the diameter of said passage and being capable of passing completely therethrough.

3. The structure of claim 2 in which said holder has inner surfaces of circular horizontal cross section throughout their entire vertical extent.

4. An amusement device comprising an open-topped funnel-shaped holder having a bowl-shaped upper portion and a tubular lower portion, said lower portion comprising a handle for said holder and having a cylindrical passage

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extending axially therethrough and communicating at its upper end with the interior of said bowl-shaped upper portion, and a plurality of balls disposed within said holder each having a diameter smaller than the diameter of said passage, said balls being of different relative size and mass.

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