Jan. 28, 1941. D. C. DOZIER 2,229,801

TAP JUMPING ROPE

Filed April 20, 1939

Fig. 1.

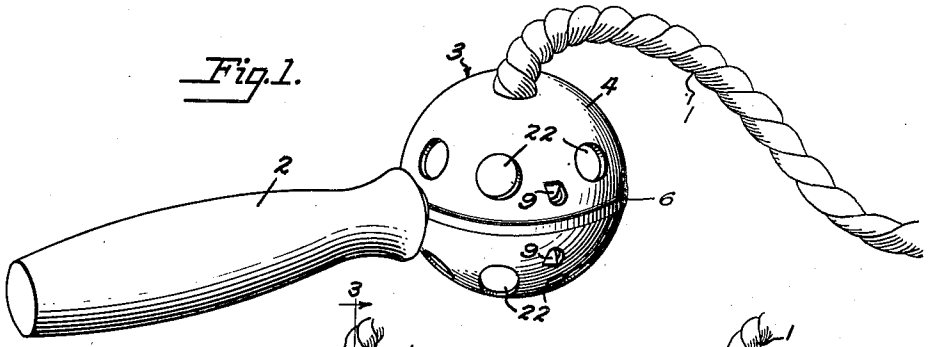


Fig. 2.

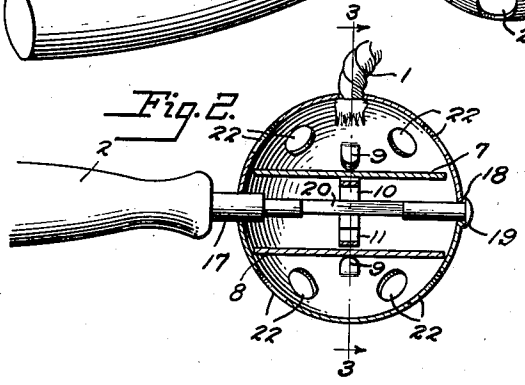


Fig. 3.

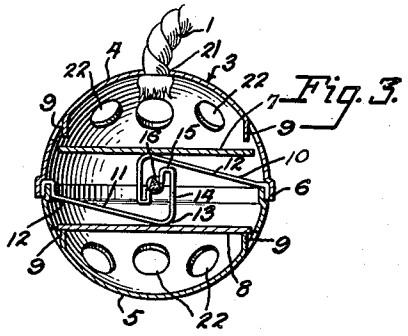


Fig. 4.

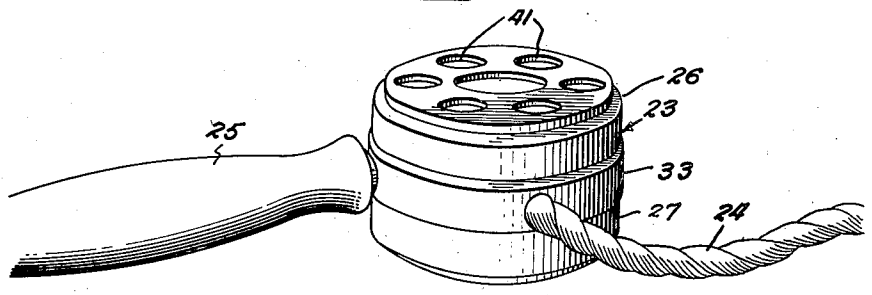


Fig. 5.

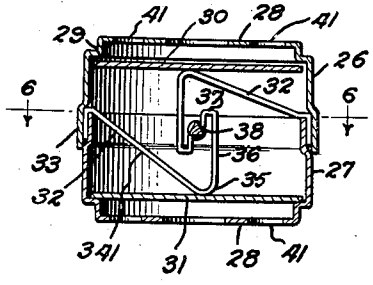
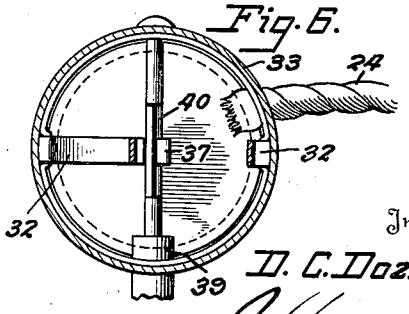


Fig. 6.



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UNITED STATES PATENT OFFICE

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TAP JUMPING ROPE

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3 Claims. (Cl. 272—75)

This invention is directed to an improvement in jumping ropes, whereby with the rope in use a sound will be produced which is timed with the operation of the rope and which in effect simulates the sound of tap dancing.

The primary object of the present invention is to materially enhance the pleasure and novelty in the use of the jumping rope through the medium of the tap dancing effect which being more or less synchronous with the use of the feet of the child in using the rope as to indicate, at least in a general sense, that the child is tap dancing while jumping the rope.

The invention primarily involves the introduction between the handle and the rope proper of an element which moves with the rope and is rotative with respect to the handle. Within this element are mounted spring-like members which are raised against their inherent tension at each relative rotation of the element and handle and released for sharp and direct contact with a part of the element, which may be in the form of a sounding board, to simulate the tap dancing effect.

The invention is illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view showing a portion of the rope and the element and handle connected to one end of the rope.

Figure 2 is a longitudinal section of the element with the operating shaft and rope handle in elevation.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is a perspective view similar to Figure 1 showing a slightly modified arrangement.

Figure 5 is a longitudinal vertical section of Figure 4, the handle and rope being omitted.

Figure 6 is a section on the line 6—6 of Figure 5.

With particular reference to Figures 1, 2 and 3, the rope proper is indicated at 1, the handle at 2 and the intermediate sounding element at 3. The sounding element is generally of spherical form made of approximately two similar semi-spherical sections 4 and 5 to be appropriately joined at their marginal edges by seaming 6. Sound amplifying diaphragms 7 and 8, preferably of wood though obviously of any appropriate material, are arranged within the sounding element, the movement of each in the relatively outward direction being limited by ears 9 instruck from the material of the element.

Secured at diametrically opposite points within the seaming 6 are members 10 and 11 of inherently spring material which are formed to present a main length 12 exceeding the radius of the element 3 and inclining downwardly from their rigid connections in the seam 6 to a rounded end 13 normally in contact with the diaphragms, then extended from the rounded end toward and beyond the axis of the element 3, as at 14, and terminally formed with a return bend 15 located beyond the axis relative to the diaphragm with which they contact, with the free terminals 16 of the return bends arranged immediately adjacent the axis of the element.

A shaft 17 is secured in the handle 2 and extends through diametrically opposed openings 18 in the element, being headed beyond the element at 19 to maintain a position of the shaft for free rotative movement relative to the element but held against separation from the element. The central portion 20 of the shaft is of triangular formation in cross section and the transverse area of this part is such that in any one position of the shaft, one side of the triangular form underlies one terminal 16 of the spring member, the terminal 16 of the other spring member being also contacted by another side of the triangular form.

The rope 1 is passed through an opening 21 in the member 3 and the sections 4 and 5 of such member 3 are formed with appropriate openings 22 to facilitate sound escape.

In this form, as the rope is used in jumping, the element 3 will be caused to turn relative to the shaft 17. At each rotation of the shaft, the spring members will be lifted away from their diaphragms, or lifted to permit the diaphragms to be moved away from their limiting ears 9, and as the relative rotation of the element 3 continues under the action of the rope, the spring members are released and permitted under their increased tension to snap into contact with the sounding boards 7 and 8, imparting a sharp, clearly defined sound simulating the effect of castanets or as if the feet of the user of the rope were tap dancing.

The modified form shown in Figures 4, 5 and 6 includes a sounding element 23 to which is connected the rope 24 and which sounding element is provided with the rope handles 25. In this form, the sounding element is made up of sections 26 and 27, each having a cylindrical wall and a flattened end 28. The cylindrical wall of each section adjacent the flattened end is of reduced diameter to provide an internal shoulder 29 forming a limit for the respective sounding boards 30 and 31 which are disposed in the

sounding member and of slightly less diameter than the main cylindrical wall.

The interior construction of this form is similar to that of the form first described including inherent spring members **32** terminally secured in the seam **33** uniting the sections **26** and **27** of the sounding member with such spring members having inclined lengths **34**, diaphragm contact points **35**, inwardly extending lengths **36** and terminal return bends **37**, the ends **38** of which return bends are positioned adjacent the axial line of the sounding element.

A shaft **39** is secured in the handle **25** mounted in the sounding element similar to the main form and having a triangular central portion **40** which cooperates with the terminals **38** of the spring members in the relative movement of the sounding element and the handle. The flattened ends of the sounding element are formed with sound emitting elements **41** and in the sound producing contact of the spring members with the sounding boards or diaphragms, the latter are forced against the sounders **29** to increase the sound effect.

It is to be particularly noted that in both forms of the device the sound producing movement of the spring members is provided for only in rotation of the sounding element in one direction. In the operation of this element in the opposite direction, the triangular portion of the shaft does not lift and release the sounding members and hence in the use of the rope in this direction no sound will result. Therefore, the rotative relation between the sounding element and the shaft are arranged so that when the rope is in one position, that is the handles of the rope disposed in the proper hands of the user, the tap producing sound will result, while if it is not desired to produce such sound, the rope is merely reversed in the hands of the user and no sound will be produced in the use of the rope.

It will of course be understood that the rope and handle may be of conventional character; that the sounding element is preferably of thin metal or other appropriate material; that the sounding boards are of such material as to provide for the maximum sound effect; and that the sounding members are of relatively thin inherently spring material.

What is claimed to be new is:

1. In combination, a jumping rope, a handle for said rope, means rotatably mounted on said handle and attached to said rope for producing sounds when said rope and handle are relatively moved, said means comprising a housing, a resilient striking member therein, cam means on said handle for actuating said striking member, means defining a projection within said housing, and a sounding board free intermediate said striking member and said projection defining means and adapted to be sharply engaged by the former when the rope and handle are relatively moved, whereby a castanet effect will be produced by the combined engagement of said striking member and said board and said board and said projection defining means.

2. In combination, a jumping rope, a handle for said rope, means rotatably mounted on said handle and attached to said rope for producing sounds when said rope and handle are relatively moved, said means comprising a housing, resilient striking members therein, cam means on said handle for actuating said striking member, said cam means being triangular in cross-section, means defining projections within said housing, and sounding boards free intermediate respective striking members and projection defining means and adapted respectively to be sharply engaged by the former when the rope and handle are relatively moved, whereby castanet effect will be produced by the combined engagement of said striking member and said board and said board and said projection defining means.

3. In combination, a jumping rope, a handle for said rope, means rotatably mounted on said handle and attached to said rope for producing sounds when said rope and handle are relatively moved, said means comprising a housing, a resilient striking member therein, cam means on said handle for actuating said striking member, means defining a projection within said housing, and a sounding board free intermediate said striking member and said projection defining means, the walls of said housing limiting the lateral movement thereof, said board adapted to be sharply engaged by the former when the rope and handle are relatively moved, whereby a castanet effect will be produced by the combined engagement of said striking member and said board and said board and said projection defining means.

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