Oct. 22, 1963 W. A. COOPER 3,107,916

SPRINKLING JUMP ROPE

Filed Nov. 3, 1961

2 Sheets-Sheet 1

Fig. 1

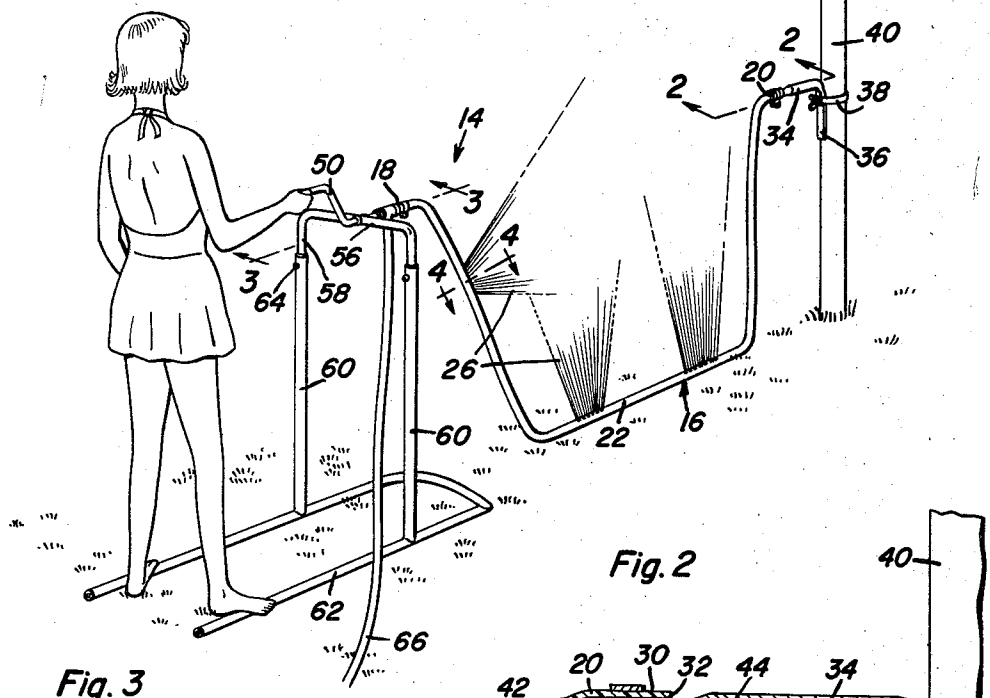


Fig. 2

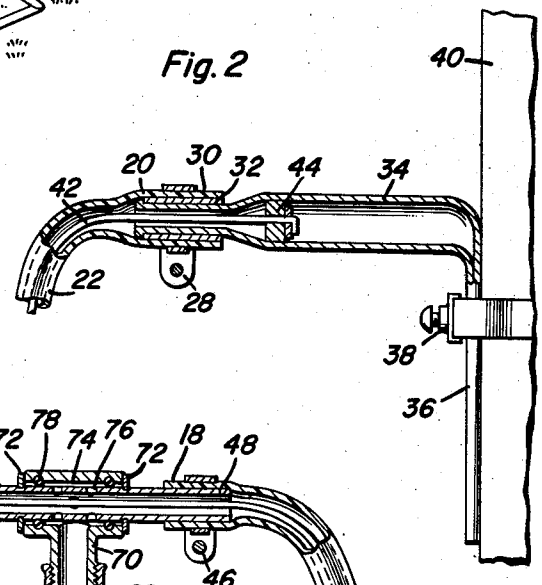


Fig. 3

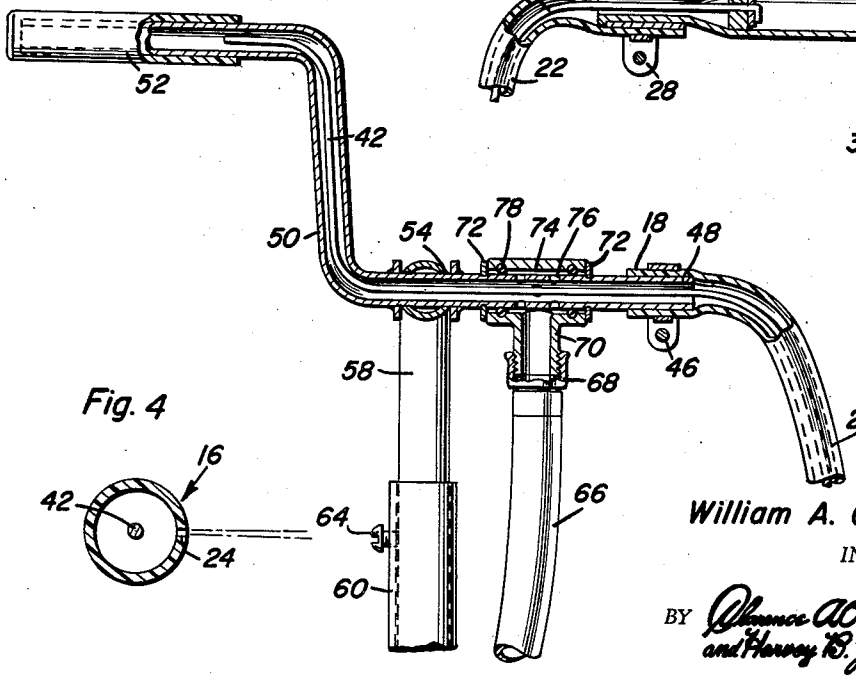


Fig. 4

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Fig. 5

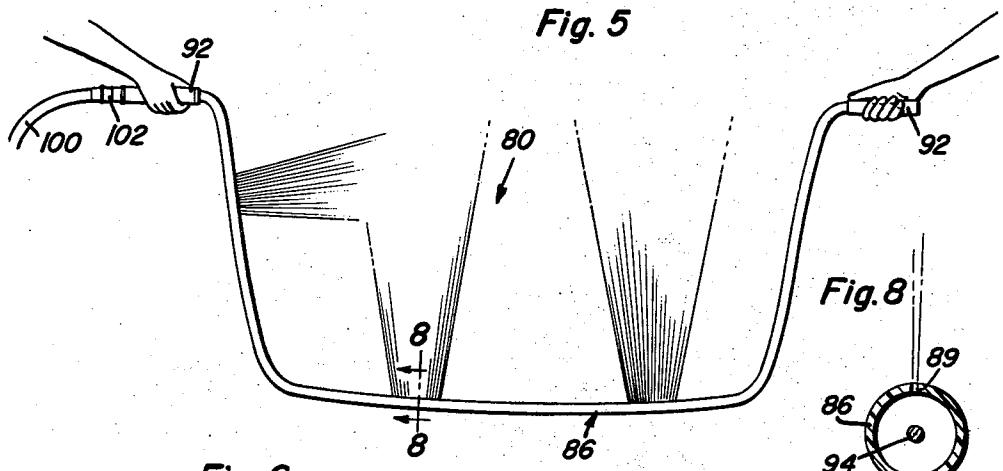


Fig. 8

Fig. 6

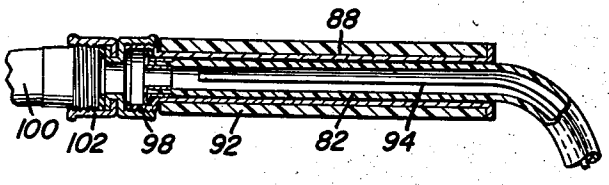


Fig. 7

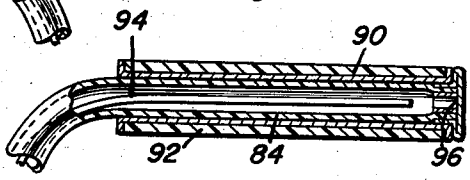


Fig. 9

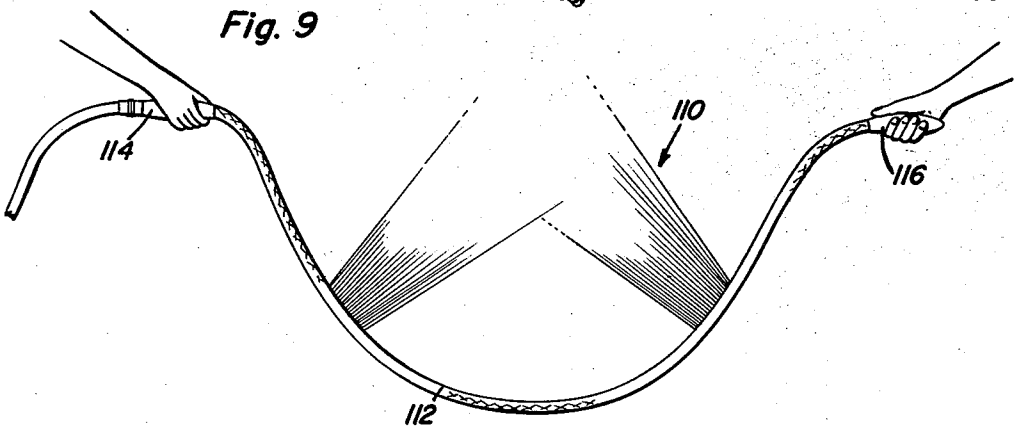
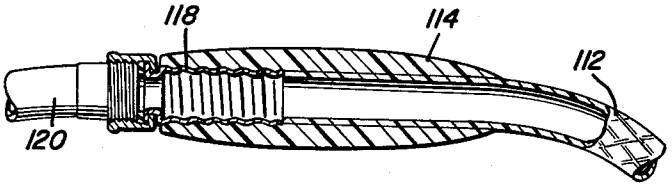


Fig. 10



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3,107,916
SPRINKLING JUMP ROPE

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12 Claims. (Cl. 272—74)

This invention relates to new and useful improvements in amusement and exercising devices, and in particular the invention concerns itself with a jump rope type device wherein an elongated member with substantially coaxial end portions and a bowed intermediate portion is caused to revolve about the axis of its end portions while a child, standing between the end portions, jumps over the bowed intermediate portion each time it passes close to the ground during its revolution.

The principal object of the invention is to materially improve upon a conventional jump rope of the character above outlined and to substantially increase the amusement and enjoyment derived from its use, this being attained by utilizing a perforated tubular conduit in place of the conventional rope and providing means for delivering water under pressure into the conduit so that it is discharged as a spray through the perforations of the conduit to sprinkle the jumping child.

Several embodiments of the invention are disclosed, some of simple construction and others of a more complex nature. Other objects and features of the invention will become apparent from the following description taken in conjunction with the accompanying drawings, wherein like characters of reference are used to designate like parts, and wherein:

FIGURE 1 is a perspective view showing one embodiment of a sprinkling jump rope in accordance with the invention;

FIGURE 2 is a fragmentary sectional view, taken substantially in the plane of the line 2—2 of FIGURE 1;

FIGURE 3 is a fragmentary sectional view, taken substantially in the plane of the line 3—3 in FIGURE 1;

FIGURE 4 is an enlarged sectional detail, taken substantially in the plane of the line 4—4 in FIGURE 1;

FIGURE 5 is an elevational view of a modified embodiment;

FIGURE 6 is a fragmentary sectional view of the open end portion of the conduit in the embodiment of FIGURE 5;

FIGURE 7 is a fragmentary sectional view of the closed end portion of the conduit in the embodiment of FIGURE 5;

FIGURE 8 is an enlarged sectional detail, taken substantially in the plane of the line 8—8 in FIGURE 5;

FIGURE 9 is an elevational view of another modified embodiment of the invention; and

FIGURE 10 is a fragmentary sectional view of the open end portion of the conduit in the embodiment of FIGURE 9.

Referring now to the accompanying drawings in detail, more particularly to FIGURES 1–4 inclusive, the sprinkling jump rope in accordance with the invention is designated generally by the numeral 14 and comprises a tubular conduit 16 of rubber, plastic, or the like, which is substantially U-shaped in configuration, having a pair of substantially coaxial end portions 18, 20, and a bowed intermediate portion 22. The intermediate portion of the conduit is provided with lateral orifices 24 for spraying water delivered under pressure into the conduit, as will be hereinafter described, the water spray being indicated at 26 in FIGURE 1.

The conduit end portion 20 is secured by a clamp 28 on a tubular bushing 30 which is rotatably mounted on a tubular end portion 32 of an L-shaped bracket 34, the latter having a flat portion 36 which is fastened by a clamp

38 to a suitable support, as for example, an upright standard or pole 40. The material of the conduit 16 may be sufficiently stiff for the conduit to sustain its U-shaped configuration by itself, but if not, a reinforcing wire or rod 42 may extend longitudinally through the conduit for sustaining the shape thereof. As shown in FIGURE 4, the diameter of the rod 42 is substantially smaller than the inside of the conduit, so that the rod does not materially interfere with passage of water through the conduit. An end portion of the rod 42 projects outwardly from the end portion 20 of the conduit into the bracket 34, where it is rotatably journalled in a suitable bearing, as at 44. It is to be noted that in the rotatable mounting of the conduit portion 20 on the bracket 34 as described and shown in FIGURE 2, the bracket 34 provides a closure for the end portion 20 of the conduit so that water cannot leak from the conduit at that end.

The other end portion 18, which may be referred to as the open end of the conduit, is secured by a clamp 46 on a a tubular end portion 48 of a hollow crank 50, the other end of the hollow crank being closed by a suitable hand grip 52 which is provided thereon. The crank 50 is rotatably journalled in a bearing 54 provided in a cross bar 56, the latter having depending legs 58 which are slidably disposed in a pair of vertical tubes 60 secured to a suitable base 62. The base 62, the tubes 60, the legs 58 and the cross bar 56 thus constitute a supporting frame for rotatable mounting of the crank 50 and the height at which the crank is disposed may be varied by sliding the legs 58 in the tubes 60 and subsequently locking the legs against sliding by suitable set screws 64 provided in the upper end portions of the tubes. The end portion of the reinforcing rod 42 projecting from the end 18 of the conduit 16 may pass into the crank 50, as shown in FIGURE 3, so that when the crank is rotated, the conduit will be rotated therewith without imposing undue strain on the attachment of the conduit portion 18 to the crank portion 48 by the clamp 46.

Water under pressure is delivered to the conduit 16 by a flexible hose 66, for example, a garden hose, provided with a coupling 68 which is connected to one arm of a T 70. The latter is rotatably positioned on the crank 50 through a plurality of apertures 76 formed in ing 54 and is prevented from endwise displacement thereon by a pair of keepers 72. The T 70 encircles the crank 50 in spaced relation so as to form an annular chamber 74 and the latter communicates with the interior of the crank 50 through a plurality of apertures 76 formed in the crank. Suitable sealing rings 78 are provided in the T 70 to prevent leakage, and it will be apparent from the foregoing that with the hose 66 and the T 70 remaining relatively stationary, the crank 50 and the conduit 16 may be rotated while water is delivered from the hose through the T and through the crank to the conduit, for spraying therefrom through the orifices 24.

The embodiment 14 of the invention is intended to be used by at least two players or participants, one of whom turns the crank 50 while the other jumps the revolving portion 22 of the conduit. FIGURES 5–8 illustrate a modified embodiment which is designated generally by the numeral 80 and is somewhat simpler than the embodiment 14. In the embodiment 80 the substantially coaxial end portions 82, 84 of the conduit 86 are secured in tubular sleeves 88, 90, respectively, on which are rotatably mounted tubular hand grips 92. The conduit 86 is apertured as at 89 and a reinforcing rod 94 may be provided in the conduit, if so desired or necessary for the conduit to retain its U-shaped configuration. One end of the conduit is closed by the provision of a plug 96 in the sleeve 90, while the sleeve 88 at the open end of the conduit is provided with an adapter 98 to which the

water delivery hose **100** is connected by a rotatable coupling **102**. The embodiment **80** is intended to be used by at least three participants, two of whom hold and manipulate the handles **92** at the ends of the conduit while the third is jumping. Provision of the rotatable coupling **102** permits revolution of the conduit while the hose **100** remains relatively stationary.

A still further modified and simpler embodiment of the invention is illustrated in FIGURES 9 and 10 and designated generally by the numeral **110**. In this embodiment the conduit **112** has hand grips **114**, **116** molded or otherwise immovably provided on its end portions, the end of the conduit in the hand grip **116** being closed and the open end of the conduit in the hand grip **114** communicating with an adapter **118**. The latter is embedded in the hand grip **114** and projects outwardly therefrom for non-rotatable connection to a water delivery hose **120**. A reinforcing rod is not provided in the conduit **112** and the material of the conduit is flexible in a rope-like manner so that it may be manipulated in the nature of a conventional jumping rope when two persons are holding the hand grips **114**, **116**, as shown. While the hand grips are not rotatable on the end portions of the conduit and while the hose **120** is non-rotatably connected to the hand grip **114**, the flexibility of the conduit is sufficient to permit it to be revolved through several turns without harmful twisting or translated through a revolving orbit without any twisting or axial rotation of the conduit at all.

While in the foregoing there have been described and shown the preferred embodiments of the invention, various other modifications may become apparent to those skilled in the art to which the invention relates. Accordingly, it is not desired to limit the invention to this disclosure and various modifications and equivalents may be resorted to, falling within the spirit and scope of the invention as claimed.

What is claimed as new is:

1. A sprinkling jump rope comprising a tubular conduit having a closed end, an open end and provided intermediate its ends with lateral orifices, said conduit having a substantially U-shaped configuration with its end portions disposed in substantially coaxial relation, means at the closed end of said conduit for rotatably supporting the same, a hollow crank connected to and communicating with the open end of the conduit, a frame for rotatably mounting said crank, a water hose, and rotatable means connecting said hose to said crank for delivering water through a portion of the crank into said conduit.

2. The device as defined in claim 1 together with a reinforcing rod extending longitudinally through said conduit, said rod being of a substantially smaller diameter than the inside of the conduit.

3. A sprinkling jump rope consisting of a tubular conduit having a closed end, an open end and provided intermediate its ends with lateral orifices, means for delivering liquid under pressure to the open end of the conduit for discharge through said orifices, the end portions of said conduit being adapted to be supported in a substantially coaxial relation for revolution of the intermediate conduit portion about the axis of said end portions, a coupling rotatably connecting the open end of the conduit to said liquid delivering means, said coupling allowing continuous rotation of the conduit relative to the liquid delivering means throughout a 360° turn in either direction, and a pair of elongated hand conforming hand grips mounted on the end portions of said conduit, said hand grips being rotatably mounted and allowing continuous rotation of said conduit relative to the hand grips throughout a 360° turn in either direction.

4. A sprinkling jump rope comprising a tubular conduit having a closed end, an open end and provided intermediate its ends with lateral orifices, means for delivering liquid under pressure to the open end of the conduit for discharge through said orifices, means supporting each end portion of said conduit in a substantially coaxial relation, the intermediate conduit portion being bowed for revolution about the axis of said end portions, an actuating crank axially secured to the open end of the conduit, said actuating crank consisting of a first length axially aligned with and secured to said open end, a second length integral with and at a substantially right angle to the outer end of said first length, and a third length integral with the outer end of the second length and extending in a direction opposite from said first length in a plane substantially parallel to the plane of the first length.

5. The device as defined in claim 4, including a vertically adjustable stand and means for rotatably mounting said actuating crank thereon for vertical adjustment therewith and rotation relative thereto.

6. The device as defined in claim 5 wherein at least the first length of said actuating crank is hollow, this hollow portion being in communication with the interior of the tubular conduit.

7. The device of claim 6 wherein said means for delivering liquid includes a water hose, means rotatably securing the first hollow length of the crank to the hose for allowing rotation of the crank and conduit relative to the hose, and water passage means for allowing a constant movement of water between the hose and the conduit.

8. The device of claim 7 wherein said means for rotatably securing the crank to the hose consists of a hollow T, the first length of the crank extending through and being rotatably secured within the crossbar of the T, the water hose being fixed to the stem of the T, said water passage means consisting of a plurality of peripherally spaced apertures within the portion of the first length received within the crossbar, at least one of said apertures being at all times in communication with the stem for receiving water from the hose so as to maintain a constant flow of water into the conduit.

9. The device of claim 4 wherein at least the first length of said actuating crank is hollow, this hollow portion being in communication with the interior of the tubular conduit.

10. The device of claim 9 wherein said means for delivering liquid includes a water hose, means rotatably securing the first hollow length of the crank to the hose for allowing rotation of the crank and conduit relative to the hose, and water passage means for allowing a constant movement of water between the hose and the conduit.

11. The device of claim 10 wherein said means for rotatably securing the crank to the hose consists of a hollow T, the first length of the crank extending through and being rotatably secured within the crossbar of the T, the water hose being fixed to the stem of the T, said water passage means consisting of a plurality of peripherally spaced apertures within the portion of the first length received within the crossbar, at least one of said apertures being at all times in communication with the stem for receiving water from the hose so as to maintain a constant flow of water into the conduit.

12. The device as defined in claim 11 together with a reinforcing rod extending longitudinally through said conduit, said rod being of a substantially smaller diameter than the inside of the conduit.

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