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HOOP ROLLER

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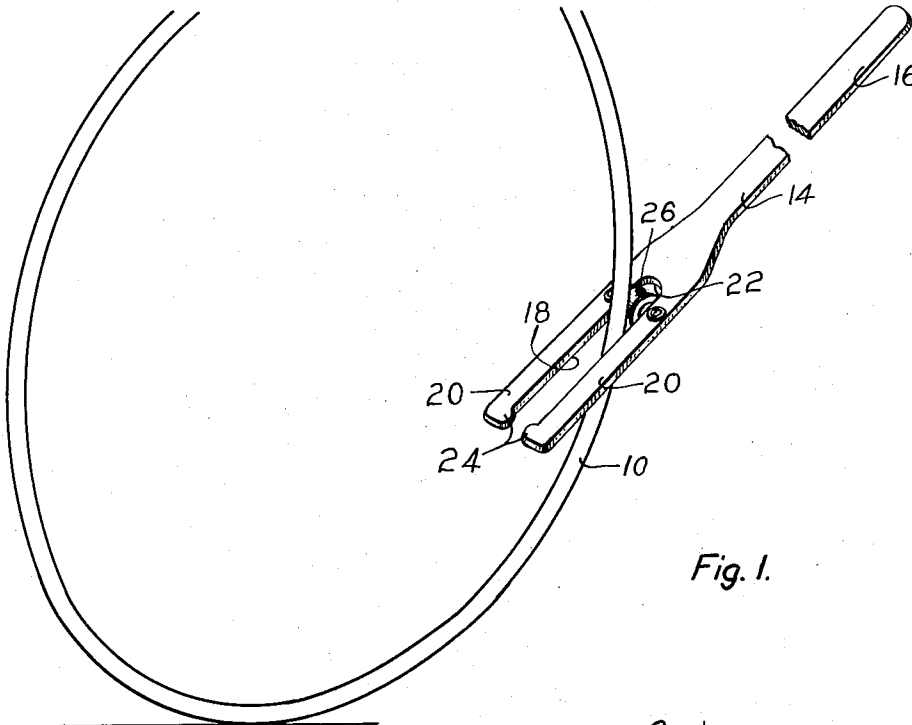


Fig. 1.

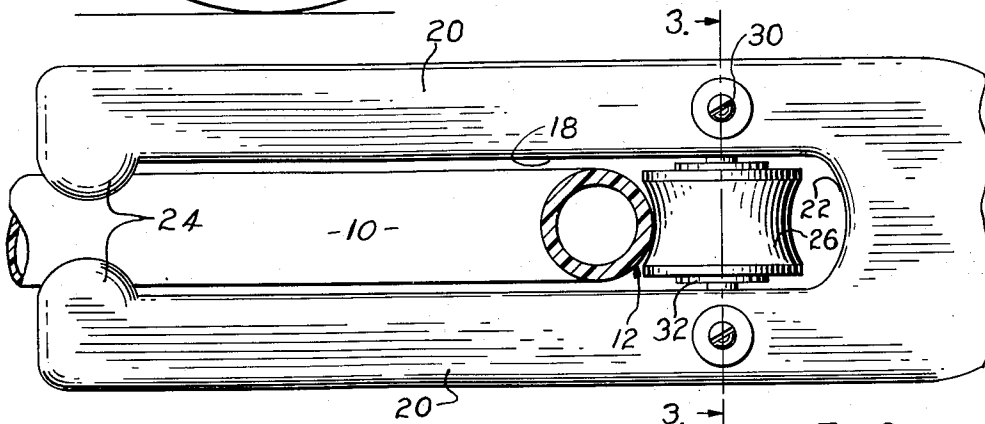


Fig. 2.

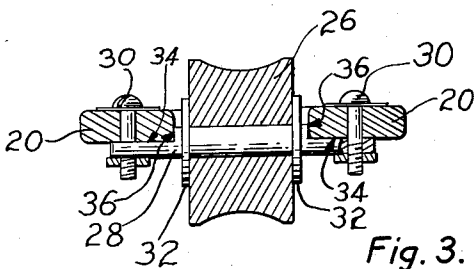
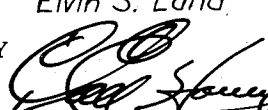


Fig. 3.

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HOOP ROLLER

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1 Claim. (Cl. 46—220)

This invention relates to hoop rollers of the type adapted to engage a freely moving, relatively large ring to which forward motion is applied by the operator and thorough the medium whereof the hoop is prevented from moving laterally out of the path of travel.

One of the important objects of this invention is to provide a hoop roller that is manually manipulable by the operator and which is specially designed to engage the hoop and to apply force thereto with a minimum of friction while the hoop is confined within a specially designed portion of the roller and that includes means for removably maintaining the hoop in the operative position with respect to the roller.

This invention has for a yet further aim the provision of a roller for hoops in the nature of those that have currently become popular and which are constructed of a tubular ring-shaped hollow member that presents an arcuate outer annular periphery engageable by a specially formed friction-preventing part constituting an element of the hoop roller assembly.

Further objects of the invention include the provision of a hoop roller having a bifurcated end portion presenting a pair of opposed legs on the free ends of which are ears capable of confining the hoop being rolled within the space between the legs but allowing the introduction and removal of the hoop by employing the inherent resiliency of the material from which the legs are constructed.

Other objects of the invention will appear during the course of the following specification referring to the accompanying drawing wherein:

Figure 1 is a perspective view fragmentarily illustrating the hoop roller in operative association with the hoop being rolled;

Fig. 2 is an enlarged side elevational view of one end of the hoop roller showing the hoop in place; and

Fig. 3 is a cross sectional view taken on line 3—3 of Fig. 2.

How the hoop roller contemplated by this invention is capable of advantageously supporting and rolling hoops of various cross sectional configurations it is primarily the aim of the invention to provide a roller capable of satisfactorily rolling a hoop 10 which is round or tubular in cross sectional area and that presents an arcuate continuous surface 12 at the outer periphery thereof. The hoop 10 is currently in wide use and in popular demand and the same is made of plastic material which insures lightness, durability and a wide range of colors.

The hoop roller per se comprises a slim elongated body 14 having a grip portion 16 at one end thereof and a notch 18 at the opposite end thereof extending longitudinally inwardly from said opposite end, whereby to provide a U-shaped portion having a pair of legs 20 and a bight 22, all to straddle hoop 10 when the hoop is in the normal operative position.

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As clearly illustrated in Figs. 1 and 2, the free ends of legs 20 have inturned ears 24 integral therewith and the space between these ears 24 is less than the thickness or width of hoop 10, so that the latter is confined within the notch 18 but is capable of free movement, particularly longitudinally along notch 18 between ears 24 and bight 22. The material from which the body 14 is constructed is resilient enough to permit flexing of legs 20 and therefore the introduction of hoop 10 when the same is to be moved into notch 18 and between the free ends of ears 24.

A roller 26 mounted upon an axle 28 carried by legs 20 and extending across notch 18 adjacent bight 22 thereof is peripherally contoured to present a surface complementary to the outer arcuate surface 12 at the periphery of hoop 10 and when force is applied to the hoop during the rolling operation and the parts are in the position shown in Fig. 1 roller 26 bears against hoop 10 to move the same over the surface. Roller 26 is freely mounted for rotation about the axis of axle 28 and this axle is secured to legs 20 by screws or similar instrumentalities 30. Anti-friction plates or washers 32, one on each side of roller 26 and between the inner edges of legs 20, prevent wear as between roller 26 and said legs 20 and the notched ends of axle 28 present flat surfaces 34 that bear against the sides of legs 20. Elements 30 pass through the notched portions of the ends of axle 28 and the oppositely directed faces 36 of the notched portions of axle 28 hold legs 20 in spaced relation and thereby prevent any accidental inward movement that may bind roller 26 and prevent the free rotation thereof. This strengthening feature is particularly desirable in view of the fact that legs 20 are flexed each time hoop 10 is moved into and out of confinement between the legs 20.

In practice, the hoop roller is made of laminated wood, but the same may be constructed from any suitable material capable of performing the function contemplated by the invention and the size of the roller may be altered to suit the diameter and thicknesses of the hoops to be handled.

It is obvious that hoop rollers having physical characteristics other than those illustrated and described might be made without departing from the spirit of the invention or scope of the appended claim.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

A hoop roller comprising an elongated flexible body having a grip portion at one end thereof and a notch wider than the hoop at the opposite end thereof whereby to provide a U-shaped portion having a pair of legs flexible in diverging and converging directions and a bight to straddle the hoop when being rolled, said legs each having an inwardly directed ear cooperating with the bight to confine the hoop within the U-shaped portion, and a roller disposed between said legs and adjacent said bight to engage the hoop as the same is rolled, said roller being mounted upon an axle bridging the space between the legs and having a pair of oppositely directed shoulders formed thereon and bearing against the proximal edges of the legs to hold the same against movement toward each other.

References Cited in the file of this patent

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