L. L. KELL.

CORD ADJUSTER.

APPLICATION FILED MAR. 18, 1918.

1,272,272.

Patented July 9, 1918.

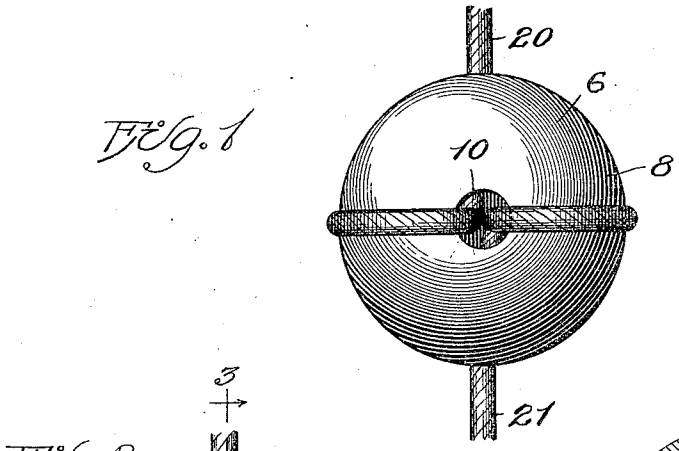


Fig. 1

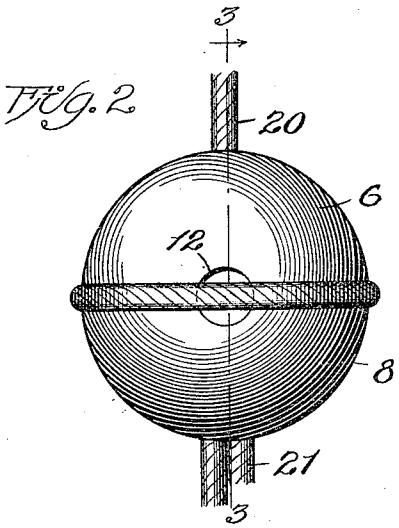


Fig. 2

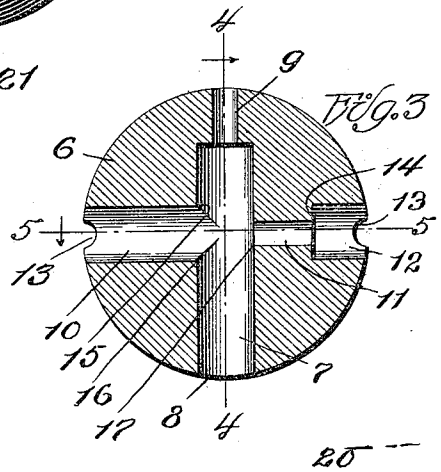


Fig. 3

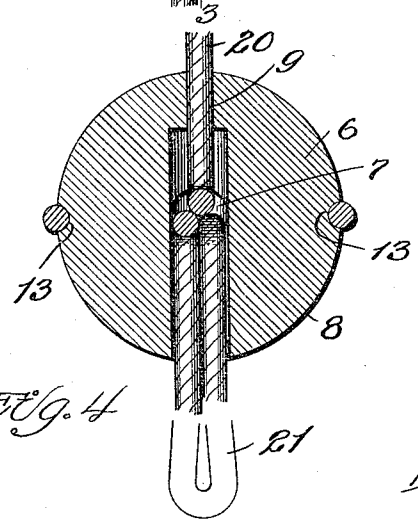


Fig. 4

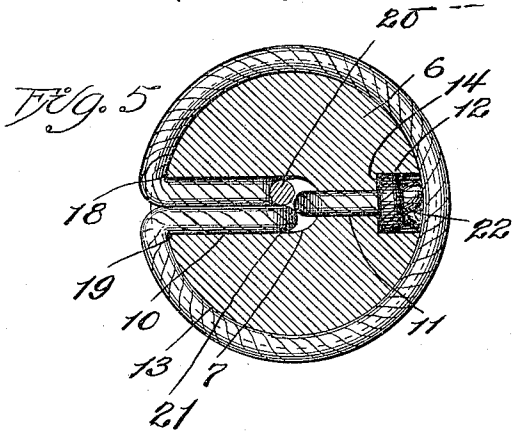


Fig. 5

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CORD-ADJUSTER.

1,272,272. Specification of Letters Patent. **Patented July 9, 1918.**

Original application filed May 23, 1916, Serial No. 99,310. Divided and this application filed March 18, 1918. Serial No. 223,059.

To all whom it may concern:

Be it known that I, LESTER L. KELL, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Cord-Adjusters, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in cord adjusters, and this application is a division of my application for improvements in swings, filed May 23, 1916, Serial Number 99,310.

The object of my invention is to provide a cord adjuster which may be produced at a relatively low cost; which offers relatively great resistance to cord movements; which requires relatively little effect to effect an adjustment of the cord and which is practically unbreakable and possessed of pleasing appearance.

My improvements consist in the novel construction, arrangements and combinations of elements which will be fully, clearly and concisely set forth in the following specification, definitely pointed out in my claims and illustrated by the accompanying drawings, in which—

Figure 1 is an elevation of a cord adjuster embodying my invention.

Fig. 2 is a view similar to Fig. 1 taken from a diametrically opposite view point.

Fig. 3 is a vertical sectional elevation taken on the line 3—3 of Fig. 2, with the cord omitted.

Fig. 4 is a vertical sectional elevation taken on the line 4—4 of Fig. 3 and showing the arrangement of the cord, and

Fig. 5 is a sectional plan taken on the line 5—5 of Fig. 3 showing the arrangement of the cord.

Referring by numerals to the drawings 6 designates the body of the adjuster, which is preferably formed out of a single piece of wood and of spherical shape as shown.

Mechanically and functionally such designated material and shape are not essential, as obviously, metal, ceramics, glass and so forth may be substituted for the wood, and likewise the body may be formed circular, square, polygonical or oblong, sectionally, in a plane at a right angle to the trend of the cord and of square, oblong, elliptical, oval, conical or pyramidal exterior. Inasmuch, however, as the adjuster is designed for use along the length of a swing suspension cord or rope I find the spherical exterior, which presents no angles, to be most comfortable to manual grasping and the least likely to inflict or suffer injury.

As best shown in Fig. 3 there is formed in the body 6, and diametrically thereof along its vertical axis (when used on a vertical cord, as in a swing, or its horizontal axis when used on a horizontal cord such as a clothes line) a bore or opening 7, open at the surface 8 of the body and extended to a point therewithin between the center of the body and a surface point diametrically opposite the open end just recited, and of a dimension capable of receiving a cord length doubled upon itself, as shown in Fig. 4. From the said point within the body, that is, from the innermost end of the bore 7, and leading to and open at the surface 8 at a point diametrically opposite the open, outer end of the bore 7, there is a bore 9, which is of a size less than the bore 7, and capable of receiving only a single cord length, as shown in Fig. 4.

As best shown in Fig. 3 there is a bore or opening 10, open at the surface 8 at a point, intersected by a line drawn through the open ends of the bores 7 and 9 and belting the body, and which bore 10 opens into the bore 7. As shown in Fig. 5, the bore 10 is of a transverse dimension capable of receiving a cord length doubled upon itself.

Alining with the longitudinal axis of the bore 10 and extending into the body 6 from the bore 7 to a point inside the body is a bore 11, of a size capable of receiving only a single cord length and from the outermost end of the bore 11 open to both the bore 11 and the surface 8 is a bore 12 of a size capable of receiving a knotted end of the cord.

In the surface, belting the body 6 and intersecting the bores 10 and 12 is a groove 13 whose depth is preferably less than the sectional dimension of the cord.

In the formation of the bore 12 of a greater dimension than the bore 11 a shoulder 14 is provided which serves as an abutment for the knotted end of the cord to hold the cord against movement in one direction in the bore 12, and likewise by form-

ing the bores 11 and 7 and the bores 7 and 10 in right angular relationship the points 15, 16 and 17 are provided within the body and the points 18 and 19 at the surface, which serve with the surface of the groove 13 to resist cord movements.

The threading of the cord may progress from either of its ends and for the purpose of this illustration I will describe it as proceeding from the end 20 which leads to an overhead suspension means (not shown) and as employed in a swing.

This end 20 of the cord is inserted downwardly through the bore 9 and being sectionally of the approximate dimension of the bore makes such a fit therein especially at the surface surrounding the bore as to preclude the possibility of "pinching" the fingers, skin or garments of a person using the swing. From the bore 9 the cord end is passed downwardly through the bore 7 to engage over the point 15, thence through the bore 10 to the surface 8, where it engages over the point 18 and thence belts the body, occupying the groove 13. The cord is then threaded again in the bore 10 from the surface 8 inwardly and engaged over the point 19, thence from the inner end of the bore 19 is turned downwardly and extended through the bore 7 and engaged over the point 16, thence outside the bore 7 where it is doubled upon itself to form the bight 21, as shown in Fig. 4 and again extended into the bore 7 to the bore 11, engaging over the point 17 and thence through the bores 11 and 12, whereupon the cord end is knotted, as at 22, and retracted or drawn so that the knotted end is seated in the bore 12 against the shoulder 14.

It is obvious that the cord is drawn over a number of points both on the exterior and interior of the body of the adjuster and that it also engages throughout a considerable portion of its length the exterior surface of the adjuster body, and that regardless of the shape of such exterior surface considerable surface friction is provided. However, I prefer, as stated, to employ a groove which sectionally conforms to the cord to increase the surface friction area as well as to act as a means to hold the cord against grotesque irregularity around the adjuster body.

It will be readily apparent that upon the application of tension to the cord end 20 and the bight 21 the cord will be held against movements relative to the adjuster by reason of the engagement over a number of points as well as by the frictional resistance offered by the surface of the adjuster body.

An adjustment is effected, at a time when tension is relaxed by a simple loosening of the cord from the groove and drawing it through the several bores.

Having thus described my invention, what I claim as new therein and desire to secure by Letters-Patent is:

1. A cord adjuster comprising a body having right angle openings therethrough and a groove belting the adjuster and intersecting said openings.

2. A cord adjuster formed from a single, solid piece of material and provided with relatively angular bores therethrough and a continuous exterior groove belting the body and intersecting certain of the bores.

3. A cord adjuster comprising a body having means within its interior for holding a cord end, a pair of openings leading to the exterior of the body and substantially alined with the tension line of a cord to be extended therethrough and an opening within the body communicating with the pair of openings and leading to the exterior of the body at a point on the exterior removed from the pair of openings.

4. A cord adjuster formed from a single, solid piece of material and provided with bores open at the exterior of the body and intercommunicating within the adjuster body and certain of said bores having within their lengths diametrical reductions substantially as shown and for the purposes stated.

5. A cord adjuster formed from a single, solid piece of material and provided with bores open at the exterior of the body and intercommunicating within the adjuster body, certain of said bores having within their lengths diametrical reductions and there being a groove belting the exterior surface of the body and intersecting certain of said bores.

6. In combination with a spherical body provided with bores open at the exterior of the body and intercommunicating within the body, certain of which bores having within their lengths diametrical reductions and a groove belting the exterior surface of the body and intersecting at least one of said bores, a cord having a knotted end seated in one of the bores and held against movement by reason of one of the diametrically reduced portions of the bore, said cord being doubled in one of the bores and extended around the body in said groove, said cord being doubled in a second bore and provided with a bight outside said second bore and said cord extended through a third bore to project from the body.

LESTER L. KELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."