DESCRIPTION

INVENTION TITLE

STRUCTURE OF RING

TECHNICAL FIELD

The present invention relates to a structure of ring for safe connection not requiring soldering or a locking device while not changing its shape.

BACKGROUND ART

The present invention relates to a structure of ring for safe connection not requiring soldering or a locking device while not changing its shape. The structure of a ring is called a chain, and each component of the chain can be called a ring, and a Korean dictionary defines a chain as a string made by connecting multiple metal rings, and the structure of rings made small can be used in a structure for necklaces, for sprockets to transmit power where made thick and large, or for the purpose of binding objects with very strong forces as a metal chain made with thick and solid rings. While a chain of solid structure is made with metals to be in a closed structure, a ring is inserted into another ring of closed curve to make the inserted ring be closed, and the chain is formed by connecting a plurality of such rings.

The ring used to make the structure of chain shown in FIG. 1 is shaped

round and open in one part, and plural rings are connected one another to be welded to avoid the rings to be disconnected. Although the rings used for ornaments, e.g., necklaces, are made not closed in many cases, soldering or a special connection device is employed to avoid accidental release of the structure of rings used for industrial purpose.

However, while it is necessary to spread and then close the ring again so that another ring can be inserted to make such a chain structure, and the closed part must be welded to implement a closed structure in many cases, the welded part is likely to spread again due to continued use over time and the part once spread is likely to be spread again to result in a high potential of the ring to be disconnected. Welding reduces the potential of disconnection, but results in a higher potential of disconnected structure of rings because the spread part becomes bigger where the structure is not made completely closed.

Welding to make a closed structure increases the chain manufacturing cost, and it is highly difficult to spread and close a ring to allow it to be inserted into another ring and then close again in a conventional structure of chain, and spreading and closing the ring repeatedly contributes to a very high potential of changing the shape of a ring.

While the lower ring shown in FIG. 1 has a wall in the middle to prevent its movement, it is necessary to spread both sides of the ring to be connected to each different ring on both sides in this case, and this

further lowers durability although it does not move if not intended.

DISCLOSURE

TECHNICAL PROBLEM

Therefore, the present disclosure to address the aforementioned disadvantages provides a ring to implement easy connection thereof, not allowing unintentional release thereof, and not requiring a special means for its connection, e.g., soldering or a locking device.

TECHNICAL SOLUTION

As described above, the present disclosure provides a ring implementing connection without changing its shape, having a body 11 by bending a bar to make both ends face each other and an entrance portion 12 at both ends of the body 11 formed with a small gap 15 between the entrance portions 12 facing each other to push two rings through the gap 15 of each ring to be connected each other.

The entrance portion 12 is formed with a protrusion 13 protruding towards the inside of the ring to avoid unintentional disconnection after connection.

The planes facing each other in the entrance portions 12 have a wedge-shaped edge 14 tapering towards the entrance portions 12 facing in any one shape of a point, a line or a plane to make the cross section be

smaller and smaller.

The cross section of wedge-shaped edges 14 positioned around the gap 15 is made not to overlap when arranging each gap 15 of two connected rings to be on the same line, to minimize the space of gap 15 and implement connection.

A reinforcing member 16 protruding along the direction of the length of body is formed.

ADVANTAGEOUS EFFECTS

The present disclosure provides a structure of chain implementing easy and robust connection by means of the aforementioned rings.

DESCRIPTION OF DRAWINGS

FIG. 1 shows the conventional structure of chain; and

FIGs. 2 to 5 show an embodiment in accordance with the present disclosure.

BEST MODE

The specific embodiments of present disclosure will now be described in detail with reference to the accompanying drawings. It should be noted that specific description about known technology related to the present disclosure is omitted if it can unnecessarily obscure the gist of the present disclosure while describing the present disclosure. FIG. 2 shows

an embodiment in accordance with the present disclosure. A ring in accordance with the present disclosure includes a body 11 made round by bending a bar to form the ring body, and an entrance 12 formed at both ends of the body 11. The body 11 is shaped to be similar to 'O' by bending both ends of a long bar to function as a ring, and both ends of the entrance 12 faces but do not touch each other, and is formed with a gap 15. The part forming the outer side of the ring in the entrance 12 extends from the body 11, and forms a straight line with the body 11 to look like a one integral body with the body 11, but a protrusion 13 protruding towards the inside of the ring is formed on the internal side of the ring. The protrusion 13 stops the ring to prevent it from being released and pulled out through the entrance 12 to release connection when different rings are connected each other to form a chain.

Both ends of the entrance 12 does not touch but face each other with a small gap 15, and a wedge-shaped edge 14 can be formed as shown in the FIGs. The wedge-shaped edge 14 is made for the plane of facing the ends of entrance 12 to taper to a point, a line or a small plane, making the cross-sectional area smaller as it further goes to the most tapered direction. Advantageously, the ends are formed to be a point or a line. In FIG. 2, the ends of entrance 12 are made to taper to one line so that the cross section of entrance 12 can be a triangle. Two rings are made to face each other at 90 degrees to form a chain and pass through the gap 15

formed in each entrance 12 for their connection while the wedge-shaped edges 14 face but do not touch each other.

Since both ends of the entrance 12 face but do not touch each other from the beginning, it is not necessary to bend or straighten the body 11 by force for connection, and the gap 15 of one ring can pass through the gap 15 formed in the other ring. Moreover, one body 11 can pass through the gap 15 of the other body 11 when the bodies 11 are at an angle of 90 degrees each other while the shape of cross section of the wedge-shaped edge 14 is a triangle, respectively. Where the shape of cross section of wedge-shaped edge 14 is a triangle when the bodies pass through the gap 15, the cross section can be in a shape in which four triangles face one another, centering around the gap 15.

In other words, one ring can pass through the gap 15 of the other ring where the cross section of wedge-shaped edge 14 of two rings do not overlap each other to allow the two rings to pass through the gap 15 each other. FIG. 4 shows this action, in which the cross section of the same color refers to the same ring, and one body 11 can pass through the gap 15 of the other ring 11 where the cross section of the wedge-shaped edge 14 does not have an overlapping part while the bodies 11 are aligned each other to pass through the gap 15 in the middle. As shown in FIG. 4, the cross section is made to taper towards the gap 15 each other, and the end of tapering is shaped a point or a line. The shape of cross section on the

right can be a hemisphere and taper to one point, or one line like one plane of a cylinder.

Although the case of the end of wedge-shaped edge 14 tapering to one point can be similar, the end made as a plane has a less probability of unintentional disconnection where the connection is unintentionally released after connection. Where the end of wedge-shaped edge tapers to a line, it is necessary to move the ring by means of the gap as much as the length of the line at the end of wedge-shaped edge 14 but it is almost impossible to release the connection by such a movement if it is not intended. Although connection is usually difficult for the end which is a plane, the end which is almost a very small point or line can taper to a plane, and the rings can be connected.

Furthermore, the end made as a point can be unavoidable in terms of design although the probability of unintentional disconnection is higher than the case of a line, and unintentional disconnection is even less likely where the protrusion 13 is formed although the end is a point. It is ideal for the wedge-shaped edge to taper to a point or a line towards the gap 15 as shown in FIGs to make the gap 15 as small as possible.

Moreover, since it is not necessary to spread and then close the body 11 for connection by means of the gap 15 between the wedge-shaped edges 14 illustrated in the present disclosure to shape the body 11 as it is, less damage can occur in the process of spreading and closing the body 11.

Moreover, for easily spreading and closing the ring, the best option is to make the cross section round as shown in FIG. 1, and it is hard to add a reinforcing member for durability because difficult spreading and closing results in difficult connection in a conventional ring, but a reinforcing member can be formed since it is not necessary to spread or close the ring illustrated in the present disclosure. While the reinforcing member 16 protrudes and is formed along the direction of the length of body 11 as shown in FIG. 3, the body 11 effectively increases in thickness since the reinforcing member 16 increases the cross-sectional area when viewed from any one direction. Where the body 11 cannot be thicker than a specific dimension due to a design requirement, the body 11 is not unintentionally spread or closed where the reinforcing member 16 is formed.

While the present invention has been shown and described, the present invention is not limited to the aforementioned description and accompanying drawings. It will be understood by those skilled in the art that various substitutions, changes and modifications can be made without departing from the scope of the present invention as defined in the following claims. Figure 5 shows an embodiment of constructing a chain using a ring according to the present invention.

[Description of Numerals]

11: body 12: entrance
13: protrusion 14: wedge-shaped edge
15: gap 16: reinforcing member

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CLAIMS

1. A ring implementing connection without changing its shape, having a body made by bending a bar to make both ends face each other, and an entrance portion at both ends of the body formed with a small gap between the entrance portions facing each other to push two rings through the gap of each ring to be connected each other.

2. The ring of claim 1, wherein the entrance is formed with a protrusion protruding towards the inside of the ring to avoid unintentional disconnection after connection.

3. The ring of claim 2, wherein the planes facing each other in the entrance portions have a wedge-shaped edge tapering towards the entrance portion to be in any one shape of a point, a line or a plane to make the cross section be smaller and smaller.

4. The ring of claim 3, wherein the cross section of wedge-shaped edges positioned around the gap is made not to overlap each other when arranging each gap of two connected rings to be on the same line to minimize the space of gap and implement connection.

5. The ring of claim 4, wherein a reinforcing member protruding along the direction of the length of body is formed.