F. A. BALLOU, JR.

SWIVEL RING.

APPLICATION FILED OCT. 20, 1917.

1,262,736. Patented Apr. 16, 1918.

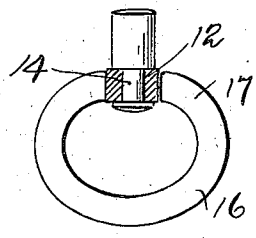


Fig. 1

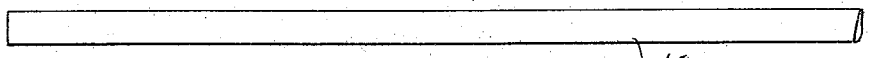


Fig. 2

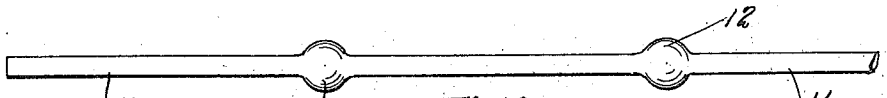


Fig 3



Fig. 4

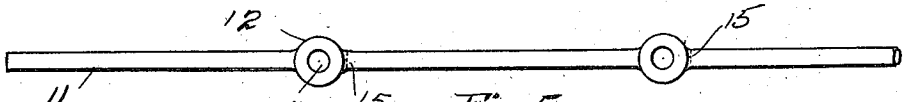


Fig. 5

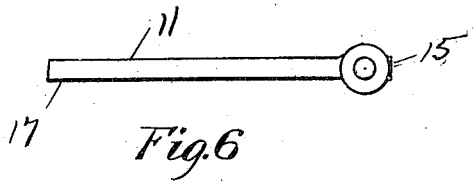


Fig. 6

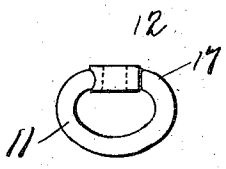


Fig. 7



Fig. 8

Inventor

Frederick A. Ballou Jr.

By Howard E. Barlow

Attorney

UNITED STATES PATENT OFFICE.

FREDERICK A. BALLOU, JR., OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO B. A. BALLOU & CO. INC., OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

SWIVEL-RING.

1,262,736. Specification of Letters Patent. Patented Apr. 16, 1918.

Original application filed April 30, 1917, Serial No. 165,365. Divided and this application filed October 20, 1917. Serial No. 197,742.

To all whom it may concern:

Be it known that I, FREDERICK A. BALLOU, Jr., a citizen of the United States, and resident of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Swivel-Rings, of which the following is a specification.

This invention relates to swivel rings more particularly adapted to be employed on swivel catch devices for chains for personal wear, and the object of this invention is to provide such a swivel ring constructed entirely of one piece of metal and without the use of solder.

This application is a division of patent application Serial No. 165,365, filed April 30, 1917.

The invention further consists in a new and improved method of constructing this ring which consists primarily in reducing a length of wire at intervals to form relatively large spaced-apart head portions thereon, piercing said head portions and then severing said length at one side of each head-forming member, each having a reduced elongated body and head and subsequently bending the reduced elongated portion into substantially a ring form.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings:

Figure 1— is a side elevation partly in section showing the swivel ring as attached to a trunnion member.

Fig. 2— represents a portion of length of wire from which a plurality of these swivel rings are formed.

Fig. 3— illustrates the first operation which reduces the wire at intervals leaving enlarged spaced-apart head portions.

Fig. 4— shows the head portions as reduced to a thickness equal to the diameter of the reduced or body portions.

Fig. 5— shows the head portions as pierced.

Fig. 6— shows one of the members as severed from the length of wire.

Fig. 7— shows the body portion as having been bent in ring form and as abutting the opposite side of the head.

Fig. 8— is an end view of the head of the device illustrating that portion from which the next adjacent member was severed.

The usual method of forming swivel rings of this character is by soldering the opposite ends of the wire onto the opposite sides of the head portion, and a ring so formed has a number of disadvantages; first, soldering heat discolors the metal; second, the soldering heat anneals or softens the metal; and third, a soldering ring of this character is not so strong and will not withstand the strains or last as long as when formed without having been subjected to this soldering heat.

To obviate these objections, I have provided a new and improved ring which is made entirely without the use of solder. In forming the ring I employ a length of wire 10 of a diameter substantially that of the head portion of the device and then reduce this wire by swaging the same at intervals along its length as at 11 leaving enlarged spaced-apart portions as at 12.

These head portions as shown in Fig. 4 are left thicker and are formed in substantially spherical shape which thickness may then be reduced on two sides to substantially that of the reduced diameter of the wire as illustrated in Fig. 4. These head portions are then pierced as at 13, see Fig. 5, each for the reception of a trunnion portion 14 of the hook or catch, see Fig. 1, on which it turns. These reduced portions are then cut at the point 15, illustrated in Fig. 5 by dotted lines, on one side of the head member. The reduced body portion is then bent around as at 16 into substantially a ring form, its end 17 abutting the back or opposite side of its head portion, thereby causing the two severed sections to abut and cover each other.

This improved construction of swivel ring has a number of advantages over the old construction, among others being; first, by forming a multiplicity of these devices on a length of wire, a number may be operated upon at each swaging action, and the whole can be handled to much greater advantage than when made up in single pieces, thus greatly facilitating the manufacture, and so reducing the cost of construction to the minimum; second, the drawing-out or swaging operation serves to harden the wire ren-

dering it tough and strong and capable of resisting the maximum amount of strain it is called upon to withstand; third, this operation serves to toughen and harden the swivel ring greatly increasing its wearing qualities.

Another feature of importance is that when these rings are made of rolled plate, the precious metal on the outside is not disturbed, and the base metal at the points of severing will be covered by abutting the severed end 17 of the body portion against the severed portion 15, on the side of the head, thus effectually preventing exposure of the base metal.

Most of the above-mentioned advantages are not obtainable when the ring portion is soldered to the head portion of swivel rings.

Having thus described one illustrative embodiment of my invention and the best mode known to me for carrying out my method, I desire it to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for the purpose of limitation, the scope of the invention being limited only by the appended claim.

I claim:

A swivel ring having an eye portion and a ring portion all formed of a single piece of metal without soldering, the free end of the ring portion being bent around and abutting against the eye portion.

In testimony whereof I affix my signature.

FREDERICK A. BALLOU, JR.

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