March 8, 1966 R. W. JOHNSON 3,238,741

RING GUARD AND SIZING DEVICE

Filed May 13, 1963

FIG-1

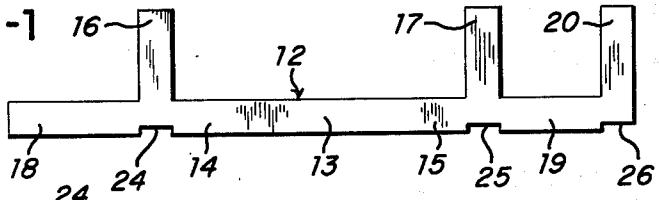


FIG-2

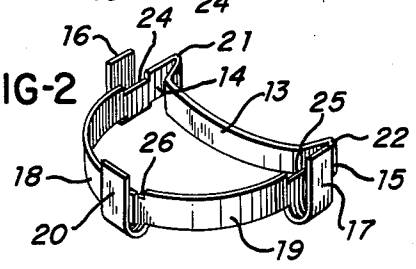


FIG-3

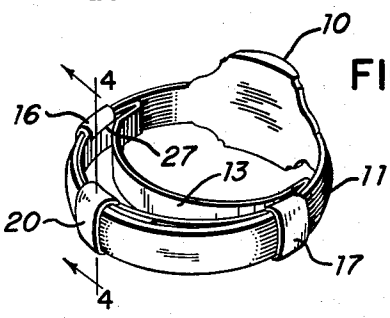


FIG-4

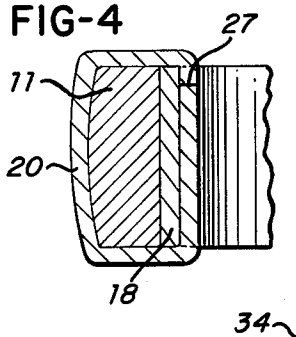


FIG-5

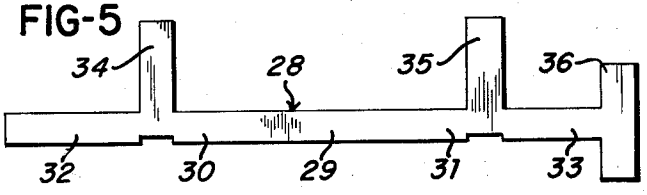


FIG-6

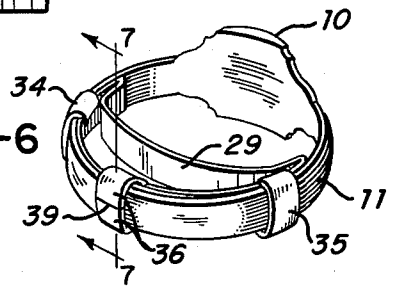


FIG-7

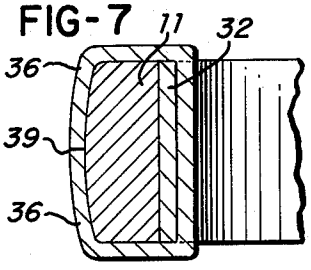


FIG-8

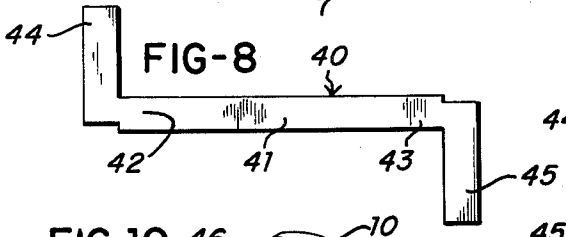


FIG-9

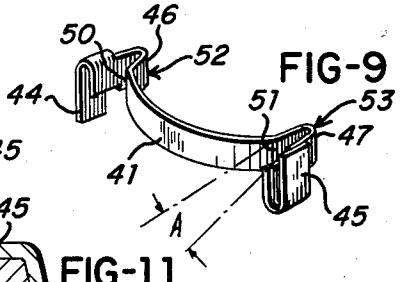


FIG-10

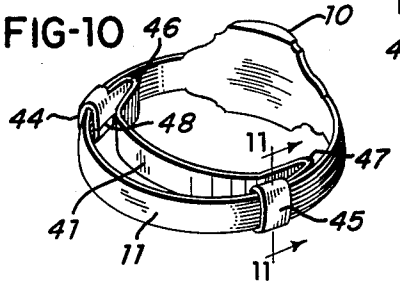
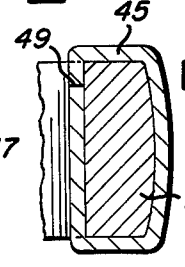


FIG-11



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RING GUARD AND SIZING DEVICE

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7 Claims. (Cl. 63—15.6)

The present invention relates to an attachment for selectively varying the inside dimensions of finger rings.

In the use of commemorative or ornamental rings worn on the hands of individuals, it is often desired to change the size of the finger-encircling portion of the ring, commonly referred to as the shank. In many instances it is desired that the inside dimensions of the ring shank be only slightly reduced, primarily to prevent the ring's slipping from the finger of the wearer, in which case the attachment is generally denominated as a "ring guard." In many other instances however, particularly where a ring with a relatively large finger opening is to be worn only temporarily by a person having a much smaller finger, it is desired substantially to reduce the inside dimensions of the shank. In such cases the size reduction is again employed to prevent ring slippage but it is at the same time quite important from the standpoints of appearance and comfort. Since the attachment of the present invention is capable of achieving either nominal or substantial dimension changes, it is useful and might be designated either as a ring guard or as a ring sizer; but it is in the area of substantial dimensional changes that additional problems are encountered; and it is in their function as ring sizers that the teachings herein are perhaps most valuable.

In the prior art, a variety of ring attachments have been employed for the above purposes, but all have been characterized by attaching or clamping means which have presented seams or joints either on the exterior of the ring where they detract from appearance and tend to catch or snag clothing, or on the finger-contacting inner portion of the shank where they cause discomfort and often blisters or other lesions on the finger of the wearer. In addition to these problems and particularly in the case of sizing attachments involving substantial dimensional changes, the devices of the prior art have lacked sufficient strength and durability to preserve a particular size, once it has been established, and to insure that the attachment will remain clamped to or otherwise associated with the ring. Similarly, where substantial size changes are effected, the prior art devices have allowed the ring to rotate so that the decorative portion thereof is not always where it belongs.

It is accordingly an object of the present invention to provide an improved ring guard or ring-sizing attachment.

Yet another object of the invention is to provide such an attachment which may be securely and relatively permanently attached to a ring to preserve an effective inside dimension thereof.

Yet another object of the invention is to provide such an attachment wherein the clamping means will not present seams or joints to the exterior of the ring where they might catch in clothing or the like or irritate the skin on the fingers adjoining that on which the ring is worn.

Still another object of the invention is to provide such an attachment which will not present seams or joints which will injure or cause pain to the finger about which the ring is worn.

Still another object of the invention is to provide a sizing attachment which may accomplish substantial changes in inside dimensions of a finger ring without interfering with the strength and dimensional stability of the attachment or the permanence of its association with the ring.

Yet another object of the invention is to provide such an attachment which can be easily adjusted to provide a relatively broad range of different finger opening sizes.

Yet another object of the invention is to provide such an attachment which may be economically manufactured and conveniently applied to a great variety of different rings.

These and other objects and advantages which will be apparent from a reading of the following disclosure are achieved by the provision of a strip of metal or similar material having a bridge or shank-spanning portion defined by a fold or reverse bend at each end thereof and adjacent to or bearing against the inner surfaces of the ring shank at opposite points on the sides thereof. Extending at various lengths from and beyond said folds or bends are clamping extensions of said strip, designed to bear against the inner face of the ring shank at points which are removed by the bridge portion from contact with the finger of the wearer. Such extensions are then provided with ears or tabs which are so positioned and dimensioned that they may encircle the ring shank in clamping relationship and terminate in a joint or seam along the interior of the ring shank, but once again, separated from the finger of the wearer by the bridge portion, thereby avoiding all of the seam or joint objections of the prior art.

In a modification of this invention particularly adapted to substantial size changes, the clamping extensions of the strip member are of such a length beyond the folds at the ends of the bridge portion that they abut or overlap at the bottom of the shank; and a tab is associated with one of said extensions at the end thereof which is of sufficient length completely to embrace both the ring shank and the other extension at the point of their abutment or overlapping. This additional clamping of the device to the ring shank, at or near the bottom thereof, not only secures the position of the device within the circumference of the shank against deformation under radial forces, but also holds the sizing unit against displacement under axial forces such as when the finger is slipped into the ring. Because this third clamp is, like the first two clamps above described, separated from the finger of the wearer by the bridge portion, the seam or joint may be along the interior of the ring shank without causing any injury or discomfort to the wearer. On the other hand, since this third clamping means at the bottom of the ring is in a position where the hand more or less protects it from contact with clothing or the like or from observation, it is not so important that the joint be on the inside of the shank. Thus, according to one modification hereof, the joint of this third clamp may be exposed to the exterior of the shank for ready access.

A further modification of this invention involves bends at the ends of the bridge portion which are characterized by a break in the strip at a point removed from the inner surface of the shank and an upwardly inclined leg therefrom to the point where the strip is reversely bent to extend downwardly along the inner surface of the shank. In this modification, and particularly where the upwardly extending leg forms at least a thirty degree angle with the downwardly extending portion of the bend, it has been found that the forces exerted upon the attachment by the finger of the wearer will tend to improve the permanence of the clamping association between the device and the ring and will at the same time prevent rotation of the ring on the finger.

The invention thus generally described may be more clearly understood by reference to the following detailed descriptions of certain preferred embodiments thereof in connection with which reference may be had to the appended drawings.

In the drawings:

FIGURE 1 is a plan view of a blank or strip member with which to form a ring sizing device according to one modification of this invention.

FIGURE 2 is a perspective view of the intermediately formed stage of the blank of FIGURE 1 in condition to be associated with a ring.

FIGURE 3 is a perspective view of the blank of FIGURES 1 and 2 associated with a ring.

FIGURE 4 is a cross sectional view of the line **4—4** of FIGURE 3.

FIGURE 5 is a plan view of a modification of the strip illustrated in FIGURE 1.

FIGURE 6 is a perspective view of the strip illustrated in FIGURE 5 associated with a ring.

FIGURE 7 is a cross sectional view on the line **7—7** of FIGURE 6.

FIGURE 8 is still another modification of a strip for forming a ring guard according to the present invention.

FIGURE 9 is a perspective view of the strip of FIGURE 8 intermediately formed for application to a ring.

FIGURE 10 is a perspective view of the strip of FIGURES 8 and 9 associated with a ring.

FIGURE 11 is a cross sectional view on the line **11—11** of FIGURE 10.

Reference to FIGURES 3, 6 and 10 will disclose that a commemorative or ornamental ring of the type considered by the present invention comprises a basic combination of a setting or decorative portion **10** associated with the finger-encircling shank portion **11**, the latter being generally in the form of a cylindrical shell or band. It is with this shank portion **11** that a ring guard or sizing device of the present invention is associated, selectively to change the effective dimensions of the finger-receiving area within the shank and adjacent the setting portion.

As illustrated in FIGURE 1, one form of device according to this invention comprises a strip or blank **12** formed of a metal such as gold, silver, or a sheet of material having metal-like qualities by a variety of well known cutting or stamping techniques. Three-quarters-hard gold or gold filled or gold plated nickel or related base is particularly suitable for the devices of this invention. As illustrated in FIGURE 1 the blank may, in the first instance, be in planar form and be thereafter bent or shaped to the intermediate stage illustrated in FIGURE 2 preparatory to its association with the ring as illustrated in FIGURES 3 and 4. The strip **12** comprises the centrally positioned elongated bridge or shank-spanning portion **13**, extending beyond each end of which are the clamping extensions **14** and **15** from which project the clamping ears or tabs **16** and **17**. In the embodiment illustrated in FIGURE 1 the clamping extensions are further extended by the portions **18** and **19**, at the end of one of which is associated an additional clamping tab **20**. While the clamping tabs such as **16, 17** and **20** are shown to be disposed at right angles to the elongated bridge portion and the clamping extensions thereof, a variation in this angularity on the order of up to five degrees from a right angle may be utilized. While there is no clear distinction between the bridge member **13** and the extensions **14, 15, 18** and **19** when the blank is in its planar state, the bridge portion is defined and segregated by the reverse bends or folds **21** and **22** (as illustdated in FIGURES 2 and 3) when the blank is intermediately formed.

As illustrated in FIGURE 2, this intermediate formation of the reverse bends **21** and **22** leaves the bridge portion therebetween in such position that, when the device is associated with the ring as shown in FIGURE 3, the bridge will span the interior of the shank while the bends themselves will be adjacent opposite sides thereof, as a result of which the upper portion of the ring and the bridge member **13** will provide a finger opening of a diameter substantially less than that of the ring proper. The clamping tabs **16** and **17** are positioned exteriorly of or toward the ends of the strip **12** from the bridge portion as it is defined by the bends **21** and **22** with the result that they will be held by the bridge away from the finger inserted in the reduced opening. Consequently, the tabs may be folded or formed tightly about the ring shank, clampingly to embrace the same and may be of such a length that when they are so formed, the free end thereof will lie against the interior of the shank surface.

To provide even greater firmness of association between the sizing unit and the ring shank, the strip unit is so dimensioned that the additional extensions **18** and **19**, when the unit is within the ring shank, will terminate overlapping ends and the clamping tab **20** at one of these ends **19** may therefore be formed to clampingly embrace not only the ring shank **11** but also the overlapping portion of the other extension **18**. Once again of course the bridge **13** will protect the finger of the wearer from any contact with the clamping tab **20** or the end or seam thereof. While this protection is that the nature and location of the seam of the tabs is not critical from the standpoint of the comfort of the wearer, the general appearance of the assembly may be enhanced by providing the recesses **24, 25** and **26** along the strip **12** at the edge thereof opposite that from which the tabs project. In such cases, the length of the tab may then be adjusted, by end cutting upon application to the ring for example, so that when the tabs tightly embrace the shank, their ends will terminate at and rest within these recesses **24, 25** and **26** in the mated relation illustrated at **27** in FIGURES 3 and 4.

Because the third clamping tab, i. e., the tab such as **20** encircling both the ring shank and the overlapping extension of the other end of the strip, is at the bottom of the ring shank substantially diametrically opposite the setting and is therefore substantially covered by the fleshy portion of the hand at the point at which the finger joins the same, it is sometimes considered not essential that the end of this particular tab open or lie interiorly of the shank. Moreover, since it is this third tab which finally and, for all practical purposes, permanently fixes the position of the sizing unit on the ring and thereby the effective size of the finger opening, it is sometimes desired that this particular clamp be more accessible to being opened where, for example it might be desired from time to time to change the effective dimensions of the finger opening. In such cases an embodiment similar to that illustrated in FIGURES 5, 6, and 7 may be employed wherein a strip member **28** comprises the bridge portion **29**, the extensions **30** and **31** and the additional extensions **32** and **33** as well as the clamping tabs **34** and **35**, all arranged and manipulated according to the embodiment illustrated in FIGURES 1 through 4. The third clamping tab **36** at the end of the second extension **33** however, instead of projecting only from one side of the strip as does the tab **20** of FIGURE 1, extends from both sides of the strip in T fashion. As seen in FIGURES 6 and 7, when extension **33** with this tab **36** is in overlapping relationship with the extension **32**, the tab may then be bent around both sides of the extension **32** and the ring shank to form an abutting joint or seam **39** exteriorly of the ring surface.

Where the nature of the bend or fold at the extremities of the bridge portion conforms to the particular modification illustrated in FIGURES 8 through 11, unexpected and unobvious result has been that the permanence of the clamping association between the sizing unit and the ring and the stability of the ring on the finger of a wearer may be quite satisfactorily maintained even though the third clamping means at the bottom of the ring are eliminated. In this embodiment, it will be observed that the strip member **40** comprises only the bridge portion **41**, the clamping extensions **42** and **43** and the tabs **44** and **45** which extend angularly from the ends of the clamping extensions. In the manner of the above embodiments

however, this strip, preparatory to being applied to a ring, is preformed by the provision of the first bends **46** and **47** which define the beginning of the clamping extensions **42** and **43** and separate them and the tabs **44** and **45** thereon from the bridge **41** and from the finger which will rest against the bridge. While the tabs **44** and **45** may both project in the same direction or from the same edge of the strip **40**, it has been found that economies in the formation of multiple strips from a blank sheet of metal may be achieved where the tabs in fact project from opposite sides of the strip as illustrated in FIGURE 8. In this manner, successive blanks may be cut from the same sheet without substantial scrap since one strip will be considered as nested against the strip subsequently to be cut from the sheet. At the same time the projection from different edges of the elongated strip **41** will result in only the nominal difference from one side to the other of the ring that the joint **48** formed by the end of the tab **44** will be near one side of the ring whereas that at **49** formed by the end of the tab **45** will be at the other side of the ring. Once again, because these joints are removed from the finger of the wearer by the bridge **41**, this nominal change is of no significance.

In applying any of the above described ring sizers or ring guards to a ring, they are first preformed manually or in a suitable press to the shapes as illustrated in FIGURES 2 and 9 and are then applied to the ring by slipping the shank thereof into the open grooves provided by the tabs. The tabs may thereupon be loosely clamped about the ring shank and the assembly then either placed upon the finger of the person who is to wear the same or upon a conventional sizing stick to the proper size whereupon the transversely opposed clamps may be tightly fastened and the third clamp, if any, may be tightened around the shank and the extension of the other end of the strip. In this final sizing operation the bends at the extremities of the bridge portion play an additional and an important part in establishing the size of the finger opening and insuring a comfortable fit. As will be seen from a comparison of the rings in FIGURES 3, 6 and 10, the angle of the bends and the length of the strip involved therein may be changed. In the first instance, it will be observed that the bends are so located that they are adjacent the inner shank surface so that the finger opening is completely enclosed by a substantially continuous surface which is free of any sharp edges or the like. At the same time, the length of the portion of the bridge which is involved in the fold and lies against the clamping extension of the strip may be easily varied with the result that, the more of the strip that is consumed in the bend, the less bridge length there will be to span the ring shank thereby resulting in an effectively reduced finger opening dimension. Moreover, the resilience of the metallic material involved in the bend allows a certain displacement of the bridge as the ring is applied to the finger whereupon the elasticity of the attachment will cause the bridge to return to resilient contact with the finger.

Where additional strength and clamping permanency is required, as is particularly the case in the embodiment illustrated in FIGURES 8 through 11 wherein the third clamping means are eliminated, the same may be provided by modifying the folds **46** and **47** in the manner illustrated. It will be observed in FIGURES 9 and 10 that the folds commence at a break such as **50** and **51** which are transverse lines at which there is a relatively abrupt change in the curvature of the strip of which the bridge is composed. In this modification, when the ring is finaly sized and the attachment is finally clamped upon the ring shank, these breaks **50** and **51** are spaced from the shank of the ring. Upwardly from the breaks so positioned project the legs **52** and **53** terminating in the folds or reverse bends **46** and **47**. The final arrangement of the parts is then preferably such that the spacing of the breaks from the shank requires that the upwardly projecting legs **52** and **53** be disposed to the clamping extensions projecting downwardly from the folds **46** and **47** at an angle A within the range of from thirty degrees to sixty degrees. Such an attachment has been found capable of supplying substantial size changes while still preventing rotation of the ring as it is being worn.

While the invention has been described above in considerable detail in connection with certain preferred embodiments, it is to be understood that the foregoing particularlization and detail have been for the purposes of illustration only and do not limit the scope of the invention as it is defined in the subjoined claims.

I claim:

1. The combination with the shank of a finger ring of a sizing device comprising an elongated continuous strip having a central bridge portion spanning the aperture of said shank, a reverse bend at each end of said bridge portion, a clamping extension beyond each of said bends, and a tab angularly projecting from each of said extensions, wherein said bends are adjacent the inner surface of the ring shank at generally opposite points thereon, said clamping extensions bearing against the inner surface of the ring shank and said tabs encircling the ring shank in fixed clamping relation thereto beneath the bridge portion.

2. A device according to claim **1** wherein said reverse bends commence at breaks on said elongated bridge portion which are spaced from the interior surface of the ring shank.

3. A device according to claim **1** wherein a second extension projects linearly from each of said clamping extensions beyond each of said tabs and along the inner surface of the ring shank to contact each other.

4. A device according to claim **3** wherein one of said second extensions is provided at its end with an angularly projecting third clamping tab encircling said ring shank and the extremity of the other of said second extensions.

5. A device according to claim **4** wherein said third clamping tab projects from the same side of said one second extension as do the other clamping tabs.

6. A device according to claim **4** wherein said third clamping tab projects from both edges of said one second extension.

7. A ring sizing attachment to be employed in combination with a finger ring comprising an elongated continuous strip having a central bridge portion spanning the aperture of said shank, a reverse bend at each end of said bridge portion, a clamping extension beyond each of said bends, and a tab angularly projecting from each of said extensions, wherein said bends are adjacent to the inner surface of the ring shank at generally opposite points thereon, said clamping extensions bearing against the inner surface of said ring shank beneath the bridge portion and said tabs encircling the ring shank and terminating along the inner surface thereof between said bridge portion and said inner surface wherein said reverse bends commence at breaks on said elongated bridge portion which are spaced from the interior surface of the ring shank and said reverse bends comprise vertices joining an upwardly projecting leg from each of said breaks to the downwardly projecting clamping extensions at an angle of at least 30°.

References Cited by the Examiner

UNITED STATES PATENTS

1,809,045	6/1931	Kraft	63—15.6
2,766,599	10/1956	Steffen	63—15.6
2,770,112	11/1956	Butts	63—15.6
2,966,048	12/1960	Gosev	63—15.6

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