This invention relates to seals and, more particularly, to a tag type seal.

It is an object of the present invention to provide a tag type seal which is especially useful for sealing food products, such as meat and meat products, which is extremely safe to handle, can be readily applied and secured, and which can be attached with conventional equipment.

Another object of the present invention is to provide a tag type seal having a main body portion which can be constructed from relatively light weight material, in which the side edges are turned back upon themselves to increase the strength of such material and to avoid sharp edges which would otherwise present a safety hazard to persons applying such seals and to other persons later handling such tagged articles.

Still a further object of the present invention is to provide a tag type seal of the above type that includes a flexible ball member having one end secured to a main plate, which main plate includes a substantially closed socket for receiving and securing therewithin the opposite pointed end of the ball so as to prevent such pointed end from accidentally injuring persons handling the seal or the object to which it is secured.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings, wherein:

FIG. 1 is a side elevational view of a seal assembly made in accordance with the present invention prior to the application thereof to the article to be tagged.

FIG. 2 is a rear view of the assembly shown in FIG. 1 with the parts shown in a secured position for following the application thereof to the article being tagged.

FIG. 3 is a transverse cross-sectional view taken along line 3—3 of FIG. 1.

FIG. 4 is a transverse cross-sectional view taken along line 4—4 of FIG. 1.

FIG. 5 is a fragmentary longitudinal cross-sectional view taken along line 5—5 of FIG. 2.

Referring now to the drawing, a tag seal assembly 10 made in accordance with the present invention, is shown to include a metallic plate 12 having an extension portion 15 at one end. This plate 12 is preferably constructed from metallic sheet material of relatively light gauge, and may be formed in any desired manner, such as by stamping.

The laterally spaced apart sides 17 of the extension portion 15 are turned back upon themselves to define a pair of spaced apart and substantially parallel sleeves 18. One end of the main plate 12, adjacent to the one end of the extension 15, is also turned back upon itself to form a terminal beaded edge portion 20 that also serves to close the adjacent end of both of the sleeves 18. The opposite end of each sleeve 18 opens toward the opposite end of the main plate 12 and toward a pair of laterally spaced apart grooves forming channels in the main plate portion 12 which extend from the main plate portion 12 to the main plate 12.

One end of the extension portion 15 is turned back upon itself to form a terminal beaded edge portion 20 that also serves to close the adjacent end of both of the sleeves 18. The opposite end of each sleeve 18 opens toward the opposite end of the main plate 12 and toward a pair of laterally spaced apart grooves forming channels in the main plate portion 12.

The turned back portions on both sides and one end of the plate and extension portion not only avoid the sharp edges which would otherwise present a safety hazard, but also reinforce the plate 12 and extension 15, so that relatively light gauge material may be used to advantage.

Deformable ferrules 25 are struck outwardly from the main plate 12 in a direction opposite from the channels 24 for slidably receiving and interlocking engagement with the opposite ends of a ball member 30 in a manner hereinafter more fully described.

The ball member 30 is preferably constructed of flexible wire material of any desired length. One end 32 of the ball 30 is received within the ferrule 25, channel 24, and sleeve 18 on one side of the main plate 12 and preferably secured therewithin at the time of manufacture, such as by crimping the respective deformable ferrule 25 in any suitable manner, such crimping having the effect of preventing outward longitudinal movement of the one end 32 of the ball 30 from the respective sleeve 18. The opposite end of the ball 30 is preferably provided with a series of corrugations 36 and a pointed terminal 37. Thus, the point 37 may be used to pierce fleshy or fibrous material, such as meat or produce, prior to the insertion thereof through the deformable ferrule 25, channel 24, and sleeve 17 along the opposite side of the main plate 12. With the free end of the ball so placed within the respective ferrule 25, channel 24, and sleeve 17, the deformable ferrule 25 may be crimped, by any suitable hand tool, thus locking this end of the ball member in place. The corrugations 36 serve to reinforce the clamping action of the ferrule 25 along the free end of the ball member 30, thus adding further resistance to accidental disassembly of the parts.

It will now be recognized that the pointed end 37 of the ball member 30 is completely sheathed within the respective sleeve 17, both of which sleeves are permanently closed by the turned over terminal edge 20 of the extension 15, thus preventing accidental injury to persons handling the tagged article. The turned back sides 17 of the sleeves 18 avoid sharp edges along the sides of the extension 15, in a manner similar to that in which the turned back sides 22 avoid the presentation of sharp edges along the sides of the main plate 12. In addition, the turned back edges of the unit reinforce the entire assembly, thus enabling lighter gauge materials to be used in manufacture.

By separating one end of the ball with the plate, during the manufacturing stages, it is only necessary to crimp one side of the seal in order to secure it in the closed position during actual use. The relatively large surface area of the main plate 12 and extension 15 may also be used for impressing any desired type of indicia thereupon at the time of manufacture during the crimping operation.

While this invention has been described with particular reference to the construction shown in the drawing, it is to be understood that such is not to be construed as imparting limitations upon the invention, which is best defined by the claim appended hereto.

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

A seal comprising in combination, a plate having side portions at one end turned back upon themselves and defining a pair of sleeves opening at one end toward the opposite end of said plate, said one end of said plate turned back upon itself along the opposite end of said pair of sleeves and defining a smooth safety edge, the opposite end of said plate having a pair of channels each directed toward said open end of a respective one of said sleeves, said opposite end of said plate having side portions turned back upon themselves defining beaded edges forming continuations of said side portions of said one end of said plate, deformable ferrule means comprising a pair of arcuate portions struck outwardly from said plate and each overlying one of said channels, and a ball member having one end secured within one of said channels.
and one of said sleeves by one of said arcuate ferrule portions, the opposite end of said bail member receivable within the other one of said channels and said sleeves, and the other one of said ferrule portions being deformable to lock said other end of said bail member within said other ones of said channels and said sleeves.

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