Feb. 27, 1923. 1,446,446

H. BELLON

EYE CHAPLET

Filed Mar. 20, 1922

Fig. 1

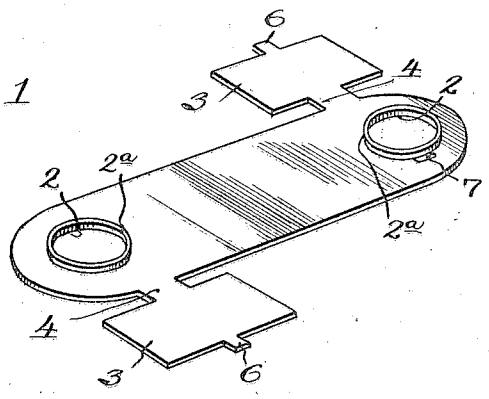


Fig. 2

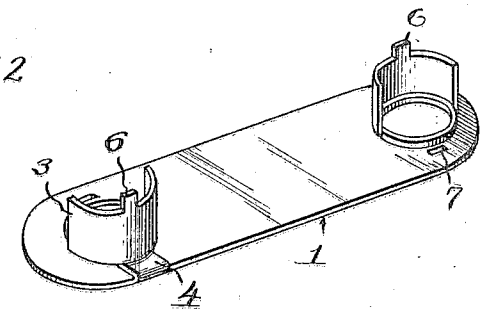
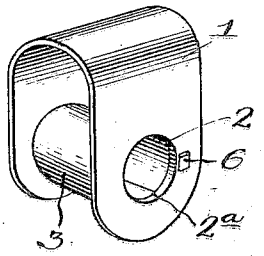


Fig. 3



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UNITED STATES PATENT OFFICE.

HENRY BELLON, OF CHICAGO, ILLINOIS.

EYE CHAPLET.

Application filed March 20, 1922. Serial No. 544,981.

To all whom it may concern:

Be it known that I, HENRY BELLON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Eye Chaplets, of which the following is a specification.

This invention relates to improvements in chaplets and more particularly to chaplets, so named because it is adapted for a particular use in foundry practice, namely, in forming an eye or hole in a casting. A familiar illustration of the use of an eye chaplet is in the casting of stove or furnace doors, in which holes are provided for the purpose of hinging the door, or in the casting of sash weights in which an eye is provided at one end.

It is characteristic of all chaplets that they assume a multitude of shapes and forms depending on the character of the casting, and so in the case of eye chaplets they vary considerably in their design and formation, although they all are characterized by a common feature, namely a tubular portion which produces in the finished casting the desired eye or hole.

Heretofore the common practice in the manufacture of eye chaplets has been the making and assembling of at least two, and sometimes more, separate parts, which are stamped out of sheet metal in separate operations. This has been largely due to the tubular portion which must be first stamped out in the blank and then shaped into cylindric form and the ends inserted through holes in the body portion of the chaplet and finally crimped down to form a secure joint.

The object of the present invention is to simplify and decrease the cost of manufacturing chaplets of this particular type, by designing a chaplet which may be stamped from sheet metal in a single stamping operation with all portions forming integral parts of the blank. The invention therefore embodies the formation of the blank as well as the method of forming the blank into this final form.

For the purpose of illustrating the invention, a common form of eye chaplet has been selected, although it is to be understood that other forms of eye chaplets may be manufactured in the same manner.

In the accompanying drawings,

Fig. 1 is a perspective view of the chaplet blank as it appears after the stamping operation,

Fig. 2 is a perspective view of the blank after the initial forming operation, and

Fig. 3 is a perspective view of the chaplet in its final form.

It is to be understood at the outset that the blanks are stamped from sheet metal by feeding the metal preferably in strips into a punch press and between specially designed dies which stamp and punch the blanks, in a single stroke of the press. Fig. 1 illustrates one of the chaplet blanks, the same comprising a body portion 1 having a length considerably greater than its width and provided with rounded ends. Adjacent each end of the body are holes 2—2 which are punched from the body in such a manner that short upstanding flanges 2^a—2^a surround the holes. In diameter the holes are substantially one-half the width of the body member and are located concentrically with respect to the rounded ends thereof.

At opposite ends of the body 1 and located on opposite sides thereof, are two rectangular sections or pieces of metal 3—3 which are connected with the body by means of short and relatively narrow neck portions 4—4. The location of these rectangular pieces 3—3 may be more accurately defined in their relation to the holes 2—2. If an imaginary line is drawn through the centers of these holes and termed the major axis of the blank and another line drawn through the centers of each hole at right angles to the major axis and termed the minor axes, each of the rectangular pieces 3 may be considered to be arranged symmetrically with respect to these minor axes and located on opposite sides of the imaginary major axis. This relationship is clearly disclosed in Fig. 1.

The dimensions of the rectangular pieces 3—3 and their relation to the body as well as to each other is more clearly disclosed in Fig. 2, which illustrates the first operation in the formation of the complete chaplet from

the blank shown in Fig. 1. Considering one of the rectangular pieces 3 it will be seen that it undergoes three operations, namely, the bending of the piece at its junction with the neck portion 4, so that it assumes a position at right angles to said neck portion, the bending or forming of the piece into semi-cylindric form and to a radius equal to that of the adjacent punched hole 2, and finally the bending of the now cylindric piece 3 and neck portion 4 over upon the body portion and along the line of connection between the neck portion and the body 1. The result of this bending and forming is clearly shown in Fig. 2 wherein the semi-cylindric portions 3 surround the adjacent half of their respective holes 2 in abutting relation along their base edges with the flanges 2^a surrounding said holes, and the neck portions flattened down upon the top surface of the body 1.

It is also to be observed that there is provided along the outer edge of each rectangular piece 3 a short projecting tongue 6. Furthermore there is cut or punched in the body member immediately adjacent the base of each flange 2^a a small rectangular slot 7, these slots 7—7, as well as the tongues 6—6, being located symmetrically with respect to the imaginary minor axes, heretofore referred to, in locating the rectangular pieces 3—3. After the initial bending and forming operation as hereinbefore described, the tongues 6—6 project upwardly from the free margins of the now semi-cylindric portions 3—3.

The final forming operation is that of bending the body member intermediate its ends in such a manner that it assumes a U-shape with the punched holes 2—2 in axial alinement with each other and the semi-cylindric portions 3—3 brought into registering relation with each other, so their vertical edges are brought into edgewise contact and together form a complete cylindric or tubular member which surrounds and encloses the flanges 2^a—2^a and abut against the body portion adjacent the base of said flanges. Furthermore in the final forming operating as just described. the tongue 6 of each semi-cylindric portion registers with and projects through the slot 7 formed at the opposite end of the body member, this notch and slot connection forming what is commonly termed a "toy-lock," by bending the projecting portion of each tongue over upon the outer surface of the body member.

In its final form the chaplet is seen to consist of a U-shaped body member and a tubular portion extending transversely between the parallel end portions of said body member. In practice the body member serves as an anchor for the chaplet thereby insuring its proper location and anchorage within the mold. Furthermore the tubular portion, which is to form the eye in the finished casting, is filled with sand, which is removed after the casting is taken from the flask or molding frame.

In the manufacture of chaplets of this character, on a commercial scale and by automatic machinery, the so-called gang die would be used, so that a number of blanks would be stamped in a single operation, the dies being so designed that the minimum amount of waste would result from the stamping operation. This fact would therefore dispose of any apparent objection to the so-called one piece method of making chaplets as herein described. So far as the finished article is concerned, its chief advantage over the so-called two piece chaplet, resides in the fact that it may be made entirely by machinery, thus eliminating expensive hand labor, that is required in assembling and crimping together the several parts of the two piece chaplet, heretofore manufactured. The chaplet of the present invention is particularly desirable from the standpoint of strength and abiltiy to withstand pressure, inasmuch as the tubular member prevents any displacement or warping of the body portion, being anchored against endwise movement in either direction and abutting against the body portion in such a way that its shape is not readily distorted.

Having described the formation and method of producing the chaplet embodying the invention, I claim:—

1. A chaplet comprising a body portion and a tubular portion integral with said body portion.

2. A chaplet comprising a body portion and a tubular portion formed from a blank of which said portions are integral parts.

3. A chaplet comprising body and tubular portions formed from a blank in which the tubular portion consists of a piece integral with said body portion.

4. A chaplet comprising a body portion and a tubular portion formed from a blank, in which the tubular portion consists of a rectangular piece integrally connected with said body portion through the medium of a narrow neck portion.

5. A chaplet comprising a U-shaped body portion and a tubular portion, extending transversely of said U-shaped portion, said tubular portion in the blank consisting of rectangular piece of metal integral with said body member.

6. A chaplet comprising a U-shaped body portion and a tubular portion, extending transversely of said U-shaped portion, said tubular portion in the blank consisting of an integral rectangular piece adapted to be bent in cylindric form transversely of said body portion.

7. A chaplet comprising a U-shaped body portion and a tubular portion, extending transversely of said U-shaped portion, said tubular portion in the blank consisting of integral rectangular pieces adapted to be bent into semicylindric form in edgewise contact with each other and extending transversely of said body portion.

8. A chaplet comprising a U-shaped body portion and a tubular portion extending transversely of said U-shaped portion, said tubular portion in the blank consisting of integral rectangular pieces adapted to be bent into semicylindric form in edgewise contact with each other and extending transversely of said body portion in registering relation with flanged holes punched in said body portion.

9. A chaplet comprising a body portion bent in U-shape, and having holes punched adjacent the ends thereof, and a tubular portion extending transversely of said body portion, and consisting of semicylindric sections registering with said holes in the body portion, and means for locking the ends of said tubular portion to said body portion.

10. A chaplet comprising a body portion bent in U-shape, and having holes punched adjacent the ends thereof, and a tubular portion extending transversely of said body portion, and consisting of semicylindric sections integrally connected to said body portion by narrow neck portions and bearing endwise in registering relation with said holes.

11. A chaplet comprising a body portion bent in U-shape, and a tubular portion extending transversely of said body portion, and consisting of semicylindric sections connected to the body portion by narrow neck portions, and abutting at their ends in registering relation with flanged holes punched in said body portion, and toy-locks connecting the abutting ends of said semi-cylindric portions with said body portion.

12. A chaplet comprising a body portion bent in U-shape, and a tubular portion extending transversely of said body portion, and consisting of a rectangular section integrally connected to said body portion by a narrow neck portion, and bent into cylindric form around flanged holes formed in transverse alignment in said body portion, and a tongue at one end of said tubular portion extending through a slot in said body portion and bent over to provide a lock.

In witness whereof, I hereunto subscribe my name this 17th day of March, A. D. 1922.

HENRY BELLON.