

Sept. 29, 1925.

E. P. OLCOTT

1,555,480

PIPE COLLAR

Filed Dec. 26, 1923

Fig. 1.

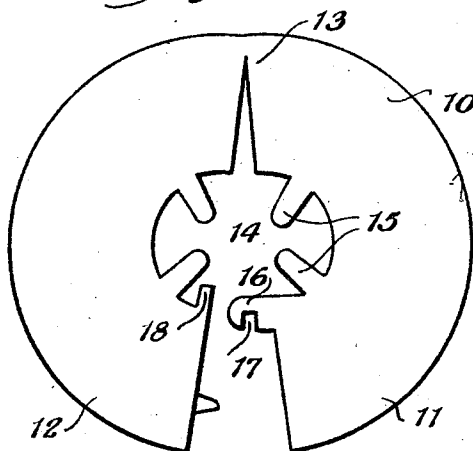


Fig. 3.

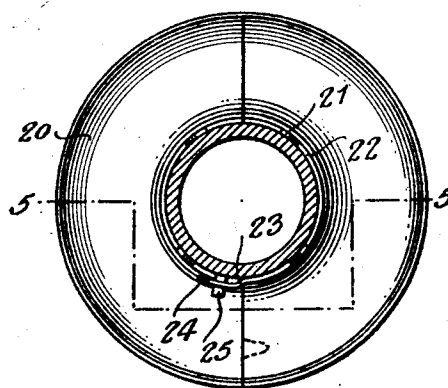


Fig. 2.

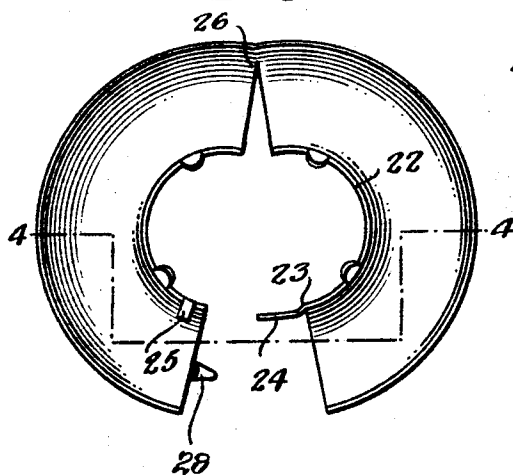


Fig. 4.

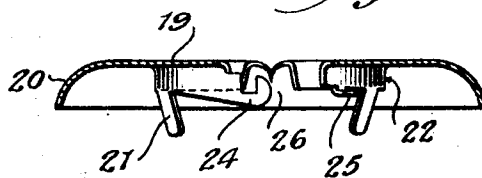
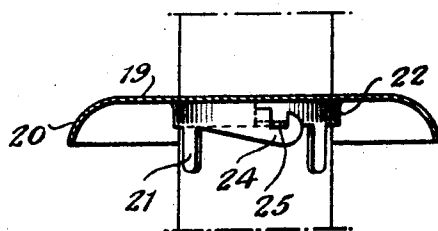


Fig. 5.



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UNITED STATES PATENT OFFICE.

ELMER P. OLCOTT, OF CHESHIRE, CONNECTICUT, ASSIGNOR TO THE BALL AND SOCKET MANUFACTURING COMPANY, OF WEST CHESHIRE, CONNECTICUT, A CORPORATION OF CONNECTICUT.

PIPE COLLAR.

Application filed December 26, 1923. Serial No. 682,606.

To all whom it may concern:

Be it known that I, ELMER P. OLCOTT, a citizen of the United States, and a resident of Cheshire, in the county of New Haven and State of Connecticut, have made and invented certain new and useful Improvements in Pipe Collars, of which the following is a specification.

My invention relates to floor and ceiling plates or pipe collars such as are placed upon pipes after the latter have been installed in place, and has for its object to provide an article of this character which will be of particularly neat and pleasing appearance and so designed and arranged that it may be made, in its entirety, from a single piece of sheet metal. My improved collar, by avoiding all external parts or fixtures such as the ordinary hinge and attached latch, may accordingly be made at a very low cost and, being formed entirely by automatic machines, may be economically produced in large quantities.

A further object is to provide a novel method of forming a one-piece collar which consists in forming a first-stage blank wherein the two sections which are ultimately to form the sections of the collar extend at an angle one to the other to a sufficient degree to allow for the forming of integral tongues and snap fastener parts. After this first-stage blank has thus been formed and bent to its final shape, the sections are closed together and then finished by plating and buffing.

A further object is to provide a collar formed with two sections joined together at their one extremity by an integral bridge of metal which acts as a hinge, and provided at their opposite extremities with an integral latch member and keeper so as to thereby provide an integral snap fastener holding the two sections together and encompassing a pipe.

A further object is to accomplish the aforementioned ends in a simple and expeditious manner, and with the foregoing and other objects in view, my invention consists in the improved one-piece collar illustrated in the accompanying drawings and hereinafter described and claimed, and in such variations and modifications thereof as will be obvious to those skilled in the art to which my invention relates, it being under-

stood that changes may be made within the scope of what is claimed without departing from the spirit thereof.

The preferred embodiment of my invention is disclosed in the accompanying drawing, wherein:

Figure 1 is a plan view of the blank from which my novel floor or ceiling plate is made;

Figure 2 shows the blank after the forming operation;

Figure 3 is a plan view illustrating the floor or ceiling plate attached to the pipe;

Figure 4 is a view in section taken on the line 4—4 of Figure 2; and

Figure 5 is a similar view in section taken on the line 5—5 of Figure 3.

Referring specifically to the several views, wherein similar reference numerals designate corresponding parts throughout, a suitable blank 10 is pierced or cut from a metal sheet of the proper thickness by the use of suitable dies (not shown) and is composed of the two semi-circular sections 11 and 12 which are connected together by a small integral bridge 13. The two sections 11 and 12 are provided with the central aperture 14, inwardly into which extend the arms 15, the aperture 14 being the one which ultimately is to receive the pipe, the arms 15 eventually contacting with the side walls of the pipe and resiliently holding the collar in place.

The blank as disclosed in Figure 1 is further provided with a transversely extending tongue 16 having the notch 17 therein and the remote section of the blank is provided with the inwardly extending arm 18, these parts being adapted to subsequently form the snap fastener which holds the two sections of the collar together, as will hereinafter appear. Particular attention is called to this first-stage blank as illustrated in Figure 1, as it is characterized by the two semi-circular sections 11 and 12 but the diametric lines of which are spread apart at one point so that sufficient metal is incorporated at the center of the blank so as to provide for the formation of the inwardly extending tongues 15 and the portions of the snap fastener 16—18.

The blank as thus constituted is then subjected to the action of suitable forming dies (not shown) and the plate as disclosed in

Figures 2 to 5 is formed. During the forming operation the metal of the blank is shaped so as to provide a top 19 and an overturned flange 20, although it is to be understood that the collar may partake of any desired form or shape. The arms 15 are also struck downwardly as at 21 and an inner rim 22 is also turned inwardly or downwardly and the plate given the customary annulus formation. The inner rim 22 and integral arms 21 are adapted to fit around and resiliently engage a pipe. During the forming operation the tongue 16 is outwardly offset as at 23, resulting in the formation of a latch member 24, while the inwardly extending arm 18 is turned back and forms a latch keeper 25, the two parts going to make up an integral snap fastener. In order to aid in bringing the sections together and in proper alignment, the section 12 is provided with a downwardly offset lug 28. This lug projects outwardly and downwardly and engages the confronting edge of the adjacent section and serves to bring the two into proper alignment as the sections are closed around a pipe. During the forming operation the integral bridge 13 is maintained intact and now forms an integral hinge bridge designated at 26. While I have spoken of these various punching and forming operations as being separate and distinct, it will be readily apparent that I may combine them all in one operation or may suitably modify them to contemplate a number or series of operations; such changes, however, coming clearly within the scope of my invention.

My improved collar is thus made entirely of one piece of metal, which has been rendered possible for the first time by forming the blank from two integral and semi-circular sections the diameters of which are joined together at one end and spaced apart at their opposite ends so as to thereby provide sufficient metal for those parts lying upon the inner circumference of the collar. Furthermore, my improved collar embodies all of the desirable features of a solid collar and is the first to include all of the parts from a single and integral piece of sheet metal.

Having thus described and explained my invention, I claim and desire to secure by Letters Patent:

1. A one-piece pressed metal pipe collar formed by die-shaping of sheet metal punchings, comprising two substantially semi-circular sections integrally joined for

a short distance at one end only to form a hinge, the sections being divergent from the point of joining to their opposite ends so as to be normally separated except at the hinge without distorting the metal of the hinge, and latch and keeper elements formed integrally with the sections at their separated ends to hold the hinged sections together in their pipe encircling position.

2. A first-stage blank for the forming of a one-piece pipe collar comprising in general two semi-circular segments integrally joined over a small area at one end, and diverging from the joined area so as to be separated by a sector-shaped space, with latch and keeper elements integral with the segments and one of these elements extending into the sector space.

3. The method of forming a one-piece pressed metal pipe collar from sheet metal stock which consists in first cutting a first-stage blank to a shape comprising two substantially semi-circular sections integrally connected for a short distance at one end to form a hinge, and divergent from the point of connection toward their opposite ends, with integral snap fastener elements one of which is formed from the metal between divergent sections, then die-shaping the said blank so as to bend the sections at their outer peripheries to form an over-turned flange, and to position the integral fastener elements for interlocking engagement when the collar is placed in pipe encircling position.

4. The method of forming a one-piece pipe collar by die-shaping a first-stage blank, which blank comprises two semi-circular segments integrally joined at one end and separated throughout their remaining length by a sector-shaped opening, a part of the metal from the sector area being utilized to provide an integral latch element on one of the separated ends of the semi-circular segments.

5. A first stage blank for the forming of a one-piece pipe collar comprising in general two semi-circular segments integrally joined over a small area at one end in the plane of the body of the blank, and diverging from the joined area so as to be separated by a sector-shaped space.

Signed at Cheshire, borough of Cheshire, in the county of New Haven and State of Connecticut, this 18th day of Dec., A. D. 1923.

ELMER P. OLCOTT.