June 5, 1934. E. H. ANDERSON 1,961,189

PIPE FLANGE

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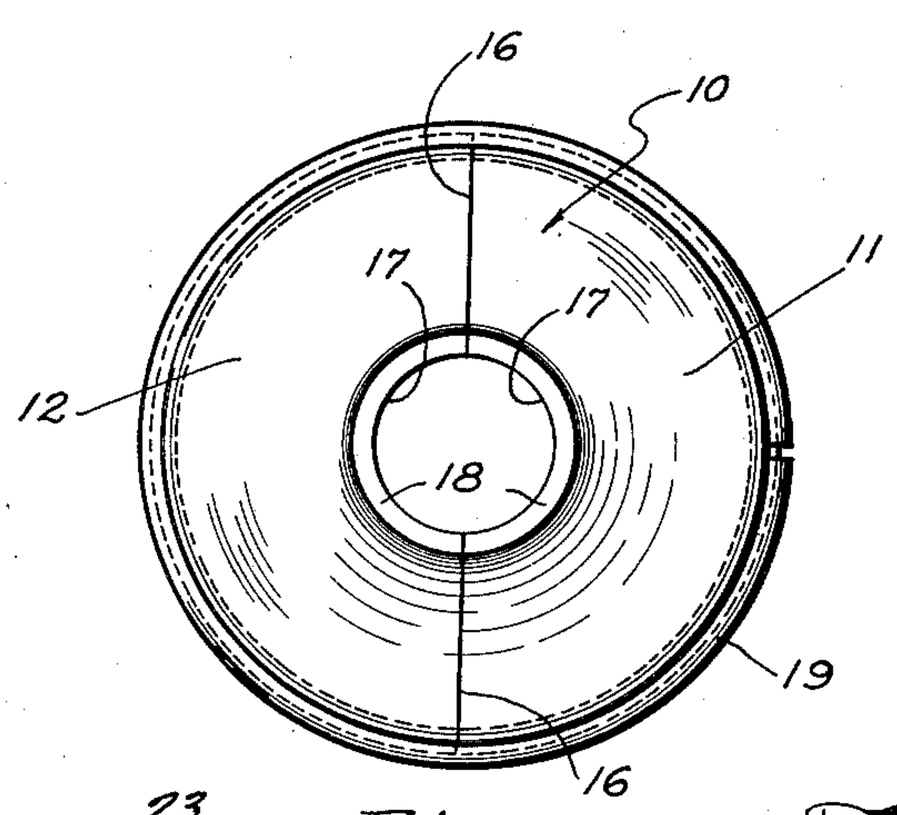

Fig. 1

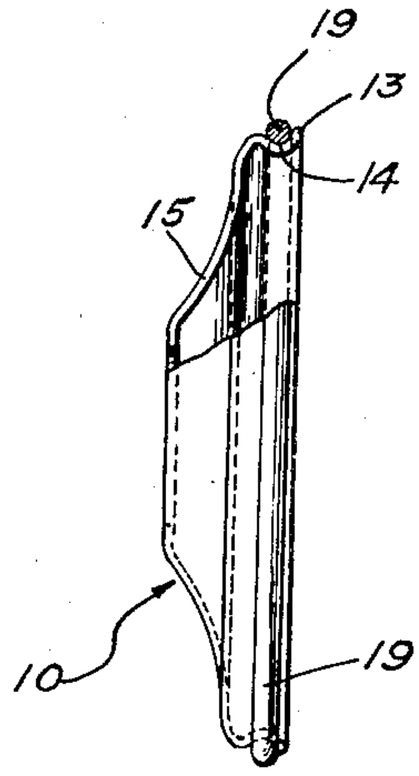

Fig. 2

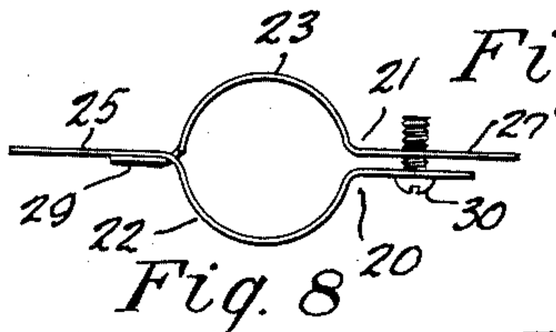

Fig. 8

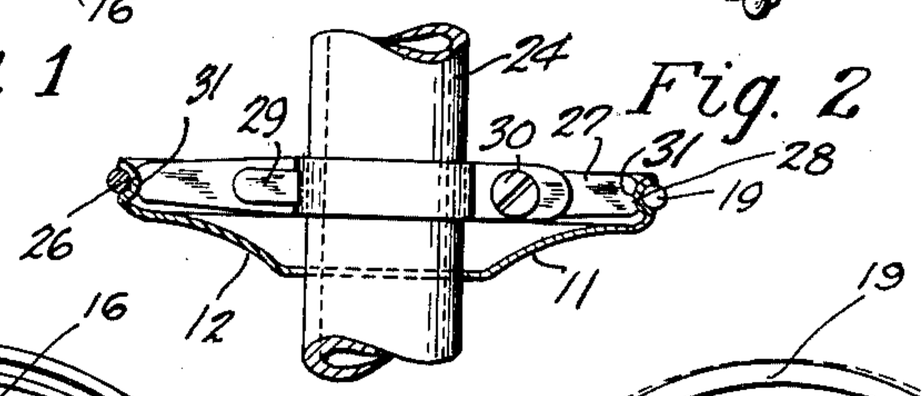

Fig. 7

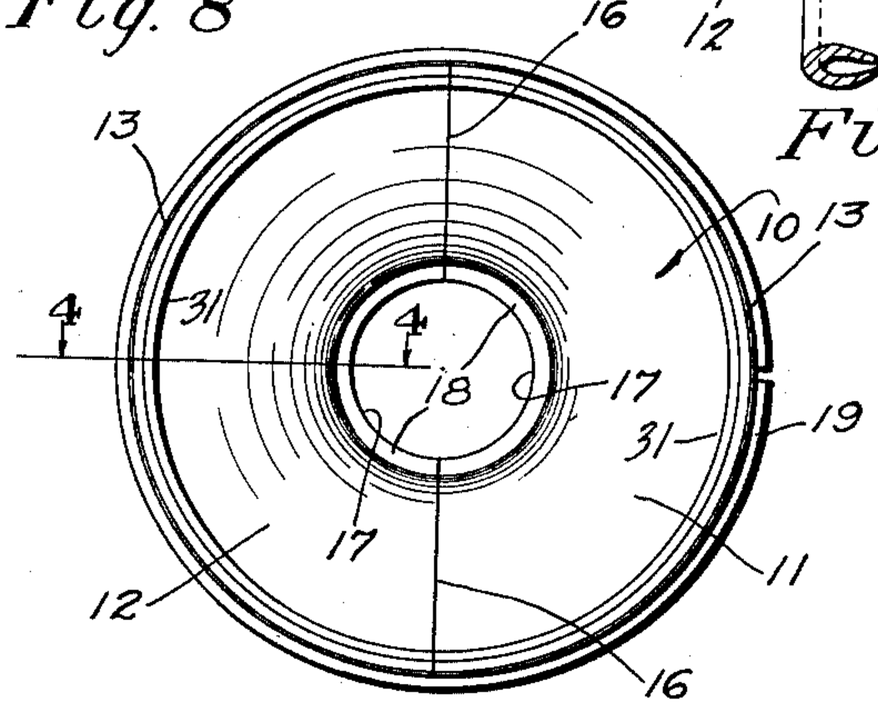

Fig. 3

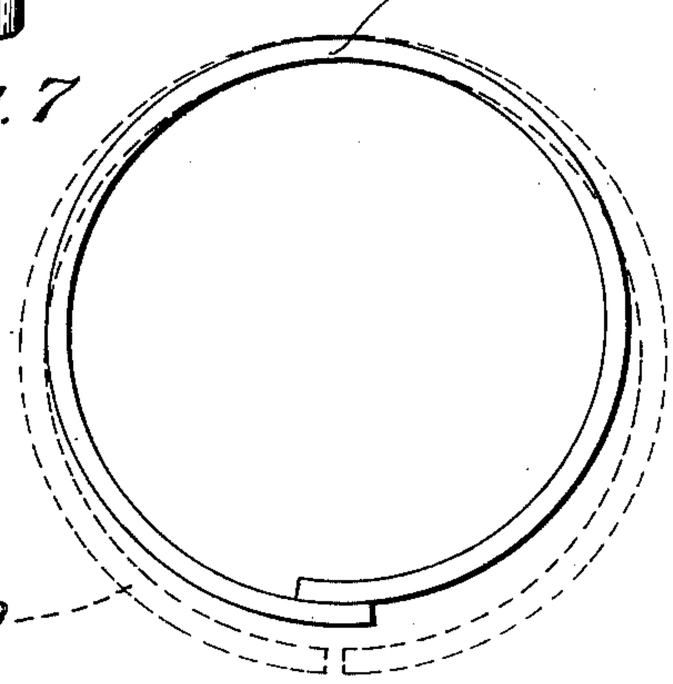

Fig. 5

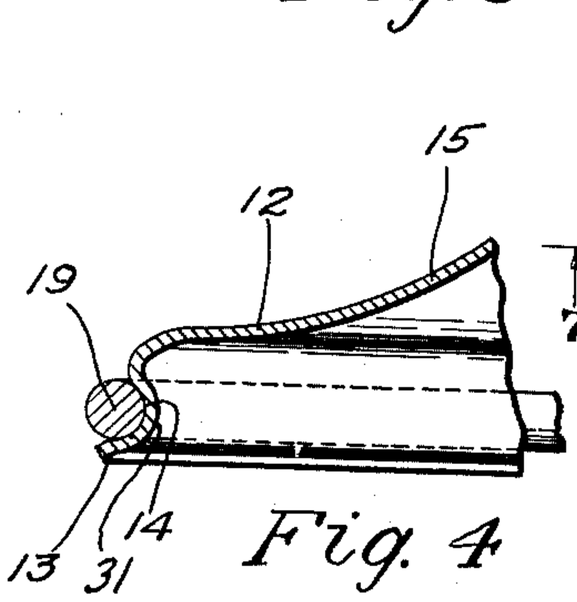

Fig. 4

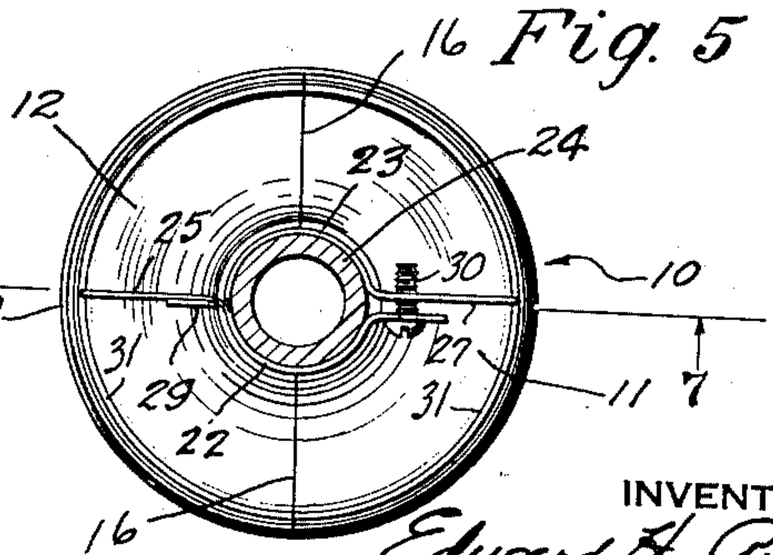

Fig. 6

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PIPE FLANGE

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4 Claims. (Cl. 126—317)

This invention relates to new and useful improvements in floor and ceiling flanges or plates of the type used to conceal openings about exposed piping where such piping passes through a floor, ceiling, or the like, and has for an object to provide a flange of this type which is of neat and attractive appearance, simple in construction, which may be easily applied and which will remain closed and in place about a pipe when once properly applied.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein a satisfactory embodiment of the invention is shown. However, it will be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing:

Fig. 1 is a top plan view of the improved floor and ceiling flange or plate;

Fig. 2 is an edge view thereof, a part being broken away;

Fig. 3 is a bottom plan view thereof;

Fig. 4 is a detailed sectional view taken substantially along the line 4—4 of Fig. 3;

Fig. 5 is a plan view of a split ring forming part of the improved flange;

Fig. 6 is a top view showing one way in which the flange may be applied to a pipe as it comes through a ceiling;

Fig. 7 is a transverse section substantially on line 7—7 of Fig. 6; and

Fig. 8 is a plan view of the holder shown in Figs. 6 and 7.

Referring in detail to the drawing, the improved flange as here disclosed includes a disc-like body portion 10 comprising a pair of similar semi-circular sections 11 and 12. The sections 11 and 12 are formed of sheet metal, as for example sheet brass, and may be plated or otherwise finished. Each of the sections 11 and 12 at its outer edge includes a downturned flange or skirt portion 13, bent inwardly intermediate its upper and lower edges to provide a shallow groove 14 the purpose of which will later more fully appear.

Also, each of the sections of the disc 11 includes an upwardly curved top wall portion 15 and the sections are so arranged that their inner edges may abut as along the line 16. In its inner edge each section is provided with a semi-circular notch 17 whereby when the sections are arranged with their inner edges in abutting relation the disc-like body portion 10 is provided with a central opening to accommodate a pipe. Preferably, the edge portions of the sections about the notches 17 are turned inwardly or flattened as at 18 whereby to squarely engage the outer surface of a pipe to which the device may be applied.

The improved flange includes a split spring ring 19 which in the assembled device lies partially within the groove 14 formed in the skirt or flange portions 13 of the respective sections. When the sections are arranged with their inner edges in abutting relation grooves 14 in the skirt portions of the sections form a continuation of one another so that a substantially continuous groove is provided to receive the ring 19. This ring holds the parts in assembled relation and constantly tends to assume a smaller diameter as suggested by the full lines in Fig. 5, the ring being expanded when in position as suggested by the dotted lines in that figure. Also, the ring forces the inner edges of the sections into tight abutting relationship or normally tends to do so, and as it lies in the groove the ring holds the two portions of the groove in alignment and there holds or retains the two sections of the flange in proper alignment to form a complete flange.

In assembling the device on a pipe or applying the device to a pipe the ring may be removed so that the sections are independent of one another and then the sections are applied one to each side of the pipe so as to have the pipe pass thrcugh the opening provided when the notches 17 are brought into registry. Next, the ring may be sprung open sufficiently to be slipped about the pipe so as to permit the ring to rest on the upper surface of the two sections. When the ring so rests it will be understood that the ends of the ring are overlapping as shown in full lines in Fig. 5. Next, the ring is forced downwardly over the outer edges of the sections, the ring opening to permit this and as the ring comes opposite the groove 14 it will snap into it and the device will be assembled in place.

When the device is in place the sections are securely held together and there is no danger of them opening or being casually removed from about the pipe and the device presents a neat and pleasing appearance. When the improved flange is applied about a pipe where it passes downwardly thrcugh a floor the device will rest on the floor, or the notches may be made of such diameter that the sections will not come closely together so that the edges of the notches will tightly engage the pipe. This latter arrange-

ment may also be used to cover an opening through a ceiling and about a pipe and the spring ring 19 will hold the sections against the pipe so the friction of the sections against the pipe will tend to hold the flange against movement.

It is, however, preferred when using the device as a ceiling plate to provide a holding element to more positively secure the flange in position. Such a device is shown in Figs. 6, 7 and 8. This holder comprises two strips of resilient metal 20 and 21 each of which has a bowed portion 22 and 23 respectively arranged in opposed relation to embrace the pipe shown at 24. The element 20 has an arm 25 provided with a notch 26 at its free end while the element 21 has an arm 27 provided with a similar notch 28 at its free end. At the other side of its loop 23 the element 21 has a tongue 29 passing through an opening in arm 25 and folded against the inner side thereof. This forms a sort of hinge connection between the members 20 and 21. On the opposite sides of the pipe loops 22 and 23 a clamping screw 30 passes through the member 20 and is threaded through the arm 27. By tightening this screw the clamp can be clamped about the pipe 24 in any position desired. The notches 26 and 28 are adapted to receive the bead 31 formed on the inner side of the flange when the groove 14 is formed and so by sliding the flange or plate over the clamp the bead 31 enters the notches 26 and 28 and the flange will be held against the ceiling by the clamp. The arms of the clamp being spring arms will yield sufficiently to permit this operation and also withdrawal of the flange from the clamp when desired.

From the foregoing description it will be seen that the improved flange includes but three parts and that the flange sections 11 and 12 are not weakened by notching or the like to provide any supporting means for the split spring ring 19. It will also be noted that the depending flange or skirt portions 13 of the sections will have their lower edges resting on the floor and that such portions of the sections will provide a continuous wall to exclude dirt and dust so that the latter will not be collected within the improved flange and about the pipe.

Having thus set forth the nature of my invention, what I claim is:

1. A flange comprising a pair of sections arranged with the inner edge of one in opposing relation to the inner edge of the other, each of said sections having a notch in its inner edge, said sections arranged with said notches in registry, said sections having an inwardly extending bead on their inner side walls, and a clamp adapted to be secured to a pipe embraced by said flange, said clamp including arms having recesses in their free ends to receive said bead and retain the flange in position, and means to hold the sections together.

2. A flange of the character described comprising separable sections adapted to embrace a pipe, means for securing the sections about said pipe, said sections being provided with an inwardly projecting bead on their inner side walls, and a support adapted to be clamped about the pipe including laterally extending arms provided with recesses in their free ends to receive said bead and retain the flange in position.

3. A flange of the character described comprising separable sections adapted to embrace a pipe, means for securing the sections about said pipe, said sections being provided with an inwardly projecting bead on their inner side walls, a support adapted to be clamped about the pipe including two strips of flat resilient metal having bowed portions to embrace the pipe, one of said strips having an opening and the other strip having a lug passing through the opening to secure them together, a clamping screw passing through the strips on the other side of the bowed portions to clamp them about the pipe, and the strips having outwardly extending arms on opposite sides of the bowed portions provided with recesses in their free ends to receive said bead and retain the flange in position.

4. A floor or ceiling flange comprising a pair of semi-circular sheet metal sections each having a semi-circular notch in one edge, said sections arranged with their notched edges in opposed relation and with their notches in registry whereby to provide in effect a perforated disc, said sections each being formed with a groove in its outer surface closely adjacent its outer peripheral edge and providing a corresponding inwardly extending bead on its inner surface capable of cooperating with a clamp secured to a pipe to hold the flange in position, the groove of one section forming a continuation of the groove of the other whereby a substantially annular groove is provided, and a split wire spring ring in said groove and normally tending to press the opposed edges of the sections together.

EDWARD H. ANDERSON.