July 3, 1934. R. F. RUNGE 1,964,770

SHEET METAL PILLOW BLOCK AND METHOD OF PRODUCING IT

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Fig. 2.

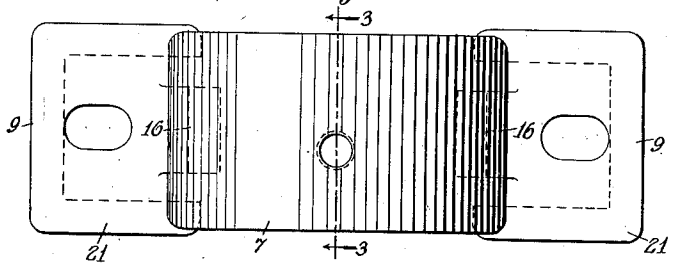


Fig. 1.

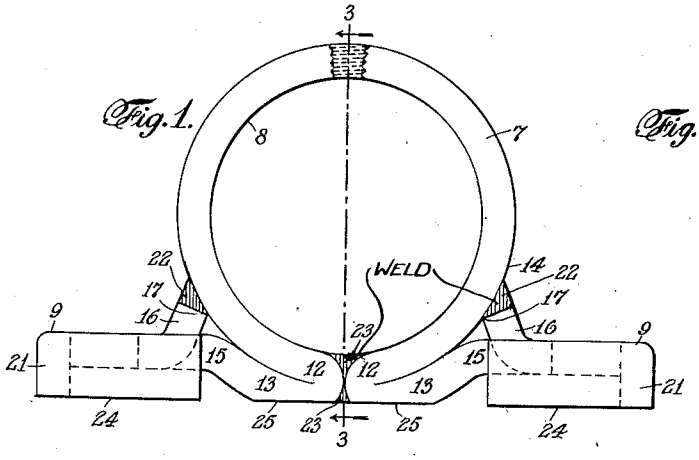


Fig. 3.

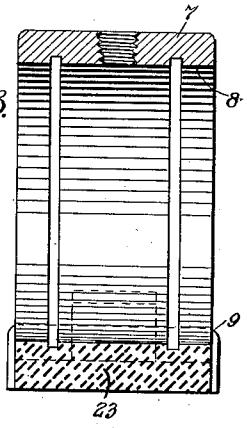
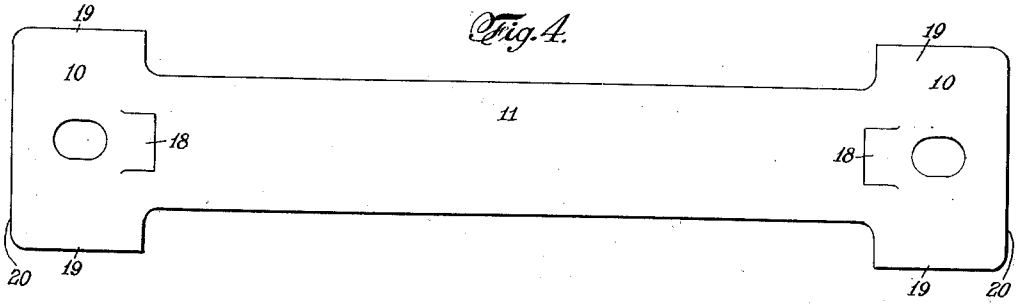


Fig. 4.



INVENTOR
ROBERT F. RUNGE

BY Chas. Lyon Russell
his ATTORNEY

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Fig. 5.

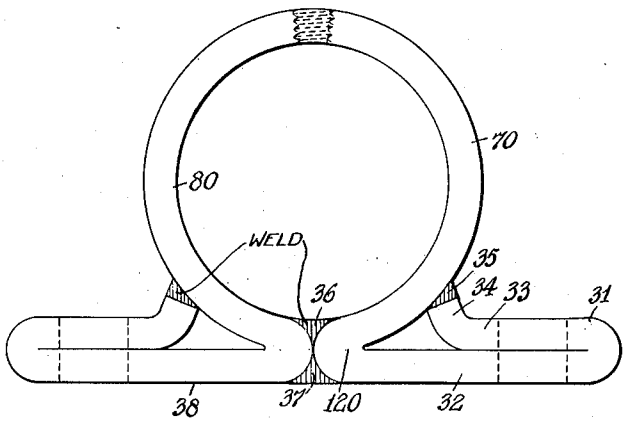


Fig. 6.

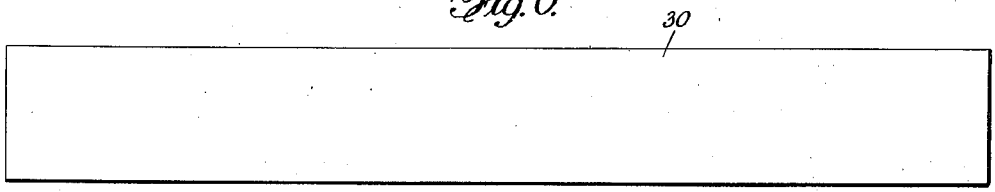


Fig. 7.

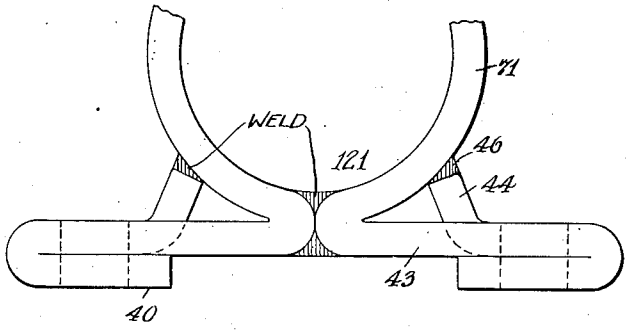
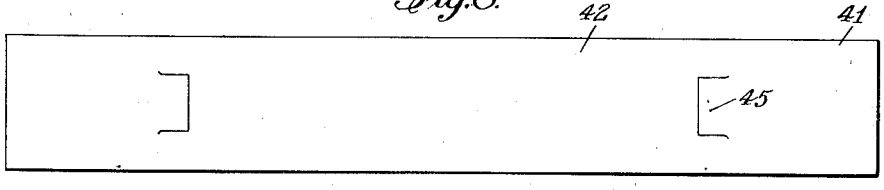


Fig. 8.



INVENTOR
ROBERT F. RUNGE

BY Chas. Lyon Russell
ATTORNEY

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SHEET METAL PILLOW BLOCK AND METHOD OF PRODUCING IT

Robert F. Runge, Forest Hills Gardens, Long Island, N. Y., assignor, by mesne assignments, to S K F Industries, Inc., Philadelphia, Pa., a corporation of Delaware

Application May 6, 1932, Serial No. 609,687

5 Claims. (Cl. 29—150)

This invention relates to pillow blocks and more particularly to those formed from sheet metal, and has for an object to provide a substantial, light weight pillow block which can be manufactured at small cost and which will require a minimum of machining.

Another object of the invention is to form a pillow block from a single piece of sheet metal bent into form, the parts being welded together for the purpose of imparting rigidity to the structure. The various details of construction are enumerated in the detailed description.

In the drawings accompanying this description:

Figure 1 is an end elevation of one form of my improved pillow block.

Fig. 2 is a top view of the device shown in Fig. 1.

Fig. 3 is a central section taken at about the plane of the lines 3—3 in Figs. 1 and 2.

Fig. 4 is a blank which has been stamped ready for bending into the completely formed pillow block, represented in Figs. 1 to 3.

Fig. 5 is an end elevation of another form of my pillow block,

Fig. 6 represents a blank suitable for bending into this form, and

Figs. 7 and 8 are similar views pertaining to still another form.

The various blanks illustrated are shown on a smaller scale than are the finished housings which are supposed to have been bent from such blanks.

The pillow block in its completed form comprises a substantially circular housing member 7 adapted to receive within it a bearing, as for instance a self-contained anti-friction bearing, the inner face or wall 8 of this housing member being shown as substantially cylindrical. On each side of the housing 7 there projects a foot. The feet 9—9 of the Figs. 1 to 3 form are shown as having been bent from the end portions 10 of a blank, see Fig. 4, and the housing portion as formed from the medium portion 11 of the blank. The sheet metal blank is preferably first bent into the form of the housing 7 and then is bent sharply back upon itself at the regions 12, these being given such proportions that they meet, or approximately meet, at the lower portion of the housing for a short distance before merging into the feet 9—9.

A short length 13 of the blank closely conforms to the outer wall 14 of the housing and then bends as at 15 at about the region at which it merges into the foot portion. At about this region a tongue 16 is bent up from the foot portion into such a position that its corner 17 engages, or approximately engages, the outer wall 14 of the housing portion. These tongues, before being bent up, are illustrated at 18 in Fig. 4. The sides 19 and ends 20 of the feet forming portions of the blank are bent sharply down forming a flange 21.

After the parts have been bent into shape the spaces between the ends of the tongues 16 and the wall 14 may be filled with weld metal by means of some welding operation as represented at 22, thus making the end of the tongue integral with the housing portion 7. The spaces between the ends or bights 12—12 may similarly be filled in by weld metal as at 23—23 producing an integral structure and a closed housing; this also integrally bonds the feet carrying members 13 together. It will thus be seen that the feet are bonded together at the lower part of the structure and are also bonded to the sides of the housing.

After the welding operation has been finished the lower surfaces 24 of the feet forming flanges 21 may be ground to reduce them to a common plane, and at the same time the parts of the elements 13 which project beyond this plane are also ground for reducing them to the same common plane, 25. It will be seen that reducing the surface 25 to the plane 24 of the underside of the feet gives firm and rigid support at the lower part of the structure for the bearing which is housed within it. And also that this design produces a rigid structure, and one wherein the lower portion of the inner face 8 of the wall of the housing is brought low down in relation to the surfaces 24 of the feet.

The form of pillow block represented in Fig. 5 is bent from a plain sheet metal blank such as 30 illustrated in Fig. 6. The housing portion 70 is substantially the same as that shown in Fig. 1. The feet portions 31 however, are produced by the length 32 of the blank which immediately extends outwardly from the bight 120. The end of the blank is then bent over the upper portion of this length 32, as at 33, and the extreme end of the blank is bent sharply up, as at 34, and approximately engages the outer wall of the housing member 70 to which it is integrally united by welding, the weld metal being represented at 35. The weld metals 36 and 37 hold the two joints 121 integrally together, the weld metal 36 completing the inner face or wall 80 of the housing, and the weld metal 37, together with the lower sides of the feet portions 32, forms a continuous surface upon which the housing may rest.

The Fig. 5 design raises the inner portion of the housing and the surface 80 and consequently the geometrical center of the housing further above the lower surface 38 upon which the device rests than does the form of design illustrated in Fig. 1.

The device illustrated in Fig. 7 shows the geometrical center of the housing still further raised from the lower foot surface 40. In bending the blank for forming this latter design the extreme ends 41 of the blank, such as those illustrated at 42 in Fig. 8, are bent downwardly and under the lengths 43 extending from the joints 121.

The steadying or stiffening struts 44 are produced by bending up the struck-up portions 45 of the blank and electrically welding these, as at 46, to the outer surface of the housing portion 71.

It is to be understood that changes in detail of construction may be made within the scope of the claims without departing from the spirit of my invention.

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

1. A pillow block bent from a single sheet metal blank, the center portion of the blank being formed for presenting a bearing housing, other portions of the blank extending laterally from the housing and forming feet, the ends of the blank being bent back upon the feet forming portions, and extending to the adjacent sides of the housing, and weld metal bonding the parts together, the lower faces of the feet presenting a substantially continuous engaging surface from end to end.

2. A pillow block bent from a single sheet metal blank, the center portion of the blank being formed for presenting a bearing housing, other portions of the blank extending laterally from the housing and then bent back upon itself and under these portions for forming feet, and stay members struck up from the laterally extending portions and directed toward the adjacent sides of the housing, and weld metal bonding the parts together.

3. A pillow block formed from a sheet metal blank, there being a housing adapted to receive within it a bearing and at each side of the housing a foot, such foot having been bent from the end portion of the blank and formed by bending sharply down the end and sides of the blank presenting a foot forming flange, the housing sitting low between the feet.

4. A pillow block bent from a single sheet metal blank, the center portion of the blank being formed for presenting a bearing housing, other portions of the blank extending laterally from the housing and then bent back upon itself and under these portions for forming feet, and stay members struck up from the laterally extending portions and directed toward the adjacent sides of the housing, and weld metal bonding the parts together, the housing sitting high above the feet.

5. The method of producing a sheet metal pillow block from a sheet metal blank which consists in forming a portion of the blank into a housing and sharply bending two other portions laterally thereof for forming feet and bringing the ends of the bights formed by such bending closely together, then welding such ends together, then bending the blank back upon itself and extending the extreme ends toward the adjacent sides of the housing, and then welding such extreme ends to the sides of the housing.

ROBERT F. RUNGE.