

Sept. 1, 1959

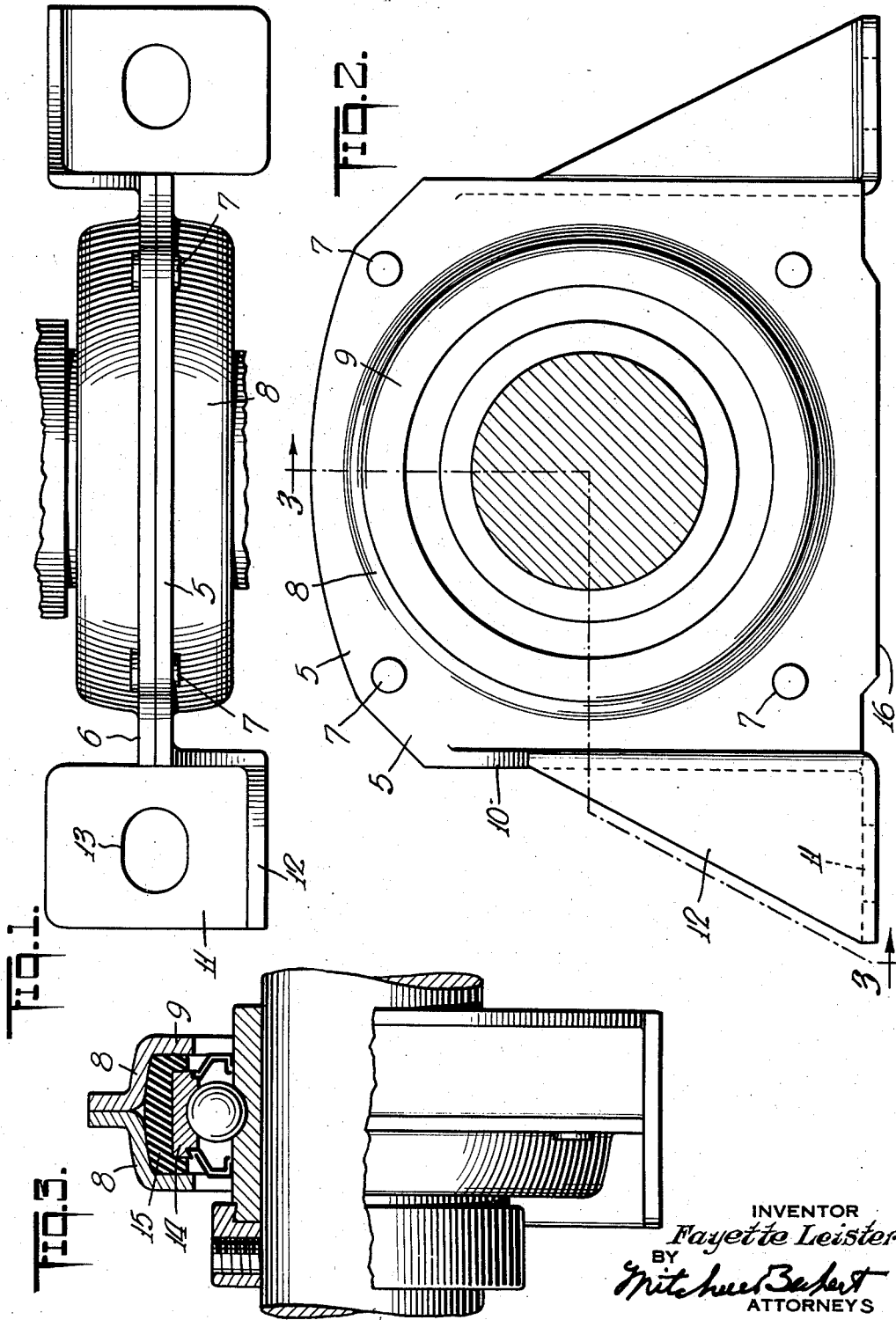
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2,902,322

PILLOW BLOCK

Filed Oct. 9, 1957

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

FIG. 4.

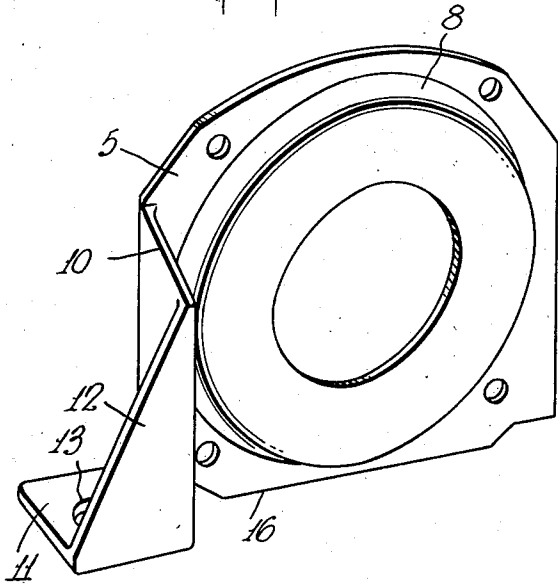


FIG. 5.

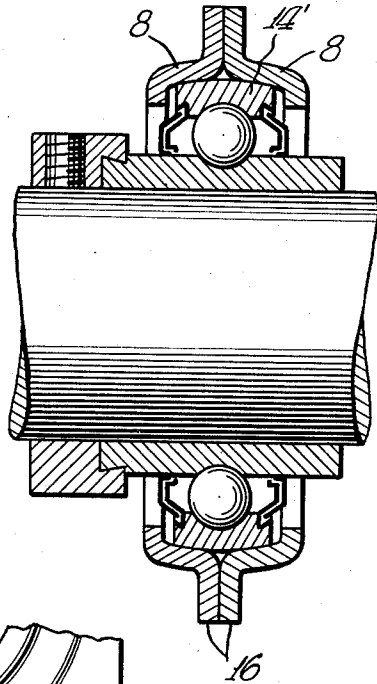


FIG. 6.

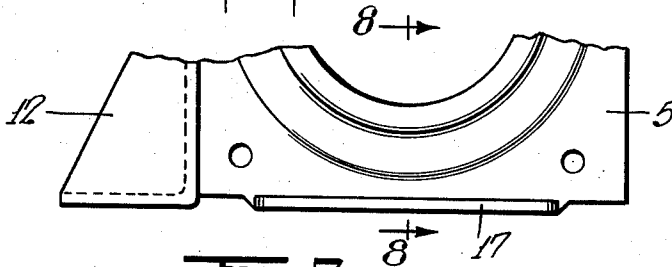


FIG. 7.

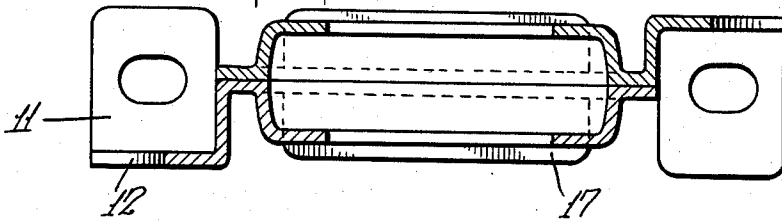
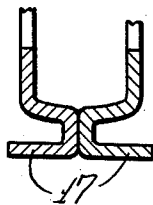


FIG. 8.



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1

2,902,322

PILLOW BLOCK

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3 Claims. (Cl. 308—184)

My invention relates to a pillow block.

It is an object of the invention to provide an improved form of pillow block made of pressed metal, so as to be light in weight, yet sturdy in construction.

It is another object to provide an improved pillow block, formed of pressed metal, having improved reinforcing means formed integrally therewith to strengthen the pillow block parts and prevent tipping or bending on the support.

Another object is to provide an improved form of pillow block formed of two parts, which are duplicates of each other, which when secured together, form a complete pillow block.

Other objects and various features of novelty and invention will be hereinafter pointed out or will become apparent to those skilled in the art.

Briefly stated, in a preferred form of the invention the pillow block consists of two upright plate members, which are duplicates of each other, and which are secured in face to face relationship so as to form a complete pillow block. Each plate is provided with an annular outwardly directed flange, and the flanges on the two plates are complementary to each other and, together for a housing for a bearing, such as an antifriction bearing.

Each plate at one end has a generally right angularly and transversely extending flange at the side edge, which flange extends upwardly preferably almost to the top of the bearing housing. There is an outwardly turned foot flange extending horizontally from the upright flange just mentioned and there is a gusset flange or stay formed integrally with both the outturned foot flange and the upstanding flange on the plate. Thus, each plate at one end has an exceedingly strong reinforced section integrally joining the foot and the plate. The feet are provided with openings for bolts or the like to secure the pillow block to a support. Since these pillow block parts are duplicates of each other, the upstanding flange and the integral gusset flange on one plate extend to one side of the pillow block, and on the other plate extend to the opposite side so that when the pillow block is securely fastened to its support, any tendency to tip in either direction is resisted by the reinforcements at the ends.

The pillow block may have edge metal bottom surfaces about flush with the bottoms of the foot sections to engage a support for the pillow block. If desired, each plate may have an outwardly directed flange to engage the pillow block support when it is not desired to have edge metal engagement.

The bearing in the bearing housing may consist of an antifriction bearing, such as a ball bearing, and the outer ring may be formed more or less spherically to fit the more or less spherically formed inner surface of the annular flanges forming the housing for the bearing. In another form, the outer ring of the bearing may be unfinished and there is a bushing of resilient material such

2

as artificial rubber surrounding the outer ring and fitting within the bearing housing. Thus, the bearing will be permitted some self alignment in the housing, and when there is a rubber bushing surrounding the bearing the entire device will be more or less silent in operation.

In the drawings which show, for illustrative purposes only, preferred forms of the invention—

Fig. 1 is a top plan view of a pillow block illustrating features of the invention;

Fig. 2 in a side view in axial elevation of the pillow block shown in Fig. 1;

Fig. 3 is an edge view in quarter section of the pillow block and parts of Figs. 1 and 2;

Fig. 4 is a perspective view of one of the plates forming half of the pillow block;

Fig. 5 is a central vertical sectional view through the pillow block shown in Fig. 2 and illustrating the bearing ring fitting directly in the bearing housing;

Fig. 6 is a fragmentary view in side elevation of a slightly modified form of pillow block;

Fig. 7 is a horizontal sectional view of the pillow block shown in Fig. 6; and

Fig. 8 is a fragmentary sectional view taken substantially in the plane of the line 8—8 of Fig. 6.

My improved pillow block comprises essentially two upright plates 5—6 secured in face to face relationship with each other as by means of bolts, screws, rivets or the like 7. Since these plates are duplicates of each other, a description of one will suffice for both.

If we consider the plate 5, for example, it will be seen that the plate is an upright plate pierced at about the center and having an outwardly directed annular housing flange 8 extending therefrom so as to form one part of a housing for a bearing. The flange 8 may have a radially inwardly turned end flange 9 to form a further part of the bearing housing and to act as a further support axially for the bearing in the housing.

The plate 5 on one end has a generally right angularly extending upright transverse flange 10 extending from the edge to an extent slightly more than the extent to which the annular housing flange extends. The bottom of the upstanding flange 10 has a foot flange 11 extending laterally therefrom, and there is a reinforcing gusset flange 12 integral with both the outturned foot 11 and the transversely extending reinforcing flange 10 on the plate 5. Thus, the plate 5 is adequately reinforced at one end not only by the housing flange 8, but by the transversely extending reinforcing flange 10 and integral gusset flange 12 integrally connecting the flange 10 and the foot 11. The foot has a hole 13 therein for the reception of a bolt, screw, or other device for holding a pillow block to a support. Since the other plate 6 is a duplicate of the plate 5, it will be seen that there is a duplicate construction at the other end of the pillow block but formed on the other plate 6. Thus, the pillow block is adequately reinforced at each end, one reinforcement being on one plate, and the other reinforcement being on the other plate. The flange 10 and the reinforcement thereon on one plate extends to one side of the pillow block, while that on the other plate extends to the other side of the pillow block.

In the form shown in Fig. 3, the outer bearing ring 14 does not fit directly in the housing formed by the housing flanges 8—8, but is surrounded by a bushing 15 of resilient material such as artificial rubber or the like. This bushing preferably overlaps the sides of the outer ring and fits within the housing in the pillow block. The outer ring 14 in this case need not be finished on the outer surface since it is embedded in the artificial rubber bushing. The bearing is thus allowed some self alignment in the housing. In the modifica-

tion shown in Fig. 5, the outer ring 14' is of generally spherical outer form so as to fit more or less the generally spherical inner surface of the housing formed by the flanges 8—8 described above.

In the form shown in Figs. 1 to 5, each plate has an edge metal bearing surface 16 substantially flush with the bottom of the foot portions 11 so that the pillow block rests on the edge metal bottom edges of the plates 5—6 and of the foot portions heretofore described. If it is desired to have a broader base for the pillow block, each of the plates forming the pillow block is provided with an outwardly directed lower bearing flange 17, which is bent outwardly from the bottom edge of the plates. This construction is shown in Figs. 6, 7 and 8. The bottoms of the foot or supporting flanges 17 are substantially flush with the bottoms of the outstanding feet at the ends of the pillow block so that the pillow block rests fully on the support and is supported by the flanges 17 and the feet. The flanges 17 preferably extend transversely outwardly somewhat beyond the housing flanges, as shown particularly in Fig. 7, and these flanges 17 are preferably together about as wide as the feet at the end of the pillow block, also as shown in Fig. 7.

It will be seen, therefore, that I have provided a pillow block formed of pressed metal, formed of two duplicate parts which when secured together form a secure housing for a bearing, and which will be adequately reinforced not only by the housing formed integrally therewith, but by integral supporting flanges at the ends of the pillow block. The pillow block may have edge metal bearing surfaces at the bottom to rest directly upon a support, and these edge metal surfaces are substantially flush with the bottoms of the feet formed on the pillow block. In a modified form, the plates have outwardly extending supporting feet to rest on the support for the pillow block. The bearing may fit directly in the housing and may have some slight self-alignment therein, or the bearing may be mounted in a bushing of resilient material, which itself is mounted in the housing. In either event, the bearing may self

align slightly, and with the resilient bushing the pillow block is likely to be somewhat quieter during operation.

While the invention has been described in considerable detail and preferred forms illustrated, it is to be understood that changes and modifications may be made within the scope of the invention as defined in the appended claims.

I claim:

1. In a pillow block, a pair of upstanding plates in face to face relation, said plates being duplicates of each other, each plate having an outwardly directed annular housing flange, the housing flanges on said two plates being complementary to each other and constituting a housing for a bearing, each plate at one end having an upstanding lateral integral flange in upright position, said integral flange at the upright edge having an integral gusset flange extending substantially parallel to said upstanding plate, and a horizontal foot flange extending laterally of said upstanding lateral and gusset flanges and being integral with both.

2. In the combination defined in claim 1, said plates at the bottom having edge metal bearing surfaces to engage a pillow block support, said edge metal bearing surfaces being substantially flush with the bottoms of said foot flanges on said plates.

3. In the combination defined in claim 1, said upstanding plates at the bottoms having outwardly directed bearing flanges removed from and independent of said foot flanges to engage a pillow block support, the bottoms of said bearing flanges being substantially flush with the bottoms of said foot flanges.

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