Feb. 3, 1959 H. S. FOOTE ET AL 2,872,253

PILLOW BLOCK

Filed Oct. 1, 1956 2 Sheets-Sheet 1

Fig. 1.

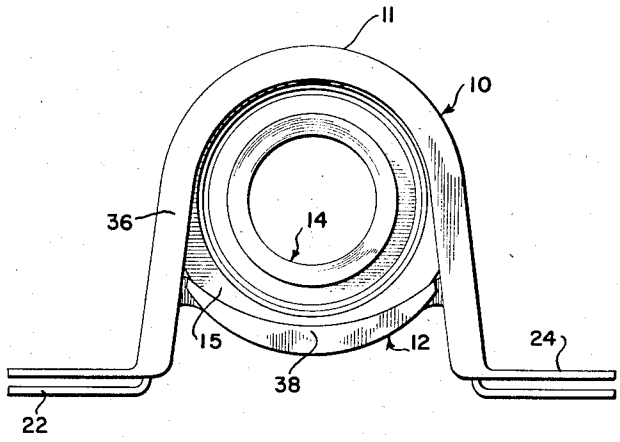


Fig. 3.

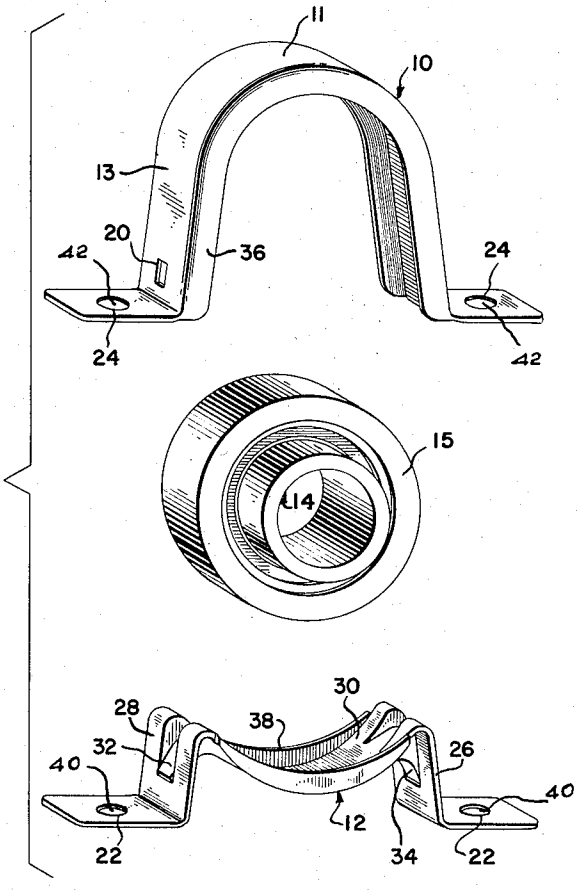
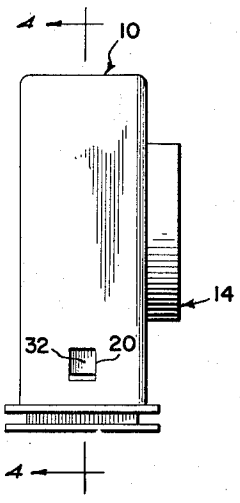


Fig. 2.



INVENTORS

Howland S. Foote

Richard V. Tino

BY Edward H. Goodrich.

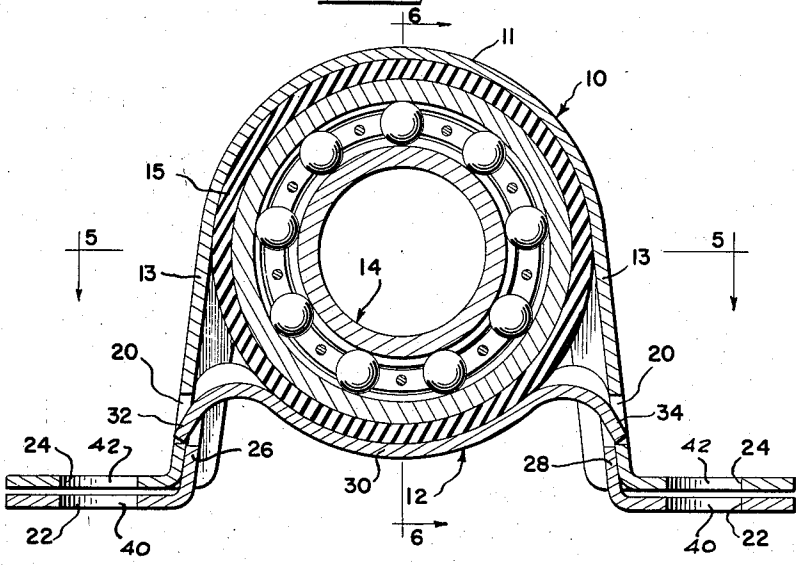
THEIR ATTORNEY

Feb. 3, 1959 H. S. FOOTE ET AL 2,872,253

PILLOW BLOCK

Filed Oct. 1, 1956 2 Sheets-Sheet 2

FIG. 4.



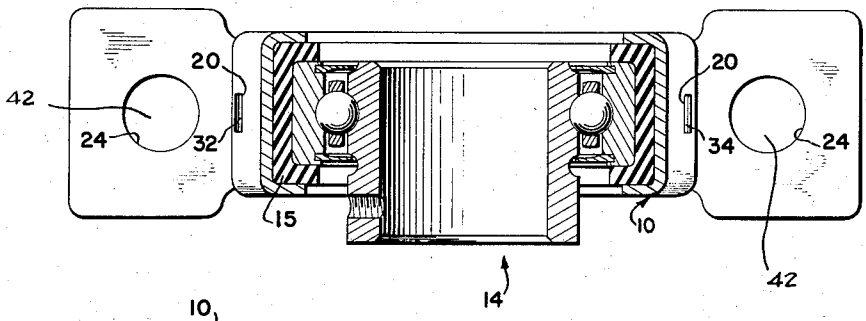


FIG. 5.

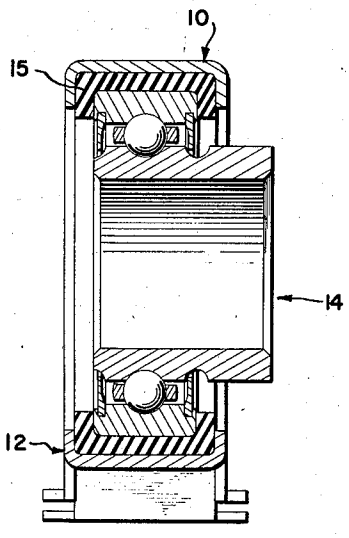


FIG. 6.

INVENTORS

Howland S. Foote

Richard V. Tino

BY Edward H. Goodrich.

THEIR ATTORNEY

United States Patent Office 2,872,253 Patented Feb. 3, 1959

2,872,253

PILLOW BLOCK

Howland S. Foote, Bristol, and Richard V. Tino, Terryville, Conn., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application October 1, 1956, Serial No. 613,055

6 Claims. (Cl. 308—30)

The present invention relates to shaft supports and more particularly to pillow blocks or similar shaft mountings embodying antifriction bearings.

Heretofore, pillow block constructions usually comprised a heavy cast iron or a forged casing supporting a bearing for receiving a rotatable shaft. It has also been contemplated to employ a multipart housing for receiving a bearing to rotatably support a shaft. These various parts forming the pillow block have usually been shipped separately since they were adapted for assembly only when the pillow block was fastened in its shaft-supporting position. To avoid loss or damage to parts, it is desirable to provide a pillow block construction which can easily be assembled with interfitting parts in unit-handling relation.

It is therefore a principal object of the present invention to provide an improved pillow block which may be quickly and economically assembled in such a manner that the parts are locked together as a unit-handling assembly during shipment.

A further object of the present invention is to provide interlocking means between the parts of a pillow block housing which parts readily interfit in latching relation upon the application of a slight force to the parts.

In accordance with the present invention, a pillow block housing is provided comprising a yoke portion and a base portion. The base portion is formed with downwardly depending spring fingers that extend outwardly from each side of the base and latch within apertures in the sides of the yoke portion. Upon fitting the yoke portion over the base, the spring fingers snap into the apertures and interlock all parts of the pillow block together as a unit-handling assembly.

To these ends and also to improve generally upon devices of this character, our invention consists in the various matters hereinafter described and claimed. In its broader aspects, the invention is not necessarily limited to the specific structure selected for illustrative purposes in the accompanying drawings wherein:

Figure 1 is an end view of our assembled pillow block in accordance with the present invention;

Figure 2 is a side elevation of Figure 1;

Figure 3 is an exploded view of the pillow block parts;

Figure 4 is a vertical sectional view of the pillow block assembly taken along the line 4—4 of Figure 2;

Figure 5 is a fragmentary plan view taken along the line 5—5 of Figure 4; and

Figure 6 is a vertical section taken along the lines 6—6 of Figure 4.

Referring to the drawings, the pillow block assembly of the present invention includes a ball bearing 14 having thereabout an annular boot or sleeve 15 of inherently resiliently yieldable material, such as rubber, mounted in a housing including a generally yoke-shaped member 10 and in a cooperating base member 12. The members 10 and 12 may be cut out from sheet metal and bent to required form.

The yoke 10 has an inverted U-shape and has an upper

arcuate portion 11 fitting against and generally conforming with the peripheral portion of the boot 15 about its horizontal diameter. A pair of legs 13 respectively extend substantially tangential to the arcuate portion 11 and preferably in divergent relation as shown. Each of the legs 13 is provided with an outwardly extending foot 24 that enables the yoke to be secured to a suitable support. The base 12 has a pair of apertured flanges or feet 22 from which side members or legs 26, 28 extend upwardly and terminate in a reversely curved or depressed support portion 30 which, like the arcuate portion 11 of the cover 10, substantially conforms to a peripheral portion of the boot 15. The legs 26 and 28 are angularly disposed and respectively fit against the inner portions of the legs 13. Sections of the support portion 30 are struck out from each of the legs 26, 28 to provide resilient fingers 32, 34 that extend downwardly toward the bottom of the base and have their ends projecting beyond these legs. During assembly the resilient fingers snap into interfitting relation against the walls of apertures 20 in the legs 13 to hold all parts of the pillow block in unit-handling assembled relation. Disassembly of the pillow block may be easily accomplished by springing these fingers 32, 34 out of the apertures 20 by use of a screw driver or other convenient tool.

The yoke 10 and the base 12 are preferably stamped out of sheet metal and formed with inwardly extending side flanges 36, 38 that engage the ends of the boot 15 which overlies the ends of the bearing thus preventing axial movement of the bearing 14 with respect to the housing. Each pair of adjacent feet 22 and 24 is provided with a pair of suitable aligned through bores 40 and 42 to demountably receive a mounting bolt or screw not shown.

In assembling the pillow block, the rubber boot 15 is stretched over the bearing and the bearing and boot assembly is placed on the support portion 30 of the base 12. The yoke 10 is then placed over the boot and is pushed downwardly until the resilient fingers 32, 34 snap into the apertures 20 in the cover 10 and interlock the yoke and base.

The yoke 10, base 12 and resiliently mounted bearing 14 are preferably shipped as a unit. By forming the fingers 32, 34 in accordance with the present invention and having these fingers extend downwardly through the apertures 20, the forces to which the pillow block are normally subjected during shipment will not disassemble the unit and cause damage or loss of parts during shipment.

We claim:

1. A pillow block comprising a U-shaped member, depending legs on said member, each of said legs having an opening therein, a support member having a depressed intermediate portion, and a pair of struck-out resilient fingers on the support member intermediate its ends and at each end of said intermediate portion, said struck-out fingers being arranged to demountably and yieldably snap into the openings in the legs to detachably interlock said members in unit-handling assembled relation.

2. A pillow block comprising a yoke member, depending legs on the yoke member, feet respectively extending outwardly from the legs, each of said legs having an opening therethrough, a base member having a depressed center portion and side portions thereon provided with outwardly extending feet, and said base member intermediate its ends having a pair of struck-out downwardly directed resilient fingers that extend into the openings in said legs and against side walls of said openings to demountably and yieldably interlock the yoke and base members in assembled relation.

3. A pillow block assembly comprising a bearing, a yoke member having an upper arcuate portion substan-

tially conforming to the shape of said bearing and having depending legs provided with side openings therein, a support member having an intermediate arcuate center portion, and a pair of struck-out downwardly extending resilient fingers laterally projecting from the support member intermediate its ends and yieldably engageable with the walls of the support within said openings to detachably interlock said yoke and said support members in demountable assembled relation.

4. A pillow block assembly comprising a bearing, a yoke member having an upper arcuate portion generally conforming to a peripheral portion of said bearing, depending legs on the yoke member and terminating in laterally extending apertured feet, each of said legs having an opening therein, a base member having a depressed arcuate center portion and angularly disposed side members thereon, feet laterally projecting respectively from the side members, and said base member having a pair of struck-out downwardly extending resilient fingers that extend within the openings in said legs and demountably engage against walls within said openings to detachably interlock said yoke and said base members in assembled relation.

5. A journal support comprising in combination a bearing member, a resilient annular element fitted over the periphery of said bearing member, and a housing enclosing said element and said bearing member, the housing including a yoke having an upper arcuate portion fitting over the annular element, legs depending from the arcuate portion and provided with openings therein, the housing including a base having a depressed center portion in which said element is seated, and a pair of downwardly extending resilient fingers struck-out laterally from

the base intermediate the ends of said base, said fingers being demountably and yieldably received within the openings in said legs and against side walls of said openings to demountably fasten said yoke and said base in assembled relation.

6. A journal support comprising in combination a bearing, a resilient annular element embracing the bearing periphery, and a housing enclosing said element and said bearing and including a yoke having an upper arcuate portion substantially conforming to the curvature of said element and having depending legs terminating in outwardly extending apertured feet, flanged portions on the housing overlying the ends of the resilient annular element and locating the bearing endwise, each of said legs having a lateral extending opening therethrough, and a base having a depressed arcuate center portion and side portions thereon provided with outwardly extending feet having apertures therein, said base including intermediate its ends a pair of struck-out downwardly extending resilient fingers that project from said side portions and extend into the openings in said legs and yieldably engage walls within said openings to detachably secure said yoke and base in unit-handling assembled relation.

References Cited in the file of this patent

UNITED STATES PATENTS

1,729,499	Anthoni	Sept. 24, 1929
2,175,978	Swingle	Oct. 10, 1939
2,230,472	Sullivan	Feb. 4, 1941
2,479,791	Strunk	Aug. 23, 1949
2,580,119	Meyers	Dec. 25, 1951
2,761,746	Abel	Sept. 4, 1956