No. 771,395. PATENTED OCT. 4, 1904.

C. E. ROBINSON.

YIELDING BEARING FOR CENTRIFUGAL MACHINES.

APPLICATION FILED MAY 23, 1904.

NO MODEL.

Fig. 2

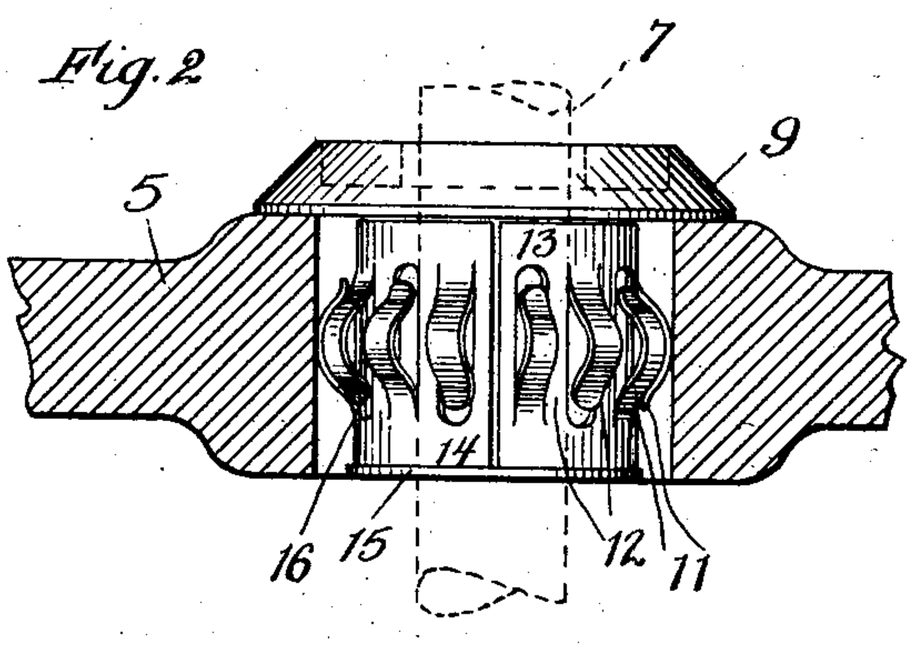


Fig. 1

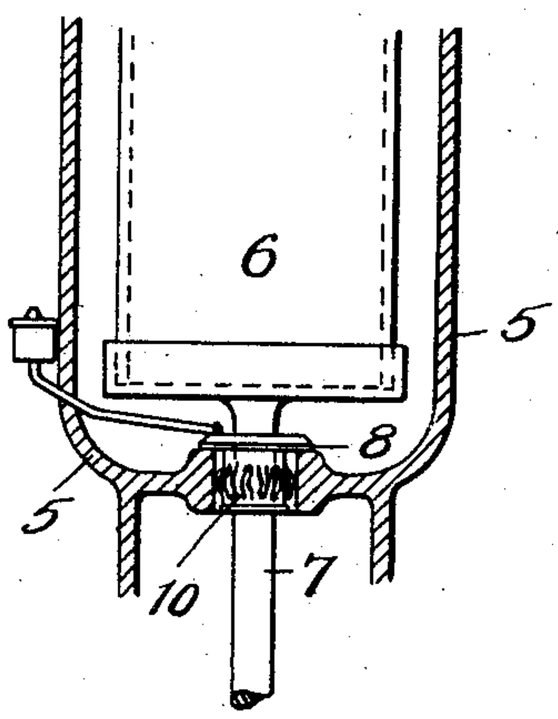


Fig. 3

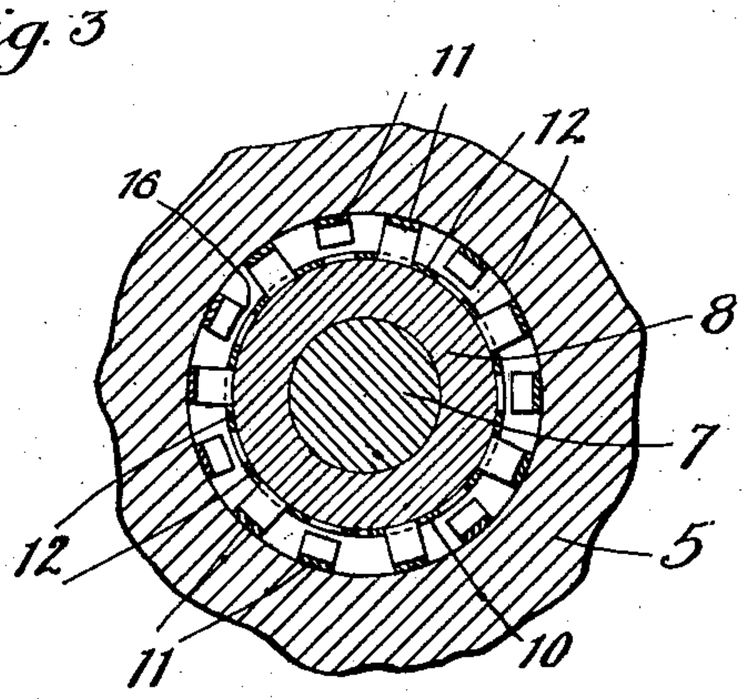
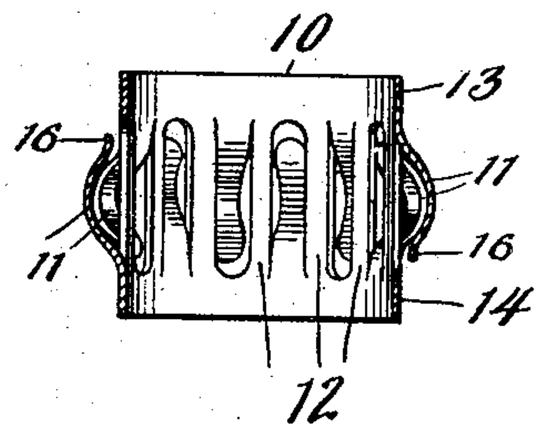


Fig. 4



Witnesses:
Wm. Geiger
A. D. Munday.

Inventor:
Cory E. Robinson
By Munday, Evarts & Adcock,
Attorneys

No. 771,395. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

CORY E. ROBINSON, OF JOLIET, ILLINOIS.

YIELDING BEARING FOR CENTRIFUGAL MACHINES.

SPECIFICATION forming part of Letters Patent No. 771,395, dated October 4, 1904.

Application filed May 23, 1904. Serial No. 209,218. (No model.)

To all whom it may concern:

Be it known that I, CORY E. ROBINSON, a citizen of the United States, residing in Joliet, in the county of Will and State of Illinois, have invented a new and useful Improvement in Yielding Bearings for Centrifugal Machines, of which the following is a specification.

This invention relates to a yielding bearing adapted to be used in centrifugal separators for supporting the upper end of the spindle or shaft upon which the bowl is mounted, the bearing being surrounded by an annular spring which permits it to shift its position whenever necessary to enable the spindle or shaft to assume that position in which it will run steadily and without vibration. The main feature of the invention is found in the construction of this annular spring, and its object has been to produce a spring-bearing in which the spring will retain its elasticity for a long time and which is simple and cheap and an improvement upon previous constructions.

In the accompanying drawings, Figure 1 is a partial section of a centrifugal separator embodying the bearing forming the subject of this application. Fig. 2 is an enlarged vertical section of the bearing. Fig. 3 is a horizontal section, and Fig. 4 is a central vertical section of the spring detached.

In said drawings, 5 represents the casing or frame of the separator, 6 the bowl, and 7 the spindle supporting the bowl and rotating it. The bearing is supported in the frame 5 and is shown at 8. It is provided with an outstanding flange 9 at the top adapted to rest on the surrounding part of the frame 5 and supporting the bearing vertically.

Around the body of the bearing and between it and the inner surface of the opening in the frame 5 in which the bearing is arranged I place my improved spring 10. This spring is formed of a sheet of flat spring metal of sufficient length so that it may encompass the bearing on all sides and having formed in it between its top and bottom a series of vertically-arranged tongues 11, cut from the metal of the spring and bent outward at their centers. Between each pair of tongues is a connecting-strip 12 of uncut metal uniting the top and bottom rims 13 and 14, which are left intact. I prefer to cut these tongues so that their free ends shall be alternately at the top and at the bottom of alternate tongues, as plainly illustrated, particularly at Fig. 2. The bearing is preferably provided with a bottom flange 15, adapted to support the spring against falling. The tongues form the spring proper and should be bent outwardly at their centers sufficiently to enable them to yield to the extent desired. The points of the free ends I prefer to turn up somewhat, as shown at 16.

The tongues yield readily to the pressure of the bearing in any direction and allow the bearing to assume that position in which the bowl will run true. The rims 13 and 14 and the strips occurring between the tongues and connecting the rims unitedly form an annular frame, which is perfectly held in its proper vertical position between the flanges 9 and 15 of the bearing. Such a spring cannot become twisted or lose its form in any respect, and when positioned on the bearing with its tongues in contact with the inner side of the seat or bore in the frame it cannot get out of position. The ends of the sheet metal from which the spring is formed do not need to be fastened together in any way, so that the spring is readily slipped over the flange 15 and as readily removed from the bearing.

I claim—

1. The annular spring for the bearings of centrifugal machines consisting of a strip of spring sheet metal of proper length to surround the bearing, having bent-out tongues cut vertically from its body portion, the top and bottom rims of the metal being intact.

2. The annular spring for the bearings of centrifugal machines consisting of a strip of spring sheet metal of proper length to surround the bearing, having bent-out tongues cut vertically from its body portion, the top and bottom rims of the metal being intact and the alternate tongues being cut in opposite directions.

3. The annular spring for the bearings of centrifugal machines consisting of a strip of spring sheet metal of proper length to surround the bearing, having bent-out tongues cut vertically from its body portion, the top

and bottom rims of the metal being intact and connected by uncut portions lying between adjacent tongues.

4. The annular spring for the bearings of centrifugal machines consisting of a strip of spring sheet metal of proper length to surround the bearing, having bent-out tongues cut vertically from its body portion, the top and bottom rims of the metal being intact and connected by uncut portions lying between adjacent tongues, the tongues having their points alternately at top and bottom.

CORY E. ROBINSON.

Witnesses:
H. M. MUNDAY,
EDW. S. EVARTS.