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SWIVEL ROCKER SPRING UNIT

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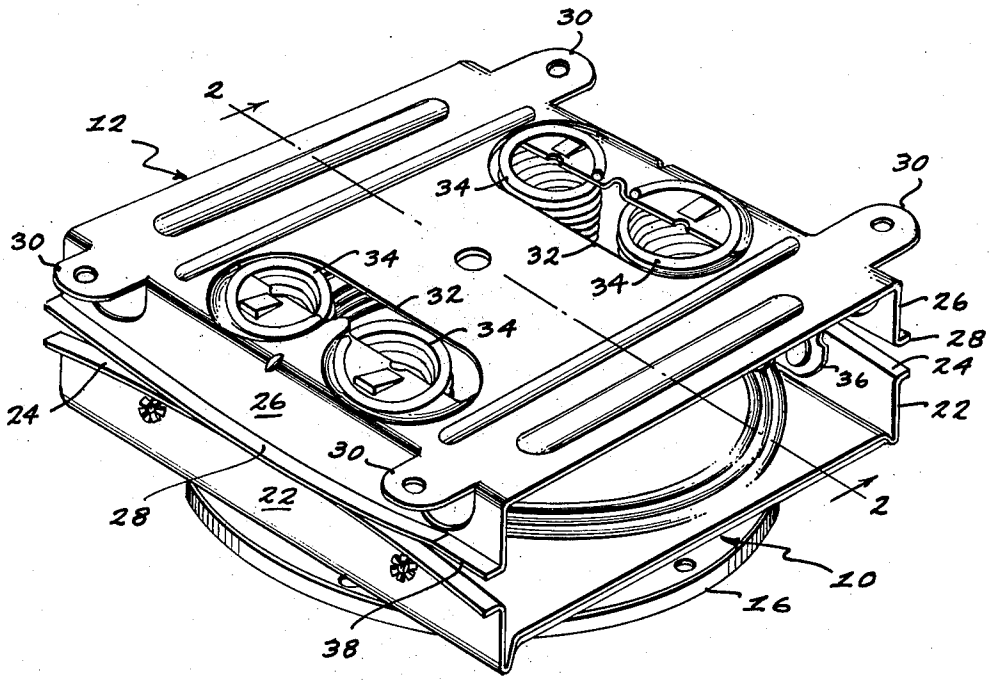


Fig. 1

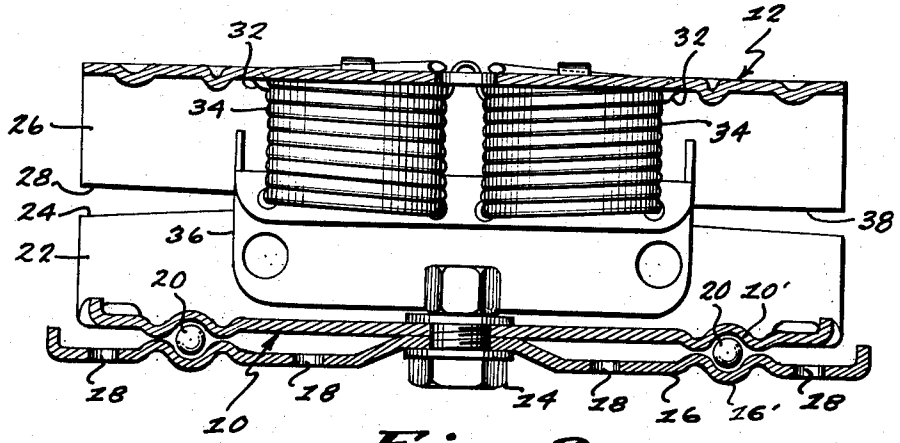


Fig. 2

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SWIVEL ROCKER SPRING UNIT

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This invention relates generally to spring means for articulating platform rocker chairs and the like, and more particularly to spring means of this sort that is arranged for swiveling as well.

Briefly described, the device of the present invention comprises a swivel rocker spring unit in which a base member is arranged for swivel mounting, a bracket structure is arranged for attachment to a superstructure to be carried for rocking, and a pair of rocker springs serve not only to associate the bracket structure rockably with the base member, but also to integrate these elements as a unit having its own mode of operation and simply needing to be attached in place for use.

These and other features of the present invention are described at further length below in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of a swivel rocker spring unit embodying the invention; and

FIG. 2 is a vertical section taken substantially at the line 2—2 in FIG. 1.

As shown in the drawings, the previously mentioned base member component of the illustrated embodiment is designated generally by the reference numeral **10**, and the upper bracket structure component by the reference numeral **12**.

The base member **10** is arranged for swivel mounting about a central pivot stud means **14**, by which it is assembled with a bottom plate **16** having suitable apertures at **18** to receive fastening elements for fixing to any desired structure on which the device is to stand (not shown). Complementary raceway grooves **10'** and **16'** are concentrically formed in the base member **10** and bottom plate **16** to contain bearing balls **20** for assisting the swiveling action in the usual manner.

Additionally, the base member **10** is formed in particular with upwardly extending opposite side portions **22** that extend outwardly along their upper edges to present elongated rocker supporting areas **24**. Preferably, these rocker supporting areas **24** are formed with a curvature facing convexly upward for balancing the desired rocking motion to better advantage, as will be noted furthr presently.

The upper bracket structure component **12** is of complementary form in that it has corresponding downwardly extending opposite side portions **26** that turn outwardly at their lower edges to present curved rocker surfaces **28** for riding the base member support areas **24**. Otherwise, the bracket structure **12** is provided with apertured ear portions **30** at which it may be attached readily to the superstructure that is to be carried for rocking (not shown); and is recessed and cut away at **32** adjacent each of its side portions **26** to receive and hold rocker springs **34** in pairs extending transversely in relation to the rocker surfaces **28**.

The rocker springs **34** are of the same sort that have previously been used in separate units as disclosed, for example, in U.S. Patent No. 2,772,723, issued December 4, 1956; and the lower ends of these rocker springs **34** are carried by bracket members **36** of the same type shown in the foregoing prior patent, which are fixed at the inner faces of the base member side portions **22** to assemble and maintain the base and bracket components **10** and **12** as an integrated operating unit, with the rocker surfaces **28** riding on the support areas **24**.

In balancing the rocking motion characteristics of the operating unit thus provided, the previously mentioned function of the rocker support areas **24** with a curvature facing convexly upward can be employed advantageously, in relation to the opposite curavture of the rocker surfaces **28**, to allow a smooth and easy rocking action to either side of the spring equalization point, while causing the springs to exert a more pronounced limiting influence against undue rocking action. That is, a curvature of the support areas **24** act to maintain the fulcrum point, about which rocking takes place, closer to the springs **34** as rocking begins, so that whatever force causes the rocking is applied to better mechanical advantage; while a given extent of rocking will cause more rapid elongation of the opposing spring **34** and thereby apply its limiting influence sooner. Additionally, a more positive limiting action on the rocking motion can be provided by forming the rocker surfaces **28** with straight end portions, as at **38**, aligned with a chord of the rocker surface curve so that an abrupt change in the rocking fulcrum is obtained to overcome the rocking force sooner.

The present invention has been described in detail above for purposes of illustration only and is not intended to be limited by this description or otherwise except as defined in the appended claims.

I claim:

1. A swivel rocker spring unit comprising a base member having opposite sides thereof formed to present upwardly facing rocker supports extending lengthwise of said sides, a composite complementary bracket structure having corresponding opposite side portions extending from an integral attaching portion formed therebetween, said corresponding opposite side portions being formed to present downwardly facing rocker portions spaced to ride said rocker supports, and a pair of rocker springs attached to said attaching portion of the composite bracket structure and to said base member adjacent each of said opposite sides for holding said unit in assembled relation.

2. A swivel rocker spring unit comprising a base member formed for swivel mounting and having upwardly formed opposite side portions presenting elongated rocker supporting areas at their upper edges, a composite complementary bracket structure having corresponding opposite side portions extending downwardly from an integral attaching portion formed therebetween for attachment to a superstructure to be carried for rocking, said corresponding opposite side portions presenting curved rocker surfaces at their lower edges for riding said rocker supporting areas, a pair of rocker springs carried by said attaching portion of the composite bracket structure adjacent each of said side portions to extend transversely with respect to said rocker surfaces, and means attaching said rocker spring pairs respectively adjacent the opposite side portions of said base member for rockably assembling said unit with said rocker surfaces riding said supporting areas.

3. A swivel rocker spring unit as defined in claim 2 and further characterized in that said rocker supporting areas have a lengthwise curvature formed oppositely with respect to said curved rocker surfaces.

4. A swivel rocker spring unit as defined in claim 2 and further characterized in that said curved rocker surfaces each have at least one end portion extending in alignment with a chord to the curve thereof for limiting the rocking motion of said unit.

5. A swivel rocker spring unit as defined in claim 2 and further characterized in that said last mentioned attaching means comprises a bracket member fixed at the inner face of each base member side portion and carrying the adjacent ends of the rocker spring pairs.

6. A swivel rocker spring unit as defined in claim 2 and further characterized in that the respective upper and

lower side portion edges of said base member and said bracket structure extend outwardly to form said supporting areas and rocker surfaces.

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