This invention relates to journal box covers and more particularly to improvements in articulated covers of the kind disclosed in my co-pending application Serial No. 653,870, filed January 27, 1933.

In the above mentioned application I have disclosed a journal box cover assembly comprising a lid member adapted to fit against the front face of the journal box over the opening therein, a hood member forming a hinged connection between the journal box lug and the lid member which permits the latter to have a limited movement in all directions in order to ensure complete closure of the journal box opening, and a lid closing spring housed between the lid and the hood member adapted to react against the journal box lug and the lid to hold the latter in either a closed or an open position.

The principal object of the present invention is to improve the connection between the hood and lid members so that the latter is permitted to have greater freedom of angular movement about an axis passing vertically therethrough and is thus adapted to better adjust itself to irregularities in the machining of the face portions of the journal box lying at opposite sides of the opening therein.

The foregoing and other objects and advantages of this invention will be more readily understood from the following detailed description taken in connection with the accompanying drawings, in which—

Fig. 1 is a front view of a journal box cover assembly constructed in accordance with this invention.

Fig. 2 is a view in side elevation of the assembly appearing in Fig. 1.

Fig. 3 is a vertical sectional view of the cover assembly showing it applied to a journal box, the section through the cover assembly being substantially along the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary horizontal sectional view along the line 4—4 of Fig. 1. In this view certain parts that would otherwise appear have been omitted for the sake of clearness.

Fig. 5 is a fragmentary horizontal sectional view along the line 5—5 of Fig. 1.

Fig. 6 is a vertical sectional view taken along the line 6—6 of Fig. 1.

As shown in these drawings my improved cover assembly comprises a lid 11, a hood 12, a lid closing torsion spring 13 and a shoe 14.

The lid 11 comprises a cast metal plate adapted, as shown in Fig. 3, to fit against the front face of the journal box 16 over the journal box opening 16. The outer face of the lid is provided with an integral pocket presenting a front wall 17, an inclined bottom wall 18 and a pair of end walls 19, the upper portion of the front wall 17 being provided with a central inwardly projecting lug 20. The inner edge of this lug is transversely curved to provide a bearing surface 21 overlying a recess 22 in the outer surface of the lid.

The hood 12 comprises a front wall 23, a top wall 24, a bottom wall 25 and a pair of side walls 26. The upper portions of the side walls 26 are provided with integral pintle receiving sleeves 27 and 28 aligned with the pintle openings of the journal box lug 29 to receive the hinge pintle 30. The pintle receiving sleeve 27 is herein shown as provided with a stop flange 27a for engagement with one end of the pintle while the companion sleeve 28 is fitted with a tubular retainer 31 having tongue extensions 32 adapted to be bent inwardly over the adjacent end of the pintle. This method of securing the pintle in place is more fully described in my co-pending application Serial No. 651,749, filed January 14, 1932, now Patent No. 1,907,087.

The lower portion of the hood is reduced in width as indicated at 12a to fit between the end walls 19 of the lid pocket overlying the recess 22. A portion of the bottom wall of the hood is offset to provide a bearing portion 25a which is fitted in the outwardly facing lid recess 22. The edge surface of the bearing portion 25a opposed to the bottom wall of the recess 22 is curved as indicated at 34. The opposite or outer edge surface of said bearing portion is opposed to but spaced from the curved surface 21 of the lug 20. Said bearing portion 25a is also provided with two outwardly projecting lugs 25b and 25c located adjacent its opposite ends and adapted to be positioned below and at opposite sides of the lug 20 when said bearing portion is fitted in the lid recess 22.

The lid closing spring 13 comprises two coils 35 and 36 having their inner convolutions connected by an intermediate U-shaped extension 45 which bears against the shoe 14 to hold it engaged with the journal box lug 20. The outer convolutions of the spring coils are extended downwardly outside the side walls of the hood to provide a pair of side arms 37. The lower ends 39 of these side arms 37 are bent inwardly to provide horizontal pivots 38 which are passed through openings in the end walls 19 of the lid pocket and fitted between the curved surface 21 of the pocket lug 20 and the opposing surface 55.
of the bearing portion 25e afforded by the bottom wall of the hood. It will thus be seen that the portions 39 of the spring serve to secure the bearing portion 25e in the lid recess 22, in addition to affording horizontal pivots about which the lid 12 may swing relative to the hood 12. It will also be seen that the curved surface of the bearing portion 25e opposed to the bottom wall of the lid recess 22 permits the lid to rock about what may be termed a substantially central vertical axis lying at right angles to the pivotal axis afforded by the spring terminals 31.

The front wall 23 of the hood is curved to provide a fulcrum pocket 48 in which the spring coils 35 and 36 are seated so that the spring pressure is applied to the center portion of the lid through the side arms 37 and to the journal box lug 20 through the U-shaped extension 35a and the shoe 14. This shoe includes a curved shank 14a provided at its lower end with trunnion extensions 42 fitted in the spring coils so that the shoe is thus mounted to have a slight pivotal movement with respect to said coils. At its upper end the shank 14a is provided with a forwardly projecting flange 43 having a vertical opening 44 in line with a similar opening 49 in the shank. At the juncture of the shank 14a and the curved surface 35a of the lid is provided with a flat face 44a adapted to ride the flat angularly related cam faces 45 and 47 of the journal box lug and to co-operate with said cam faces for holding the lid in either its open or closed position. The flange 43 forms with the curved surface of the shank a recess 48 in which the outer portion of the U-shaped spring extension 35a is fitted to hold the shoe engaged with the journal box lug. The shoe openings 45 and 47 are adapted, at times, to be brought into registration with an opening 49 in the top wall of the hood so that a retaining pin (not shown) may be passed through all of said openings to secure the shoe in a retracted position during application and removal of the cover assembly.

The foregoing method of constructing and mounting the shoe 14 is not specifically claimed herein since it constitutes a separate invention covered by a co-pending application Serial No. 695,875, filed October 30, 1933.

The hood lugs 50 serve in cooperation with the lid casing 51 to limit pivotal movement of the lid and hood about the pivotal axis afforded by the spring terminals 31. They also serve as connecting means between the lid and hood which prevents complete separation of these parts in case the spring terminals 31 are accidentally broken off. This construction is more particularly described in my co-pending application Serial No. 653,870, filed January 27, 1933 and forms no part of the present invention.

Having thus described my invention, what I claim is:

1. An articulated cover assembly for journal boxes comprising a lid member, a hood member overlying the upper portion of the lid member, said hood member having an offset bottom wall portion bearing against the outer surface of the lid, said lid member being integral with the lid and presenting a front wall overlying the said offset portion of the hood and provided with an inwardly extending lug terminating in spaced relation to said offset portion and a U-shaped spring mounted between the lid and hood member with the arms of the spring extending downwardly along the outer surfaces of the side portions of the hood, the lower ends of said arms being bent inwardly to form pivots fitting between the offset lower wall portion of the hood and the aforesaid lug.

2. An articulated cover assembly for journal boxes comprising a lid having a pocket cast integral therewith, said pocket presenting a front wall spaced from the outer surface of the lid and provided with an inwardly projecting lug overlying a recess in the outer surface of the lid, a hood member overlying the upper portion of the lid comprising a front wall, a top wall, a bottom wall and a pair of side walls, the side walls of the hood being provided with pintle receiving sleeves adapted to be aligned with the pintle openings of the journal box lug and the bottom wall of the lid provided with an offset bearing portion fitted in the lid recess, and a U-shaped spring mounted between the lid and hood with the arms of the spring extending downwardly outside the side walls of the hood, said arms having their lower ends bent inwardly and fitted between the offset bottom wall portion of the hood and the aforesaid lug.

3. An articulated cover assembly for journal boxes comprising a lid having a pocket cast integral with its outer surface, said pocket presenting a pair of side walls and a front wall, the latter being spaced from the outer surface of the lid and being provided with an inwardly extending lug opposed to the mouth of an outwardly facing recess formed in the lid, a hood overlying the upper portion of the lid and having a bottom wall provided with an offset portion fitted in the lid recess, and a U-shaped spring mounted between the lid and hood with the arms of the spring extending downwardly along the outer side surfaces of the hood, the lower ends of said arms being bent to form pivots facing inwardly through the side walls of the lid, and fitted between the lugs of said pocket and the offset lower wall portion of the hood in order to secure the latter in said recess and to provide a pivot permitting relative movement of the lid and hood about an axis lying midway between and parallel with the upper and lower edges of the lid.

4. An articulated journal box cover assembly comprising a lid member, a hood member overlying the upper portion of the lid member, the bottom portion of said hood member being formed to present a bearing portion fitted in an offset pivot of the lid member, the surface of said bearing portion opposed to the bottom wall of the recess being curved to permit the lid to rock on said curved surface about an axis lying between and parallel with the side edges of the lid and means retaining said bearing portion in said recess, said means forming a pivotal connection between the lid and hood members which permits the lid to swing about a pivotal axis lying parallel with its upper and lower edges.

5. An articulated journal box cover assembly as claimed in claim 4 in which the means for retaining said bearing portion in said recess and forming the aforesaid pivotal connection comprises a U-shaped spring mounted between the lid and hood members with the arms of the spring extending downwardly along the sides of the hood member and terminating in intumet pivotal projections rotatably fitted between the said bearing portion of the hood and an overlying portion of the lid.

6. An articulated cover assembly for journal boxes comprising a lid member, a hood member overlying the upper portion of the hood member, said hood member having an offset bottom wall.
portion presenting a curved surface bearing against the bottom of an outwardly facing recess formed in the lid member, said lid member being rockable on said curved surface about an axis lying between and parallel with its side edges, a pocket cast integral with the lid and presenting a front wall provided with an inwardly extending lug overlying the said offset portion of the hood member and a U-shaped spring mounted between the lid and hood members with the arms of the spring extending downwardly along the side portions of the hood, the lower ends of said arms being bent inwardly to form pivots fitting between said offset lower wall portion of the hood and the aforesaid lug.

7. An articulated cover assembly as claimed in claim 6 in which the said pocket includes a pair of side walls lying between the arms of the spring and provided with openings through which the bent lower ends of said arms are passed into position between the offset lower wall portion of the hood and the overlying lug of the pocket.

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