June 24, 1930. S. T. WILLIAMS ET AL 1,767,336

LID HINGE AND SUPPORT

Filed Sept. 19, 1927

Fig. 1.

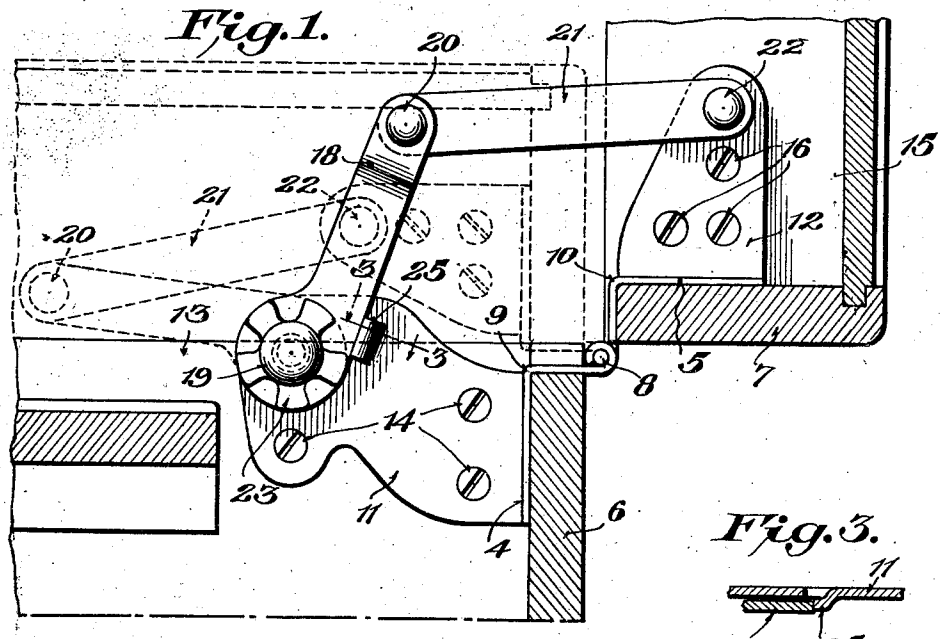


Fig. 3.

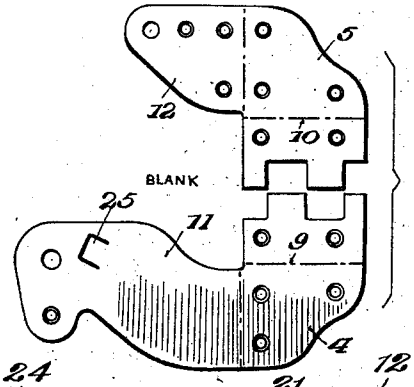


Fig. 5.

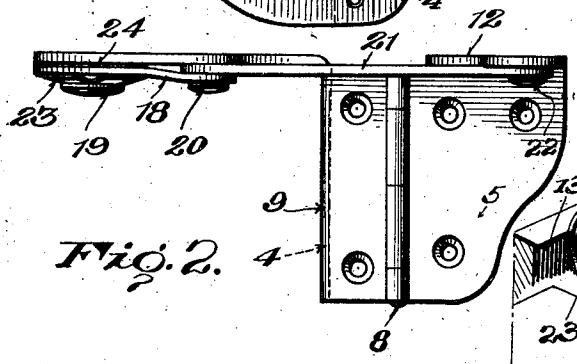
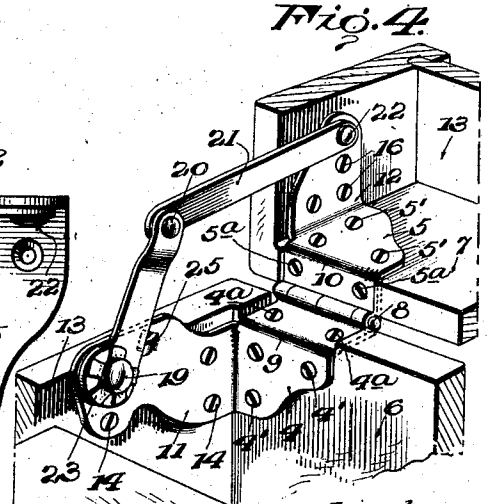


Fig. 2.

Fig. 4.



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UNITED STATES PATENT OFFICE

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LID HINGE AND SUPPORT

Application filed September 19, 1927. Serial No. 220,567.

This invention relates to hinges, and more particularly to a combined hinge and support for a closure member, such as the lid of a cabinet.

It is an object of this invention to provide novel means for pivotally connecting a closure member, such as the lid or cover of a talking machine cabinet, to the cabinet body.

Another object of this invention is to provide a novel support for a cabinet lid or cover, and one whereby the lid may be preferably maintained in various adjusted positions.

Another object of this invention is to provide a self-contained, combined hinge and support for the lid of a cabinet.

Another object of this invention is to provide a combined hinge and support for a cabinet lid or cover which also serves as a reinforcement for the corners of the lid and cabinet.

Another object of this invention is to provide a reinforcing hinge that can be readily formed of stampings from sheet metal.

Further objects include the provision of a combination hinge and support for the lid of a cabinet embodying stop means for positively limiting the movement of the hinge; the provision of a device of this character embodying friction means for maintaining the lid in various adjusted positions; and the provision of a combination hinge and support formed of a small number of parts, which may be inexpensively manufactured, readily assembled, and quickly installed. Other objects will appear as the description of the invention proceeds.

One embodiment of the present invention is illustrated in the accompanying drawings, wherein like reference characters refer to like parts throughout the several views, but it is to be expressly understood that the drawings are for purposes of illustration only and are not designed as a definition of the limits of the invention, reference being had for this purpose to the appended claims.

In the drawings—

Fig. 1 is a side elevation of one embodiment of the present invention installed on a cabinet, a portion only of the latter being shown in section;

Fig. 2 is a top plan view of the hinge and support shown in Fig. 1;

Fig. 3 is a detail section taken on the line 3—3 of Fig. 1;

Fig. 4 is a perspective view on a reduced scale; and

Fig. 5 is a view of the blanks from which the hinge leaves may be formed.

The combined hinge and support which is shown by full lines, in Fig. 1, in full open position, and by dotted lines in closed position, comprises a pair of hinge leaves 4 and 5, leaf 4 being secured to the rear wall 6 of the cabinet body in any suitable manner, as by means of screws 4′, and leaf 5 being secured to the rear wall 7 of the cabinet lid or cover in any suitable manner as by screws 5′. Leaf 4, which is pivotally connected to leaf 5 by means of a hinge pin 8, is provided with a substantially right angle bend 9, so that the vertically disposed portion of said leaf below bend 9 may be secured to the inner face of the rear wall 6 of the cabinet and the horizontally disposed portion of said leaf above said bend may rest in a recess cut in the upper edge of said rear wall 6 and extend rearwardly to a point such that the hinge pin 8 is just clear of the outer face of said rear wall. Analogously the upper leaf 5 is likewise provided with a bend, as at 10, so that said leaf may engage in a recess cut in the lower edge of the rear wall 7 of the lid and as well as be secured to the inner face of the rear wall of said lid. Screws may also be passed through said right angularly extending portions of the hinge leaves edgewise into the rear walls of the cabinet and lid, as shown at 4^a and 5^a.

The leaves 4 and 5 are also provided with extensions 11 and 12 respectively, extension 11 projecting substantially at right angles from the portion of leaf 4 that is secured to the inner face of the rear wall of the cabinet, and extension 12 extending substantially at right angles from the portion of leaf 5 that is secured to the inner face of the rear wall 7 of the lid. The hinge leaves 4 and 5 are secured to the cabinet and lid in such posi-

tion that extension 11 engages the inner face of the side wall 13 of the cabinet, and is suitably secured thereto as by means of screws 14, a portion of said extension 11 projecting slightly above the upper edge of side wall 13, while extension 12 is in engagement with the side wall 15 of the lid and is suitably secured thereto as by screws 16. As there are a pair of hinge leaves 4 and 5 at each rear corner of the cabinet, said leaves are made in rights and lefts in order that their extensions 11 and 12 may be secured to the side walls of the cabinet and lid, and as each hinge leaf is thus rigidly secured to both the rear and side walls of the cabinet or lid, said leaves serve to reinforce the rear corners of the cabinet and lid where the greatest strains exist by reason of the hinging of the lid to the cabinet body.

Means are also combined with the hinge leaves for supporting the lid in open position. In the form shown, said means include a link 18 pivotally secured at one end thereof to extension 11, as by a large headed pivot member 19 having a smooth shank portion and a portion fixedly attached to the extension 11, and pivotally connected at its opposite end, at 20, to the end of a link 21, the other end of which is pivotally connected, at 22, to the outer portion of extension 12.

In order that the links 18 and 21 may support the cabinet lid in various adjusted positions, friction means are preferably provided between the links and the hinge leaves. In the form shown, the friction means is constituted by a cupped, spring steel washer 23, which is interposed between the head of pivot member 19 and the lower end of link 18, said washer serving to hold said link tightly in engagement with a fiber or other suitable washer 24, surrounding the inner end of pivot member 19 and interposed between the end of link 18 and extension 11. The friction between spring washer 23, link 18, washer 24 and extension 11 is sufficient to maintain the cabinet lid in any position to which it is adjusted.

Preferably, stop means are provided to limit the opening movement of the lid. For this purpose a tongue 25 may be cut or punched from extension 11, and the free end of said tongue bent inwardly into the vertical plane of the link 18. As the lid is swung upwardly, the link 18 is moved in a clockwise direction, as viewed in Fig. 1, until it engages stop 25, whereupon the pivotal movement of the lid is arrested. Preferably stop 25 is provided at such a point that the lid is limited in its opening movement to a substantially vertical position, as shown in Fig. 1. When in closed position, the hinge leaves, links and cabinet lid assume the position shown in dotted lines in Fig. 1.

As shown in Fig. 5 the leaves of the hinge may be readily stamped from sheet metal and bent to shape, the bend lines being indicated by dot and dash lines and the portions of the blanks bearing the same reference characters as in the completed hinge.

There is thus provided a self-contained, combined hinge and support which is simple in construction and inexpensive to manufacture, assemble and install, and which serves to reinforce the corners of the cabinet and lid. The lid may be readily moved to any desired position of adjustment within the limits of movement defined by the stop 25, and the support is of the "one hand" type and maintains the lid in any adjusted position. The device is particularly adapted for use in cabinets for portable talking machines, but it will be apparent that the invention is not limited to this use.

Various changes may be made in the details of construction, arrangement and proportion of parts. For example, friction means may be provided at either or both of the pivots 19 and 22, but preferably friction means is provided only at the pivot 19. The position of stop 25 may also be varied as desired. The invention is also capable of receiving other embodiments, some of which will now readily suggest themselves to those skilled in the art. Reference will therefore be had to the appended claims for a definition of the limits of the invention.

What is claimed is:

1. A device of the class described comprising a pair of pivotally connected hinge leaves, pivotally connected links pivoted to said leaves, and means cooperating with one of the pivots for yieldingly resisting the pivotal movement of said links throughout the range of movement of said links.

2. In a device of the class described, pivotally connected hinge leaves provided with angularly related extensions, a link pivoted to each of said extensions, means pivotally connecting said links, and friction means interposed between one of said links and the adjacent extension for yieldingly resisting relative movement thereof.

3. In a device of the class described, pivotally connected hinge leaves, links pivoted to each other and to said leaves, friction means operatively associated with one of the pivots of said links and leaves to yieldingly resist relative movement thereof, and a stop to limit pivotal movement of said links.

4. In combination with a cabinet body having a lid, a combined hinge and support comprising pivotally connected hinge leaves secured to said body and lid, each of said leaves being provided with extending portions secured to said body and lid, links pivotally connected to each other and to said portions, friction means interposed between one of said links and the adjacent extending portion to maintain said link in various positions of ad-

justment, and a stop to limit the movement of said links.

5. In a device of the class described, pivotally connected hinge leaves each provided with two angularly related extensions extending angularly from the body of the leaf, whereby each leaf is adapted to be secured to the angularly related walls of the cabinet body or lid in three angularly related planes, and a support for the lid carried by said extensions.

6. In a device of the class described, a pair of pivotally connected hinge leaves each of which is provided with angular extensions so that each leaf may be secured to both sides of a corner of the cabinet or lid, each of said leaves having a second angular extension adapted to be secured to the edge of the cabinet or lid, and pivotally connected links pivotally attached to each of said leaves.

7. In a device of the class described, a reinforcing hinge comprising hinge leaves each of which is provided with angular extensions extending at an angle to each other so that each leaf may be secured to both sides and an adjacent edge of a corner of a cabinet or lid, and means pivotally connecting said leaves.

8. In a device of the character described, pivotally connected hinge leaves each provided with angularly related extensions extending angularly from the body of the leaf, whereby each leaf is adapted to be secured to angularly related walls in a plurality of angularly related planes, links pivotally connected to each other and to said extensions, and friction means interposed between one of said links and the adjacent extension to maintain said links in various positions of adjustment.

In testimony whereof we have signed this specification.

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THOMAS T. GREENE.