June 21, 1932. G. W. ALDEEN 1,864,164

HINGE

Filed July 5, 1929

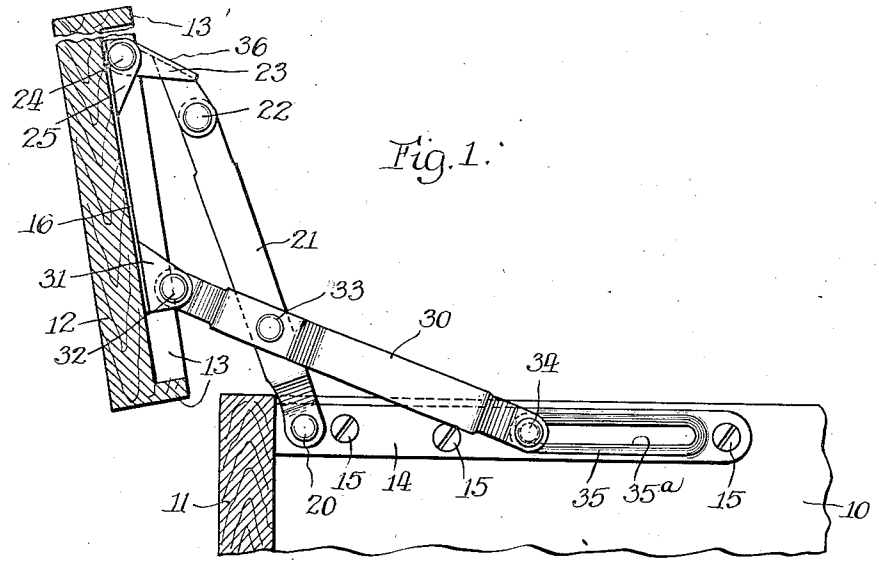


Fig. 1.

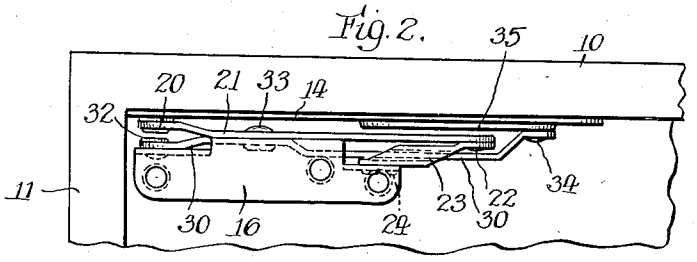


Fig. 2.

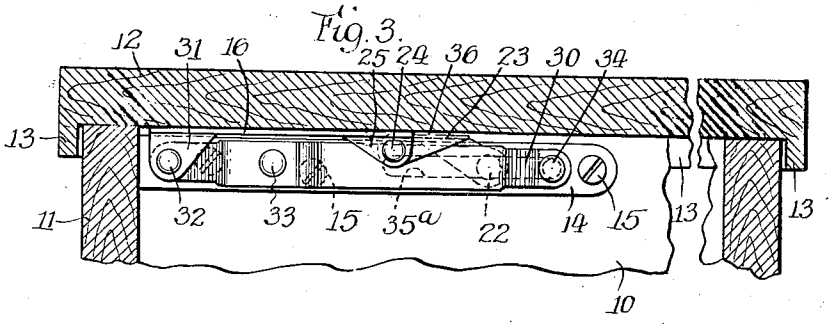


Fig. 3.

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UNITED STATES PATENT OFFICE

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HINGE

Application filed July 5, 1929. Serial No. 376,123.

This invention relates generally to a hinge for furniture or the like and more particularly to a device for hinging the lids of chests or boxes.

In order to make the lids of chests close in such a way as to be dust proof, the lid is preferably provided with a downwardly extending flange formed on the four sides thereof and which overlaps the body of the chest. Felt or other soft material may be placed on the inside of the flange to form a seal between the lid and the body so that no dust may enter. But such a construction prevents the use of the ordinary type of hinge because the flange along the rear side of the lid would be bent outward or broken off when the lid is opened. To prevent this difficulty, the present device is arranged to move the lid upward as well as to permit it to tip backward.

The general object of this invention is to provide a hinge for a lid which has a downward extending flange overlapping the body of the chest, the hinge being so constructed as to give the lid an upward movement as well as a backward tipping movement.

Another object is to provide a new and improved hinge which is entirely concealed within the chest when the lid is closed; which may be mounted on the inner surfaces of the lid and body of the chest without cutting any mortises, and which not only permits the lid to be opened slightly beyond a vertical position so that it will not fall forward but also does not permit the lid to fall backward beyond such position.

More specifically, I aim to provide a hinge for the lid of a chest adapted to give the lid an upward movement as well as a backward tipping movement, said hinge comprising, a lid member adapted to be attached to the underside of the lid, a body member adapted to be mounted on the inside of the side wall of the chest and having a longitudinal slot adjacent its front end, a first lever having a pivotal connection with the rear end of the body member and extending outwardly along the lid, a link pivotally connecting the free end of said first lever and the front end of the lid member, a second lever pivotally connected at one end to the rear end of the lid member and carrying a pin at the other end sliding in the slot in the body member, the open position of the lid being determined by the pin abutting the rear end of said slot, and means pivotally connecting the two levers together adjacent their rear ends.

Other objects and advantages will become apparent from the following description and from the accompanying drawing, in which:

Figure 1 is a fragmental section through a chest showing the preferred form of my invention in side elevation with the lid in its open position.

Fig. 2 is a fragmental plan view of the chest with the hinge in its closed position, the lid being removed.

Fig. 3 is a section similar to that shown in Fig. 1 except that the lid is closed.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawing and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

As shown in the drawing, the chest comprises a side wall 10, a rear wall 11, and a lid 12. A downwardly extending flange 13 is formed on the four sides of the lid 12 and overlaps the body of the chest. While it is contemplated that two hinges will be used on each chest, one at each end, only the right-hand hinge has been shown, the other being similar except left-handed.

The hinge illustrated herein comprises generally a lid member adapted to be attached to the underside of the lid 12 and a body member adapted to be attached to the inside of the side wall 10, a pair of levers pivoted together in the form of scissors to give the lid a combined upward and backward tipping movement, one lever being pivotally attached at one end to the body member and having its free end connected to the lid member by a link, and a second lever which is pivotally attached to the lid member and to the other

lever, and is slidably attached to the body member.

In the present instance, a lid member 16 is adapted to be attached to the underside of the lid by means of screws and comprises a strip of metal having a pair of lugs 25 and 31, one on each end, bent outwardly therefrom. A body member 14, arranged for attachment to the inside of the side wall by means of screws 15, comprises a strip of metal having a channel-like portion 35 adjacent its front end with a longitudinal slot 35ª therein.

As mentioned hereinbefore the invention includes a pair of levers pivoted together in the form of scissors to give the lid a combined upward and backward tipping movement. A first lever 21 of this pair has a pivotal connection 20 with the rear end of the body member 14 and extends outwardly along the lid. Means is provided connecting the free end of the lever 21 to the front end of the lid member arranged to amplify the movement of the first lever imparted to the lid. Preferably, the free end of the lever 21 is guided to move in an arcuate path relative to the lid and, as illustrated herein, said means comprises a link 23 pivotally connected at 22 to the free end of the lever 21, and at 24 to the lugs 25 on the front end of the lid member16.

A second lever 30 is provided with means for pivotally attaching its rear end to the underside of the lid which, in the present instance, comprises the lug 31 on the rear end of the lid member 16 pivotally connected at 32 to the second lever 30. At its other end the second lever 30 is constrained to move in a rectilinear path relative to the body of the chest by carrying a headed pin 34 sliding in the slot 35ª of the body member 14 with its head in the channel 35, the sliding movement being so limited as to permit the lid to open only to a position slightly beyond vertical. The two levers 21 and 30 are of unequal length and are pivotally connected together at 33 equidistant from their rear ends. It is obvious that the open position of the lid is determined by the pin 34 abutting the rear end of the slot 35.

From this description, it is apparent that I have provided a hinge which gives the lid an upward as well as a backward tipping movement and which not only permits the lid to be opened slightly beyond a vertical position so that it will not fall forward but also does not permit the lid to fall backward beyond such position. It is also apparent that my hinge may be mounted on the inner surface of the lid and body without cutting any mortises and is entirely concealed within the chest when the lid is closed.

I claim as my invention:

1. A hinge for the lid of a chest comprising, in combination, a lid member attachable to the underside of the lid adjacent the side edge thereof, a body member attachable to the inside of the vertical side wall of the chest along the upper edge thereof, a first lever pivoted to the rear end of the body member, a link pivoted to the free end of the first lever and to the front end of the lid member, and a second lever pivoted to the rear end of the lid member and to the first lever and slidably attached to the front end of the body member, said levers being formed of narrow strips stamped from sheet metal, the second lever being bowed to permit the first lever to fold between it and the body member when the lid is closed, the link being formed in a channel-shape to permit the second lever to fold within it.

2. A hinge comprising a sheet metal base member having a longitudinal slot, a sheet metal lid member in a plane at right angle to the base member when the hinge is closed, a first link pivoted to the lid member at one end and having a lateral stud at the other end slidable in said slot, a second link pivoted at one end to the base member and pivoted between its ends to the first link, and a short link pivoted at one end to the other end of the second link and to the lid member, each of said links being of sheet metal and certain of said links being offset between the ends thereof to permit all of the links to fold to close parallel relation to each other and to said base member when the hinge is closed.

In testimony whereof, I have hereunto affixed my signature.

GEDOR W. ALDEEN.