Jan. 8, 1935. A. J. HAMMOND 1,987,060

HINGE WITH FRICTION BEARING

Filed Dec. 17, 1930 2 Sheets-Sheet 1

Fig. 1.

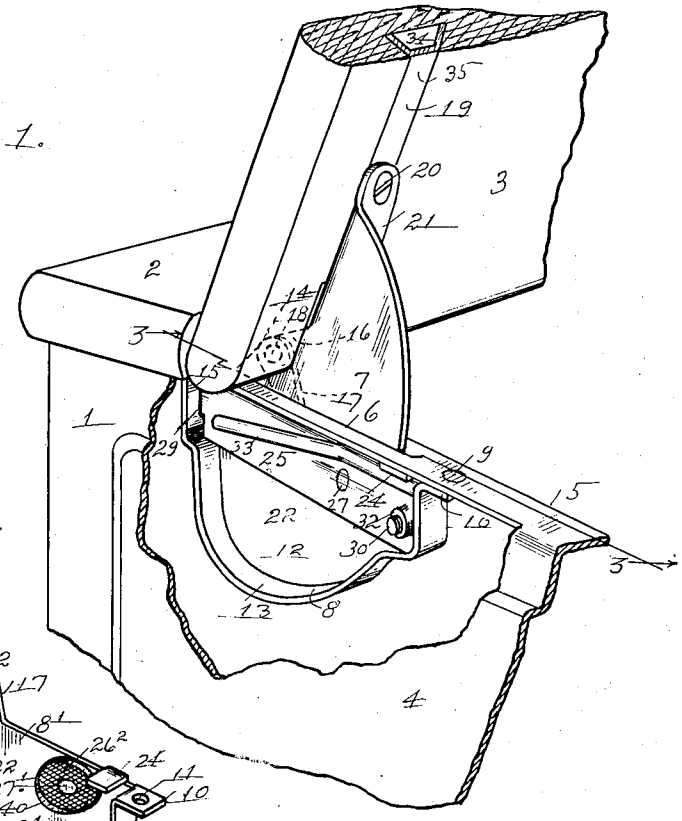


Fig. 7.

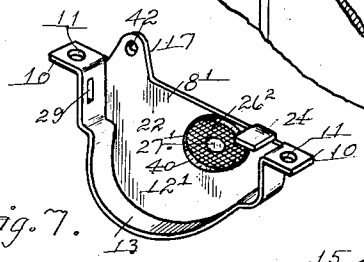


Fig. 3.

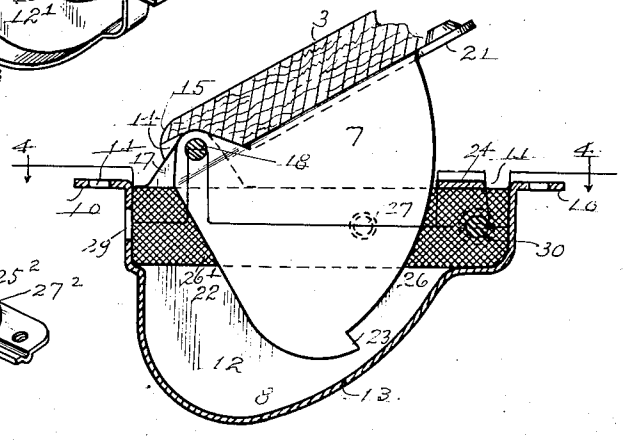


Fig. 8.

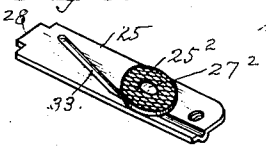
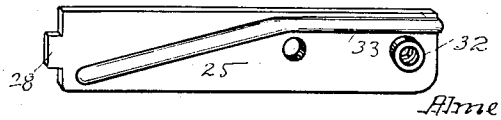


Fig. 5.



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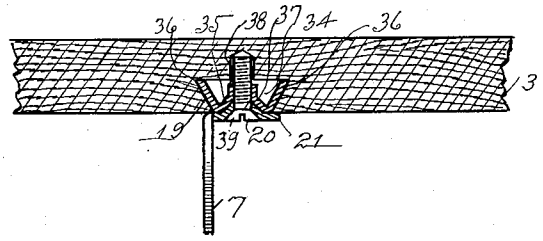
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HINGE WITH FRICTION BEARING

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Fig. 6.



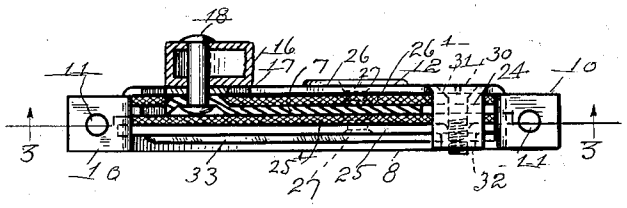


Fig. 4.

Fig. 9.

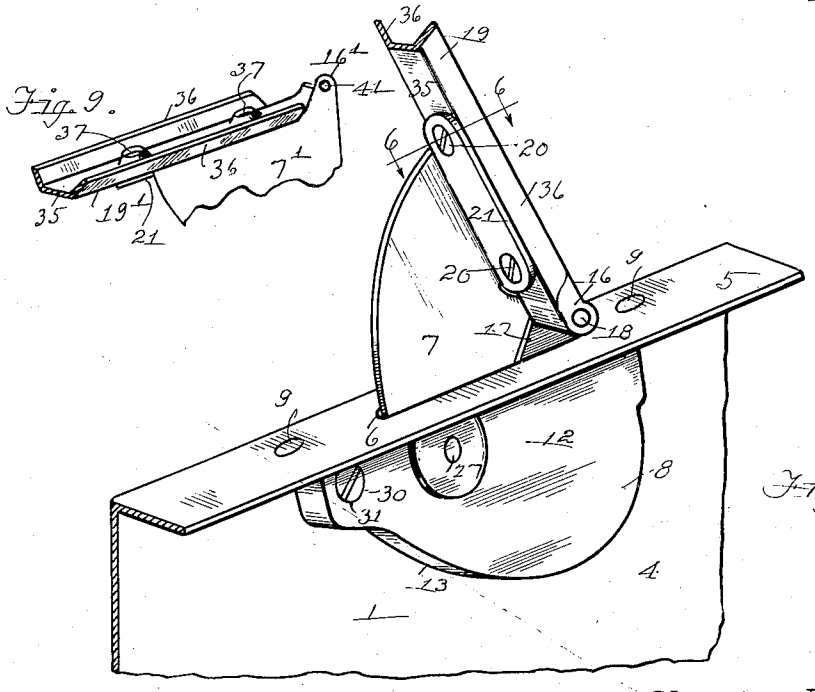


Fig. 2.

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UNITED STATES PATENT OFFICE

1,987,060

HINGE WITH FRICTION BEARING

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Application December 17, 1930, Serial No. 502,922

2 Claims. (Cl. 16—140)

The present invention relates to hinges for desk top closures and the like and adjustable friction bearings therefor; and its object is, generally, to provide a device of this character improved in respects hereinafter appearing; and further, to provide such a hinge concealed from view in the shut position of the closure; and further, to provide an improved construction of the hinge's parts and their connections.

This and other and more specific objects are attained by, and the invention finds preferable embodiment in, the illustrative hinge structure particularly described in the body of this specification and illustrated by the accompanying drawings, in which:—

Figure 1 is an outside view in perspective of a portion of a school desk with a hinge mounting its closure thereon provided with a friction bearing, a part of the desk being broken away to show inside parts;

Figure 2 is an inside view in perspective of parts of the same;

Figure 3 is a sectional view of parts of the same taken on a vertical plane corresponding to line 3—3 of Figures 1 and 4;

Figure 4 is a sectional view of parts of the same taken on approximately horizontal planes corresponding to line 4—4 of Figure 3;

Figure 5 is a side view of a friction plate;

Figure 6 is a sectional view of certain parts taken on a plane corresponding to line 6—6 of Figure 2;

Figure 7 is a view in perspective of the interior of certain parts of the structure, showing a modified construction;

Figure 8 is a view in perspective of the inner side of a friction plate showing a modified construction; and

Figure 9 is a view in perspective of a strengthening bar and a segment member of the hinge secured thereto, and showing a modified construction.

In the embodiment of the invention illustrated by these drawings, a desk (such as is used in schools, etc.) is shown having a box top portion 1 and a cover portion therefor comprising a fixed part 2 and a closure part 3 swingable to open and shut positions, this closure part and the rest of the structure thus constituting a pair of members having a swinging interrelative movement.

The box top portion has a vertical side wall 4 with an inwardly turned horizontal flange 5 having a slot 6 therethrough. The hinge whereby the closure 3 is swingably mounted comprises a thin segmental part 7 mounted on the closure 3 and a part designated generally 8 mounted on the box top 1 as by rivets 9 passing through holes 11 in their flanges 10 and 5 respectively. These parts 7 and 8 thus form the leaves of the hinge and the part 8 forms a casing having the vertical wall 12 and curved wall 13 and being open toward the side wall 4 of the desk.

Into a recess 14 in the cross-sectionally curved inner edge 15 of the closure 3 the extensions 16 and 17 of the hinge members 7 and 8 respectively extend, a hinge pintle 18 passing through these extensions and connecting said hinge members together swingably, thus forming a hinge concealed from view when the closure is shut.

The said extension 17 is a flat upstanding ear of the hinge member 8, the extension 16 being formed at the inner end of the bar 19 to which the segment 7 is secured as by screws 20 passing through the segment's flange 21.

This segment moves through the slot 6 and in the chamber 22 in the closure's movement, being limited in its opening movement by its shoulder 23 striking a bent-over stop portion 24 at the upper edge of the vertical wall 12. The segment 7 contacts on its opposite sides the friction plates 25 and 26 (the latter being the vertical wall 12) to frictionally hold the closure raised and to prevent it from being slammed shut—that is, the segment thus contacts the linings or friction sheets 25^1, 26^1 of said plates, secured thereto as by rivets 27.

The friction plate 25 has at one end a tongue or extension 28 engaging loosely in a bearing slot 29 in the wall 13 of the casing to take care of varying thicknesses of the friction sheets. A screw 30 extends through an opening 31 in wall 12, (passing through the friction sheets 25^1, 26^1) and is threaded in an outwardly extending circular flange portion 32 of friction plate 25, so that the frictional pressure of the plates 25, 26 (i. e. their sheets 25^1, 26^1) on the segment 7 may be adjusted by turning said screw. A strengthening rib for the plate 25 is shown at 33 to insure rigidity thereof and prevent resiliency.

The closure 3 has in its under side a transversely extending groove 34 whose sides approach each other toward the mouth of the groove. Seated in this groove is the aforesaid bar 19 (preferably of pressed sheet metal) having a middle or web portion 35 and side or flange portions 36 inclined correspondingly with the sides of the groove.

Screws 20 pass through openings 37 in the web portion 35 and are threaded into the wooden closure 3 or into threaded socket pieces 38 seated

therein. When these screws are screwed down, their heads 39 press the flanges 36 against the sides of the groove.

In the modified constructions shown in Figures 7 and 8, the friction sheets 26^2 and 25^2 are circular, and may be rotated about their fastening rivets 27^1, 27^2 which extend through their centers. By this construction these friction sheets may be turned by hand in order that the wearing thereof may be more nearly uniform throughout their surfaces; and in Figure 7 the friction sheet 26^2 is seated in a shallow circular recess 40 formed in the vertical wall 12^1 and is thus prevented from being bent by the frictional engagement of the segment therewith.

In the modified construction shown in Figure 9, the segmental hinge member 7^1 has an upwardly extending ear 16^1 through a hole 41 in which and a hole 42 in the upwardly extending ear 17 of the other hinge member 8^1 shown in Figure 7 a pintle pin 18 extends for connecting said members; and in said modified construction the segmental member 7^1 is secured by screw bolts or otherwise to the strengthening bar 19^1.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore described.

I claim:

1. A hinge for connecting relatively swingable furniture parts one of said parts having a transversely extending groove in its side with inclined side walls mutually approaching toward the mouth of the groove and the other one of said parts being provided with a friction plate, said hinge comprising a pair of leaf members one of said members having a segmental portion, and a springable elongated bar portion adapted to be seated in said groove and having a middle web portion with openings therethrough and lateral flanges inclined correspondingly with the sides of the groove and screws passing through said openings and threaded into the bottom of the groove so that the screwing down of the screws springs said flanges into tightly binding contact with the side walls of the groove, the other one of said members being adapted to be secured to the other one of said furniture parts so that said segmental portion bears frictionally on the friction plate in the swinging relative movement of said members.

2. A hinge for connecting relatively swingable furniture parts one of said parts having a transversely extending groove in its side with inclined side walls, said hinge comprising a pair of leaf members one of said members having a springable elongated bar portion adapted to be seated in said groove and having a middle web portion with openings therethrough and lateral flanges inclined correspondingly with the sides of the groove and screws passing through said openings and threaded into the bottom of the groove so that the screwing down of the screws springs said flanges into tightly binding contact with the side walls of the groove, the other one of said members being adapted to be secured to the other one of said furniture parts.

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