March 4, 1952 S. B. CALDWELL ET AL 2,587,818

LEAF HINGE

Filed Dec. 13, 1946

Fig.1.

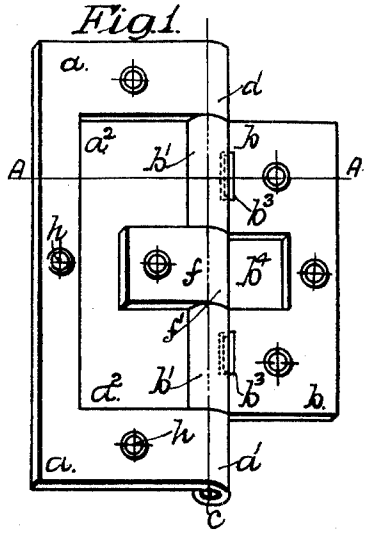


Fig.2.

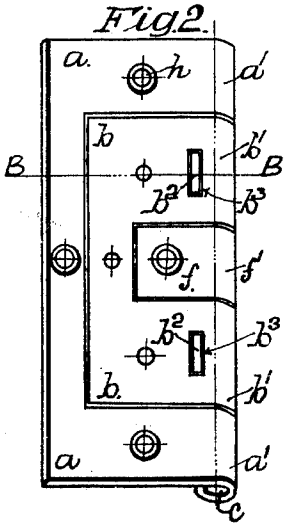


Fig.3.

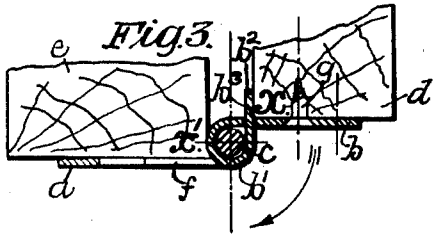


Fig.4.

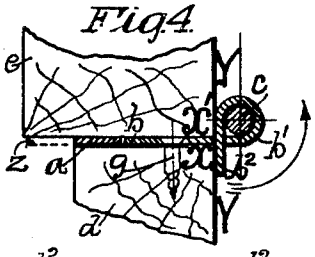


Fig.5.

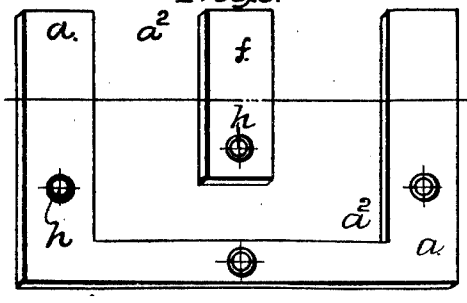


Fig.6.

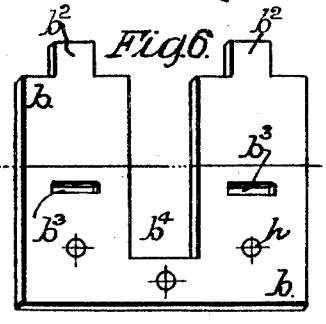
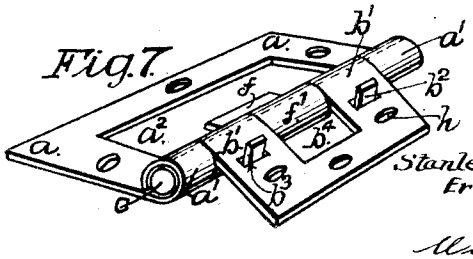


Fig.7.



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Patented Mar. 4, 1952

2,587,818

UNITED STATES PATENT OFFICE

2,587,818

LEAF HINGE

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Application December 13, 1946, Serial No. 716,096
In Great Britain May 23, 1945

Section 1, Public Law 690, August 8, 1946
Patent expires May 23, 1965

4 Claims. (Cl. 16—167)

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This invention relates to leaf or butt hinges as commonly applied to doors, furniture, and the like, and has for its primary object to render such a hinge easy to fit correctly by unskilled persons without liability of damage to the door and its jamb or frame (hereinafter, for convenience of description, referred to as "frame"), and greatly reducing the time required to fix the hinge and hang the door.

Our hinge is characterised by the provision, in the vicinity of the hinge pin, of projections which form corners in conjunction with the leaves themselves, and which corners are adaped respectively to receive the adjacent edges of a door and frame and to correctly align same.

We will now describe our invention with the aid of the accompanying drawings which illustrate, by way of example only, and not of limitation, one mode of embodying same.

In said drawings, Fig. 1 is an oblique projection of a hinge in open position, and Fig. 2 shows the hinge when closed. Fig. 3 is a section taken as on line A—A Fig. 1, and Fig. 4 is a section, taken as on line B—B Fig. 2. Figs. 5 and 6 are oblique projections of the leaf blanks prior to association with the pivot pin, and Fig. 7 is a perspective view of the assembled hinge, drawn to a reduced scale as compared with the preceding views.

In the various figures *a* represents a plate metal leaf component from the blank whereof a part *b* has been removed to form the other leaf; both leaves *a*, *b*, are pivotally associated by encirclement at a^1, b^1, respectively, with an off-set hinge pin *c*.

Formed by spacedly cutting leaf *b* are a pair of tongues b^2 which, extending through slots b^3 stamped out of leaf *b*, constitute a corner X—Figs. 3 and 4—for the reception of the door *d*, whilst the off-setting disposition of pin *c* on the side of the hinge opposite to said tongues b^2 provides a corner X^1 for the reception of the frame *e*.

Said hinge corners X, X^1 thus make certain that, when the door *d* is closed, the adjacent faces Y—Y (Fig. 4) of the door and frame are in the same plane. The thickness of a leaf ensures the correct gap Z between the door and its frame.

f represents a strip of metal which has been struck from the middle of the blank of leaf *b* and (or a similar piece) is pivotally associated by encirclement at f^1 with pin *c*. The hinge is secured to door *d* and frame *e* by screws as *g* entered through holes *h* of the several leaf components *a*, *b*, *f*.

When the hinge is completely closed, leaf *b* secured to door *d* lies flush in the cut-away part a^2

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of leaf *a* secured to door frame *e*, and strip *f* lies flush in the cut-away part b^4 of leaf *b*, being secured to the door frame *e* through the opening a^2 of leaf *a*. The provision of said strip *f*, which constitutes, in effect, a third leaf, renders more secure the attachment of the hinge to the frame, and minimizes the likelihood of the pin *c* bending in course of use under the weight of the door.

Thus constructed, alignment of the hinge with the edge of a door is automatically ensured, and the hinge may be fitted quickly and accurately by an unskilled person, it being merely necessary to position the hinge so that the edge of the door is in one corner of the hinge and the edge of the frame in the other corner of the hinge, when the surface of the door on the pivot side must lie flush with the adjacent surface of its frame.

Obviously, in a converse fitting disposition, leaf *a* may be secured to door *d* and leaf *b* secured to frame *e*.

Throughout the foregoing specification the term "door" is to be interpreted in its widest sense to include gates, windows, lids and all other such parts as it is required to pivot and similarly the term "frame" is to be interpreted in its broadest sense as including a framework proper, window sash, box edge, gatepost and any other part to which the hinged part is to be hingedly mounted.

What we claim as our invention and desire to secure by Letters Patent is:

1. A leaf hinge comprising a hinge pin, a pair of leaves each having a portion pivotally embracing said pin, one of said leaves having a recess formed in an edge thereof for receiving the second leaf therein in the same plane therewith when said hing is in its closed position, said second leaf having a plurality of slots formed therethrough adjacent to said hinge pin, and said pin embracing portion of said second leaf having a plurality of tongues each extending through one of said slots and from the face of said second leaf with the sides of said tongues which extend beyond said second leaf being normal to the face of said second leaf forming corners for aiding in the alignment of the hinge when being mounted for use.

2. A leaf hinge comprising a hinge pin, a pair of leaves each having a longitudinally extending side portion pivotally embracing said pin, one of said leaves having a recess formed in an edge thereof for receiving the second leaf therein in the same plane therewith when said hinge is in its closed position, said second leaf having a series of slots formed therethrough parallel and

adjacent to said pin, and said pin embracing portion of said second leaf having a series of tongues extending from the edge thereof each through one of said slots and from said second leaf at a right angle thereto forming a corner for aiding in the alignment of the hinge when being mounted for use.

3. A leaf hinge comprising a hinge pin, a pair of leaves each having a portion pivotally embracing said pin, one of said leaves having a recess formed in an edge thereof for receiving the second leaf therein in the same plane therewith when said hinge is in its closed position, said second leaf having a plurality of slots formed therethrough adjacent to said hinge pin, said pin embracing portion of said second leaf having a plurality of tongues each extending through one of said slots and from the face of said second leaf forming a corner for aiding in the alignment of the hinge when being mounted for use, and each of said leaves having its hinge pin embracing portion offset relative to the remainder of the leaf with said pin being positioned between the respective planes of said leaves when said hinge is in its open position.

4. A leaf hinge comprising a hinge pin, a pair of leaves each having a portion pivotally embracing said pin, one of said leaves having a recess formed in an edge thereof for receiving the second leaf therein in the same plane therewith when said hinge is in its closed position, a third

leaf having a portion pivotally embracing said pin, said second leaf having a recess in an edge thereof for receiving said third leaf therein in the same plane when the hinge is in its closed position, said second leaf having a plurality of slots formed therethrough adjacent to said hinge pin, and said pin embracing portion of said second leaf having a plurality of tongues each extending through one of said slots and from the face of said second leaf forming a corner to aid in the alignment of the hinge when being mounted for use.

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ERIC HURLEY.

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