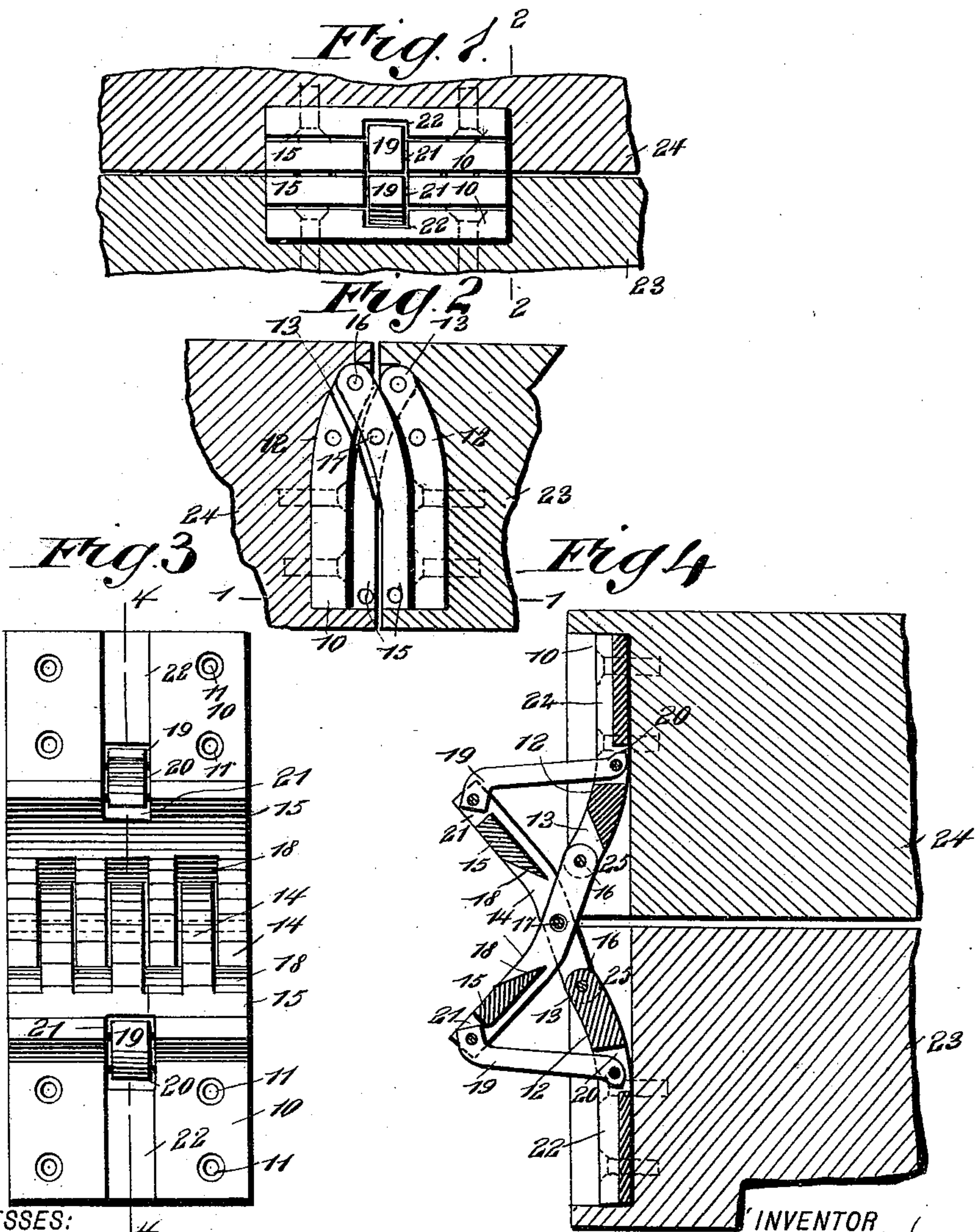


(No Model.)

A. H. GILMAN.
HINGE.

No. 542,250.

Patented July 9, 1895.



WITNESSES:

J. M. Arde.
H. D. Hutchinson

INVENTOR

A. H. Gilman
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARTHUR H. GILMAN, OF AURELIA, IOWA.

HINGE.

SPECIFICATION forming part of Letters Patent No. 542,250, dated July 9, 1895.

Application filed September 19, 1894. Serial No. 523,445. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. GILMAN, of Aurelia, in the county of Cherokee and State of Iowa, have invented a new and Improved
5 Hinge, of which the following is a full, clear, and exact description.

My invention relates to improvements in hinges, and particularly to that class of hinges which are adapted for use on the doors, leaves,
10 or lids of tables, piano-cases, and other ornamental articles.

The object of my invention is to produce an invisible hinge—that is, a hinge which is invisible when closed—which may be very conveniently applied to lids, covers, leaves, doors,
15 and other movable parts, which is exceptionally strong, which may be conveniently applied to any article of the class named, which enables the cover or other part to close edge-
20 wise against the part to which it is hinged, so as to leave a perfectly-smooth outer surface, and which, when the hinge is opened, is not obtrusively conspicuous.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification,
30 in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a detail section on the line 1 1 of Fig. 2, showing the back edge of the closed hinge. Fig. 2 is a cross-section on the line 2 2
35 of Fig. 1 and shows the closed hinge in end elevation. Fig. 3 is an enlarged view of the open hinge; and Fig. 4 is a cross-section on the line 4 4 of Fig. 3, showing the hinge applied to a cover and its support.

40 The hinge is provided with two similar leaves 10, which have screw-holes 11 therein to enable them to be easily fastened to a cover and its support, and each leaf is curved inward slightly near its inner edge, as shown at
45 12 in Fig. 4, and terminates at the said inner edge in a series of short fingers 13, and the fingers of the two leaves interlock with the fingers 14 of the middle connecting leaves or levers 15. The fingers 13 are pivoted to the
50 fingers 14 by means of suitable pintles 16, and the fingers 14 of the levers 15 interlock and cross, as shown clearly in Fig. 4, and at the

points of intersection the levers are pivoted together by a pintle 17, which really forms the main pintle of the hinge, as the cover
55 swings on this pintle, as hereinafter described.

The pintle 17 may be placed any necessary distance from the inner edges of the leaves 10, the distance depending on the necessary
60 swing of the cover or other article to which the hinge is applied.

The adjacent sides of the levers 15 are at points near the fingers 14 preferably beveled, as shown at 18, so that the levers may close snugly together, as in Fig. 2, and to further
65 facilitate this purpose the connecting-levers are oppositely curved to a degree equaling but in a direction opposite to the curved leaves 10, to which they are pivoted, respectively, so that the adjacent parts will be flush against
70 one another when the hinge is closed, as shown in the same figure. The levers are braced by the braces 19, which also facilitate the proper and equal movement of the two levers, and the braces are at their inner ends pivoted in
75 holes 20 in the leaves 10, and at their outer ends the braces are curved slightly and pivoted in recesses 21 in the edges of the levers 15. The braces when the hinge is closed lie flat and parallel with the leaves 10 and levers
80 15, and in order that the hinge may be as compact as possible the leaves 10 are preferably recessed, as shown at 22, to receive the braces, and thus when the hinge is closed the braces lie within the said recesses and permit
85 the levers 15 to lie flat and close upon the leaves 10, as shown in Figs. 1 and 2.

It will be seen that the braces 19 will facilitate the even movement of the levers, and that when the hinge is open, as shown in Fig.
90 4, the braces extend from the outer edges of the levers 15 to the leaves 10, and thus thoroughly brace and strengthen the hinge. It will be understood that the braces will work all right even though the recesses 21 are not
95 provided for them; but by arranging the recesses as specified the hinge is made more compact.

I have shown the hinge applied to a portion 23 of an instrument and to a cover or lid 24,
100 so that the cover when closed will have one edge lying against the edge of the instrument and leave a smooth exterior surface, as shown in Fig. 3.

In applying the hinge the parts to which the leaves 10 are fastened are preferably recessed, as shown at 25, so that the leaves and levers of the hinge may be countersunk; but
5 this is not absolutely essential.

When the cover is opened or closed it swings on the pintle 17, which carries the cover far enough from its support 23 to permit it to swing freely, and when the cover closes the
10 hinge shuts up, as in Fig. 2, leaving the edge of the cover abutting with the edge of its support. It will be understood that the hinge may be made in any size and of various widths and that the shape of the parts may
15 be altered to suit different purposes without affecting the principle of the invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

20 In a hinge, the combination of a pair of

leaves having their adjacent ends equally curved in opposite directions, a pair of pivoted connecting levers, each pivoted at one end to the adjacent curved end of one of the
25 said leaves, the respective pivoted ends of the connecting levers being curved equally to the curved ends of the leaves to which they are secured, but in opposite directions to said curvature, and a pair of braces each connect-
30 ed at one end to one of the leaves and at the other end to one of the connecting levers, the faces of the leaves and connecting levers adjacent to their connections with the braces being grooved to receive and house the said braces, substantially as set forth.

ARTHUR H. GILMAN.

Witnesses:

A. J. WHINERY,
B. R. OLDS.