W. S. MAXWELL.

HINGE.

APPLICATION FILED MAY 21, 1908.

931,697. Patented Aug. 17, 1909.

Fig. 1.

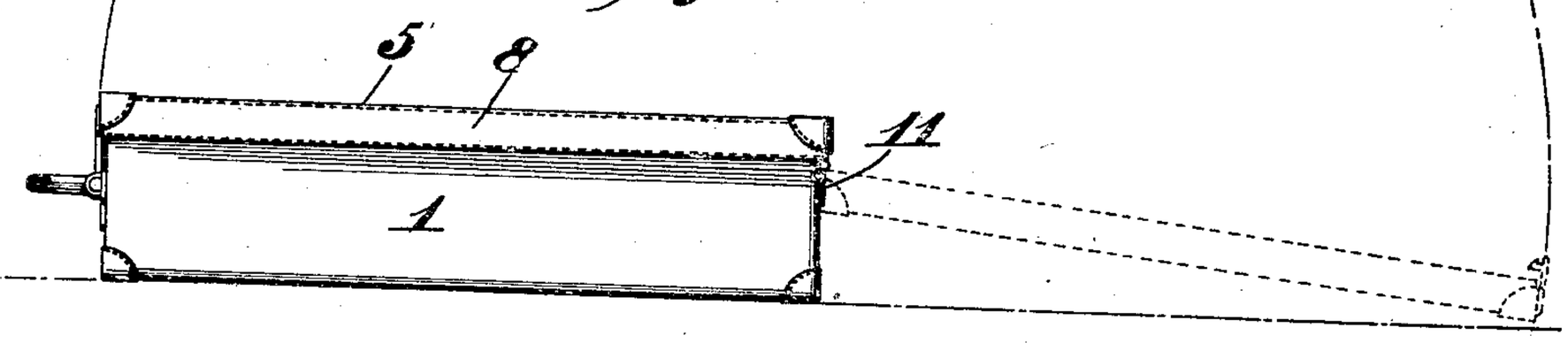


Fig. 2.

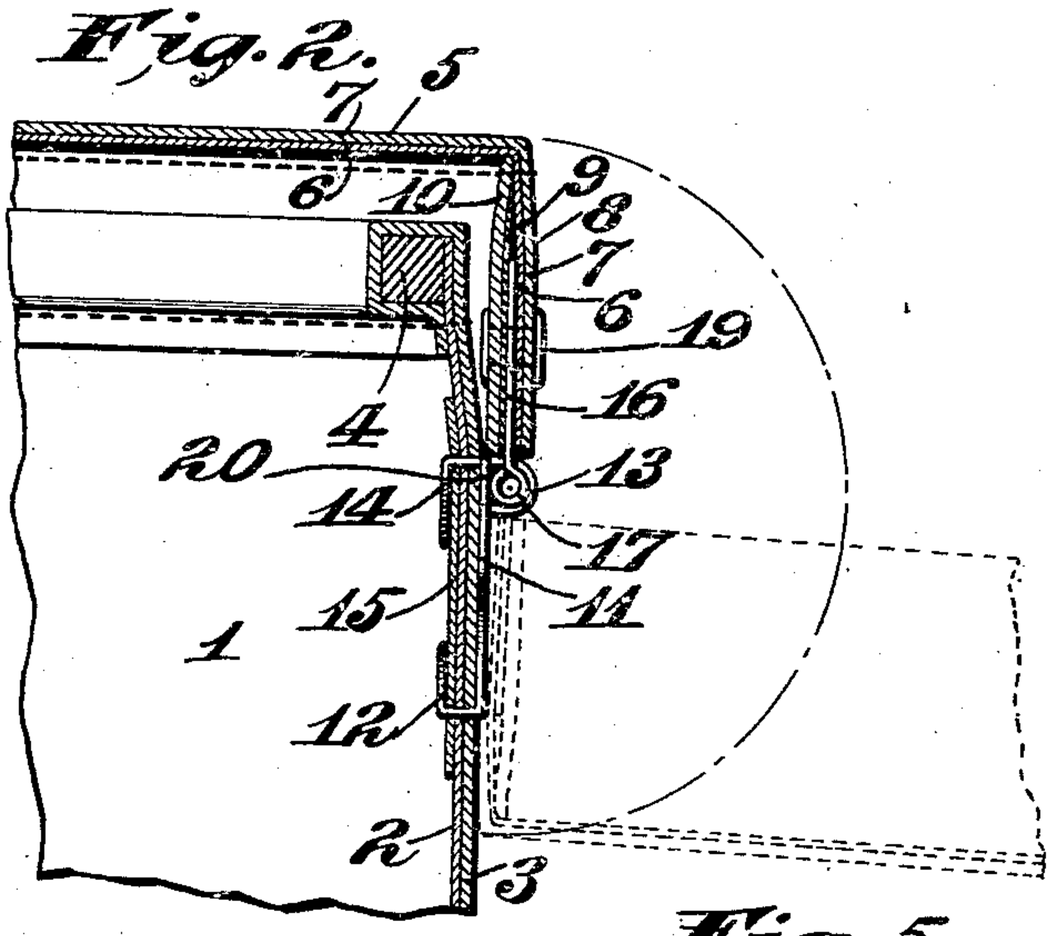


Fig. 3.

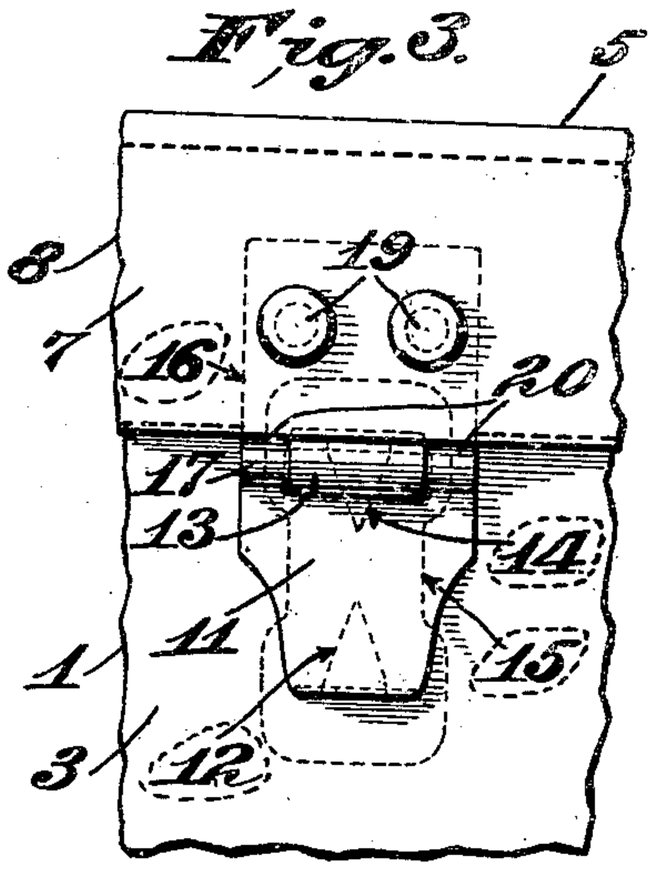


Fig. 5.

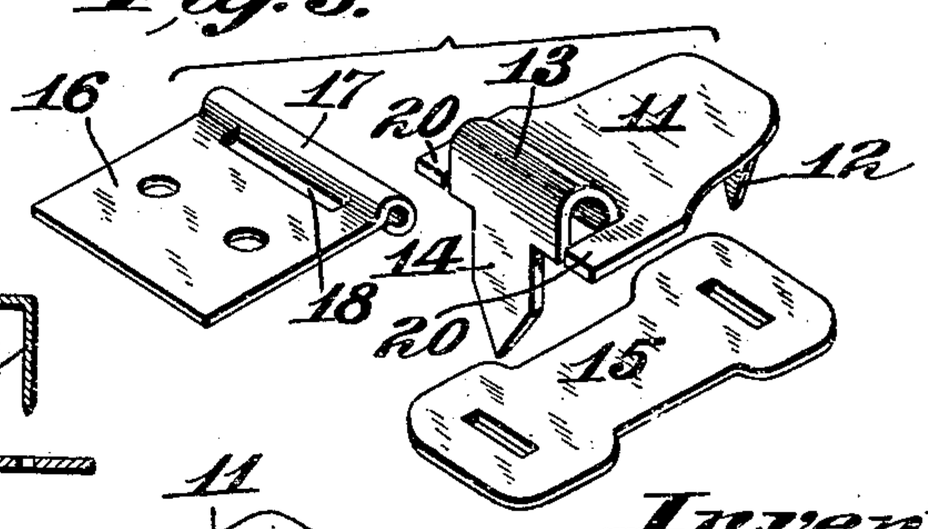


Fig. 4.

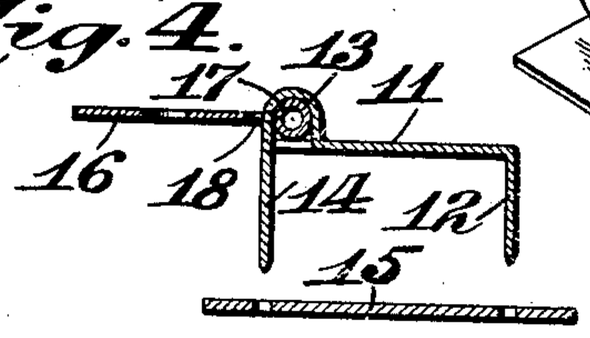
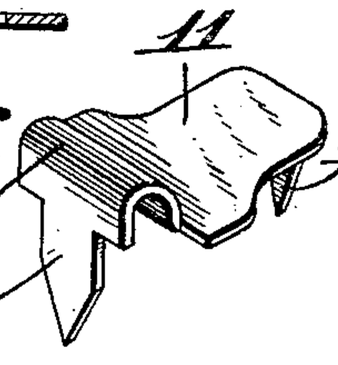


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HINGE.

No. 931,697. Specification of Letters Patent. Patented Aug. 17, 1909.

Application filed May 21, 1908. Serial No. 434,037.

To all whom it may concern:

Be it known that I, WILLIAM S. MAXWELL, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Hinges, of which the following is a specification.

This invention relates to hinges and more particularly to hinges for suit cases and the like, and it has for its principal objects to provide for the far opening of the hinged lids, to avoid springing the hinges and pulling them loose, to cheapen the cost of manufacture, and to attain certain other advantages hereinafter more fully appearing.

It is commonly known that the usual construction and arrangement of suit cases, especially those covered with heavy leather or other thick material, is such that the hinged lids are prevented from being swung as far open as is desirable. Usually the hinges are buried beneath the outer covering and the lids when opened to the fullest limit, extend at an upward inclination from the hinged side, because the edge of the thick covering material of the lid comes in contact with covering at the back of the case, at a point just below the hinge joint, before the flange portion of the lid can come flatwise against the back of the case. The result is that by pressure on the lid and also by its own weight, there is a tendency to strain and spring the hinges and pull them loose from their fastenings, and to otherwise damage the case.

The present invention obviates the foregoing disadvantages and it consists principally in the novel construction and arrangement of the hinges, and, further, in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is an end elevation of a suit case embodying my invention, the lid being shown by dotted lines in the fully opened position which the construction and arrangement permits; Fig. 2 is a fragmentary section of a suit case embodying my invention, taken vertically, adjacent to a hinge, and the hinge members being shown in edge elevation; Fig. 3 is a fragmentary rear elevation of a portion of the suit case adjacent to a hinge; Fig. 4 is a longitudinal section through a hinge with the reinforcing plate detached; Fig. 5 is a detail perspective view of the hinge members detached; and Fig. 6 is a detail perspective view of a modified hinge member.

The suit case illustrated in the drawings comprises a body portion 1. This body portion is built of an inner boxlike stiffening frame of fiber board or the like 2, and an outer covering of material 3, preferably leather. The open top portion of the body 1 is stiffened by a rectangular frame 4 around which the edge portion of the outer covering is folded inwardly and stitched or otherwise secured. The lid 5 is also constructed of an inner frame of stiff board 6 and an outer covering of heavy material 7. The flange portion 8 of the lid is further reinforced by a strip 9, preferably of hoop iron or the like. An inner lining of heavy material 10 is provided also.

The construction above described is common in high grade cases, and the outer coverings are usually of heavy leather. To avoid marring the outward appearance of the case, the hinges have generally been buried beneath the outer covering and, in some instances, on the inside of the inner stiffening frame for the purpose of resisting pulling strain upon the hinges. From these arrangements arise the disadvantages hereinbefore set forth, which manufacturers have, with but little success, long been striving to overcome without detracting from the outward appearance of the case.

My invention embodies a novel construction and arrangement of hinge which may be readily adjusted and applied to cases and lids constructed of materials of various kinds and thicknesses, and will permit the lid to swing extremely far open without any appreciable destructive effect upon the case.

The hinge comprises a member 11 which is adapted for attachment to the body 1 of the case. Preferably, this member is made of a single piece of metal, and its flat base portion may be fancifully formed so as to be pleasing in appearance. At one end, the member 11 is provided with a pointed angular prong or tongue 12. Its opposite end portion is looped as at 13 and then formed into a prong or tongue 14. The prong portions 12 and 14 are adapted to be passed through slits in the case and bent over or clenched on the inside. Preferably, a slotted

reinforcing plate 15 is provided through which the prongs may be passed and clenched upon.

The lid member of the hinge comprises a leaf portion 16 and a pintle portion 17. This member is also preferably formed of a single piece of metal. One edge portion is rolled to form the pintle and a slot 18 is provided through which the prong 14 and looped portion 13 of the lower member 11 may be passed. Preferably, the leaf portion 16 of the lid member of the hinge extends diametrically from its pintle portion 17 so that said leaf portion may be conveniently placed between the two inner stiffening materials 6 and 9 of the lid. In this way, the thicknesses of the material may be equally distributed on each side of the leaf portion. This permits of the easy closing of the lid and fully opening the same without straining the hinges or their connections. The lid member 16 may be secured in place by rivets 19.

The hinge joint is offset outwardly from the base plate 11 and this facilitates the opening of the lid so that it may extend downwardly at an incline from its hinged side, as indicated in dotted lines in Fig. 1. As illustrated, the case may be laid flatwise on a plane surface and the free side of the hinged lid in its open position may be pressed down against said plane surface without springing or pulling the hinges loose. By placing the attaching prong 14 close to the hinge joint, the hinge is firmly held at that point so as to effectively resist pulling strain thereon.

It is preferable to insert the leaf portion 16 of the hinge between the two layers of material 6 and 9 of the lid, as shown, but in some cases it may be desirable to place it between the inner lining or the outer material and the adjacent stiffening material according to the thickness of the respective materials.

The hinge member 11, as shown in Figs. 2 to 5, inclusive, is provided with side wing portions 20 which extend across each end of the loop portion so as to serve as wear plates for the end portions of the pintles to prevent chafing or wearing out of the covering of the case at the point where the hinge is applied.

In Fig. 6, the wear plates 20 for the pintle are dispensed with, so that the opening of the loop is unobstructed. This construction will serve the purpose in the manufacture of cheaper cases, or when it is not desirable to have the parts of the hinge assembled before attaching them to the case, as is necessary with the hinge illustrated in Fig. 5.

Obviously, the device admits of considerable modification without departing from my invention and, therefore, I do not wish to be limited to the exact construction and arrangement shown.

What I claim as my invention and desire to secure by Letters Patent is:

1. A box hinge comprising a flat leaf having an outwardly offset pintle bearing and means for securing said leaf to the side wall of a box, and a lid member comprising a straight flat leaf having a pintle portion fitted to said pintle bearing, said second mentioned leaf being offset outwardly from alinement with said first mentioned leaf, but in parallel relation thereto in the normal position of said leaves.

2. A box hinge comprising a flat leaf having one end portion looped outwardly to constitute a pintle bearing and bent inwardly at substantially right angles to said leaf to constitute a securing prong and also having side wing portions extending tangentially across the ends of said looped pintle bearing portion, and a straight flat leaf having a rolled end portion with a slot adjacent thereto so as to constitute a pintle, said second mentioned leaf being offset outwardly from alinement with said first mentioned leaf but in parallel relation thereto in the normal position of said leaves.

3. A box hinge comprising a flat leaf having one end portion looped outwardly to constitute a pintle bearing and bent inwardly at substantially right angles to said leaf to constitute a securing prong therefor, and a leaf having a rolled pintle portion fitted to said looped portion on said first mentioned leaf and having a slot adjacent to the pintle for the passage of said securing prong, and said second mentioned leaf being offset outwardly from alinement with said first mentioned leaf but in parallel relation thereto in the normal position of said leaves.

Signed at St. Louis, Missouri, this 18th day of May, 1908.

WILLIAM S. MAXWELL.

Witnesses:
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