(Model.) 2 Sheets—Sheet 1.

F. W. MIX.

HINGE.

No. 407,366. Patented July 23, 1889.

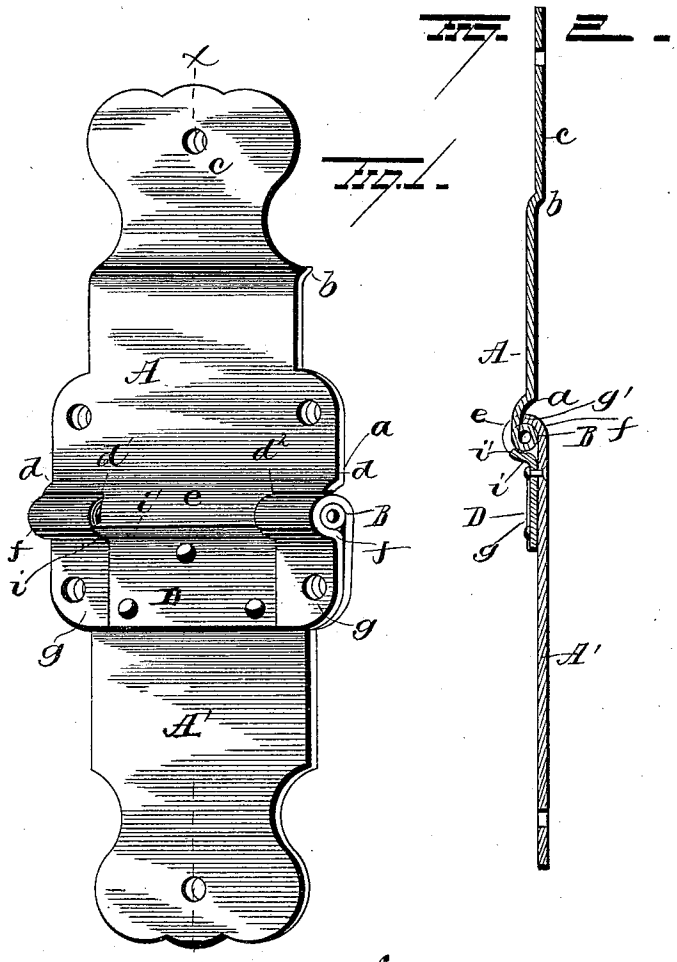


Fig. 1.

Fig. 2.

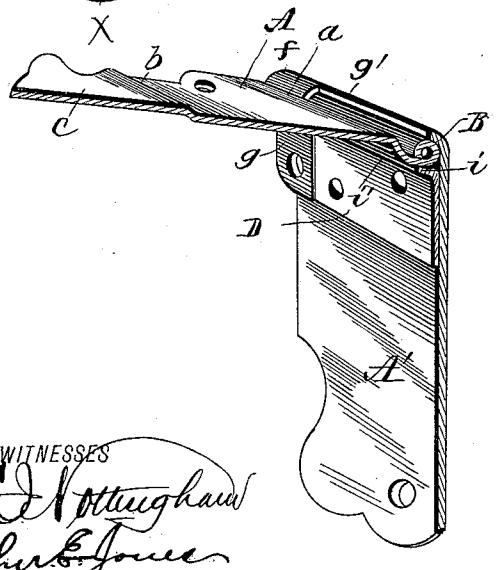


Fig. 3.

WITNESSES

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(Model.) 2 Sheets—Sheet 2.

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HINGE.

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Fig. 4.

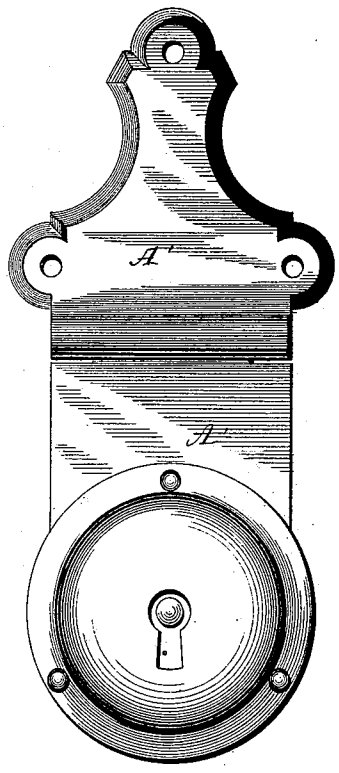
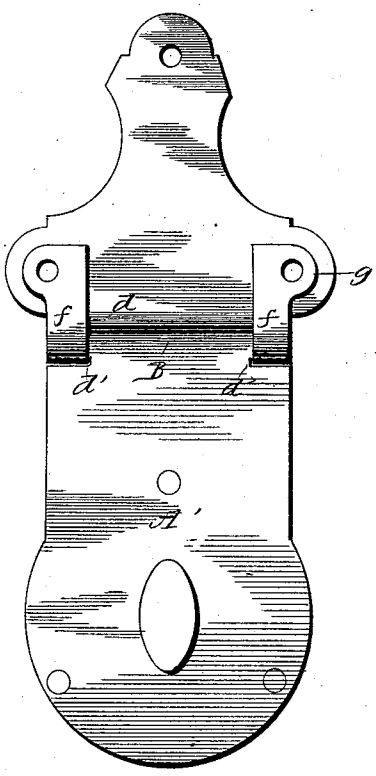


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK W. MIX, OF NEW BRITAIN, CONNECTICUT.

HINGE.

SPECIFICATION forming part of Letters Patent No. 407,366, dated July 23, 1889.

Application filed January 11, 1887. Serial No. 224,062. (Model.)

To all whom it may concern:

Be it known that I, FRANK W. MIX, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Strap-Hinges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to strap-hinges.

The object of my invention is to provide a light, strong, durable hinge of sheet plate metal that can be used for trunks, boxes, or other purposes.

A further object is to provide a check-shoulder by the attachment of an abutment-plate upon the hinge at its joint that will prevent a folding action closer than an angle of about ninety degrees or approximating to a right angle.

With these objects in view my invention consists in certain features of construction and combinations of parts, that will be hereinafter described, and pointed out in the claims.

Referring to the drawings making a part of this specification, Figure 1 is a front face view of the hinge. Fig. 2 is a longitudinal section of the hinge, taken on the line x x, Fig. 1. Fig. 3 is a view of the hinge with its leaves set at a right angle. Fig. 4 is a view of the rear or inner face of a trunk-lock embodying my invention, and Fig. 5 is a front view of same.

A A′ are the leaves of the hinge. They are preferably made of sheet plate metal cut and formed by suitably-shaped dies, which may be constructed to give any degree of ornamentation to the contour of the hinge-leaves that may be desired. These leaves are perforated near their edges to form holes for the reception of proper-sized fastening-screws. The leaf A has an offset bend made in its body to project the same forward a short distance, this projecting portion of the body of the leaf extending from the point a to a point b near the inner end of the leaf, where it is hinge-secured to the connected leaf A′, and forms an open shallow recess at the rear side to fit over a band or metal strap that is attached upon the outer surface of a trunk near the edge of the lid to stay or secure the lid from lateral displacement when it is in closed adjustment with the body of the trunk. The portion c of the leaf A is made to return to the body of the lid and be secured thereto by a screw or clinch nail. The inner end of the leaf A is cut away upon each edge at d d to provide spaces to receive the hinge-ears or bent straps formed on the leaf A′. The body or material of the plate A is rolled upon itself to produce a small cylinder B, which extends transversely across the end e of this plate, the body of which is also bent to curve a short distance outward and downward in order to give the rolled cylinder B a proper position to engage as a pintle the loops formed on the connecting-leaf A′, as will now be described. The leaf A′ has its inner end, that hinges upon the integrally-formed pintle B, cut away in a manner to form straps or bands f on each side edge, which are of a proper width to fill the notches made for their reception on the opposite leaf A. These straps f are bent or formed into loops or ferrules, which have orifices produced through them by the bending of the material, as stated, and these holes are in the same plane to embrace the pintle ends B in a manner that will permit a proper folding movement of the attached parts.

The manner of connecting these straps to form the loops of the hinge is peculiar, and the operation is as follows: The pieces f are first bent or curved to permit the insertion of their free ends between the shoulders d' d^2 and the adjacent ends of the integral pintle ends B. The material is then closed by a proper die and matrix to form cylindrically-shaped ferrules, which have each an integral extension g produced, that are returned to have a contact-bearing upon the front face of the leaf A′ at this point of its surface. The lapped or bent portions g and the body of the leaf A′, upon which they bear, are perforated for the insertion of securing-screws that affix the hinge in position, and when in place hold the extended parts g in close adjustment with the body of the leaf on which they are imposed. The portion of the leaf A′ that rests between the loops f is bent with these loops and given the same degree of curvature, the material being cut away to form a shoulder g', which extends square across the leaf A′ from one loop to the other. When the leaves A A′ are secured together as a hinge, and they are each

extended to rest in the same plane, the rear surface of the leaf A, immediately above the pintle B, will have a contact-bearing upon the shoulder g' of the leaf A′, and thus a rearward folding of the jointed leaves is prevented.

When the device is to be used as a trunk or box hinge, and it is desired to provide a means of supporting the lid when opened, the abutment or angle-plate D is riveted in place between the loops g on the plate or leaf A′. The short projecting flange i, formed on the plate D, which is preferably made of sheet metal, is bent or curved to conform to the surface of the pintle B.

The flange i is made of such proportionate height that its edge i' will impinge against the front or face surface of the leaf A immediately above the body of the pintle B, this contact occurring when the leaves A A′ are folded toward each other to form an angle of ninety degrees or approximating thereto. This method of constructing the hinge-joint affords a firm support to a trunk or box lid to which these hinges are properly secured, as the abutment of the leaf A upon the edge of the flange i of the plate D will hold the lid when opened in nearly a perpendicular position.

This hinge is preferably made of sheet metal, and by proper tools and machinery can be rapidly cut and formed complete, and thus produce a neat, strong, and cheap hinge, for the purposes to which it is adapted.

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

1. A hinge consisting, essentially, of two leaves, one of which is provided with integrally-formed pintles, and curved at its inner end, substantially as shown, and the other provided with a shoulder adapted to engage the concave face of the curved portion of the leaf and with loops for embracing the pintles, substantially as set forth.

2. A hinge consisting, essentially, of two leaves, one of which is slotted on its side edge at its inner end and provided at said inner end with a pintle, the latter being formed by rolling or bending said inner end, as described, the other leaf having projecting straps, which latter are bent over into the form of loops to receive the ends of the pintle, the outer ends or sections of said straps resting and having extended bearing against a face of the leaf, substantially as set forth.

3. The combination of two leaves of a hinge, one leaf being provided on one side with a shoulder for limiting the movements of the leaves in one direction, and on the opposite side with an abutment for limiting the movement of the leaves in the opposite direction, substantially as set forth.

4. The combination, with a hinge that has a pintle formed of the material of one leaf, and connected by the loops to the other leaf, of an abutment or angle-plate secured to the surface of one leaf between its loops to have bearing-contact with the opposed leaf to prevent a complete folding of these leaves together, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANK W. MIX.

Witnesses:
H. C. FOSS,
E. L. PRIOR.