

J. SOSS.
HINGE.

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1,009,108.

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Fig. 1.

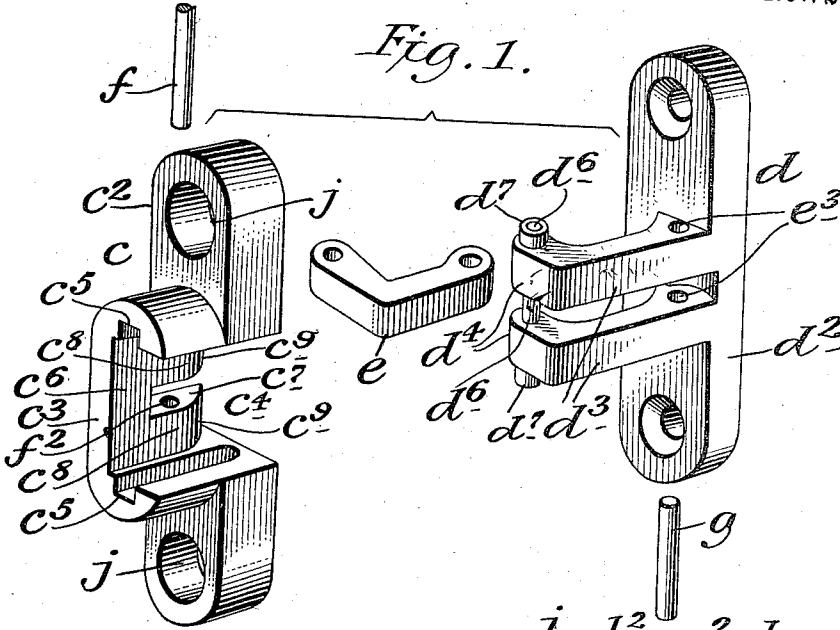


Fig. 3.

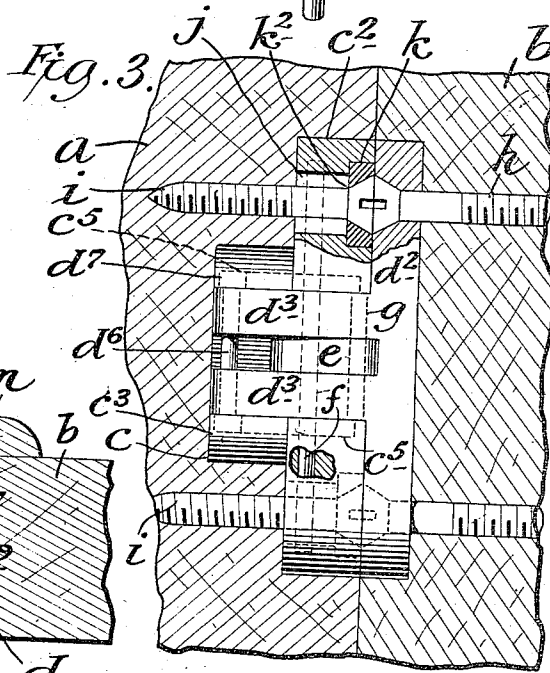
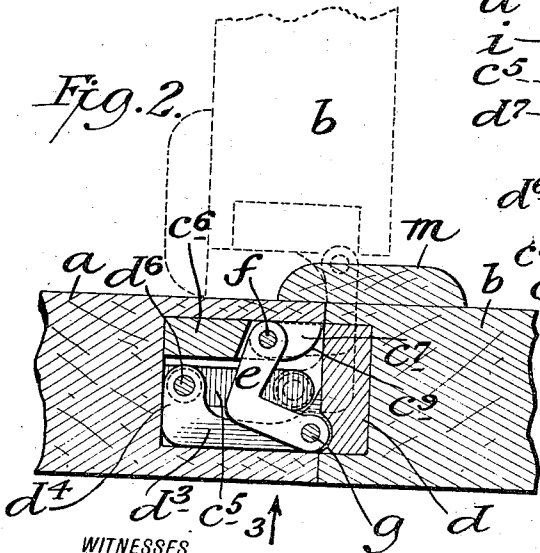


Fig. 2.



WITNESSES

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HINGE.

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To all whom it may concern:

Be it known that I, JOSEPH SOSS, a citizen of the United States, and residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hinges, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to hinges for doors, and particularly to what are known as invisible hinges of the class described and claimed in U. S. Letters Patent #825,943 granted to me July 17, 1906 and #880,697 granted to me March 3, 1908, and the object of this invention is to provide a hinge of this class which will permit a door or other article to which it may be applied to swing freely through an arc of 90 degrees and which is also more simple in construction and more strong and durable than other hinges of this class; a further object being to provide a hinge of the class specified which, while particularly designed for use in connection with doors, gates and like articles, may also be used in connection with window sashes, piano covers and various other articles.

The invention is fully disclosed in the following specification of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a perspective view showing the parts of my improved hinge disconnected; Fig. 2 a view showing the hinge in use and showing a part of a door frame and a part of a door in section, the hinge being also shown in transverse section, and the door being shown closed in full lines and indicated as open in dotted lines, and; Fig. 3 a sectional view looking in the direction of the arrow 3 of Fig. 2.

In the drawing forming part of this specification I have shown at *a* a part of a door frame and at *b* a part of a door, and in the practice of my invention I provide a hinge which involves two main parts *c* and *d*, an

L-shaped link member *e* and connecting pins *f* and *g*, all of said parts being clearly shown in Fig. 1.

The part *c* comprises a plate member *c*² the back of which is provided with an integral oblong body portion *c*³ and said plate member and said body portion are provided transversely of one side thereof with a recess *c*⁴ the top and bottom walls of which are parallel and provided with grooves *c*⁵ which open backwardly through the body portion *c*³, but which do not extend through the face of the plate *c*².

The back wall *c*⁶ formed by the transverse recess *c*⁴ is provided in the front edge portion thereof with a transverse recess *c*⁷ in a plane at right angles to the plane of the grooves *c*⁵ and this recess *c*⁷ forms two jaw members *c*⁸ the inner edge portions of which are beveled or rounded outwardly as clearly shown at *c*⁹.

The part *d* comprising the plate *d*² which is preferably thinner than the plate *c*² of the part *c* and the face of the plate *d*² is provided adjacent to the side thereof which corresponds with the side of the plate *c*² in which the recess *c*⁴ is formed, with parallel projecting arms *d*³ the ends of which are provided with parallel projecting portions *d*⁴ which range transversely of the plate *d* and through which is passed a pin *d*⁵ the ends of which are movable in the grooves *c*⁵, when the parts of the hinge are assembled and are provided with anti-friction rollers *d*⁷.

One end of the L-shaped link member *e* in the operation of assembling the parts of the hinge is pivoted between the inner end portions of the arms *d*³ by means of the pin *g* passed through holes *e*⁸ in said arms and the other end portion of said L-shaped link member is pivoted in the transverse recess *c*⁷ in the part *c* by a pin *f* which is passed through holes *f*² formed in the part *c*, and these holes *f*² and the pin *f* pass entirely through said plate *c*² of the part *c* longitudinally thereof.

The method of securing the parts of the hinge in the door frame and door is clearly

shown in Figs. 2 and 3 and in this operation the part d is secured in the door and the part c in the door frame. The part d is countersunk in the door in the usual manner and is secured therein by screws h , and the part c is countersunk in the door frame in the usual manner and is secured therein by screws i .

By reason of the particular construction of this hinge the operation of securing the same to the door frame and door as shown when the separate parts of the hinge are assembled, can only be done by providing the plate c^2 of the part c with apertures j which are large enough to permit the screws h and the heads thereof to pass therethrough, and the hinge is first secured to the door by passing the screws h through the apertures j . The ends of the apertures j in the plate c^2 which open through the face of said plate are enlarged to receive washers k which are provided with countersunk apertures k^2 to receive the heads of the screws i , and after the hinge has been secured to the door, the part c^2 is secured to the frame by placing the washers k in position and passing the screws i therethrough as clearly shown in Fig. 3.

With this hinge the ends of the pin d^3 move freely in the grooves c^5 and the door is free to swing through an arc of 90 degrees or into the position shown in dotted lines in Fig. 2, and in this operation the door swings clear of the frame, and said door may be provided with a molding strip m which will cover the meeting point between the door and frame when said door is closed on the side in the direction of which the door swings.

The ends of the plate members c^2 and d^2 and the ends of the body portion c^3 of the plate member c^2 are preferably rounded or made semicircular in form as clearly shown in order to facilitate the countersinking of the mortises in the door frame and door in which the plate members c^2 and d^2 are secured.

In the accompanying drawing I have shown but two of the arms d^3 and but one of the link members e , but it will be understood that any desired number of these parts may be employed in order to provide hinges of any desired strength, the size and construction of the plate members c^2 and d^2 being correspondingly modified, as will be readily understood.

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

1. A hinge comprising two plate members, the back of one of which is provided with an oblong projecting body portion in one side of which is formed a main transverse recess which extends through said plate member and the top and bottom walls

of which are provided with grooves which range transversely of said plate member, the back wall of said recess being provided in the front edge thereof with a supplemental recess adapted to receive a link member, the face of the other plate member being provided with parallel projecting arms having projecting end portions which range transversely of said plate member and through which are passed a pin the ends of which are movable in said grooves, and a link member one end portion of which is pivoted between the inner ends of said arms and the other end portion of which is pivoted in said supplemental recess.

2. In a hinge, the combination of two main plate members one of said plate members being provided at the back thereof with an oblong body portion in one side of which is formed a main transverse recess which extends through said plate member and the top and bottom walls of which are provided with grooves which open backwardly through said body portion, but which do not extend through the face of said plate member, the back wall of said main recess being also provided in the front edge thereof with a recess in a plane at right angles to said grooves, the other plate member being provided on the face thereof with parallel projecting arms the ends of which are curved at right angles thereto and are provided with a pin which is passed therethrough and the ends of which are movable in said grooves, and an L-shaped link member one end of which is pivoted between the inner ends of said arms and the other end of which is pivoted in said supplemental recess.

3. A hinge comprising two main parts adapted to be secured to a stationary device and a swinging device respectively, one of said parts being provided with arms slidably connected with the other part and a link member pivoted to said arms and to said other part.

4. A hinge comprising two main parts, one of which is provided with arms slidably connected with the other part, and an L-shaped link pivoted to both of said parts.

5. In a hinge, two plate members having screw holes, the screw holes in one plate member being larger than those in the other, and the screws of said other plate member being adapted to be passed therethrough, and said larger screw holes being also provided with countersunk detachable washers having screw holes.

6. A hinge comprising two main parts adapted to be secured to a stationary and to a swinging device, one of said parts being provided with rigid parallel arms slidably connected with the other part, and an L-shaped link member mounted between said arms and pivotally connected therewith at the point where they connect with their

plate and also pivotally secured in slots formed in the face portion of the other plate.

7. A hinge comprising two main parts, one of which is provided with rigid parallel arms slidably connected with the other part, and an L-shaped link pivoted to both of said parts.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 31st day of August 1911.

JOSEPH SOSS.

Witnesses:

C. E. MULREANY,
FRANK G. ATLEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."