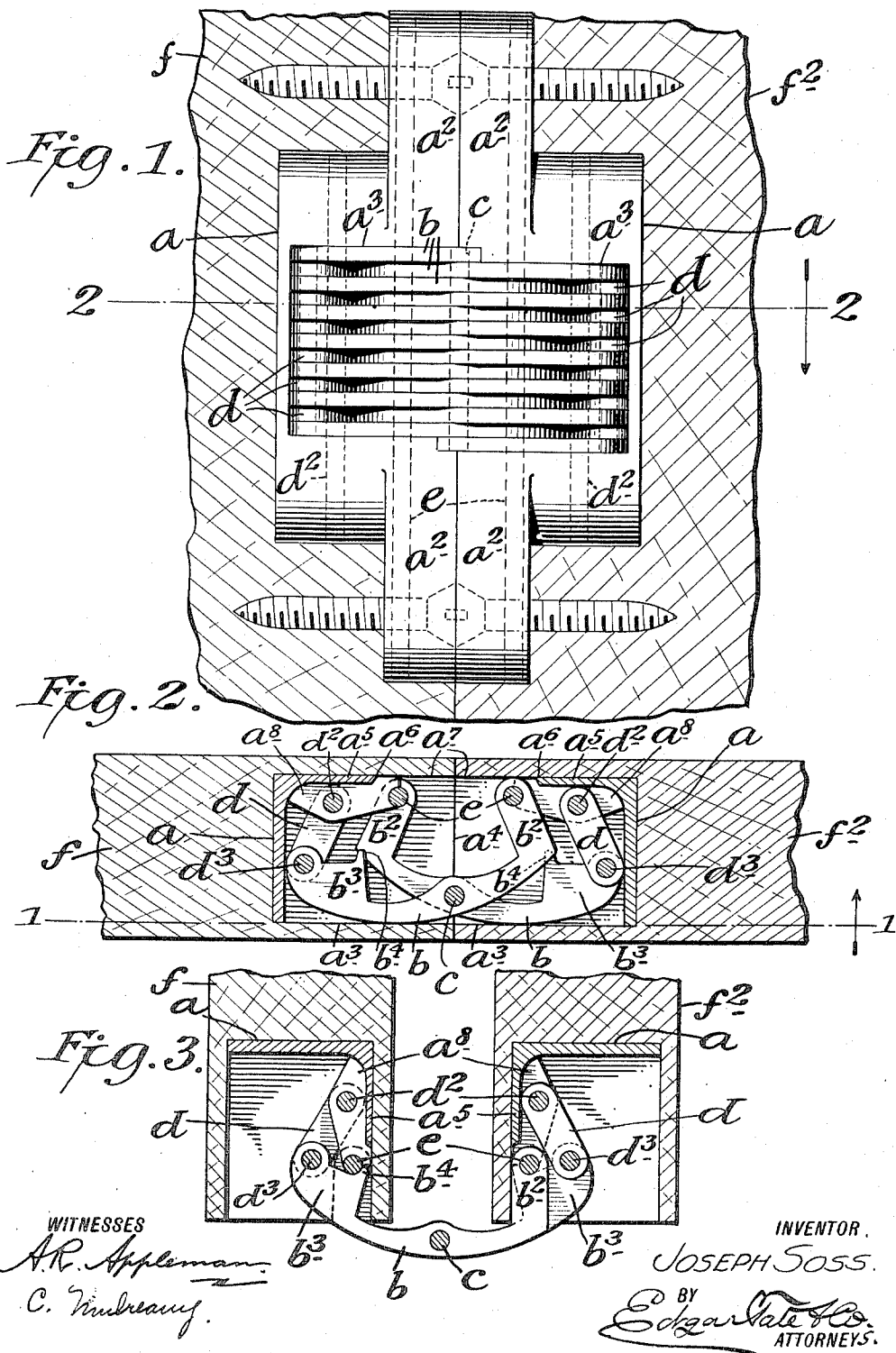


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HINGE.

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Specification of Letters Patent.

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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 Queens 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 and particularly to what are known as invisible hinges for use in connection with doors and other swinging articles, and the invention described and claimed herein is an improvement on that described and claimed in U. S. Letters Patent #880,697, granted to me March 3, 1908, and the object of this invention is to provide a hinge of the class specified the construction and operation of which is such as to prevent a door, when in a closed position, from moving away from the frame or support with which it is connected, or in the plane thereof; a further object being to increase the radius of the movement of the swinging movable parts of the hinge so as to adapt the same to doors and frames of greater or less thicknesses, and the operation and construction of which is such as to permit the door to swing through an arc of 180 degrees; and with these and other objects in view the construction consists in a hinge of the class specified constructed and operating as hereinafter described and claimed.

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

Figure 1 is a front view of my improved hinge and showing the same in connection with a door frame and door, parts only, of said frame and door being shown and said parts being in section on the line 1—1 of Fig. 2:—Fig. 2 a transverse section on the line 2—2 of Fig. 1, and showing the door closed, and:—Fig. 3 a view similar to Fig. 2 but showing the door open.

In the practice of my invention I provide two box-shaped hinge butts a , the faces of which are provided with end extensions a^2 , and said hinge butts and the end ex-

tensions a^2 thereof are adapted to be secured in the door frame and door by means of screws, as shown in Fig. 1, or in any desired manner. The hinge butts a are open at the front, or provided with front openings a^3 , in the form of construction shown, and the adjacent faces of said hinge butts are also open, as shown at a^4 and said hinge butts are provided with back plates a^5 which do not extend to the adjacent faces thereof, but terminate at a^6 , and this construction forms openings a^7 in the face plates of said hinge butts which correspond with, but are of less transverse dimensions than the openings a^3 in the fronts of said hinge butts, as clearly shown in Fig. 2. I also provide two sets or series of swinging arms b one end member b^2 of which is L-shaped in form and the other end member of which consists of a flat head b^3 , and the arms b of the separate sets are pivoted together centrally thereof by means of a pin c which has no connection with the hinge butts a and the L-shaped ends b^2 of one set of said arms extend into one of the butts a while the L-shaped ends of the other set extend into the other butt, and the heads b^3 of the separate sets of arms also extend into the opposite butts a of the hinge, as clearly shown, and the head ends of said arms project beyond the L-shaped ends. The back face plates a^5 of the hinge butts are provided with parallel ribs a^8 which correspond with the arms b and between which are pivoted links d , this connection being made by means of pins d^2 which pass through the ribs a^8 and through, or have bearings in the end extensions a^2 of the bodies of the hinge butts a and the links d are connected with the heads b^3 of the separate sets of arms b by pins d^3 which do not pass into the ends of the butts a , but are free to swing in said butts or the chambers therein in which the arms b and links d are movable. The outer ends of the ribs a^8 fit between the terminal portions of the L-shaped ends b^2 of the separate sets of arms b , and passed through the said terminal portions of the L-shaped ends b^2 of the arms b are pins e which pass into or through the end extensions a^2 of the bodies of the butts a , and the ribs a^8 abut against the pins e , in the construction shown. The heads b^3 of the separate sets of the arms b are provided

with inwardly directed hooks b^4 , and these hooks are movable between the L-shaped ends b^2 of said arms when the door is closed, as shown in Fig. 2, and when the door is
5 open, as shown in Fig. 3, they engage the pivot pins e .

In the accompanying drawing the door frame is shown at f and the door at f^2 , and with the construction described, it will be
10 seen, that the door may be swung through an arc of 180 degrees. It will also be observed that the ends of the arms with which the heads b^3 are connected are longer than the other ends thereof, or project beyond
15 said ends, and the central parts of the arms b are slightly curved, the convex portions thereof being directed outwardly, and a distinctive feature between the construction herein described and that of the patent referred to is in the use of the links d which
20 form lock-links to prevent the movement of the door away from the frame when the door is in a closed position and in the fact that the pins d^2 have no connection with the hinge butts, whereas, in the patent referred to they
25 are movable in grooves in ends of the bodies of said butts.

Although I have shown and described the fronts of the hinge butts a as being open,
30 or provided with openings a^2 , this is not an essential feature, and said fronts of said butts may be closed if the thickness of the door frame and door is such as to permit of the necessary increase in the thickness of the
35 hinge butts, or the body portion thereof; and other changes in and modifications of the construction herein shown and described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its ad-
40 vantages.

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

45 1. A hinge comprising two box-shaped butt members the adjacent faces of which are open and the adjacent front walls of which are also open, two sets of arms pivoted together centrally and the opposite ends of
50 which extend into said butt members, one end portion of said arms in each of said butt members being L-shaped in form and being pivoted in the front portions of said butt members, the other end portions of said
55 arms in each of said butt members being provided with links which are also pivoted in the front portions of said butt members.

2. A hinge comprising two box-shaped butt members the adjacent walls of which
60 are open and the front walls of which are partially open, and two sets of arms placed transversely of each other and pivoted together centrally of said butt members, one end portion of each set of arms extending
65 into each butt member being L-shaped in

form, and being pivoted in the front portions of said butt members rearwardly of the openings in the front walls thereof, the other end portions of each set of arms in each of said butt members being provided with links which are also pivoted in the
70 front portions of said butt members, said links and other pivotal connections being outwardly of the pivotal connections of the L-shaped ends of said arms.

3. A hinge comprising two box-shaped butt members the adjacent faces of which are open and the front walls of which are partially open, said front walls being provided with parallel ribs, and two sets of arms placed in said butt members and pivotally connected centrally thereof, the end portions of each set of said sets of arms extending into said butt members, one end portion of said arms in each of the butt members being provided with forwardly directed parts which are pivoted adjacent to the fronts of said butt members, and the other end portions of said arms in each butt member being provided with links which are pivoted between said ribs.
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4. A hinge comprising two box-shaped butt members the adjacent faces of which are open and the front walls of which are partially open, said front walls being provided with parallel ribs, and two sets of arms placed in said butt members and pivotally connected centrally thereof, the end portions of each set of said sets of arms extending into said butt members, one end portion of said arms in each of the butt members being provided with forwardly directed parts which are pivoted adjacent to the fronts of said butt members, and the other end portions of said arms in each butt member being provided with links which are pivoted between said ribs, the last named end portions of each set of arms being provided with heads having forwardly directed hook members.
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5. A hinge comprising two box-shaped butt members the adjacent faces of which are open and the front walls of which are also open, said front walls being provided on their inner sides with parallel ribs and two sets of arms pivoted together centrally and mounted in said butt members, one end portion of each set of arms being L-shaped in form and being pivoted at the front ends of said ribs, the other end portions of the arms of each set being provided with heads to which are pivoted links which are also pivoted between said ribs, said arms and said links being free to swing in said butt members.
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6. A hinge comprising two butt members, two sets of arms arranged in said butt members and cross-wise of each other and pivoted together, and the opposite end portions of which extend into said butt members, one
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end portion of each of the sets of arms being pivoted in the separate butt members, and the other end portion of each set of arms being provided with links which are pivoted
5 in the separate butt members.

In testimony that I claim the foregoing as my invention I have signed my name in

presence of the subscribing witnesses this 25th day of April 1912.

JOSEPH SOSS.

Witnesses:

C. MULREANY,

S. ANDREWS.