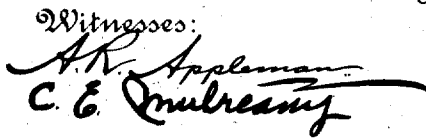


HINGE.

1,008,381.

Patented Nov. 14, 1911.

2 SHEETS—SHEET 1.



92
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2 SHEETS—SHEET 2.

Fig. 4.

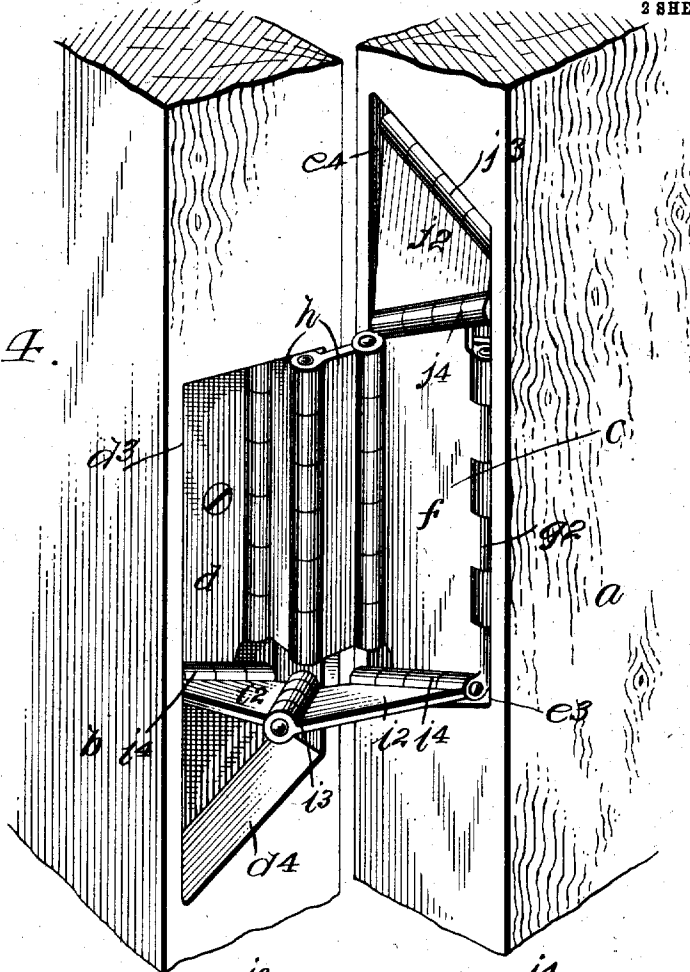
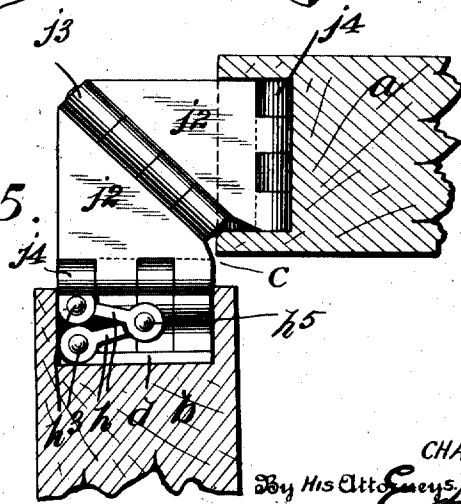


Fig. 5.



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To all whom it may concern:

Be it known that I, CHARLES J. 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 designed for use in connection with doors, gates, window sashes and in cabinet work of all kinds and classes; and the object thereof is to provide an improved hinge of this class and commonly known as an invisible hinge, or a hinge which cannot be seen when the door or other article to which it is applied is closed; a further object being to provide a hinge of this class which is double acting in character and which will permit a door to swing in both directions and which will automatically close said door or other article.

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 of my improved hinge;—Fig. 2 a longitudinal section on the line 2—2 of Fig. 1;—Fig. 3 a transverse section on the line 3—3 of Fig. 1 and showing the method of applying my improved hinge to a door or door-frame, a door being shown only in dotted lines;—Fig. 4 a view similar to Fig. 1 but showing the hinge applied to a door and showing also a different form of construction, and;—Fig. 5 a view similar to Fig. 3, but showing the parts in a different position.

In the drawing forming part of this specification, I have shown at *a* a part of a door frame and at *b* part of a door, and in the practice of my invention I provide a hinge *c* which is of the following construction. In the construction of my improved hinge I provide two main side plates *d* and *e* and a central main plate *f*, and the plates *d* and *e* serve as means for securing the hinge to the door and door frame as clearly indicated in Fig. 3, said plates being provided with screw-holes *d*² and *e*² for this purpose, and the door and door frame are provided with recesses *d*³ and *e*³ respec-

tively, into which the plates *d* and *e* or the separate parts of the hinge are countersunk as clearly shown in Figs. 3, 4 and 5. The plates *e* and *f* are connected at one side edge by inwardly directed wing plates *g*, said wing plates and said plates *e* and *f* being provided with knuckles *g*² through which are passed pintle pins *g*³ for this purpose, this connection being similar to that of ordinary hinge plates, and the wing plates *g* are also connected at their inner edges in the same manner, said wing plates being provided with knuckles *g*⁴ through which are passed a pintle pin *g*⁵. The main central plate *f* is also connected at its opposite edge with the corresponding edge of the plate *d* by inwardly directed wing plates *h* similar to the wing plates *g*, said wing plates *h* and the plates *d* and *f* being provided with knuckles *h*² through which are passed pintle pins *h*³ and said wing plates *h* are connected at their inner edges by means of knuckles *h*⁴ through which are passed a pintle pin *h*⁵. The main plates *d* and *f* are also connected at their lower ends, in the form of construction shown, by a web member *i* consisting of triangular web plates *i*² connected at *i*³ by means of knuckles and a pintle pin and connected with the plates *d* and *f* at *i*⁴ by means of knuckles and a pintle pin passed therethrough; and the plates *e* and *f* are connected at their outer ends, in the form of construction shown, by a web member *j* also consisting of triangular web plates *j*² connected at *j*³ by means of knuckles and a pintle pin and connected with the plates *e* and *f* at *j*⁴ by means of knuckles and a pintle pin, the construction and connection of the web members *i* and *j* being the same.

The foregoing description covers the construction of hinge shown in Figs. 4 and 5, and that shown in Figs. 1 to 3 inclusive, differs from that shown in Figs. 4 and 5 by the provision of helical springs *k* wound on the pintle pins *h*⁵ which connect the wing plates *g* and the wing plates *h* and the ends of which bear on the wing plates *g* and *h* and these springs serve to automatically close the door or other article to which the hinge is applied when said door or other article is swung open, and said springs serve to hold said door or other article in a closed position, and it will be understood that the web members *i* and *j* serve to limit the movement of the door or other article to which the hinge is applied or the extent to which

said door or other article may be swung in either direction.

In the construction shown, the door *b* may be swung through an arc of 180 degrees or a little over, or in other words said door may be swung in both directions at right angles to its closed position, or a little over, and by increasing the width of the wing plates *g* and *h* the limit to which the door may be swung in either direction may be increased to a certain extent, but this change in the width of the wing plates *g* and *h* will also necessitate a change in the form and dimensions of the web members *i*² and *j*² which form the webs *i* and *j*.

The recesses *d*³ and *e*³ in the door and frame in which the separate parts of the hinge are secured are provided at their lower and upper ends respectively, with triangular extensions *d*⁴ and *e*⁴ to receive the web members *i* and *j*.

It will be understood, of course, that the main plates *d* and *f* may be connected at their upper ends by a web member similar to the web member *i*, if desired, and the main plates *e* and *f* may be connected at their lower ends by a web member similar to the web member *j*, if desired, or other constructions may be substituted for said web members for the same purpose, and other means may be employed for automatically closing the door instead of the springs *k*; and other changes in and modifications of the construction herein described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

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

1. A double acting hinge comprising in combination two main side plates, a similar central plate, and inwardly directed wing plates connecting the opposite edges of the central plate and the opposite edges of the side plates, the inner edges of said wing plates being also connected.

2. A double acting hinge comprising in combination two main side plates, and a similar central plate, the opposite edges of the central plate being connected with the opposite edges of the side plates by means of inwardly directed wing plates the inner edges of which are also connected, said connections being made by means of knuckles with which said plates are provided and a pintle pin passed therethrough.

3. A double acting hinge comprising in combination two main side plates, and a similar central plate, the opposite edges of the central plate being connected with the opposite edges of the side plates by means of inwardly directed wing plates the inner edges of which are also connected, said connections being made by means of knuckles with which said plates are provided and a pintle pin passed therethrough, said hinge being also provided with means for automatically closing it.

4. A double acting hinge comprising in combination two main side plates, and a similar central plate, the opposite edges of the central plate being connected with the opposite edges of the side plates by means of inwardly directed wing plates the inner edges of which are also connected, said connections being made by means of knuckles with which said plates are provided and a pintle pin passed therethrough, said hinge being also provided with means for automatically closing it, consisting of springs wound on the pintle pins which connect said wing plates.

5. A double acting hinge comprising in combination two main side plates, a similar central plate, and inwardly directed wing plates connecting the opposite edges of the central plate and the opposite edges of the side plates, the inner edges of said wing plates being also connected, said hinge being also provided with means for limiting the outward or swinging movement thereof.

6. A double acting hinge comprising in combination two main side plates, a similar central plate, and inwardly directed wing plates connecting the opposite edges of the central plate and the opposite edges of the side plates, the inner edges of said wing plates being also connected, said hinge being also provided with means for limiting the outward or swinging movement thereof, consisting of web members hinged to the bottom and top of the central plate and to the bottom and top of one of the opposite side plates.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 14th day of February 1911.

CHARLES J. SOSS.

Witnesses:

C. E. MULREANY,
F. G. AT LEE.