(No Model.)

C. FROELICH.

HINGE.

No. 589,963. Patented Sept. 14, 1897.

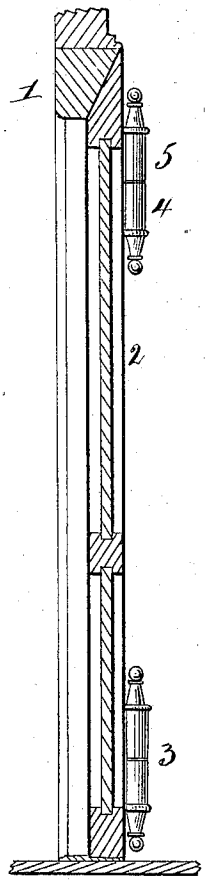


Fig 1

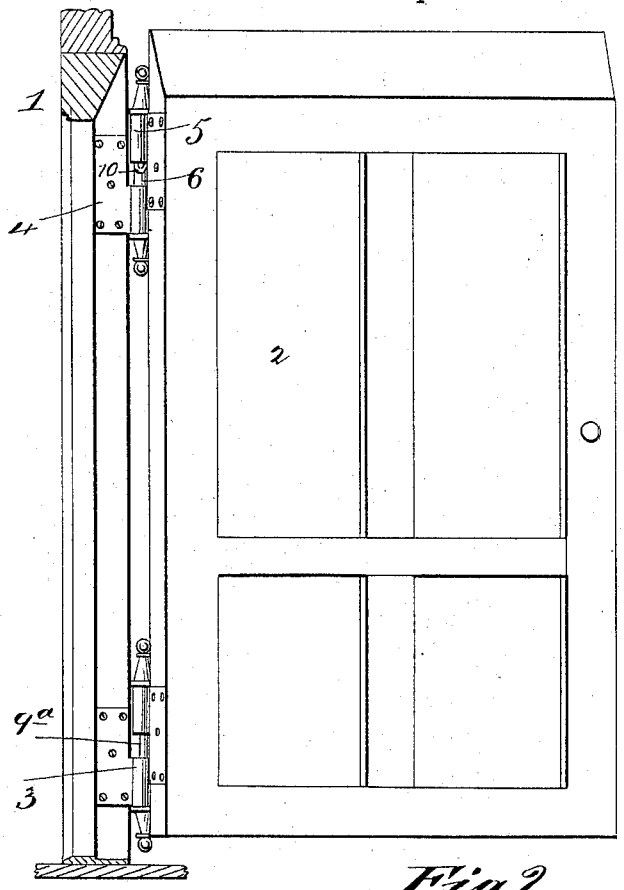


Fig 2.

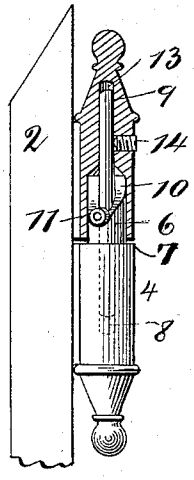


Fig. 3.

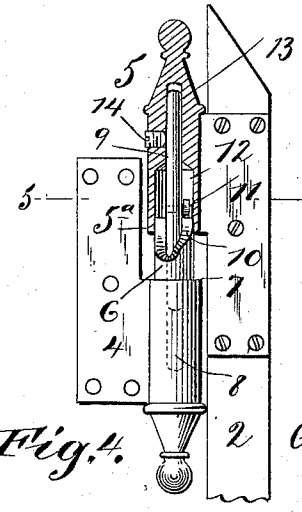


Fig. 4.

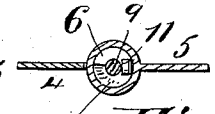


Fig. 5.

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UNITED STATES PATENT OFFICE.

CHRISTOPHER FROELICH, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO HENRY BLANK, OF NEW YORK, AND ELIZABETH IMHAUSER, OF RONKONKOMA, NEW YORK.

HINGE.

SPECIFICATION forming part of Letters Patent No. 589,963, dated September 14, 1897.

Application filed February 2, 1897. Serial No. 621,632. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER FROELICH, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Hinge, of which the following is a specification.

The object of my invention is to provide a hinge that will act to close a door, shutter, gate, or the like automatically when left free in the open position, and which will also serve in a measure to hold the door, shutter, or gate closed.

The invention consists in a hinge having two leaves, one of which leaves is provided with a socket or recess, the other leaf having a projection to enter said socket or recess, said projection having an inclined or cam-like face or edge, and a projection carried by said first-mentioned leaf adapted to ride on said inclined or cam-like face or edge.

The invention further consists in a hinge having two leaves, one of which leaves has a bore or recess, the other leaf having a pin or pintle secured thereto and arranged to slide in said recess, the first-mentioned leaf having an inclined or cam-like face and said pin or pintle having a projection to ride on said inclined or cam-like face.

The invention also consists in the novel details of improvement and the combinations of parts, that will be more fully hereinafter set forth and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a vertical sectional view of a door closed against its frame and provided with a hinge in accordance with my invention. Fig. 2 is a corresponding view showing the door in the open position. Fig. 3 is a partly broken detailed view, enlarged, of my improved hinge, shown in Fig. 1. Fig. 4 is a view similar to Fig. 3, showing the hinge opened; and Fig. 5 is a horizontal section on the line 5 5, Fig. 4.

In the accompanying drawings, in which similar numerals of reference indicate corresponding parts in the several views, 1 indicates a door-frame, and 2 is a door.

3 is a hinge at the lower part of the door, which may be of any suitable construction to connect the door with the frame 1.

4 5 are the leaves of my improved hinge, which may be of suitable outline. As shown, the leaf 4 has a projection 6, forming a shoulder 7, and said projection and a corresponding part of the leaf 4 are provided with a bore 8, into which a pin or pintle 9 is adapted to pass. The upper portion of the projection 6 is provided with an inclined or cam-like face 10, upon which a projection or roller 11, carried by the leaf 5, is adapted to travel. The leaf 5 is shown provided with a socket or recsss 12, in which the projection or extension 6 of leaf 4 is adapted to fit, the leaf 5 having a shoulder 5^a, adapted to bear upon the shoulder 7 of leaf 4. By this construction leaf 5 can rotate upon the projection 6 of leaf 4, and the weight of the door, shutter, or gate will be partially borne by the shoulders 5^a and 7. The leaf 5, at the inner end of socket 12, is shown provided with a bore 13, into which the pin or pintle 9 is adapted to pass. The pin or pintle 9 is to be secured to the leaf 5, and I have shown said pin or pintle as secured thereto by a screw 14, carried by the leaf 5, but of course other means may be provided for this purpose, if desired. It is thus seen that the projection or roller 11 is carried by the leaf 5 through the medium of pin 9.

When the hinge is closed, it will be understood that the projection or roller 11 will be at or near the lower part of the inclined or cam-like face 10 of leaf 4, and that when the hinge is being opened said projection or roller will travel along the inclined or cam-like face 10, thereby causing the leaf 5 to move upwardly or longitudinally relatively to the leaf 4.

When a door, shutter, or gate that may be connected with the hinge is released, its weight will cause the projection or roller 11 to travel down along the inclined or cam-like face 10, and thereby the hinge will be caused to close, thus shutting the door, shutter, or gate. During the movement of the hinge the pin or pintle 9 will slide within the bore 8 of leaf 4, and it will be seen that this pin or pintle serves to hold the leaves 4 5 together in addition to their being held together by the

projection 6 and socket 12. Thus the leaves of the hinge have two concentric pivotal bearings 6 9, whereby a strong hinge to hold heavy doors and gates is provided.

While a hinge similar to that just described may be used either at the upper or lower part of a door, shutter, or gate, I find that in many cases one of such hinges can be used, which by preference will be placed at the upper part of the door, in which case any suitable hinge 3, having provision such as a pin 9^a, carried by one leaf traveling in a bore carried by the other leaf to allow the the two leaves of the hinge to separate, may be provided.

I do not limit my invention to the precise details of construction shown and described, as they may be varied without departing from the spirit thereof.

Having now described my invention, what I claim is—

A hinge having two leaves, one leaf having a recess or socket, the other leaf having a projection to enter said recess or socket, and adapted to slide therein, said projection having an inclined or cam-like face or edge, said projection also having a bore, a pin or pintle journaled in said bore and extending to the first-mentioned leaf, and rigidly secured to said leaf, and a projection carried by said pin or pintle within said recess or socket and adapted to travel along said inclined or cam-like face or edge, substantially as described.

Signed at New York, in the county of New York and State of New York, this 25th day January, 1897.

CHRISTOPHER FROELICH.

Witnesses:
B. S. WISE,
HERBERT F. DURBUR.