U. G. McQUEEN.

HINGE.

APPLICATION FILED JAN. 3, 1916.

1,255,100. Patented Jan. 29, 1918.

Fig. 1.

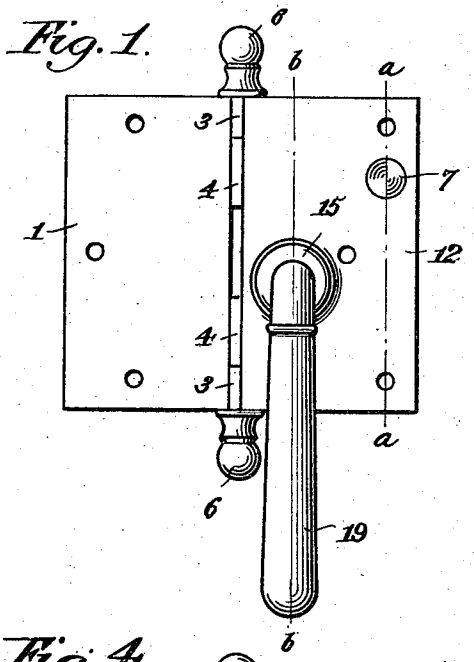


Fig. 2.

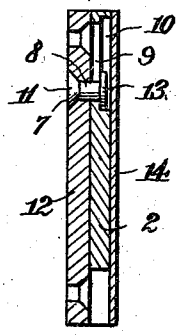


Fig. 3.

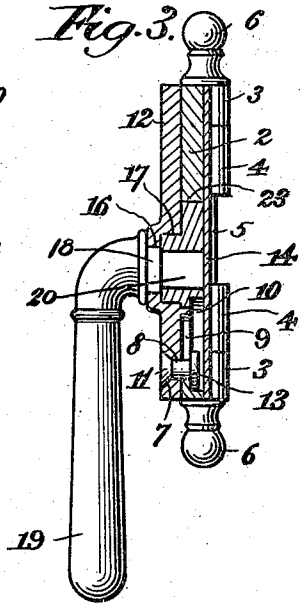


Fig. 4.

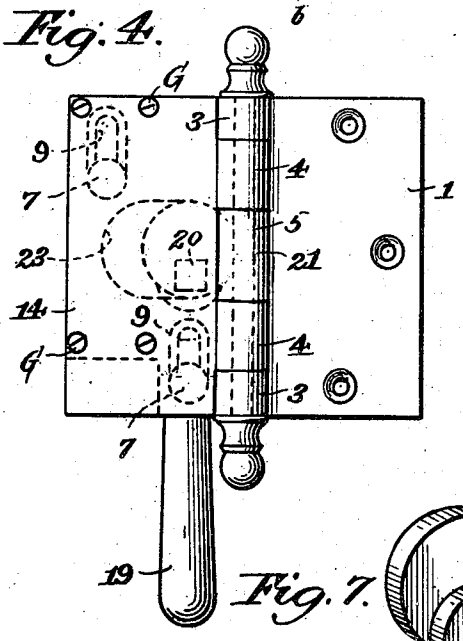


Fig. 5.

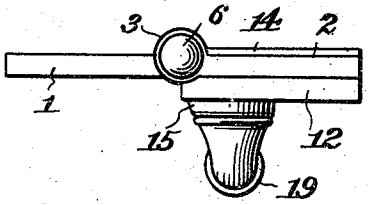


Fig. 6.

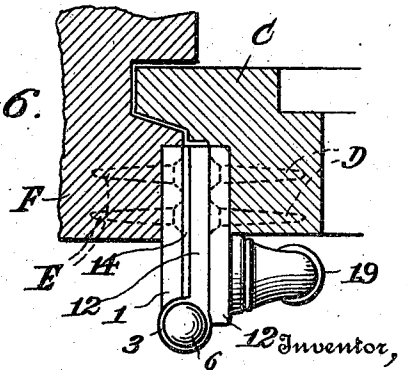
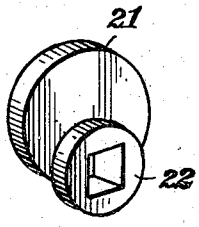


Fig. 7.



Witnesses:

A. V. Doyle.

C. Crimmins.

Inventor,

U. G. McQueen.

By James A. J. Kochl

Attorney.

UNITED STATES PATENT OFFICE.

ULYSSES G. McQUEEN, OF NEW YORK, N. Y.

HINGE.

1,255,100. Specification of Letters Patent. Patented Jan. 29, 1918.

Application filed January 3, 1916. Serial No. 70,074.

To all whom it may concern:

Be it known that I, ULYSSES G. McQUEEN, citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Hinges, of which the following is a specification.

This invention relates to casement hinges and particularly to a hinge designed for use upon casements which are intended to be moved vertically in the frame.

An object of the invention resides in the provision of a hinge structure including companion leaves and an attaching plate, one of said leaves being secured to the frame and the attaching plate being associated with the other leaf and secured to the sash or casement whereby the latter may be freely moved in a vertical direction, and in assembling the mentioned parts, I have endeavored to reduce friction between the attaching plate and the next adjacent hinge leaf so as to insure free movement of the sash from the hinge.

A further object of the invention resides in the construction of a hinge which may be readily applied to the frame and its casement or sash; one which will be simple, strong and durable, and one which will include a lifting mechanism, and means for nicely and compactly concealing the same.

In the drawings forming a part of this specification and in which like reference numerals indicate similar parts throughout the several views;

Figure 1, is a front elevation of the combined hinge and lift.

Fig. 2, is a section taken on the line *a*—*a* of Fig. 1.

Fig. 3, is a section taken on the line *b*—*b* of Fig. 1.

Fig. 4, is a rear elevation of the combined hinge and lift.

Fig. 5, is a top plan view thereof.

Fig. 6, is a horizontal section through a portion of a casement and its supporting frame showing the application of the combined hinge and casement lift thereto.

Fig. 7, is a perspective view of the cam.

The combined hinge and casement lift consist of leaves 1 and 2, the former having loops or knuckles 3—3 which are alined with similar loops or knuckles 4—4—4 upon the leaf 2. Extending through all of these loops or knuckles is a pintle 5 having fixed knobs 6—6 whereby to hold the leaves against longitudinal movement.

The leaf 2 is provided with a series of guide studs 7 which are preferably arranged in zig-zag fashion relatively, as shown in Fig. 4. These studs have shanks 8 which extend through the restricted and vertically elongated branches 9 of under-cut slots 10 formed in the hinge leaf 2 and at 11 these studs are upset in an attaching plate 12. At 13 the studs are provided with enlarged heads which are freely movable in the under-cut slots 10 as shown in Fig. 3. In order to provide for the desired clearness between the respective hinge leaves, and to insure freedom of movement of the sash or casement, it is preferred to conceal the headed-like enlargements 13 of the studs by a face plate 14. This plate also extends over the open sides of the slots 10 as illustrated in Fig. 3.

The attaching plate 12 simulates one of the hinge leaves, being of a size uniform with the leaf 2, and said attaching plate 12 is secured to the sash C, by the fastening screws D, while the leaf 1, is secured in a like manner by screws E, to the frame F. The face plate 14 is secured to the hinge leaf 2, by means of screws G.

The attaching plate is provided with a boss 15 having a bearing passage 16 and a circular recess 17. A cylindrical extension 18 on a supporting handle 19, is free to rotate in the bearing passage 16 and formed on said extension is a polygonal end 20 which is secured to a lifting cam 21, the latter having an eccentrically mounted cylindrical boss 22 which is free to oscillate in the recess 17. The said cam is mounted in a substantially U shaped cam slot 23 formed in the hinge leaf 2 and it thus follows that on moving the handle 19, movement will be instantly imparted to the sash or casement, C.

On referring to Fig. 6, of the drawings, it will be observed that when the hinge is closed, all of the leaves thereof, the attaching plate 12 and the face plate 14, lie parallel with one another. The face plate 14 will come against the leaf 1 and in this manner, the studs 7 are effectually held from impinging against the leaf 1, and friction between the parts is thereby avoided so as to insure freedom of movement of the sash.

The device shown in this application is a companion to the structure shown and de-

scribed in my co-pending application No. 64959 filed December 4, 1915, the material or essential difference thereover being in the manner of sliding the attaching plate directly from the hinge, while in the mentioned application the hinge itself is free to slide from the attaching plate.

From the foregoing it will be observed that the plate 12 is approximately equal in width with the leaf 2 and in reference to Fig. 6, it is seen that the operating handle 19 is disposed directly at one side of the casement, whereby the same may be conveniently operated and the casement raised or lowered as desired.

What is claimed as new is:—

A combined hinge and casement lift, comprising, two leaves mounted for horizontal movements relatively, one of said leaves being adapted to be secured to the frame, an attaching plate slidable over the other leaf, the other leaf having vertical under cut slots therein, studs between the attaching plate and said other leaf and having portions freely slidable in said slots, a face plate secured to the opposite side of said other leaf and closing against said slots, the said face plate abutting the first leaf when the hinge is closed, and lifting mechanism carried by the attaching plate and co-acting with said other leaf to permit the casement to be raised and lowered therefrom.

Signed at New York, in the county of New York, and State of New York, this 22nd day of December, A. D. 1915.

ULYSSES G. McQUEEN.

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