

J. WOLF.
LOCK HINGE.

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INVENTOR:

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JOSEF WOLF, OF NEWARK, NEW JERSEY.

LOCK-HINGE.

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To all whom it may concern:

Be it known that I, JOSEF WOLF, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Lock-Hinges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has reference to improvements in lock-hinges for removably hanging window shutters or light doors, &c., which also act to retain the shutter or door in its opened or closed position, and, acting as a hold-back, to retain the shutter or door in different positions, as well as to serve as a means for automatically closing the door or shutter when partially opened.

The invention therefore consists in certain combinations and arrangements of parts to be hereinafter more fully described and finally embodied in the clauses of the claim.

The invention is fully illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a top view of my novel form of lock-hinge, illustrating the shutter and its frame in section, and the parts of the hinge being illustrated in their closed and normally inoperative positions. Fig. 2 is a front view of the same; Fig. 3, a longitudinal vertical section taken on line *x* in Fig. 1; and Fig. 4 is a view similar to that illustrated in Fig. 1, showing the parts of the lock-hinge in their operative positions. Fig. 5 is a front end view of the cylinder end of the hinge, and Fig. 6 is a longitudinal vertical section of the same with the inner mechanism removed. Fig. 7 is an end view of a cylinder portion of the hinge of a slightly-modified form of construction, being provided with additional perforated ears or lugs. Fig. 8 is a perspective view of a spring-actuated plunger used in connection with the lock-hinge.

Similar letters of reference are employed in each of the above described views to indicate like parts.

In said views, *a* and *a'* indicate the two piv-

otally arranged portions of the lock-hinge, the portion *a* being in the form of a screw-threaded cylinder, which is open at both ends and is provided with a forwardly extending projection *a*² having an upright post or pintle *a*³, substantially as shown. The portion *a'*, which forms a hinge leaf, is provided with the outwardly extending arm *a*⁴, provided at or near its free end with a perforation *a*⁵, whereby said hinge-leaf *a'* can be rotatively fitted upon the upright or pintle *a*³ of the portion *a* of the hinge. The perforated end-portion of the arm *a*⁴, as will be seen from Figs. 1 and 4, is provided with the straight sides *a*⁶ and *a*⁷, arranged substantially as shown, and the sides *a*⁷ are provided with suitably arranged ribs or projections *a*⁸, the purpose of which will be fully described hereinafter.

Within the cylinder *a*, I arrange a stiff coil spring *b*, in such a manner between a pin *b'* secured in said cylinder, and the end portion *c'* of a plunger *c*, that the free end of said plunger will be normally forced against one of the sides *a*⁶ or *a*⁷ of the perforated end of the arm *a*⁴, as will be seen from the several figures of the drawings. When the shutter or door is closed or is in its entirely opened position, then the rib or projection *a*⁸ on the said side *a*⁷ of the arm *a*⁴ normally rests in a correspondingly arranged groove *c*² in the end of the plunger *c* and thereby prevents the separation of the several parts of the hinge, by accident or otherwise. In order to separate the said parts, all that is necessary, is to rotate the shutter or door to the position, indicated in Fig. 4, thereby withdrawing the projection or rib *a*⁸ from the groove *c*² and bringing the straight side *a*⁶ of the arm-portion *a*⁴ opposite the end of the plunger *c*, and the shutter or door can thus be lifted off its hinges.

To secure the portion *a* of the hinge in position on the frame work *d*, a suitable hole is bored into said frame, and the screw-threaded cylinder *a* screwed into said hole until the flange *a*⁹ on said cylinder rests firmly against the frame work *d*. The hinge leaf *a'* is secured to the door or shutter *d'* in the usual manner by means of suitable screws.

The forward end of the cylinder *a* may be enlarged, as at *a*¹⁰, and the plunger *c* provided

with a groove c^3 , in which I arrange a rubber or other suitable washer or gasket f to prevent water or dirt from getting into the cylinder and causing the inoperativeness of the spring b .

In some cases, I may provide the cylinder a with a suitable hole or opening a^{11} , as shown in Fig. 6, which permits the outflow of water, and said cylinder may also be provided with perforated ears or lugs a^{12} , as shown in Fig. 7, to be used as an extra precaution for securing the cylinder a to the frame work d .

Having thus described my invention, what I claim is—

1. In a lock hinge, a screw-threaded cylinder adapted to be screwed into the frame-work, having a spring-actuated plunger therein, provided with a groove or recess c^2 in the end, and an upwardly projecting pintle on said cylinder, in combination, with a leaf a' , having a perforated arm provided with straight sides a^6 and a^7 , and a rib or projection on each

side a^7 , substantially as and for the purposes set forth.

2. In a lock hinge, a screw-threaded cylinder adapted to be screwed into the frame work, having a spring-actuated plunger therein, provided with a groove or recess c^2 in the end, and an upwardly projecting pintle on said cylinder, a flexible washer or gasket, surrounding said plunger and arranged in an enlargement in the front end of the cylinder, in combination, with a leaf a' , having a perforated arm provided with straight sides a^6 and a^7 , and a rib or projection on each side a^7 , substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 4th day of September, 1894.

JOSEF WOLF.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.