No. 744,626. PATENTED NOV. 17, 1903.

J. SCHICK.

LOCK HINGE.

APPLICATION FILED FEB. 24, 1903.

NO MODEL.

Fig. 1.

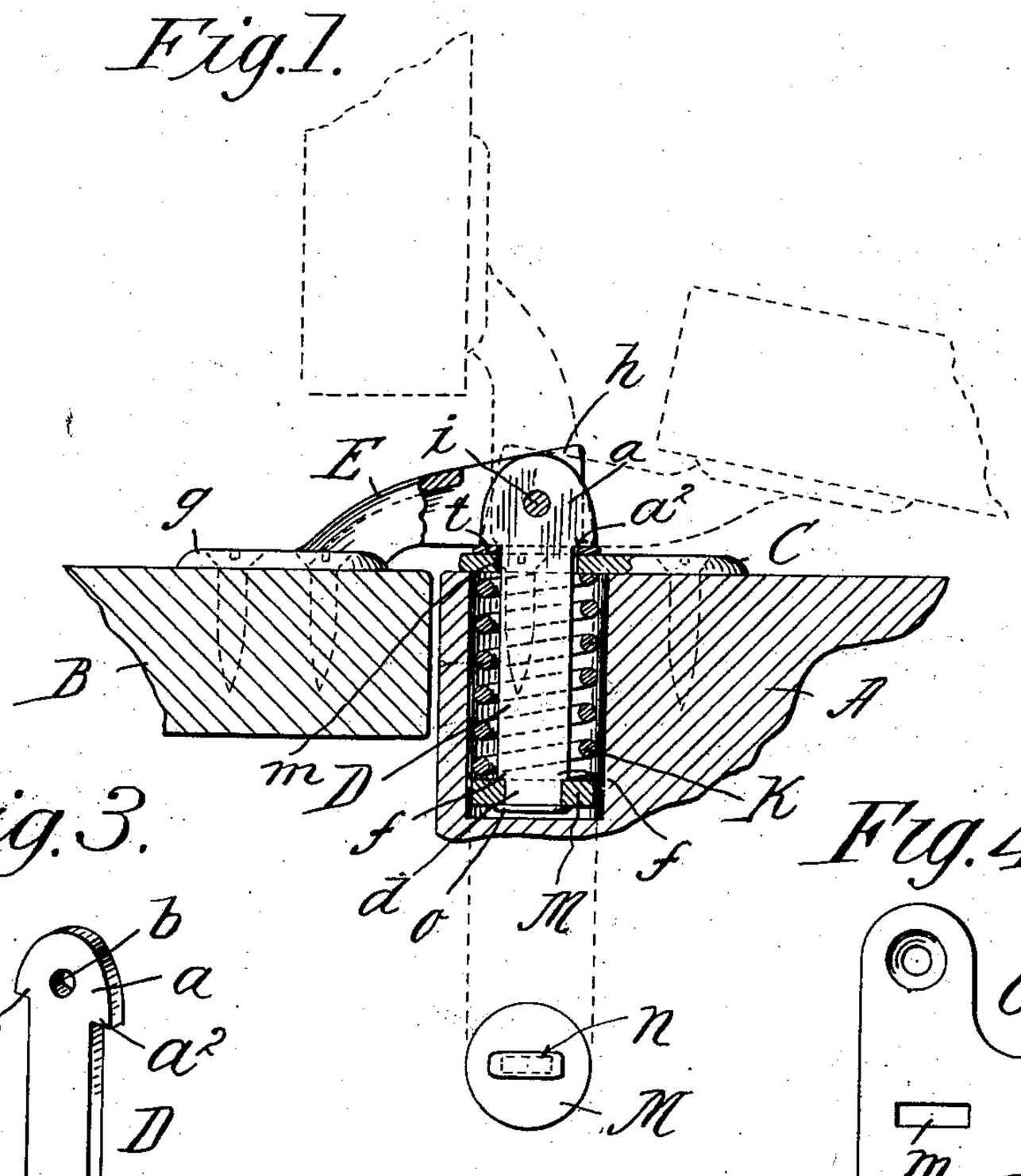


Fig. 3.

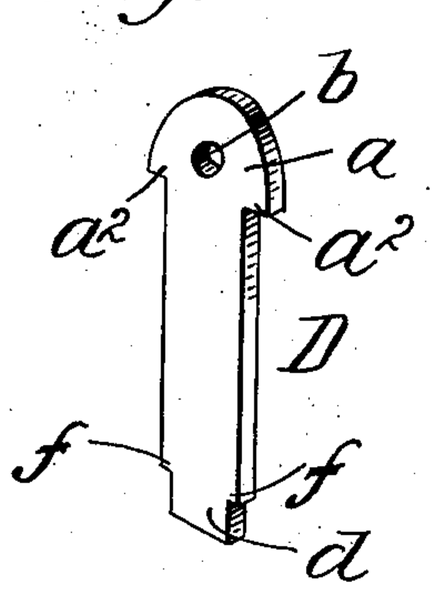


Fig. 2.

Fig. 4.

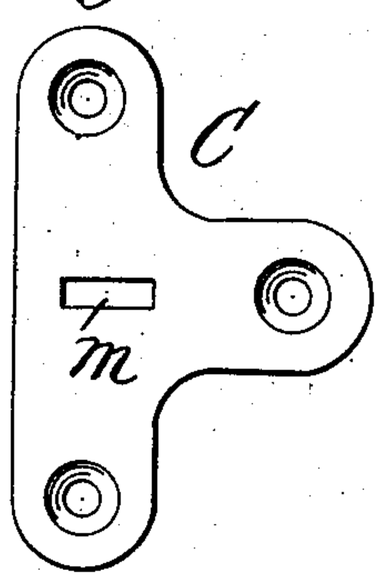
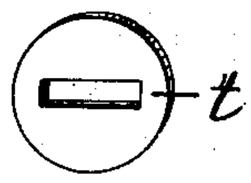


Fig. 6.



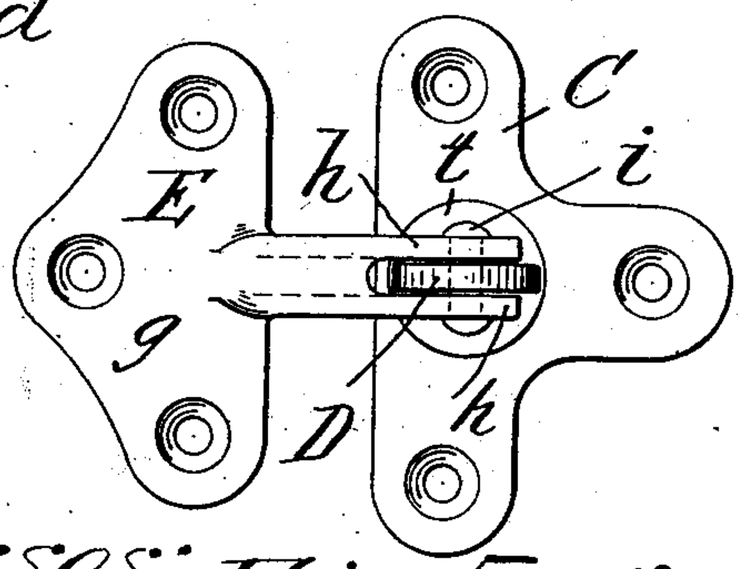
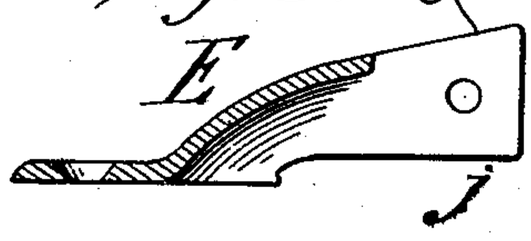


Fig. 5.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 744,626. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

JACOB SCHICK, OF GREENFIELD, MASSACHUSETTS.

LOCK-HINGE.

SPECIFICATION forming part of Letters Patent No. 744,626, dated November 17, 1903.

Application filed February 24, 1903. Serial No. 144,694. (No model.)

To all whom it may concern:

Be it known that I, JACOB SCHICK, a citizen of the United States of America, and a resident of Greenfield, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Lock-Hinges, of which the following is a full, clear, and exact description.

This invention relates to a spring-lock or resistance-hinge, more especially adapted for blinds, although applicable for supporting other hinged parts.

One object of the invention is to provide a construction of lock-hinge which shall be simpler and more easily produced than any other hinge of the same general character heretofore known and which shall be composed of a lessened number of parts.

Another object is to devise such shapes of the parts and adaptations or arrangements thereof, one in relation to the other, whereby all the parts or members of the hinge excepting the spiral spring and the pivot may be produced from stampings.

Another object of the invention is to provide a hinge which will be noiseless and entirely avoid in its working any squeaking.

The improved hinge consists in parts formed and arranged or combined all substantially as hereinafter fully described in connection with the accompanying drawings and set forth in the claim.

In the drawings, Figure 1 is a sectional view horizontally through adjacent portions of a casing and a blind and through the connecting-hinge. Fig. 2 is a plan view of the hinge. Fig. 3 is a perspective view of the hinge-post. Fig. 4 is a plan view of the hinge-supporting or attachment plate. Fig. 5 is a sectional view longitudinally through the movable leaf or member of the hinge. Fig. 6 is a perspective view of a metallic wear-plate which may be advantageously used.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents a portion of a window-frame, and B a portion of the blind.

C represents the hinge-fastening plate, D the hinge-post, and E the swinging leaf.

The post D, as shown, is produced in the form of a stamping from comparatively thin, though sufficiently rigid, metal, having the T-shaped head a, with the pivot-hole b therethrough, and having its bottom or inner end necked down, as indicated at d, whereby the shoulders f f are provided. The post, as shown, is cross-sectionally of pronounced or elongated rectangular form, and the swinging leaf of the hinge which comprises the fastening-plate g and the paired separated ears h h has the ears thereof pivoted by the riveted pin i to the post at the upper end of the latter, such rivet passing through the round hole b, and the aforesaid ears of the swinging leaf have edges thereof j, j^2, and j^3 decidedly angular to each other to constitute rests for the retention of the swinging member in any of three positions practically right angular to each other and as very common in this class of spring-hinges.

The fastening-plate C has a rectangular aperture m therethrough, through which closely, yet movably, engages for endwise motion, but with an entire avoidance of rotative movement, the upper portion of the post which is next under the shoulders a^2 at the base of the head thereof.

The suitably-powerful spiral spring K surrounds the post, being held in compression between the plate C and the bottom plate M, which bottom plate has the rectangular opening n therethrough, through and beyond which the necked-down portion of the post is closely fitted, the bottom of the post being upset, as indicated at o in Fig. 1, for the security of the bottom plate to the post and the retention thereof immovably confined between the upset post extremity o and the aforementioned opposite shoulders f f.

A wear-plate or bushing t, of soft metal—such, for instance, as brass or bronze—is interposed between the ears of the hinge-leaf E and the outer or face plate C, thus providing for an easier and noiseless action between the working parts of the hinge and avoiding the necessity of frequent lubrication.

When the movable leaf of the hinge is swung on the pivot, the corners of the leaf exert a cam-like action to draw the post outwardly, further compressing the spring, which is correspondingly crowded from its inner end and so that the reaction of the spring will serve to reliably hold the swinging leaf, with

its respective edge surfaces j, j^2, or j^3, as the case may be, flatwise against the outer plate and the hinge-supported blind in its desired set position.

The hinge-leaf E, as well as the outer plate C, the inner plate M, and post, may be produced by stampings.

I am aware that this hinge is in its mode of operation identical with that of several and various already-patented hinges, and I am aware that because of previously-patented hinges a post with a T-shaped head is not in itself a new feature, nor is it new to so construct the hinge as to dispense with the bushing; but I wish to draw attention particularly to the inclusion in my hinge of the parts in combination—viz., the post having the T-head, the same being rectangular in cross-section and having the inner plate engaged upon an attenuated rectangular extremity of the post between the shoulders $f\,f$ and the upset post end, the outer plate having the rectangular aperture m of dimension corresponding to the cross-sectional dimensions of the post next under the shoulders a^2 thereof, the spring being interposed between the inner and outer plates and the swinging leaf pivotally connected to the post, as usual. In this construction there is an entire avoidance of the making of screw-threads and the combining with any screw-threaded parts of nuts or plates held by nuts, and while it is not, as before intimated, considered new by me to produce a lock-hinge in which a bushing or spring-inclosing case is dispensed with, still I am, as I believe, the first to produce a lock-hinge which is without a spring-inclosing bushing that is satisfactory and acceptable for use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In an improved lock-hinge in combination, the hinge-post formed of flat metal, and rigid, having a T-shaped head, and its shank cross-sectionally of elongated rectangular form, and having the necked-down extremity opposite its head with the shoulders $f\,f$, the swinging hinge-leaf E having the angularly-arranged edge surfaces $j\,j^2$ and j^3, pivoted to the post-head, the outer plate having the elongated rectangular aperture m through which fits the correspondingly-shaped portion of the post below its head, the spiral spring surrounding the post-shank, the bottom plate M having the elongated rectangular opening n through which the necked-down extremity of the post is passed, the end portion of the latter being upset against the bottom face of said plate M, and a soft-metal wear-plate or bushing t interposed between the ears of said hinge-leaf and said outer plate and having an aperture for the accommodation of the post, as described and shown.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

JACOB SCHICK.

Witnesses:
WM. S. BELLOWS,
A. V. LEAHY.