No. 733,142. PATENTED JULY 7, 1903.

C. J. CALEY.

LOCK AND LATCH.

APPLICATION FILED APR. 16, 1903.

NO MODEL.

Fig. 1.

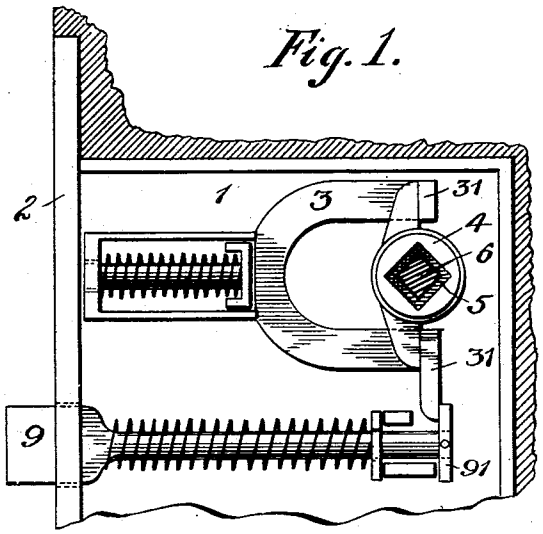


Fig. 4.

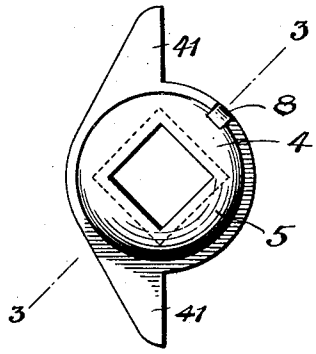


Fig. 2.

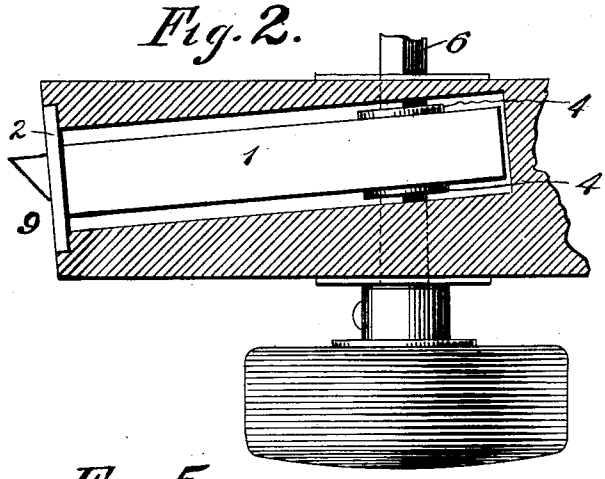


Fig. 3.

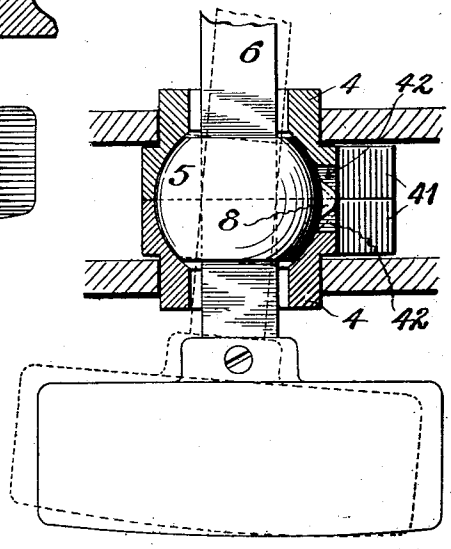
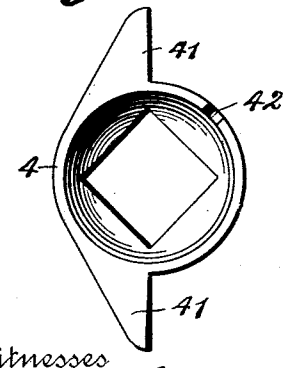


Fig. 5.



Witnesses

Frank A. Olpp.

R. R. Allen.

Inventor

Charles J. Caley

By his Attorney

R. Eickemeyer.

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

No. 733,142. Patented July 7, 1903.

UNITED STATES PATENT OFFICE.

CHARLES J. CALEY, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 733,142, dated July 7, 1903.

Application filed April 16, 1903. Serial No. 152,835. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. CALEY, a citizen of the United States, residing at New Britain, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Locks and Latches, of which the following is a full, clear, and exact description.

My invention relates to door locks and latches, and particularly to what I shall term a "compensating hub."

The object of my invention is to provide a hub of such a construction that a knob-spindle may be used therewith while arranged obliquely to the lock-case without binding upon the hub or the internal mechanism. In some instances doors are made with beveled edges. Since it is common to make locks with the face-plates arranged at right angles to the lock-case, it will be seen that when such locks are inserted in doors with beveled edges it is necessary to form the mortise obliquely relatively to the surface of the door in order that the face-plate will lie in the same plane with the edge. In such an arrangement it is apparent the knob-spindle should pass through the lock-case and hub obliquely, and if means were not provided to permit this there would be undue binding. To permit this, hubs have sometimes been made with unduly large spindle-passages. This permits a looseness of play that is undersirable. By my invention the spindle-passage may be made of exactly the right size, so as to prevent any looseness. At the same time the spindle may be arranged obliquely to a plane intersecting the center of the lock-case and be operated without binding.

In the accompanying drawings, Figure 1 is an elevation of a portion of a door and a portion of a door-latch, the cover-plate being removed. Fig. 2 is a plan view of a lock-case arranged obliquely in a door, the latter being shown in section. Fig. 3 is a relatively enlarged fragmentary view showing the hub partly in section and the spindle in place. This section is taken in the plane of the line 3 3, Fig. 4. Fig. 4 is an elevation of the hub with a member removed. Fig. 5 is an elevation of the member that is removed from Fig. 4 and viewed from the inside of the same.

1 is a lock-case. 2 is the face-plate at the end thereof, usually arranged at right angles thereto.

3 represents a slide which is operated by roll-backs 41 41 on hub 4.

5 is a spindle-bearing constituting part of the hub and keyed to the sections 4 4, so as to be revoluble therewith, at the same time having sufficient oscillating or rotary movement therein for the purpose hereinafter described.

6 is a knob-spindle.

8 is a key on the bearing 5.

9 is a latch.

9′ is a head on the inner end of the latch extension, the same being engaged by one of the extensions 3′ on the slide 3.

In the particular form shown the hub is made of two outer sections of similar configuration. Each section is substantially as shown in Figs. 4 and 5, excepting one is the reverse of the other. Between the sections there is a spherical cavity in which the ball-like spindle-bearing 5 is located. Each of the sections 4 may be provided with a slot or notch 42, into which the key 8 may project. (See Figs. 3 and 4.) By this arrangement it will be seen that the passage through the spindle-bearing 5 may correspond closely to the size of the spindle 6, and at the same time said spindle will operate the hub freely, whether it passes through said case at right angles, as shown in solid lines, Fig. 3, or obliquely, as shown in dotted lines. The spindle-passage through the hub-sections 4 may be sufficiently enlarged to permit of a swiveling movement of the spindle.

In Fig. 2 I have shown a mortise formed in a beveled-edge door, and it will be observed the mortise is arranged obliquely to the surface of the door and at right angles to the edge. Hence when the lock or latch is inserted the face-plate 2 will lie in the same plane as the edge of the door and present a proper appearance. It is in such cases as these that the compensating hub is particularly useful, for in all such cases the knob-spindle will operate freely and not bind.

I have not attempted to show or describe any particular latch mechanism, since it is

immaterial to this invention. The compensating hub set forth herein is applicable in any lock or latch operated by a spindle irrespective of the particular latch or lock mechanism therein. While it furnishes a convenient construction to make the hub of two separate outer sections to admit of the easy insertion of the spindle-bearing, it is obvious that my invention is capable of modification without departing from the spirit and scope thereof.

What I claim is—

1. A hub for a lock or latch comprising a hub member arranged to be rotatably supported in the lock-case, an independent ball-like spindle-bearing carried by said hub member and having an oscillating movement relatively thereto, said members being locked against rotation in the plane of action of said hub member.

2. A hub for a lock or latch comprising a hub member arranged to be rotatably supported in a lock-case, a roll-back or arm projecting therefrom, an oscillating ball-like spindle-bearing carried by said hub and means to prevent the independent rotation of said parts relatively to the hub-spindle in the plane of action of said roll-back.

3. A hub for a lock or latch comprising a plurality of hub-sections, semispherical cavities in the adjacent walls thereof, an oscillating ball-like spindle-bearing supported in said cavities, a key between said parts to prevent independent rotation thereof in the plane of action of said hub-sections but permitting said ball-like spindle-bearing to oscillate, the passage through the hub-sections being larger than the passage through the spindle-bearing.

4. A hub for a lock or latch comprising two hub-sections arranged to be rotatably supported in a lock-case, recesses therein, an oscillating ball-like spindle-bearing supported in said recesses, a key or projection on said spindle-bearing, a slot or notch in one or both of the hubs to receive said key and prevent the parts from rotating independently in the plane of action of said roll-back sections, the passage through the spindle-bearing being smaller than the passage through the hub-sections.

5. As a new article of manufacture, a lock-hub and an oscillating ball-like spindle-bearing carried thereby, substantially as described.

Signed at New Britain, Connecticut, this 14th day of April, 1903.

CHAS. J. CALEY.

Witnesses:
M. S. WIARD,
W. E. WIGHTMAN.