(No Model.)

E. T. OWEN.

LOCKING DEVICE FOR CLOSETS, BOXES, &c.

No. 298,114. Patented May 6, 1884.

Fig. 1 a

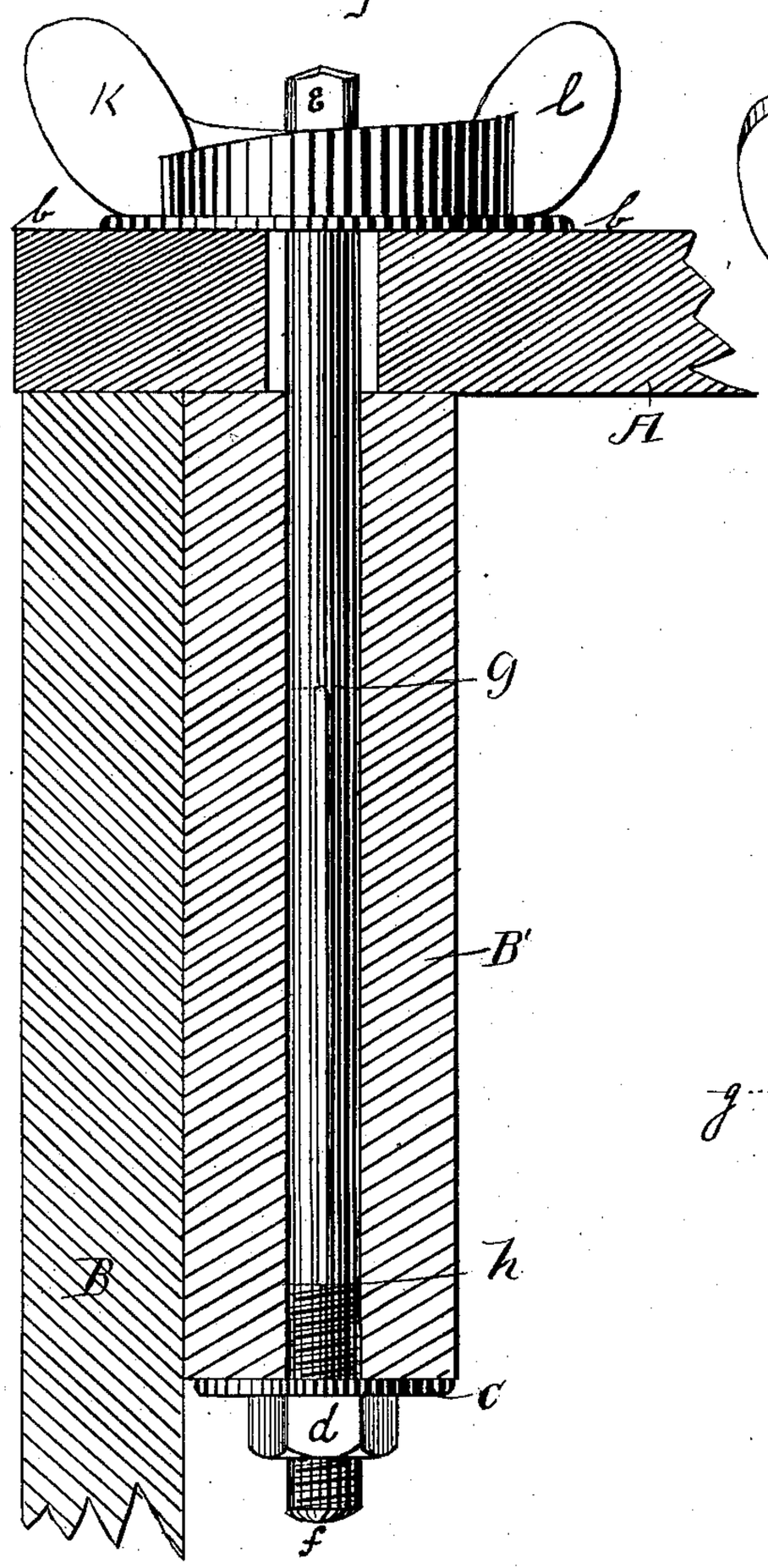


Fig. 2

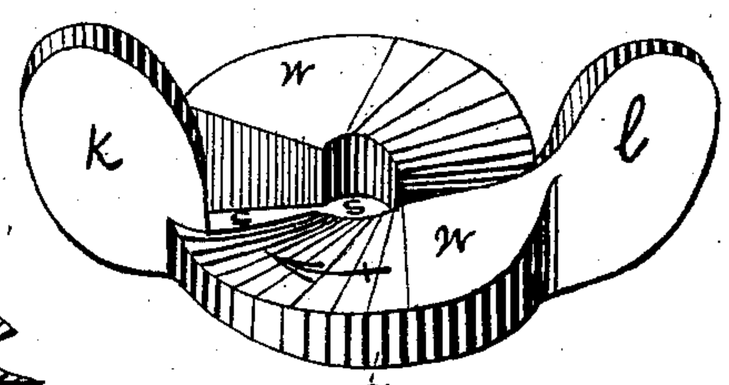


Fig. 3

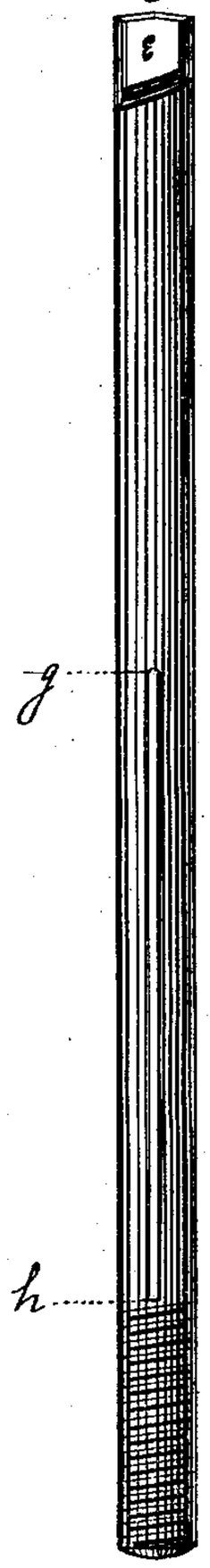


Fig. 4.

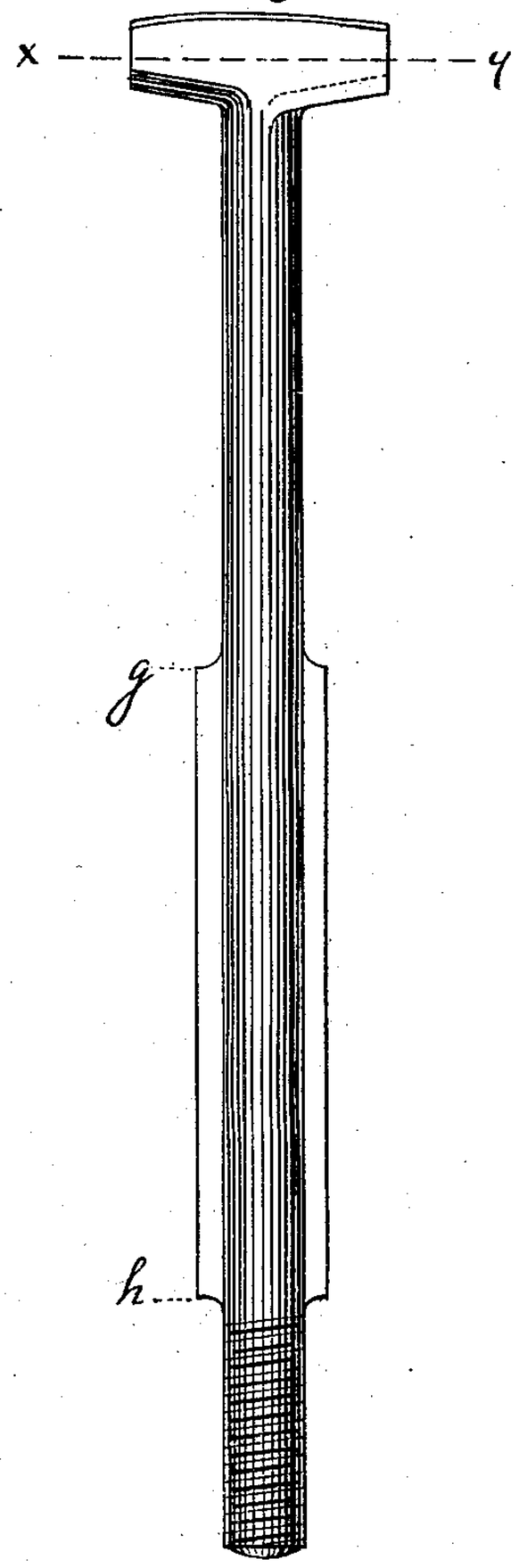
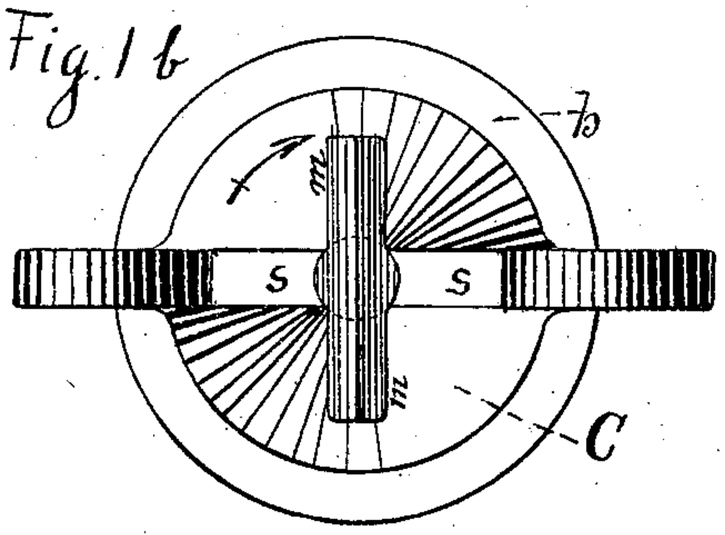


Fig. 1 b



Witnesses:

E. A. Bingham
Henry B. Fassett

Inventor:

Edward T. Owen

UNITED STATES PATENT OFFICE.

EDWARD T. OWEN, OF MADISON, WISCONSIN.

LOCKING DEVICE FOR CLOSETS, BOXES, &c.

SPECIFICATION forming part of Letters Patent No. 298,114, dated May 6, 1884.

Application filed June 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. OWEN, a citizen of the United States, and residing at Madison, in the county of Dane and State of Wisconsin, have invented a new and useful Improvement in Door and Window Buttons, of which the following is a specification.

My invention is an improved fastening for covers of boxes and chests and the doors of closets or other compartments in which perfect closure is requisite or desirable as a protection against insects or for any other purpose.

The invention is fully described and claimed in the following specification and shown in the accompanying drawings, in which—

Figure 1[a] is a side view, partly in section and partly in elevation, of my improved fastening as applied to a box and its cover, the box and cover being shown in section and the fastening in elevation; Fig. 1[b], a top plan of the fastening as seen when closed; Fig. 2, a view in perspective of the removable wing-nut *k l;* and Figs. 3 and 4, side elevations, in two planes at right angles to each other, of the T-headed bolt *e f*.

In these views, A represents the cover of a box of ordinary form, only that edge of the cover being shown to which the fastening is applied, and the remainder of the cover, including the hinged edge, being broken away. B is that side of the box on which the edge of the cover closes and to which it is to be secured, and B′ a cleat or jamb fastened to the inner surface of the side of the box, to retain the bolt *e f*, as hereinafter set forth. Through the cleat B′ passes vertically a bolt, *e f*, preferably cylindrical, and provided through the whole or any portion of its length with fins *g h*, as shown, but having any other desired form, provided its cross-section for a portion of its length be non-circular, the object being simply to prevent its rotation in the hole through which it passes. The lower end of the bolt *e f* is screw-threaded and provided with an ordinary nut and washer, *c d*, by means of which the projection of the bolt above the cleat B′ may be varied at will, and the upper end of the bolt has formed integrally with it a T-head, E, whose ends are beveled upward in opposite directions both longitudinally and transversely, the longitudinal bevel being clearly shown in Fig. 4 and the transverse in Fig. 3.

To the upper surface of the cover A is fastened a flat plate, *b*, of any desired outline, and both cover and plate are pierced by a hole of such form and size that when the cover shuts down upon the side of the box the T-head of the bolt *e f* will pass through it without striking.

C is a preferably circular wing-nut, provided with wings *k l*, by means of which it may be rotated in either direction, and a central slot, *s*, of such form and size that when in proper position the T-head of the bolt *e f* will pass through it. In other words, its form is preferably the same as a cross-section of the head E through line *x y*, Fig. 4. The lower surface of the nut C is plane. The upper surface consists of two equal and symmetrical warped surfaces, *w w*, each of which is a helix of irregular pitch. The lowest portion of each of the surfaces *w* is coincident with one of the edges of the slot *s*, (see Fig. 1[b],) the nut along this marginal line of each of the warped surfaces being quite thin. From this lowest line each of the helical surfaces rises, at first rapidly, but with decreasing pitch, until at its highest portion it is nearly level. The inner margin of each of the helical surfaces *w w* is lower than the outer margin, with which it is concentric, the bevel being uniform and at such an angle that the lower line of either side of the T-head of the bolt *e f* will lie in contact with it in any position to which the nut may be turned. The cover being shut down until the T-head passes through and projects above the plate *b*, the nut C is dropped down upon the plate, the T-head passing through the slot *s*. The nut is then rotated in the direction indicated by the arrows on its face in Figs. 1[b] and 2, the thin edge of each of the surfaces *w* passing under one of the sides of the T-head, and the motion of rotation being continued until the cover is pressed firmly down upon the edge of box. At the beginning of the rotation of the nut the thickness of that portion of each of the surfaces *w* which lies directly under each side of the T-head E increases very rapidly; but as the motion continues the increase becomes less rapid, and toward its close practically ceases. The result of this variation is twofold. In the first

place, it increases the power of the nut in proportion to the increase of resistance of the cover to the closing force, and, in the second place, it effectually prevents accidental loosening of the nut when the cover is fastened down. The pitch of each helical surface at its highest point is so slight that the friction between the opposing surfaces of the nut and head is fully sufficient to prevent accidental reverse motion of the nut when once firmly secured under the head.

It is evident that this fastening may be applied to a door without any change of form or arrangement whatever. In fact, if Fig. 1ª be called a top view, A a door, and B B′ the jamb against which it closes, the foregoing description and explanation apply as well to its use on a door as on a box-cover.

I do not claim, broadly, the combination of a T-headed bolt with suitable co-operating devices for fastening together two meeting surfaces, as I am aware that sliding and rotating T-headed bolts have been used, in combination with suitable tightening-plates, in fastenings for meeting-rails of window-sash; but,

Having now described my invention and explained its operation, what I do claim as new, and desire to secure by Letters Patent, is—

1. In a fastening of the class described, the combination of a stationary T-headed bolt adapted to be fastened to the side of a box or chest and to pass through and project above the cover thereof, substantially as shown, and a centrally-slotted nut adapted to drop down over said T-head, and provided with suitable helical faces, whose rotation under said T-head presses said cover downward against the box, substantially as shown and described, and for the purpose set forth.

2. The combination of the stationary bolt *e f* and T-head E, formed integrally therewith, and the slotted wing-nut C, adapted to drop down over said T-head, and provided with the symmetrically-placed faces *w w*, adapted to cooperate with said T-head in the manner described, each of said surfaces being a helix of varying pitch, whereby the power of the nut increases with the resistance to its operation, and its accidental loosening, when tightened, is prevented, substantially as shown and described.

EDWARD T. OWEN.

Witnesses:
P. H. PERKINS,
R. G. SILBUKER.