

(No Model.)

J. MIRACLE.
BOX FASTENER.

No. 506,370.

Patented Oct. 10, 1893.

Fig. 1.

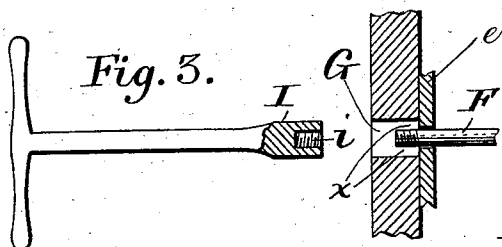
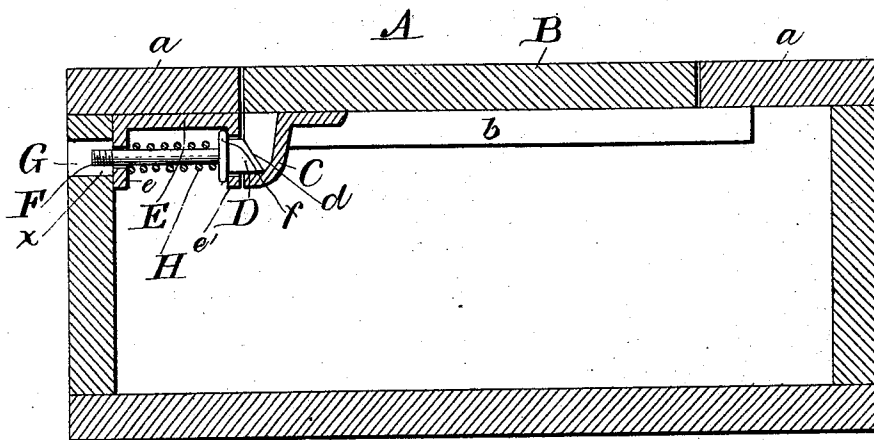
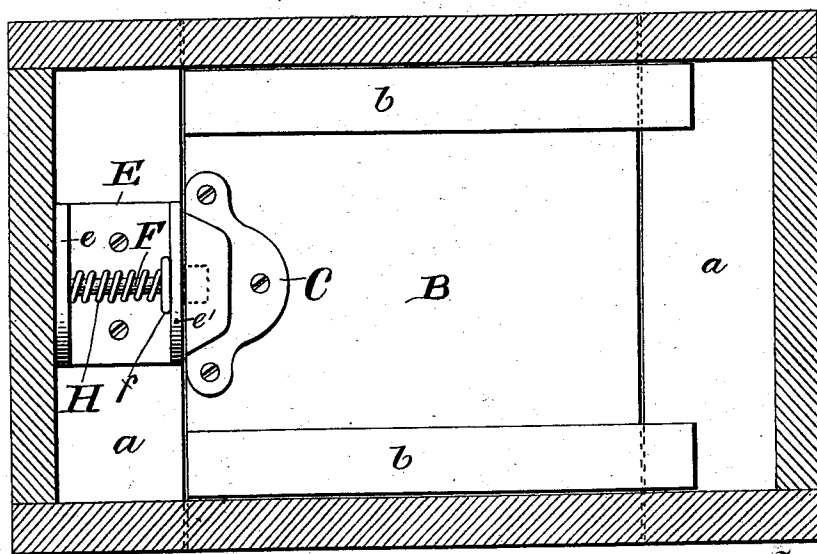


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN MIRACLE, OF CALEDONIA, ASSIGNOR OF ONE-HALF TO JOHN C. DOWLING, OF MOUNT GILEAD, OHIO.

BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 506,370, dated October 10, 1893.

Application filed November 4, 1892. Serial No. 450,982. (No model.)

To all whom it may concern:

Be it known that I, JOHN MIRACLE, a citizen of the United States, residing at Caledonia, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Box-Fasteners; and I do 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to box fasteners such as are especially designed to be used on cases for shipping bottled goods, as beer, mineral waters, and the like, and the invention consists in certain improvements in the construction of box-fasteners of this character, whereby objections and defects heretofore existing in such fasteners are practically overcome.

In the accompanying drawings, Figure 1, is a central longitudinal vertical section of a shipping case with the improved fastener applied. Fig. 2, is a central horizontal sectional view looking toward the top of the box. Fig. 3, is a detail view in horizontal section showing the parts in the vicinity of the key-hole and showing the key partly in section.

A, is the box, and B, the lid or cover. The cover does not extend out entirely to the ends of the box, there being provided a stationary cross-piece *a* at each end forming part of the top of the box, between which two cross-pieces *a a* the cover B fits. In the illustrated construction the cover B, is not permanently hinged to the box, but instead two longitudinal strips *b b* are secured to the lower face of the cover and project a short distance beyond the back edge of the cover. When the cover is placed upon the box, the projecting ends of the strips *b b* fit underneath the stationary cross-piece *a* at the rear edge of the box-top. The projecting strips *b* and rear cross-piece *a* secure the back edge of the cover, while at its front edge the cover is locked by means of a latch-plate C of any suitable form secured to the lower surface of the cover at its front edge, which, when the cover is closed, automatically engages with a sliding spring-catch

D, whose beveled portion *d* projects from beneath the front cross-piece *a* into the path of latch-plate C.

The present invention relates to the means for retracting the catch D when the box is to be opened.

The sliding catch D, is mounted in a metallic bracket E secured to the under surface of the front cross-piece *a*, which is formed with the depending plates *e e'*. The head of catch D slides freely through an opening in the depending plate *e'*, while the shank or stem F of the catch passes through an aperture in the depending plate *e*. The plate *e* fits close against the front of the box, and a circular key-hole G is formed in the front of the box communicating with the aperture in plate *e*, so that the end of shank F, extends into the key-hole. The end of the shank which enters the key-hole is screw-threaded. At the union of the catch D with its stem F, there is formed a flange *f* which seats against the plate *e'* and prevents the catch from extending inward too far. Surrounding the shank or stem F, between the depending plates of bracket E, is a spiral spring H, one end of which bears against plate *e*, while its other end presses upon the flange *f* of the catch and holds the catch normally in its inward locking position.

The catch D, is retracted to permit the opening of the box by drawing it outwardly for which purpose a key I (see Fig. 3) is provided. The outer end of the key is shaped as desired for convenience in manipulation, and its inner end is adapted to enter the circular key-hole G. The inner end of the key, moreover, is formed with a socket *i*, interiorly screw-threaded, and adapted to engage with the threaded end of the shank F of the catch. To open the box, the key is inserted in the key-hole, and is turned to engage the threaded socket *i* with the threaded end of shank F. Then the key is pulled outward, which retracts the catch D and permits the cover of the box to be raised and removed.

The diameter of the key-hole G, is only a little greater than the diameter of the shank F, so that only a narrow annular space (labeled *x*) occurs between said shank and the

margins of the key-hole. The end of the key I is annular in cross-section owing to the presence of the socket *i* therein, and the end of the key just fits the annular space *x* surrounding the end of shank F. The fact that the end of the shank of the catch is entirely within the key-hole and is of such a diameter as to leave but a narrow space surrounding it renders it practically impossible to draw the latch without the use of the special key I.

The plate *e* behind the key-hole, through which the shank F of the catch passes, has its aperture formed of a size just sufficient to permit the passage of said shank. Consequently the plate *e* and the shank F fitting in the aperture thereof entirely close the key-hole at its inner end, and there is no open key-hole communicating with the interior of the box.

I claim as my invention—

1. The box A and cover B, a catch D within the box for locking the cover, and a key for drawing the catch, said catch D having a shank or stem terminating within the key-hole and closing communication with the interior of the box through said key-hole, substantially as set forth.

2. A box fastener consisting of the sliding spring-catch D, and its latch-plate C, said catch D having a shank or stem F formed

with a screw-threaded end extending into the key-hole so as to leave an annular space *x* surrounding said screw-threaded end, in combination with a plate *e* to the rear of said annular space having an aperture through which said shank or stem passes, and a key I adapted to enter said annular space *x* and having a threaded socket *i* engaging with the end of said shank or stem of the catch, substantially as set forth.

3. The box A, the cover B, having latch-plate C, the fixed strip *a* between the front edge of the cover and the front of the box, and the sliding spring-catch D located below said strip *a* and co-operating with latch-plate C, said catch having a shank or stem F extending outward and entering a key-hole, in combination with the bracket E supporting said spring-catch D, said bracket having the depending plates *e e'*, one of which forms a guide for the head of the catch, and the other of which forms a guide for the shank or stem F and closes the inner end of the key-hole, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN MIRACLE.

Witnesses:

WM. F. BRUCE,
J. H. BEELER.