(No Model.)

W. C. LIPE.

BOX CATCH.

No. 406,173. Patented July 2, 1889.

Fig. 1.

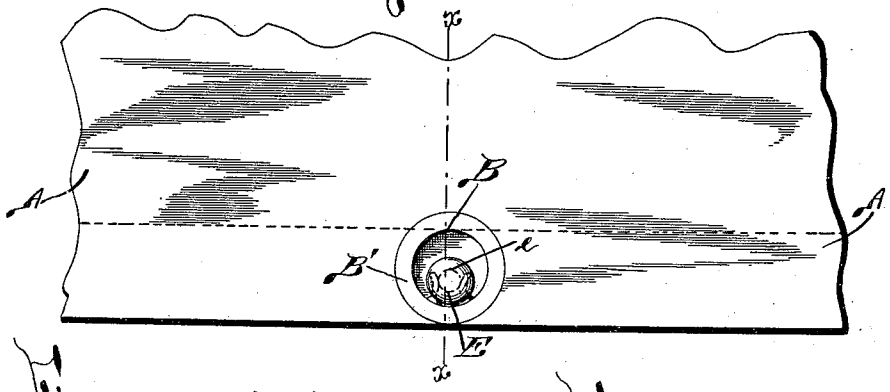


Fig. 2.

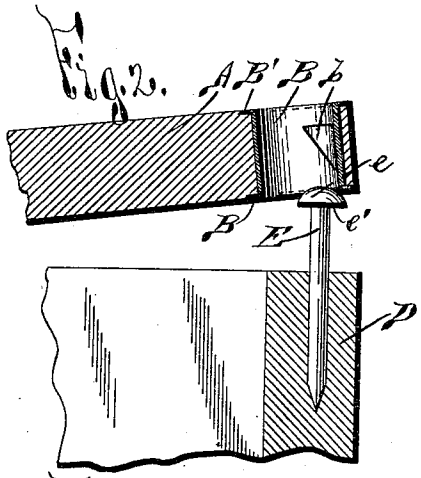


Fig. 3.

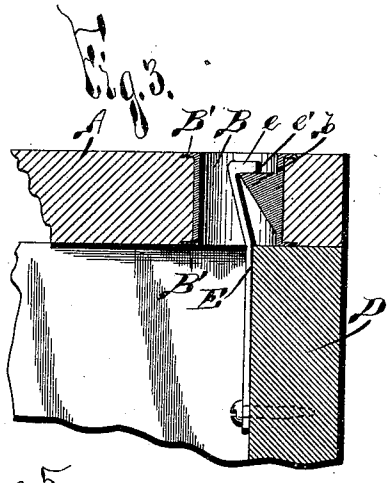


Fig. 4.

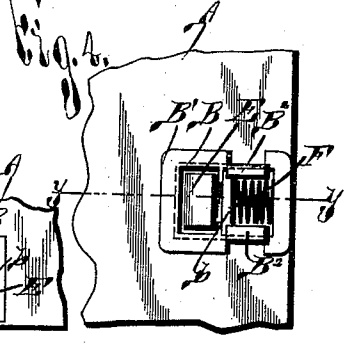


Fig. 5.

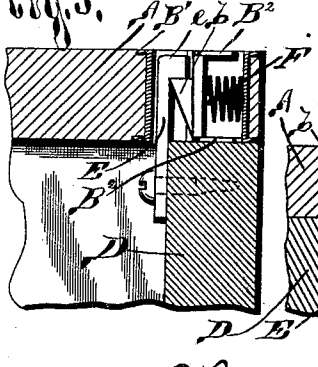


Fig. 6.

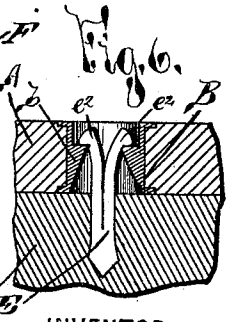
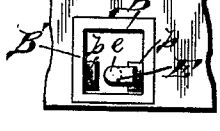


Fig. 7.



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UNITED STATES PATENT OFFICE.

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BOX-CATCH.

SPECIFICATION forming part of Letters Patent No. 406,173, dated July 2, 1889.

Application filed December 15, 1888. Serial No. 293,688. (No model.)

To all whom it may concern:

Be it known that I, WILLARD C. LIPE, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Box-Catches, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in box-catches, and is especially adapted for use in cigar or other boxes which must be cheaply and quickly manufactured, and has for its object the production of a simple and effective means of retaining the cover in its desired position, from which position it may be readily disengaged.

To this end it consists, essentially, in one or more projections provided upon the cover or lid of the box, and preferably on the interior of an eyelet inserted thereinto, which projection is engaged by a pin or lug secured to the sides of the box and held in engagement therewith.

It also consists in the detail construction and arrangement of the parts, all as hereinafter more fully described, and pointed out in the claims.

In specifying my invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is an enlarged top plan view of a detached portion of the lid and front side of a box with the preferred construction of my catch secured thereto. Fig. 2 is an enlarged transverse vertical section taken on line *x x*, Fig. 1, the lid being disengaged from the box and the detail construction and arrangement of the eyelet provided in the lid and stud secured to the side of the box being shown. Fig. 3 is an enlarged like transverse vertical section of a modified form of the stud secured to the side of the box. Fig. 4 is an enlarged top plan view of a further modification of my improved catch. Fig 5 is an enlarged transverse vertical section taken on line *y y*, Fig. 4, illustrating the relative construction and arrangement of the modification shown therein. Fig. 6 is an enlarged longitudinal vertical section of a detached portion of the lid and the front side of the box, illustrating a modified form of the eyelet and the stud secured to the side; and Fig. 7 is an enlarged detached plan view of a still further modification of my improved box-catch.

In the manufacture of cigar-boxes there has been a demand for a simple and effective catch, which, without greatly increasing the cost of production, could be readily secured to the box in such a manner that the same could be quickly opened and closed, thus increasing the efficiency of the cigar-box and preventing the drying of the cigars and tobacco contained therein. The old and common manner is to drive a nail through the top into the front side, and pull the nail out whenever desirable to open the box; but this manner of catching the cover is very objectionable and inefficient. However, catches have been devised which are capable of being comparatively easily engaged and disengaged; but various reasons have prevented the universal use thereof. The greatest difficulty with previously-devised catches is the skill and time required to properly align the different parts thereof, so that when in position for use the said parts will readily engage each other.

A represents the cover of a cigar-box, which is provided with an eyelet B, preferably circular in form, and having a flange B′ compressed into the top and bottom surface of the cover, preventing withdrawal of the same from the cover.

D represents the sides of the box, in one of which, preferably the front, I secure any suitable stud or projecting pin E, which may, if desired, consist of a nail having a head, as illustrated in Fig. 2.

The eyelet B is preferably provided with one or more lugs *b*, the top surface of which is considerably beneath the upper surface of the box-cover, and which below their top faces are preferably beveled off toward the eyelet. After providing the cover with an eyelet B the same is brought into its normal position upon the box, and a common wire nail or cigar-box nail is inserted from the top of the box in the exact position required to best engage the lugs provided upon the eyelet, and is

driven through the eyelet until the under surface e' of its head e abuts with the top of the lugs b, thus securely retaining the cover in the desired position. It will be observed that the eyelet, which is preferably circular, can be readily manufactured and can be very easily inserted into the cover of the box, and, as described, the common wire nail is very readily inserted into the precise spot required, necessitating no fine adjustment of the parts.

When it is desired to unlock the box, by pressing against the outer surface of the front side, or the side containing the stud E, there will be sufficient give to the same to allow the head of the nail to be disengaged from the lug b of the eyelet B, whereupon the cover may be readily raised.

When it is desired to replace the cover, the same is brought down upon the nail, and the beveled construction of the projection b allows the latter to lap or wedge over the head of the nail and to be automatically locked by the spring of the side D.

In cases where, owing to the shortness or stiffness of the side to be secured to the cover of the box, there is an insufficient spring to allow of the ready disengagement of the stud E and the eyelet B, I secure the stud E near its lower extremity to the inside face of the front side of the box by a nail or screw, which construction of the stud allows the head e of the same to be forced from engagement with the projection b by reason of the spring of the metal of the stud E.

In the construction illustrated in Figs. 1 and 2 the eyelet is placed directly over the top edge of the front side of the box, and thus prevents the inlet of air into the box often arising from the construction of catches.

The construction illustrated in Fig. 3 is not as desirable for cigar-boxes as that illustrated in Figs. 1 and 2, for the reason that said construction necessitates either placing the eyelet in the cover, so as to lap over the inside edge of the top side of the box, allowing air to enter the same, or else necessitates the securing of the stud in a slot sufficiently deep to allow the eyelet to be placed directly over the top edge of the front side, which slot would increase the cost of production of the box.

In cases where it it not advisable to obtain the removable engagement by means of the spring of the side D or of the stud E, I form the projection b of a separate piece from the eyelet B and interpose a spring F between said projection and the adjacent surface or side of the eyelet B, which spring constantly forces the projection b outward into engagement with the stud, and is readily compressed, allowing said projection to be forced backward when the box is disengaged. To form a simple and cheap guideway for this independent projection b, I lap over portions B^2 of the flange B'. This construction of a catch, however, is not as cheaply manufactured as that illustrated in Figs. 1 and 2, but is sometimes more desirable in boxes where a costlier catch is allowable.

In Fig. 6 I have shown the stud to consist of a common nail with its upper extremity bifurcated and provided with ratchet-shaped ends e^2. When the stud is driven into the box, these ratchet-shaped points e^2 normally tend away from each other and are readily compressed together by the peculiar shape of the projections b, provided upon the eyelet B, and after the cover is forced to its normal position these points e^2 spring outward and engage said projections b. When it is desired to open the box, the points e^2 may be readily approximated and thereby disengaged from the projection b of the eyelet.

In Fig. 7 I have shown a modified form of the stud E, which is swiveled into the front side of the box and is engaged with the shoulder b by being turned around over the same, and is disengaged by being turned away from the same, said engagement being independent of any spring whatever.

It is evident that there are various modifications in the relative construction and arrangement of my improved box-catch, which might be illustrated; but it will be understood that I do not limit my invention to the precise construction and arrangement of the parts, neither to its use upon cigar-boxes, as it is evident that this novel and improved catch is very desirable and efficient upon boxes of other kinds and styles. It will also be understood that the stud E, instead of engaging a projection beneath the top face of the eyelet, might be engaged directly with the top face of said eyelet without altering the operation of the catch, and in some cases, where it is not necessary to closely pack the boxes together, this form of catch is very desirable. In boxes where it is necessary to open the same but few times, or where the cover is formed of very hard wood, I sometimes engage the stud securely to the side of the box directly in an enlarged aperture or opening in the cover without using the eyelet B in said opening; but this construction is neither as desirable nor as efficient as though an eyelet were used, preventing undue wear of the cover.

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

1. The combination of an eyelet secured in the top of the cover, a shoulder provided upon said eyelet, a stud or projection secured to the body of the box, and a spring for removably engaging said projection with the eyelet, substantially as and for the purpose specified.

2. The combination of an eyelet secured in the cover of the box, a shoulder provided on the eyelet at a point below the top surface thereof, with a stud secured to the body of the box and held in removable engagement with the shoulder provided on the eyelet, substantially as and for the purpose specified.

3. The combination of the eyelet secured to the cover of the box, shoulders provided on the interior of the eyelet with an interposed space between said shoulders, with a stud secured to the body of the box and registering with said interposed space between the shoulders of the eyelet, said stud and shoulders being removably engaged, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 12th day of December, 1888.

WILLARD C. LIPE.

Witnesses:
CLARK H. NORTON,
A. E. PARSONS.