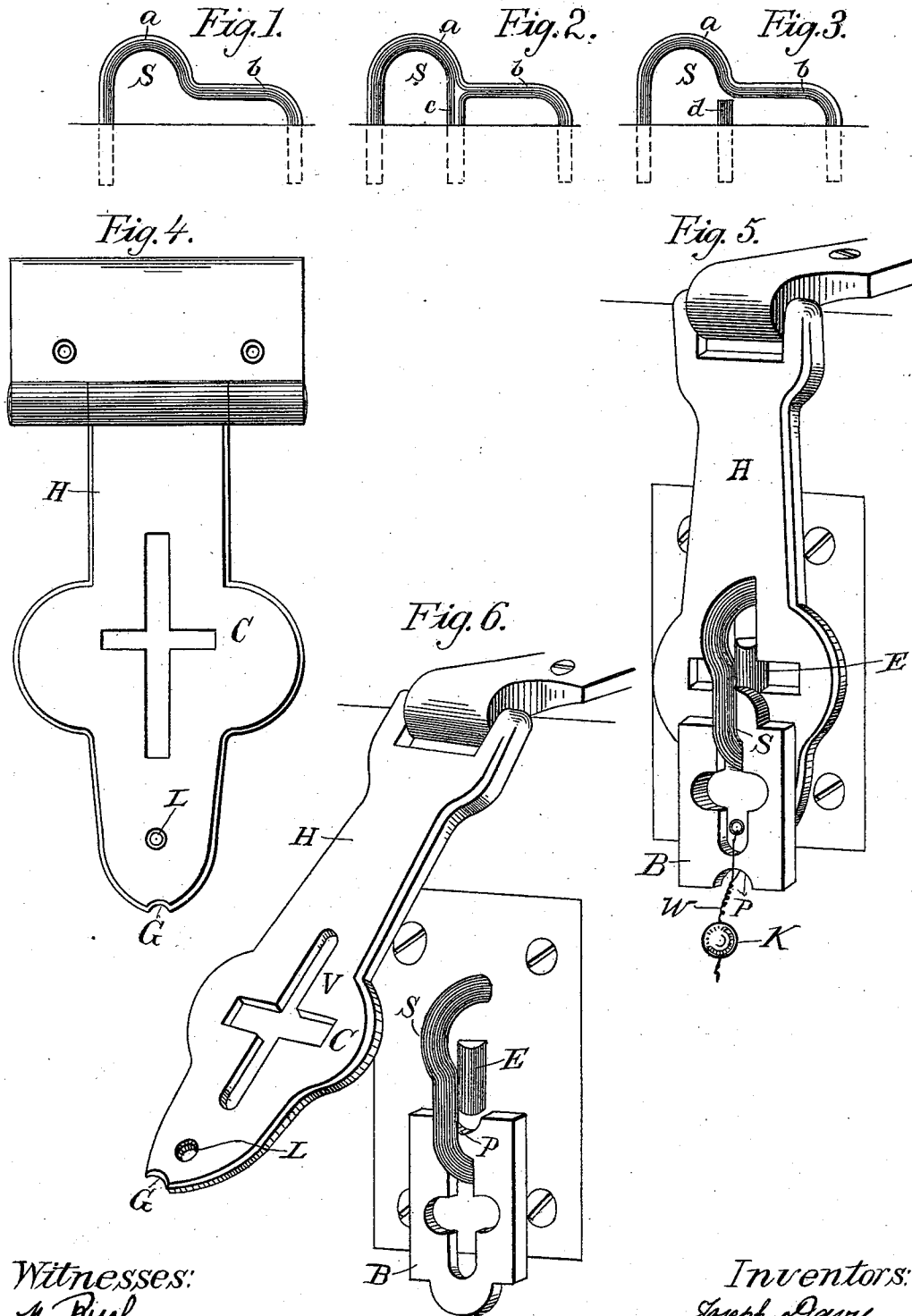


(No Model.)

J. DAVY & J. T. DUFAU.
BOX FASTENER.

No. 429,510.

Patented June 3, 1890.



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UNITED STATES PATENT OFFICE.

JOSEPH DAVY, OF OAKLAND, AND JOHN T. DUFU, OF SAN FRANCISCO,
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BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 429,510, dated June 3, 1890.

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To all whom it may concern:

Be it known that we, JOSEPH DAVY, a citizen of the Republic of France, residing at the city of Oakland, county of Alameda, State of California, and JOHN T. DUFU, a citizen of the United States, residing at the city and county of San Francisco, in said State, have invented a new and useful Improvement in Box-Fasteners and Fastening Devices generally, of which the following is a specification.

Our invention relates to an improvement in fastening devices for fastening firmly and securely locking or sealing cases or boxes used for packing, as well as any other objects for which bolts or fastenings are generally used.

The object of this invention is to provide a device by means of which ordinary box-fasteners and fastening devices generally may be securely and tightly fastened and sealed, (so that any tampering therewith may be at once ascertained,) or may be conveniently and securely locked.

This improvement is especially applicable to the improvement in box-fasteners for which Letters Patent No. 386,188 were issued to Joseph Davy, one of the applicants herein, on July 17, 1888. In the box-fasteners thereby secured by said Letters Patent a new fastener was devised which secured an absolutely safe, simple, expeditious, and cheap mode of fastening, which may be used as a means of fastening securely and holding closed packing cases and boxes, which are subject to much handling, without any danger of their becoming unfastened, but which could be opened by persons acquainted with the device without danger of detection, and in which the bolt and staple used were connected so loosely as to permit free play of the hasp within a limited space and the possible opening of the cover or lid of the box to a corresponding extent. We desire by the subject of the present application to improve upon said and similar fasteners by rendering it utterly impossible to open the same without the certainty of ascertainment of such fact, to a certain extent, also, by precluding entirely the possibility of opening them at

all wrongfully, and also to avoid the danger of a partial opening of the box-cover or other object in connection with which the fastener may be used by reason of the free play of the hasp allowed by the loose combination of staple and bolt (when fastener is closed) above referred to, results which we accomplish in the manner hereinafter described.

In the accompanying drawings similar parts are throughout represented by similar letters.

Figure 1 shows the new and improved single staple used. Fig. 2 shows the new and improved double staple. Fig. 3 represents the single staple and co-ordinate peg, corresponding to central prong of double staple. Fig. 4 represents the new and improved hasp. Fig. 5 is a full view of the fastening device as improved and sealed. Fig. 6 is a full view of said fastening device open.

We do not claim in this application any portion of the fastening device for which said Letters Patent No. 386,188 were granted, but merely the improvement consisting of locking and sealing the same and the method of preventing the partial opening of the box-cover on account of the loose combination of bolt and staple. In the said box-fastener (Patent No. 386,188) the staple used is the ordinary U-shaped staple. This we change, so that the staple assumes the form seen in Fig. 1—that is to say, that about one-half of the top thereof is bent and forms the part *a*, so that when the staple is driven into the wall of the box, each prong an equal distance, the part *a* will project from said wall considerably more than the part *b* thereof. In the box-fastener (Patent No. 386,188) the staple was driven into the wall of the box so far that it permitted only the easy movement of the bolt *B* in said patent described, and in Figs. 5 and 6 of the accompanying drawings represented by the same letter. We desire now to render it possible to use the bolt as formerly, and at the same time for the purpose of locking the fastener we wish to avail ourselves of padlocks, for the use of which we have adapted part *a* of the staple herein described. With the former ordinary staple it was impossible conveniently to use the padlock and bolt together, because if the space within the driven

staple were large enough to admit of the use of the padlock it would be a matter of difficulty to operate the bolt, and the bolt would be required to be of size much larger than convenient or necessary, and if said space were made of size adapted to the operation of the bolt only the padlock could not be inserted for lack of space.

To prevent any possible entanglement of bolt and padlock, we deem it advisable and better to adopt the staple shown in Fig. 2, wherein the extra or central prong effects a division of the staple into two sections—one *b* adapted to the use of bolt B, the other *a* for the use of the padlocks mentioned. The same result may be achieved, of course, by first fixing in the wall of box into which staple is to be driven the peg *d* and driving staple (represented in Fig. 1) into wall in such manner that said peg *d* shall virtually divide the staple into two sections, as above described. (See Fig. 3.) By the use of this staple S in either of these forms we are enabled at will to use the fastener, as in the specification of said Letters Patent No. 386,188 described, or in conjunction with the padlock, by means whereof the said fastener may be locked beyond possibility of wrongful opening—a result practically impossible in the said fastener as patented and as heretofore operated.

For convenience the staple S is driven into the wall of the box always in such manner that the projecting portion *a* is toward the top or cover of the box as compared with part *b*. The horizontal cut C, adapted to fit over bolt B when said bolt is raised at right angles to staple S and wall of box, is made to correspond with part *b* of staple—that is, to fall below the point of division of parts *a* and *b*—in other words, below prong *c*, Fig. 2, or peg *d*, Fig. 3, when the hasp H is fitted over the staple. The bolt B is fitted within the part *b* of staple and operated therein, Figs. 5 and 6. Into part *a* of the staple projecting beyond part *b* and above it any ordinary padlock may be inserted, by means whereof the fastener may be securely locked.

Instead of driving the staple into the wall of the box, it is of course possible and it may be better to make it part of a metal plate or casting, which may then be affixed to wall of box in such manner that the staple will be in the same position as is herein described. We have found it advantageous to use such metal plate with projecting staple forming integral part thereof, and to fasten it to the box in lieu of driving the staple itself into the box to secure the stability of staple, and avoid danger of its being loosened or torn from the wood of box-wall by repeated use of fastener.

The part E, which is a projection from box-wall or metal plate referred to, placed within or partly within part *b* of staple and parallel with it, is provided to avoid possibility of box-cover opening on account of the loose hanging of bolt B upon staple S, hitherto necessary to render possible the operation of bolt B with-

in staple S. In order to accomplish this end, it is necessary to make a corresponding indentation or groove P in the lower end of bolt B, adapted to fit over the part E when bolt B is turned, (so that said groove P is toward the top of the box,) and is thereupon raised at right angles to staple and wall of box. For convenience the groove P and the projection E are made semi-cylindrical in form, though any other form may be used.

If the metal plate be used, the part E is cast with the rest of the plate. When the plate is not used, the part E must, of course, be driven into the wall of the box. Part E projects so far from wall of box as to leave between it and the top portion of part *b* of staple just sufficient room to correspond with the thickness of bolt B, so that when bolt B is in position seen in Fig. 5 it occupies all the intervening space between E and part *b* of staple S, and there is no possibility then of box-cover opening in using even to the slightest extent. This is a most valuable addition to the advantage of our fastener.

To open or close the fastener, bolt B is turned from its position (seen in Fig. 5) so that groove P is toward top of box. It is then raised at right angles to the box-wall and to staple, the groove P being adapted to, corresponding with, and fitting over part E, and the hasp is then fitted over it, as in the former patent described.

To further secure and render valuable for packing and shipping purposes the said fastener, we have invented a method of sealing the same, to be used in conjunction with the staple S and bolt B, (and padlock, if desired,) by means whereof may be detected any tampering or interference with fastener or object fastened—a matter of serious importance to every shipper, carrier, and consignee. The said fastener (Patent No. 386,188) has proven of great convenience and value, and to render it perfect there has been required only some such device. In the hasp H of said fastener we make the aperture L in such a position in said hasp that when the fastener is closed and secured and the bolt B is in the position seen in Fig. 5 the said aperture will be directly behind the open part of bolt B. At the lower extremity of the hasp we make the groove G, Figs. 4 and 6. When the fastener is closed and the box fastened thereby, we pass through aperture L and the open part of bolt B the wire or string W, and, twisting it so that it is held firmly in position by groove G, we affix to the ends thereof a piece of lead or wax K, upon which may be imprinted our seal.

It will be observed that the fastener cannot be opened without destroying the integrity of the sealing device, instantly noticeable, and cannot be opened at all wrongfully when the padlock provided for and adapted to part *a* of staple S has been affixed.

What we claim, and desire to secure by Letters Patent, is—

1. In a box-fastening or similar fastening device, the combination of the staple S, having a depressed or lowered lower end *b*, in combination with the bolt B, swung in the staple, and the hasp H, attached to the lid or cover, and provided with the cross-shaped slot, as and for the purpose set forth.

2. The combination of the staple S, having a depressed section at its lower end, with the bolt B swung in the staple and having depression P, and the elongated projection E, lying beneath and in line with the staple, and

a hasp H, having a cross-shaped slot in it, as set forth.

3. The combination of a staple, a bolt swung therein having a depression P, and a hasp having a cross-shaped slot, an aperture L, and a groove G on the bottom, with a wire or cord W and a seal K, as set forth.

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