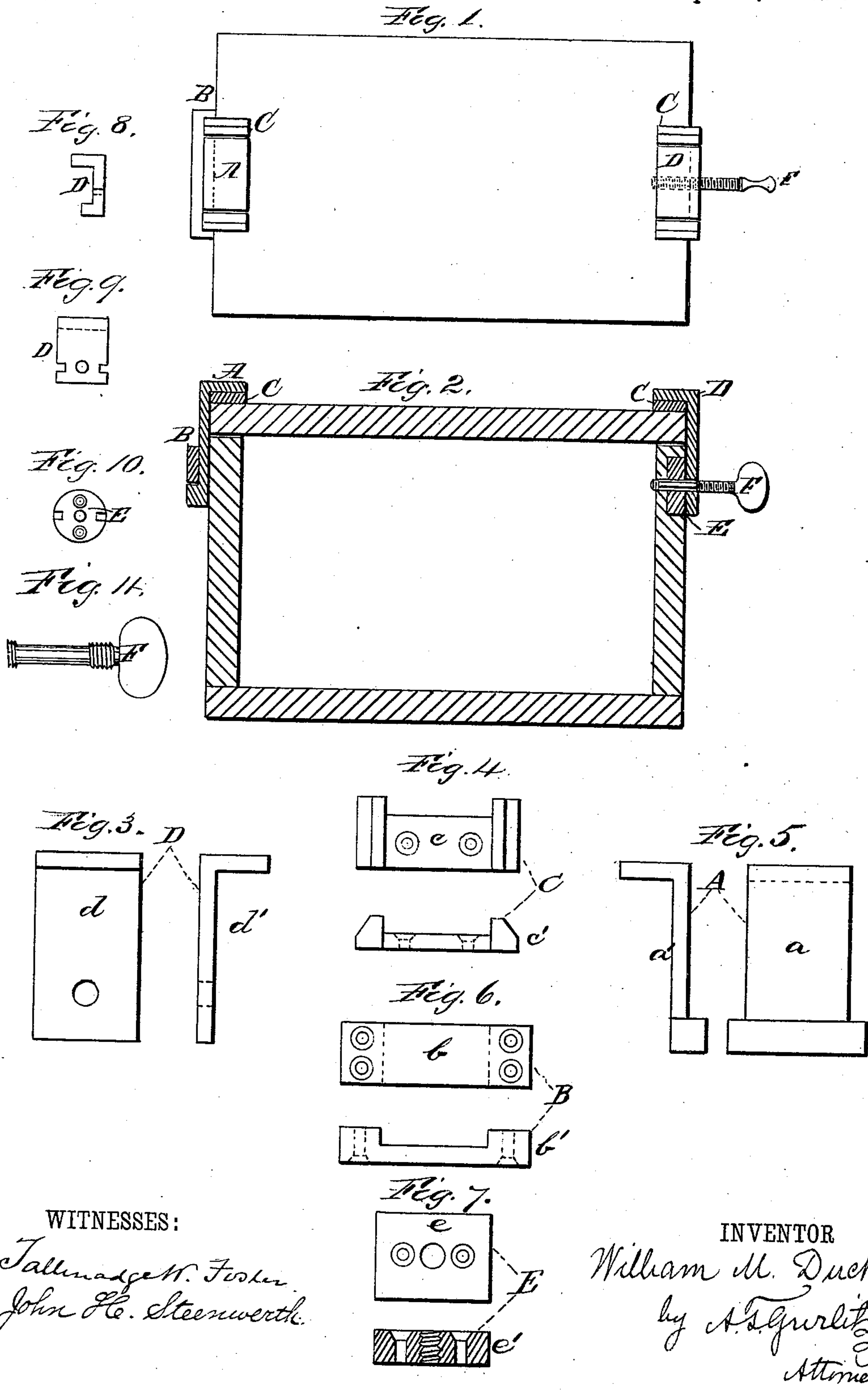


(No Model.)

W. M. DUCKER
BOX FASTENER.

No. 255,952.

Patented Apr. 4, 1882.



UNITED STATES PATENT OFFICE.

WILLIAM M. DUCKER, OF BROOKLYN, NEW YORK.

BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 255,952, dated April 4, 1882.

Application filed December 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. DUCKER, a citizen of the United States, residing in the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Box-Cover Fastenings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in the fastening of covers to boxes, and in the devices to be used for such purpose. It is especially applicable to boxes which are used for shipping goods contained in smaller boxes or receptacles, which smaller receptacles are fitted in the large box—such as cracker-boxes, boxes for fruit, bottles, and other boxes which are generally returned by the retailer to the manufacturer; but the invention is also applicable to boxes of any kind. The common method of fastening such boxes is to nail or screw on the top. Nailing soon splits the edges of both cover and box, and screwing on the top takes time, and also soon wears out the box. Then, in practice, the screws are frequently mislaid, and when the box is returned the lid is nailed on, and so the boxes are soon rendered useless.

To overcome these objections by my invention, which consists in the use of suitable clamps that can readily be attached to any box or case.

In the drawings, Figure 1 represents a top view, and Fig. 2 a longitudinal section, of a box containing my invention. A is a sliding clamp. B is a recessed plate, in which such clamp slides. C C are saddles, on which the projecting shoulders of the clamps A and D rest. D is a screw-clamp, attached to the side of the box by means of a screw, F, and E is a strengthening-plate. Fig. 3 is an enlarged view of the screw-clamp D, in which *d* is a front view and *d'* a side view. Fig. 4 is an enlarged view of the saddle C, in which *c* is top view and *c'* a side view. Fig. 5 is an enlarged view of the sliding clamp A, in which *a* is a front view and *a'* a side view. Fig. 6 is an enlarged view of the recessed plate B, in which *b* is a front view and *b'* a top view. Fig. 7 is an enlarged view of the strengthening-plate E, in which *e* is a front view and *e'* a cut section. This plate may be either angular, as

here shown, or rounded, as shown in Fig. 10. The advantage of having it rounded is that it may be let into the side of the box with an auger. Fig. 8 represents another form of the screw-clamp D in side view, adapted to be used with the plate E. Fig. 9 represents another form of the screw-clamp D, having a recess on each side of the screw-hole, such figure showing a front view of the same. Fig. 10 represents another form of the plate E, adapted to be used with the form of screw-clamp Fig. 8, having a projection or teat on each side of the screw-hole, which fit into the recesses on each side of the clamp Fig. 9. Fig. 11 is an enlarged view of the screw F.

Similar letters of reference indicate like parts.

A is a sliding clamp, shown enlarged at Fig. 5, in which *a* is a front view and *a'* a side view thereof. The upper end of this clamp has a projecting lip extending over the lid of the box and pressing it down. It is provided at its lower end with a shoulder and slides within a recessed plate, B, which is fastened to the side of the box in such position that when the lid is under the projecting lip of the clamp B the shoulder of that clamp bears against the lower edge of such recessed plate and holds the cover firmly in position. In Fig. 6 the recessed plate is shown enlarged, *b* being a front view thereof and *b'* a top view. When the lid is taken off the box the sliding clamp does not project its full length above the side of the box, but falls down until its lip rests upon the side of the box.

C is a saddle to receive the projecting lip of the clamp B. It is shown enlarged in Fig. 4, in which *c* is a top view and *c'* a side view. The saddle is fastened in position to the lid of the box and strengthens the bearing parts, and by its shoulders, into which fits the lid of the clamp A, prevents the lid from moving sidewise.

D is a screw-clamp, shown enlarged in Fig. 3, in which *d* is an inner view and *d'* a side view. This screw-clamp also has a projecting lip to bear down upon and hold the lid in position, and the lip rests in a saddle, C, corresponding to the saddle for the clamp A.

E is a strengthening-plate, shown enlarged in Fig. 7, in which *e* is a front view and *e'* a cut section. This plate is let into the side of

the box, and through it and the screw-plate a suitable screw, F, is applied to hold the screw-clamp in position. For fastening this clamp a screw may be used the whole shank of which is threaded in the ordinary manner; but I prefer, in boxes where the same can be used, a form of screw in which the shank is threaded for that part of it corresponding to the thickness of the clamp D and plate E combined, and then has a section of its shank of a smaller diameter, not threaded, and then a small section threaded at the point of the shank, as shown more plainly in Fig. 11. By this arrangement of the shank, after the screw has been withdrawn sufficiently to turn the clamp out of the way, the threaded end prevents the screw from slipping out of the hole and retains the clamp in place, so that it is less liable to be lost or mislaid. Where such a screw of sufficient length can be used the threads on the point may be reversed, if desired. The screw F thus acts as a pivot on which to turn the clamp D out of the way, so that it need not be taken off the box, whereby it may be mislaid or lost; but the screw is withdrawn only so far as to let the shoulder of the clamp be pulled back from the lid, and then the clamp is turned down sidewise and remains attached to the box by the screw.

I will now describe the manner of applying my invention.

I take the box or case to which it is to be attached and lay the cover upon it in the desired position. At the proper places, and preferably opposite each other, I place saddles C C, which are alike and contain recesses into which fit the bearing-lips of the clamps A D. I screw these saddles C C securely to the cover. Into the recess of one of them I then place the lip of the clamp A and press tightly upon it, so that it will bear in the desired position. I then place the recessed plate B over it in such position that the lower edge of the recessed part will press tightly against the upper edge of the shoulder of the clamp A, and then fasten this recessed plate with screws. I next place the lip of the clamp D into its saddle C, tightly press it into position, make the hole for the screw in its proper place, insert the strengthening-plate E, and the operation is completed.

The saddles C C, as will be readily seen, serve a double purpose. They re-enforce and strengthen the lid at the parts where the clamps bear upon it; but in addition to that they perform the important function of preventing by their shoulders the sliding of the lid sidewise away from the clamps. By the use of these saddles the lid is not only strengthened, but the necessity of attaching cleats to the edge of the box to prevent the lid from sliding is also avoided, and a lid can thus be used with my invention without cleats and without being slotted or pierced for screw-holes—an important advantage, as the weakening of the lid in this manner generally results in breaking or splitting it after short use. Of course, when strength is not important, these saddles may

be omitted and a slight recess made in the lid itself to prevent the sliding of the lid when the box is fastened; or the lid may be retained in position by cleats fastened to the side of the box and projecting up on each side of the lid. So the plate E may be omitted, if desired; but I prefer to use such saddles and plate.

If desired, the connection between the lid and the box at the screw-clamp may be made still stronger by the form of the screw-clamp shown in Fig. 8. That figure represents a side view of a screw-clamp provided with a shoulder at the bottom to fit into a recess to be made in the side of the box below the plate E, by means of which shoulder and recess the connection between the box and lid is made much stronger than by the screw alone.

Another form of the screw-clamp D is shown at Fig. 9 in side view. It has a recess cut on each side of the screw-hole.

Fig. 10 represents a front view of a form of the plate E adapted to be used with the form-clamp, Fig. 9. It is circular in form and provided with lugs or teats on each side of the screw-hole to pass into the recesses of the clamp Fig. 9, so that when the parts are arranged in their proper positions the connection between the box and lid is strengthened by these lugs in addition to the screw. It is an advantage to attach a cleat for a handle on the side of the box below these clamps, as such cleat will protect the clamps.

The advantages of my invention are—

Cheapness. These clamps can be made of cast-iron at a trifling cost.

Strength. On boxes containing one hundred pounds or less one of each of the clamps A and D is sufficient.

Simplicity of application. Any person that can screw on a lid properly can apply this invention.

Rapidity of application. This invention can be attached to a box as quickly as a box-lid can be screwed on.

Facility in use. A box with my invention can be closed or opened in less than a minute.

Saving. A box containing my invention will last for years. In fact, the box is likely to wear out before the lid attachment.

Of course a box-lid can be fastened by the use of one or more of my sliding clamps A on one side and then screwing on the lid by one or more screws on the other side, and this in itself would be an improvement over the present methods. So a box can be fastened by the use of my screw-clamps D, and such method of fastening would also be a great improvement on the present methods.

It will thus be seen that by my invention I provide an arrangement of box and lid in which the lid is not weakened by being slotted or pierced by screw-holes for fastening the same to the box, as in the devices heretofore known, in which the lid is fastened to the box by the operation of a single screw on one side of the box for each set of two clamps that are used, and in which the clamping of the lid to the box

is accomplished by strong metal castings that can be cheaply made and readily applied without skilled labor; and that no cleats or braces to strengthen the box or lid need be used.

5 I am aware that it is not new to screw on the lid of a box by means of a screw strengthened by a sliding washer or similar device, as in the hinged box-cover shown in Letters Patent No. 210,242.

10 I am also aware that the lid has been attached to a box by means of a screw working upward through cleats on the side of the box, such screw being limited in its movement by a bracket, as shown in Letters Patent No. 219,649, and I do not claim any such devices; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. A box provided with a clamp, A, arranged 20 to slide in a recessed plate fastened to one side of the box, in combination with a screw-clamp, D, on another side of the box, such clamp D attached to the side of the box by a suitable screw to fasten the same to the box, which 25 screw acts also as a pivot on which to turn the clamp D out of the way when not in use, such clamps having shoulders to catch over the lid and fasten the same to the box, substantially as described and shown.

30 2. A box having a clamp, A, provided with a shoulder to catch over the edge of the lid, in combination with a recessed plate, B, on the side of the box, within which the clamp slides up to permit the lid to be fastened under its 35 shoulder and slides down and out of the way when the lid is withdrawn, substantially as described and shown.

3. The combination, with a box, of a clamp, D, provided with a shoulder to catch over the edge of the lid, such clamp D fastened to the 40 side of the box by a suitable screw, which screw also acts as a pivot on which to turn the clamp out of the way, substantially as shown, and for the purposes described.

4. The combination, with a box provided 45 with clamps to hold the lid to the box, of the saddles U, having shoulders fitted to receive the holding-lips of the clamps and prevent the lid from moving sidewise, whereby the bearing part of the lid is strengthened, and cleats 50 to hold the lid in position are dispensed with, substantially as described and shown.

5. The combination, with a box and a clamp provided with a shoulder to catch over the edge of the lid, of a re-enforce plate for the side 55 of the box, such clamp and plate provided with coincident recesses and projections to interlock when the parts are adjusted to hold the lid, and with a screw to fasten the same, substantially as shown, and for the purposes de- 60 scribed.

6. The combination, with a box and a clamp with a shoulder to hold the lid to the box, of the screw F, having a part of its shank at the head and at the point provided with threads, 65 and an intermediate part of a smaller diameter without threads to hold the clamp in position, substantially as shown, and for the purposes described.

WILLIAM M. DUCKER.

Witnesses:

AUGUSTUS T. GURLITZ,
JOHN H. STEENWERTH.