

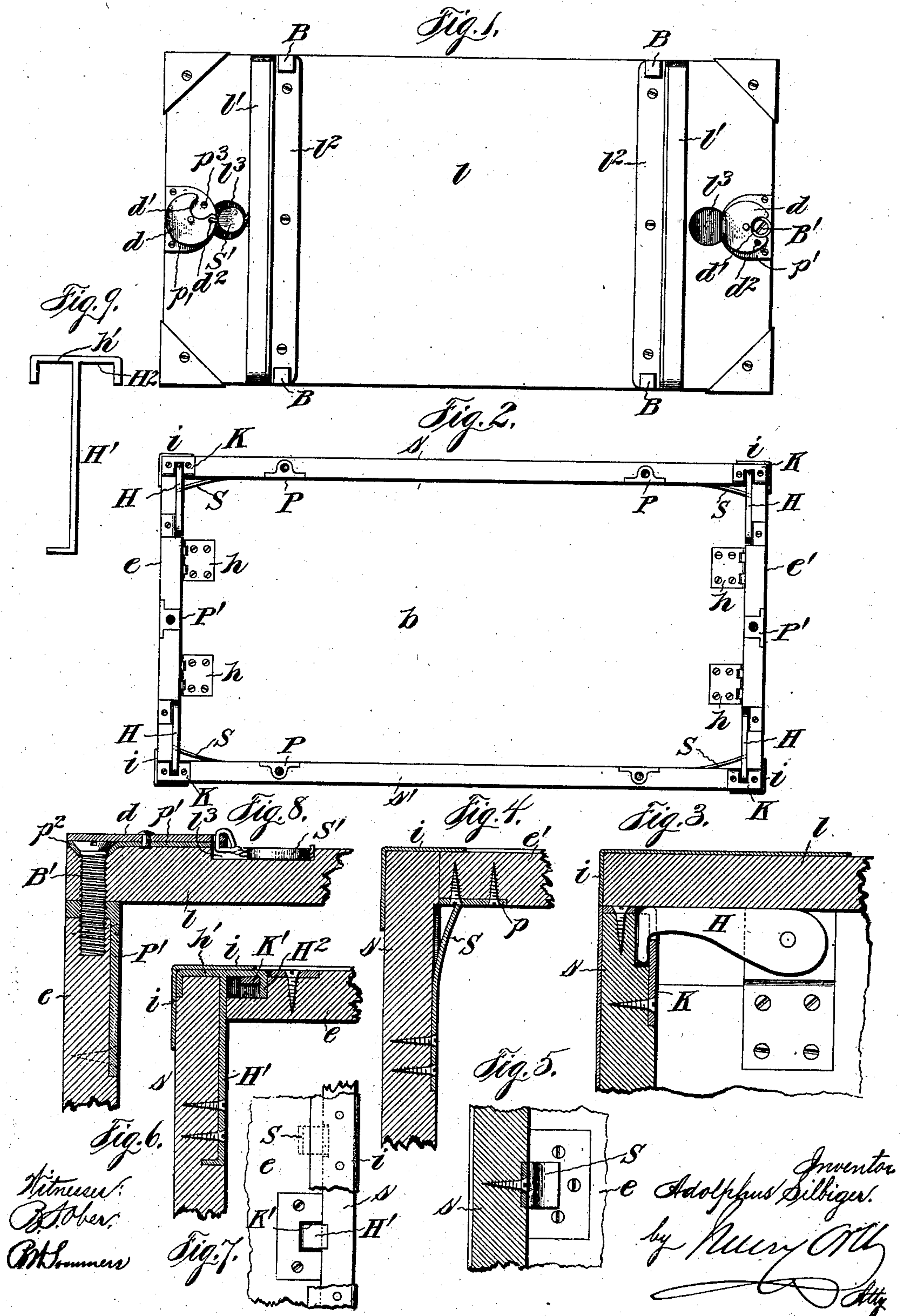
No. 698,568.

Patented Apr. 29, 1902.

A. SILBIGER.
COLLAPSIBLE BOX.

(Application filed Mar. 29, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

ADOLPHUS SILBIGER, OF VIENNA, AUSTRIA-HUNGARY.

COLLAPSIBLE BOX.

SPECIFICATION forming part of Letters Patent No. 698,568, dated April 29, 1902.

Application filed March 29, 1901. Serial No. 53,551. (No model.)

To all whom it may concern:

Be it known that I, ADOLPHUS SILBIGER, a subject of the Emperor of Austria-Hungary, residing at Vienna, Austria-Hungary, have
5 invented certain new and useful Improvements in Collapsible Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as
10 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has relation to collapsible
15 or foldable boxes, and more particularly to that type of boxes shown and described in my application for Letters Patent, Serial No. 716,879, filed May 15, 1899, in which the end walls hinged to the opposite ends of the bot-
20 tom of the box and the side walls hinged to cleats secured to the sides of the bottom all fold onto said bottom between the cleats, which latter are provided with means for se-
25 curing thereto the box lid or cover through the medium of the fastening devices used to secure such lid to the box when set up for use, so that when folded the parts of the box are self-contained and secured together by
30 means of the lid-fastenings, whose loss is thus prevented, while the folded box is of the same dimensions as the box when set up for use, except as to height or depth, which in the folded condition does not materially exceed the thickness of the box walls.

35 The object of this invention lies in the means for fastening the vertical walls together, in means for preventing the end walls from folding or dropping into the box when unlocked from the side walls; in means for
40 bracing the end walls against internal pressure, and in simple means for sealing the box; but that my invention may be fully understood I will describe the same in detail, reference being had to the accompanying draw-
45 ings, in which—

Figure 1 is a top plan view of a box embodying my invention. Fig. 2 is a like view with the lid or cover removed; and Figs. 3 to 9 are detail views illustrating, respectively,
50 the means for locking the vertical walls of the box together, the means for preventing the end walls from folding or dropping into the

box when unlocked from the side walls, the means for bracing the end walls against pres-
sure from within, and the means for sealing 55 the box.

The collapsible box comprises end walls *e* and *e'*, side walls *s* and *s'*, bottom *b*, and lid or cover *l*. The end walls *e* and *e'* are hinged at *h* to the ends of the bottom *b*, so as to fold 60 inwardly onto each other, while the side walls *s* and *s'* are hinged to cleats secured to and rising from the lateral edges of the bottom, so that said side walls will fold inwardly onto each other and onto the end walls in the space 65 between the aforesaid cleats with the upper face of the upper side wall substantially flush with the upper face of said cleats, the latter being provided with means for securing the box-lid thereto through the medium of the 70 fastening devices used for securing the lid to the box when set up for use.

I have deemed it unnecessary to illustrate the construction and arrangement just de-
scribed, as these features form the subject- 75 matter of a separate application for patent, and, as described and shown in said application, the fastening devices consist of angle-plates *P*, recessed into the side walls *s s'* of the box, the horizontal member of which 80 plates lies flush with the upper face of said side walls, is of increased thickness and provided with a screw-threaded hole for the fastening-bolts *B*, the cleats above referred to being provided with similar angle-plates. 85 The lid *l* has secured thereto at points equidistant from its ends cleats *l'*, to the proximate vertical faces of which are secured the vertical members of angle-irons *l''*, whose hori-
90 zontal members are secured to said lid and provided at each end with an opening in register with the screw-threaded holes in angle-plates *P*, above referred to, so that the lid can be secured to the box when turned end for end. 95

To the inner face of each end wall *e* and *e'*, near its upper and vertical edges, is pivotally secured a hook-latch *H*, adapted to engage a slotted keeper *K*, secured to the inner face of the vertical walls, Figs. 2 and 3, said hook 100 and keeper being recessed in the box-walls, so as to be flush therewith and whereby the vertical walls of the box are detachably se-
cured together.

It will be observed that the hook-latch H engages the keeper by entering the slot therein in the upper face of the side wall s s' , and when so engaged the upper face of the hook 5 will be flush with the like faces of the end and side walls, so that when the lid is secured to the box an accidental disengagement of the fastener H cannot take place, as the lid has bearing thereon.

10 In order to prevent the end walls e and e' of the box from folding or dropping inwardly when unlocked from the side walls, I provide a spring S, secured to the inner face of the side walls, the free end of which spring has 15 bearing on the inner face of a metallic plate p , Fig. 4, recessed in the end walls. There may be one of said springs S for each end wall, though I prefer to provide two, as shown in Fig. 2. In order to more firmly brace the 20 end walls against pressure from within, I provide each of said walls on opposite sides with a slotted keeper K', recessed in the outer face of said walls and adapted to be engaged by a locking-hook H', recessed in the inner face 25 of the side walls with its hook end in line with the slot in the keeper K', so as to engage the same when the end wall is raised into a vertical position, the springs S then snapping over their respective plates p .

30 In practice I prefer to secure to the vertical edges of the side walls corner angle-irons i , so as to lap over the joints between the side and end walls and over the brace-hooks H', to more effectually brace the ends of the box.

35 In order to seal the box when packed and ready for shipment and at the same time provide means for securing the ends of the lid l to said box, I provide each of the end walls with an angle-plate P' of the same construction as the angle-plates P, above referred 40 to, for the reception of screw-bolts B'. To the outer face of the lid I secure a plate p' , provided with a bolt-hole or recess p^2 in register with a hole in the lid l , which last-named 45 hole is adapted to register with the bore of the nut on angle-plate P' for the aforesaid locking-bolt B'. The plate p' projects over a recess l^3 in the lid and is provided at that point with a hole p^3 , Fig. 1, and to said plate 50 is pivoted a disk d , provided with a finger-notch d' of sufficient size to allow the passage therethrough of the head of the bolt B' when said disk is turned into proper position,

The disk d has a hole d^2 , adapted to be 55 brought into register with the hole p^3 in plate p' when said disk is turned into proper position, whereby its finger-notch d' is moved out of register with the bolt-hole in plate p' and will cover said hole and the head of the 60 bolt B'. A cord, wire, or the like may now be passed through the holes in disk d and plate p' , and a lead seal applied to the ends thereof, as shown in Fig. 8, such seal being placed in recess l^3 in lid l , or the ends of the 65 sealing-cord may be sealed into said recess, as will be readily understood, and so as to

avoid the accidental tearing off of the seal in transportation and handling of the box.

I have hereinbefore referred to a locking-hook H', secured to the inner face of the side 70 walls s and adapted to engage a keeper K' on the outer face of the end walls e to more firmly brace the end walls against internal pressure. In practice I prefer, however, to 75 so construct the hook H' as to also embrace the side walls of the box. To this end the said hook is T-shaped, as shown in Figs. 6 and 9, the stem being secured to the inner 80 face of a side wall flush therewith, while the ends of the transverse member of the hook are bent at right angles, so that when secured in position that portion h' of said horizontal 85 member will embrace such side walls, while the other portion H^2 of said horizontal member of hook H' will project inwardly in line with the keeper K' on end wall e when the 90 latter is turned up and engage said keeper.

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

1. In a collapsible box, the combination 90 with the side and end walls; of locking-hooks A pivoted to the inner face of said end walls, and metal keepers K secured to the like faces of the side walls in position to be engaged by 95 said hooks, the latter and their keepers recessed in the end and side walls respectively so as to be flush with their inner faces and so positioned that when the hooks are in engagement with their keepers the upper faces 100 of the former will be flush with the like faces of the end and side walls, and a lid having bearing on and covering said hooks and keepers when applied and fastened to the box, 105 substantially as and for the purpose set forth.

2. In a collapsible box, the combination 110 with the side walls having locking-hooks H' and the end walls having keepers K' engaged by said hooks, of fastening devices for detachably securing the said end walls to the said side walls, for the purposes set forth.

3. In a collapsible box, the combination 115 with the side walls having locking-hooks H' and corner angle-irons i lapping over the ends of said hooks, of the end walls having keepers K' engaged by said hooks, and fastening devices for detachably securing said end walls to said side walls, for the purpose set forth.

4. The combination with a box the end 120 walls of which are provided with the lock-nuts P' flush with the upper face of said walls, of the box-lid provided with a recess l^3 and a bearing-plate p' projecting over said recess and provided with a hole for the pas- 125 sage of a seal cord or wire and with a countersunk hole in line with the bore of the aforesaid lock-nut for the reception of a fastening-bolt B', and a disk pivoted to said plate and adapted to cover the bolt-head, 130 said disk provided with a finger-notch adapted to be brought into register with said bolt-

head and with a hole for the aforesaid seal
cord or wire, so located that when the disk is
turned to cover the bolt-head the seal-cord
hole in said disk will register with the like
5 hole in the aforesaid plate p' over recess l^3 ,
substantially as and for the purpose set forth.

In testimony that I claim the foregoing as

my invention I have signed my name in pres-
ence of two subscribing witnesses.

ADOLPHUS SILBIGER.

Witnesses:

GEO. E. FRECH,

HENRY ORTH, Jr.