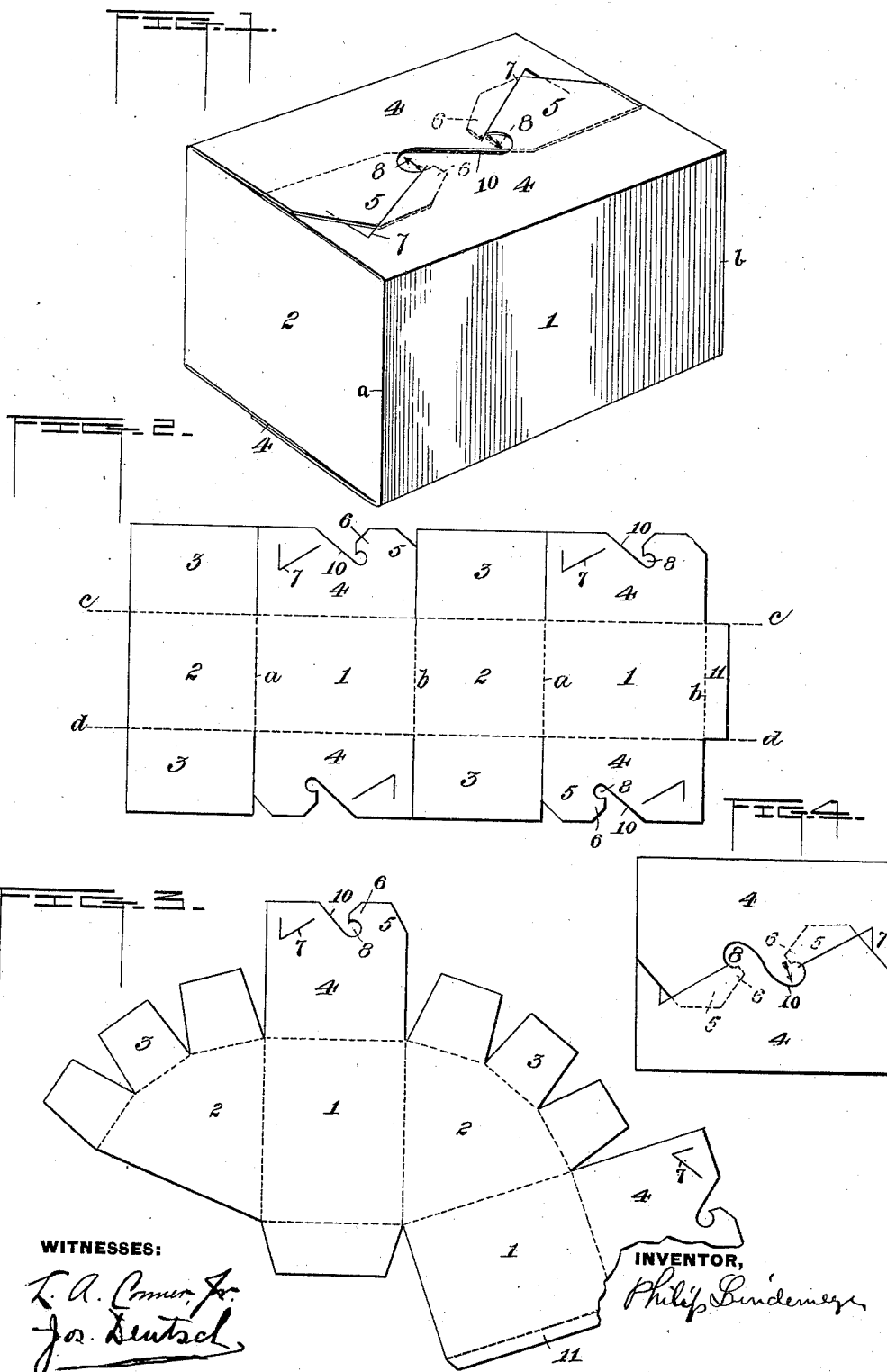


(No Model.)

P. LINDEMEYER.
PAPER BOX.

No. 466,792.

Patented Jan. 12, 1892.



UNITED STATES PATENT OFFICE.

PHILIP LINDEMAYER, OF BALTIMORE, MARYLAND, ASSIGNOR TO ISAAC FRIEDENWALD.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 466,792, dated January 12, 1892.

Application filed August 20, 1889. Serial No. 321,376. (No model.)

To all whom it may concern:

Be it known that I, PHILIP LINDEMAYER, a resident of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Paper Boxes; and I do hereby 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 pertains to make and use the same.

The object of the invention is to provide an improved paper box that can be made from a single blank and closed and secured at each end by overlapping pieces provided with double locks of a particular form. Heretofore it has been found in boxes of this general character having a single lock that it was liable to become disengaged or unlocked by external or internal pressure, and particularly during the operation of filling the same—as, for example, with candy. In such case it is desirable to settle the contents of the partially-filled box by shaking or agitating it, and such operation has been very liable in prior constructions to shake loose the lock at the end opposite to that into which the candy or other material is being supplied. Furthermore, constructions employing a double lock have been liable to tear out, and particularly where two slots were formed in one flap to receive corresponding parts suitably shaped on an opposing flap. Double locks heretofore employed have also been liable to disengagement in filling the boxes, as above specified of single locks, owing to the want of lateral hooks shaped, situated, and operating as those herein set forth.

According to the present improvement a double lock is formed that will not be loosened by pressure against either its exterior or interior surface, but which will be rather tightened thereby, and one which while securing this important advantage also avoids the use of two slots in one flap and the weakening effect of such construction.

The invention consists in the construction hereinafter described and pointed out.

In the accompanying drawings, which form part of this specification, Figure 1 is a perspective view of the improved box. Fig. 2 represents a blank cut in suitable form for making a box. Fig. 3 represents a modified

form of the same, and Fig. 4 is a view of a modified detail.

The reference-figures 1 1 indicate portions of the blank which form two opposite sides, 55 and 2 2 indicate parts which form two sides at right angles to the parts 1 1. The parts 3 3 form the ends lying underneath the locking-laps 4 4. The part 11 constitutes a usual feature of construction, whereby the ends of 60 a box-blank are secured together.

To form the lock, each flap 4 is provided with a tongue 5, having a projection 6 at one side of the flap and with a slot 7 at the other side, which slot is preferably made in angular form, as shown. The projection 6 is formed by cutting a curve 8 at the side of the tongue, which curve connects with a straight edge 10, cut as represented. The main part of the slot 7 lies in a direction approximately at right 70 angles to the edge 10.

To form the box after the blank is prepared, it is first folded on the lines *a b a b*, so as to bring similar parts opposite each other, the small portion 11 being made to extend under 75 the outer edge of 2 and glued or otherwise secured thereto. The parts 3 3 are then folded on the line *c c* or *d d*, so as to be at right angles with parts 1 and 2. Thus folded, they overlap each other and constitute the main 80 portion of the ends of the box. The parts 4 4 are subsequently folded down upon line *c c* or *d d*, so as to bring the right-hand tongues over the left-hand slots, and vice versa. By 85 springing the adjacent parts 4 4 laterally in opposite directions each tongue can readily be entered in its corresponding slot, the hook or projection 6 slipping through the inner end of the slot, and the parts 4 4 are then moved 90 back laterally until the straight edges 10 10 are in contact, as represented in Fig. 1. These edges 10 10 cross each other at an acute angle, as shown, and form a stop to prevent the accidental removal of the hooks or projections 6 from the slots. These projections are 95 in curved form (they may be angular, but should have a hook form) and engage the inner ends of the slots, which they cannot do unless they are so shaped that when entered in the slots their extremities can slip back 100 behind the edge of the slot by which they were passed in entering the same—that is to

say, if they were not made in hook form—
substantially as shown and described. Such
projections will engage the wall of the slot at
its end all the more firmly when pressure is
5 applied to the end of the box, and they can-
not be drawn out as are projections which
have their edges extending only in the direc-
tion in which they are entered in the slots.
The locking connection is readily made by
10 slightly bending or springing the flaps in
which are formed the tongues and slots and
thrusting the tongues into the corresponding
slots, and this connection can be unmade when
desired without difficulty, while the crossing
15 of the edges 10 10 and their consequent en-
gagement and the alternate overlapping of
the flaps on their two sides effectually pre-
vent accidental separation.

As indicated in the drawings, my improved
20 lap and lock are adapted to boxes of dissim-
ilar forms, Figs. 1 and 2 indicating blanks
suitable for rectangular and wedge-shaped
boxes, respectively, and the improvement is
therefore not limited in this respect. It is
25 also obvious that the size of the tongues and
slots may be varied and that the latter may
be made in one straight line and also by cut-
ting out or removing a part of the material.
The particular form of the curve is not essen-
30 tial, nor is it essential that edges 10 10 should
be made straight, as they may be formed as
indicated in Fig. 4 or otherwise shaped. It
is further obvious that the locking devices
may be omitted at one end of the box and
35 that a plain end piece secured in any ordinary
way may be substituted.

It may be noted that the usual strain or
pull upon the wall of the slots 7, caused by

pressure from within the box, for example, is
not in the direction of the slot, but transverse 40
to its direction, as indicated by the arrow. To
add strength to the parts in the direction of
the slot, however, it is only necessary to curve
the lines 10 as in Fig. 4; but this is not es-
sential.

Having thus described my invention, what I
desire to secure by Letters Patent is as fol-
lows:

1. A folded box having its ends composed
in part of flaps provided with the tongues 50
having lateral hooks and with slots, the hooks
of the tongues engaging the edge of the slot,
said flaps having their edges between the slots
running in the same direction as the tongues
and lying in planes which cross each other 55
at an acute angle, whereby the edges abut
throughout their whole length and form a
practical stop, substantially as set forth.

2. A blank comprising similar parts in the
usual form, adapted to constitute the sides 60
and ends of the box, and having flaps adapted
to constitute in part the ends provided with
tongues having lateral hooks and with slots,
the hooks of the tongues being suitable to en-
65 gage the edges of the slots, said flaps having
each an edge 10 running in the same direc-
tion as the tongue and adapted when placed
in operative position to cross the other at an
acute angle, substantially as set forth.

In testimony whereof I have signed this 70
specification in the presence of two subscrib-
ing witnesses.

PHILIP LINDEMAYER.

Witnesses:

FRANK DE S. BENZINGER,
JOS. DEUTSCH.