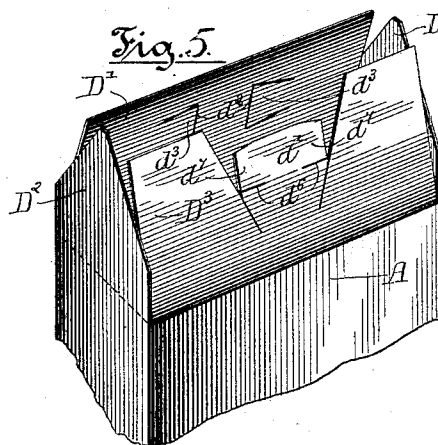
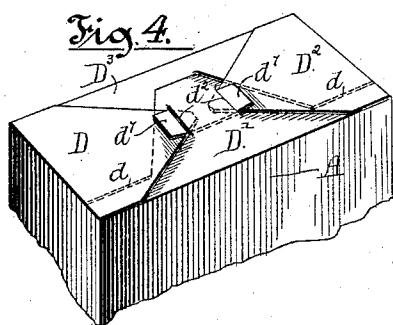
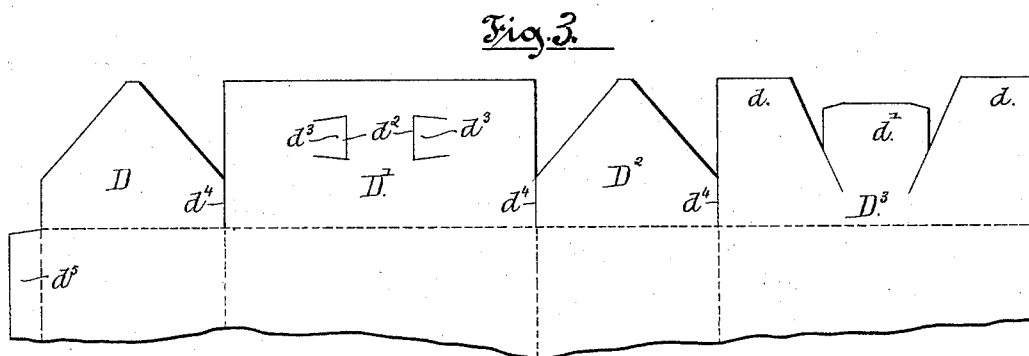
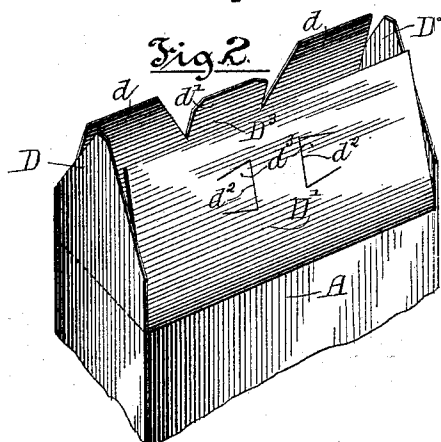
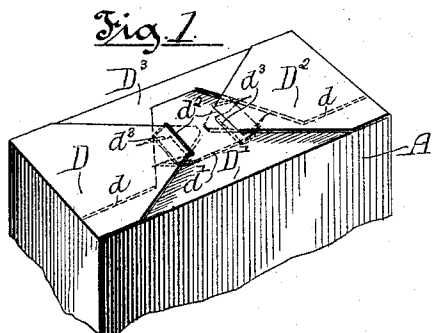


(No Model.)

W. B. HOWE & F. B. DAVIDSON.
BOX.

No. 482,479.

Patented Sept. 13, 1892.



Witnesses:-

Wm. L. Fleming
Louis M. Whitehead

Inventors:-

Warren B. Howe
Frank B. Davidson

By:- Raylin, Poole & Brown
Attorneys.

UNITED STATES PATENT OFFICE.

WARREN B. HOWE AND FRANK B. DAVIDSON, OF CHICAGO, ILLINOIS.

BOX.

SPECIFICATION forming part of Letters Patent No. 482,479, dated September 13, 1892.

Application filed January 22, 1891. Serial No. 378,686. (No model.)

To all whom it may concern:

Be it known that we, WARREN B. HOWE and FRANK B. DAVIDSON, of Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in Paper Boxes; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form
10 a part of this specification.

This invention relates to an improvement in the construction of a paper box of that class having connected side walls and flaps at one
15 or both ends, which are adapted to be folded together and interlocked to form the end wall or walls of the box.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a perspective view of one end of a box embodying our invention, illustrating a somewhat different construction
25 in the form of the end flaps. Fig. 2 is a similar view showing the same box with the end flaps partially unfolded. Fig. 3 is a plan view of one end or edge of the blank used for forming the box shown in Figs. 1 and 2. Fig. 4 is
30 a perspective view of one end of a box, which differs slightly from that shown in Figs. 1 and 2. Fig. 5 is a similar view of the box shown in Fig. 4, with the end flaps partially unfolded.

In Figs. 1 and 2 we have shown one end of a
35 box having only one set of interlocking flaps, the side walls of the box shown in this instance being longer in one direction than the other and the interlocking flaps being applied to the longer side walls.

40 D D² are flaps belonging to the shorter sides of the box, while D' D³ are flaps belonging to the longer sides thereof. The flap D' is of rectangular shape with a straight free edge, while the flap D³ is provided with transverse notches or slits, forming two lateral projections $\bar{d}$ $\bar{d}$ and an intermediate tongue $\bar{d}'$,
45 which tongue is made shorter than the projections $\bar{d}$ $\bar{d}$ for convenience of folding the parts together. The flap D' is provided with
50 U-shaped cuts or slits $\bar{d}^2$ $\bar{d}^2$, forming tongues $\bar{d}^3$ $\bar{d}^3$, said tongues being arranged laterally or with their free ends parallel with the sides of

the main flap D'. The slits $\bar{d}^2$ $\bar{d}^2$ are so located that the side margins of the tongue $\bar{d}'$ may be inserted beneath said lateral tongues
55 when the flaps D' and D³ are interlocked. The ends of the flaps D D² are tapered or otherwise made sufficiently narrow or are provided with narrow projections to also enter the slits $\bar{d}^2$ $\bar{d}^2$. The flaps D' D³ are folded together or interlocked in the same manner as
60 the similar flaps hereinbefore described, except that the tongue $\bar{d}'$ is preferably, but not necessarily, introduced between the tongues $\bar{d}^3$ $\bar{d}^3$ and the body of the flap D', and the
65 flaps D D² are bent over the said flaps D' and D³ and the ends thereof inserted in the slits $\bar{d}^2$ $\bar{d}^2$, which latter are placed so close together as to be exposed between the parts $\bar{d}$ $\bar{d}$ of the flap D³, as clearly shown in Fig. 1.
70 The engagement of the tongue $\bar{d}'$ with the lateral tongues $\bar{d}^3$ $\bar{d}^3$ makes the end of the box stiffer or stronger to resist inward pressure, because the said tongues $\bar{d}^3$ $\bar{d}^3$ hold the free
75 end of the tongue $\bar{d}'$ from being bent or deflected inwardly away from the flap D', as it would tend to do when the flaps were pressed inwardly if not so interlocked with said
80 tongues $\bar{d}^3$ $\bar{d}^3$. The engagement of the ends of the flaps D D² with the slits $\bar{d}^2$ $\bar{d}^2$ obviously secures the several flaps, so that no other fastening device is necessary. When it is desired to hold the outer flaps D D² closed without
85 affording any additional engagement of the tongue $\bar{d}'$ with the flap D', the slits $\bar{d}^2$ $\bar{d}^2$ may be made straight instead of U-shaped and the ends of the flaps D D² inserted therein, with the same result as far as the securing of the said outer flaps is concerned. It will
90 of course be understood, however, that the box having flaps made as described, may and commonly will be covered by a paper wrapper when employed for packing merchandise,
95 such as starch or dry-food products, which are liable to sift through the joints of the folded flaps.

Fig. 3 shows one end of the blank employed in forming the box shown in Fig. 5, said blank being provided with transverse slits $\bar{d}^1$ $\bar{d}^1$, forming the several flaps, and with an end
100 flap $\bar{d}^2$, like the similar blank hereinbefore described.

In Figs. 4 and 5 we have shown one end of a box similar to that shown in Fig. 5, with

the exception that the tongue d' of the flap D^3 is provided with two slits $d^6 d^6$, which are approximately parallel with the free edge of the flap, so as to form two lateral tongues $d^7 d^7$. The said slits $d^6 d^6$ terminate at their inner ends a distance apart about equal to the space between the slits $d^2 d^2$, so that when the flap D^3 is engaged with the flap D' , with the tongue d' beneath said flap D^3 , the lateral tongues $d^7 d^7$ may be inserted through the said slits $d^2 d^2$. When the parts are thus constructed, the insertion of the said tongues $d^7 d^7$ through the slits $d^2 d^2$ serves to interlock the flaps $D' D^3$ with each other, so that they cannot be pulled apart or will not become separated by accident or by the pressure of the goods within the box, and cannot be disconnected without first disengaging said tongues from the slits. In closing the end of the box constructed as last described the ends of the flaps $D D^2$, which are made narrow for the purpose, are tucked into the slits $d^2 d^2$, preferably beneath the tongues $d^7 d^7$, as clearly seen in Fig. 4.

It will of course be understood that the novel features of construction herein shown, by which the opposite flaps of a box may be interlocked in the manner described, may be applied to either one or both pairs of flaps at one end of a box, or to one or both flaps at both ends thereof, as desired. It is further obvious that as far as the construction of the flaps themselves is concerned the side walls or body of the box may be constructed in any manner found convenient or desirable, and the use of a single blank such as is herein illustrated is not essential.

While the invention is herein described as applied to a box made entirely of paper or strawboard, having permanently-connected side walls and adapted for shipment in "knockdown" form, it will of course be understood that the invention may be employed as well in connection with wrappers, packages, or cartons of other forms. Furthermore, it is obvious that as far as the construction of the interlocking flaps is concerned the body of the box or carton may be wholly or partially of other material than paper or strawboard.

We claim as our invention—

1. A box provided with two flaps connected with opposite side walls of the box, one of said flaps being provided with two slits or notches extending inwardly from its outer end to form a tongue and the other with two U-shaped slits forming interior tongues to engage with the side margins of the tongue upon the flap first mentioned when the flaps are folded together, substantially as described.

2. A box provided with two flaps connected with opposite side walls of the box, one of said flaps being provided with two slits or notches extending inwardly from its free edge to form a tongue, which tongue is slitted at each side to form lateral tongues, and the other with two slits in its central part, which form tongues to engage with the tongue upon the flap first mentioned and which are adapted to receive the said lateral tongues for locking the flaps together, substantially as described.

3. A box provided with four flaps connected with its side walls, one of said flaps being provided with slits or notches extending inwardly from its free edge to form a tongue, the flap opposite thereto being provided with interior cuts or slits and the intermediate flaps being provided with narrow ends or projections adapted to enter said interior slits, substantially as described.

4. A box provided with four flaps connected with its side walls, one of said flaps being provided with slits or notches extending inwardly from its free edge to form a tongue, which tongue is slitted to form lateral tongues, the flap opposite thereto being provided with interior cuts or slits adapted to receive the said lateral tongues and the two intermediate flaps being provided with narrow ends or projections adapted for insertion in said interior cuts or slits, substantially as described.

In testimony that we claim the foregoing as our invention we affix our signatures in presence of two witnesses.

WARREN B. HOWE.
FRANK B. DAVIDSON.

Witnesses:

C. CLARENCE POOLE,
GEO. W. HIGGINS, Jr.