

M. H. LONGFELLOW.
PACKING BOX.
APPLICATION FILED NOV. 1, 1907.

909,628.

Patented Jan. 12, 1909.

2 SHEETS—SHEET 1.

Fig 1

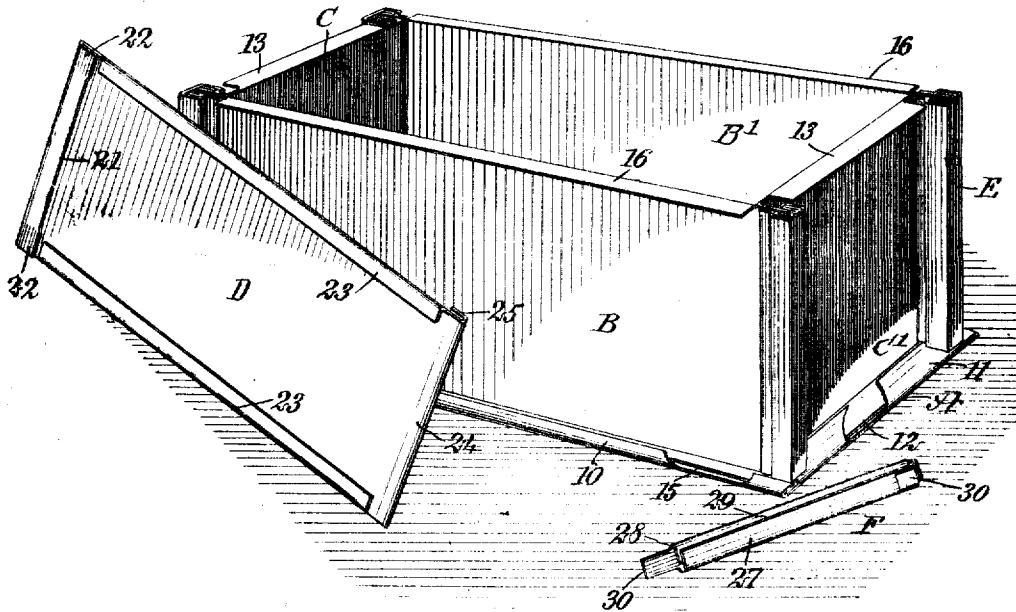


Fig 2

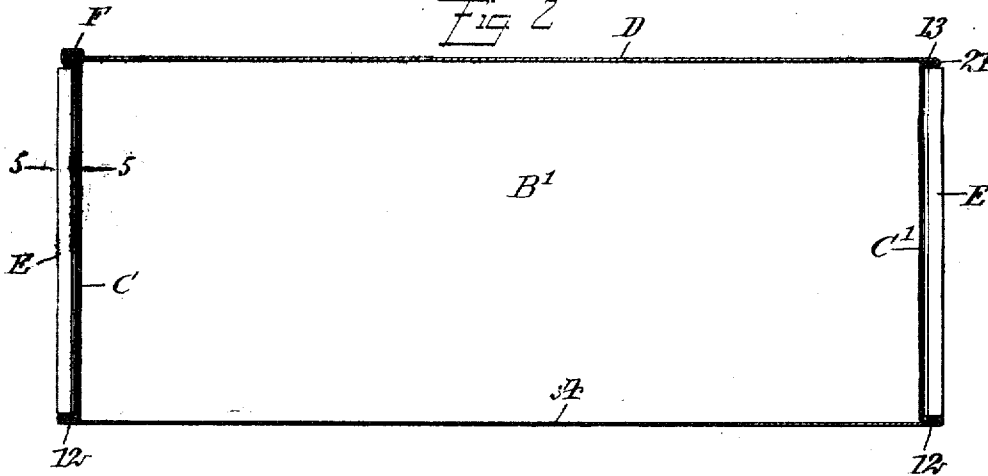
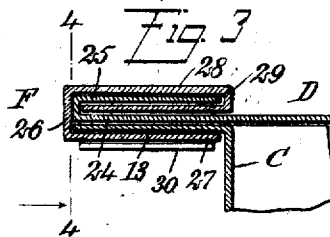


Fig 3



WITNESSES

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BY

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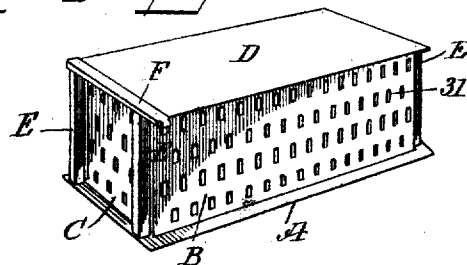
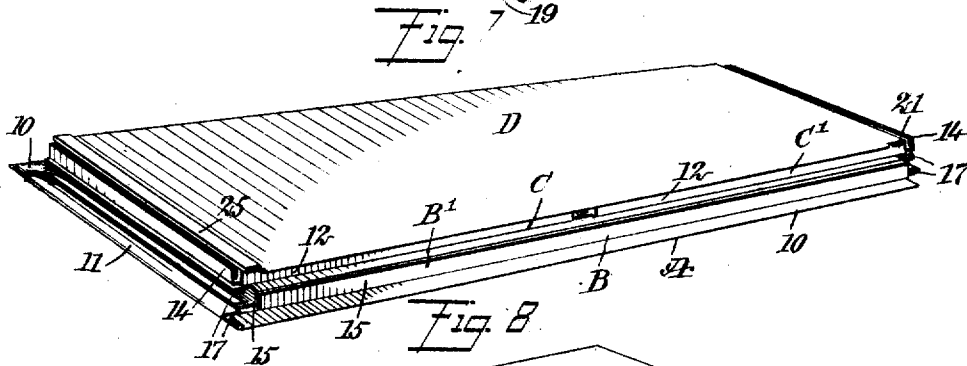
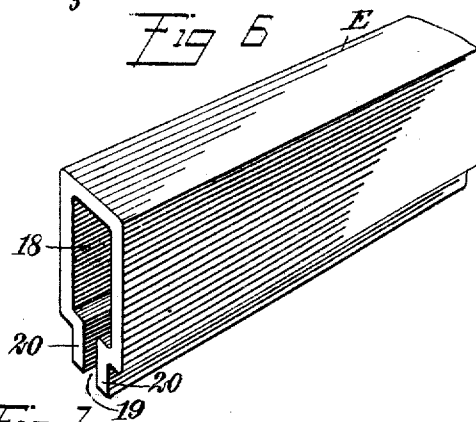
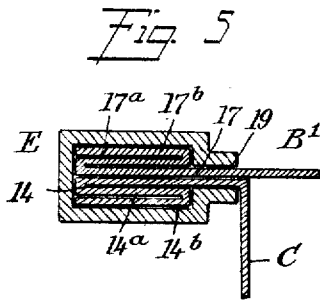
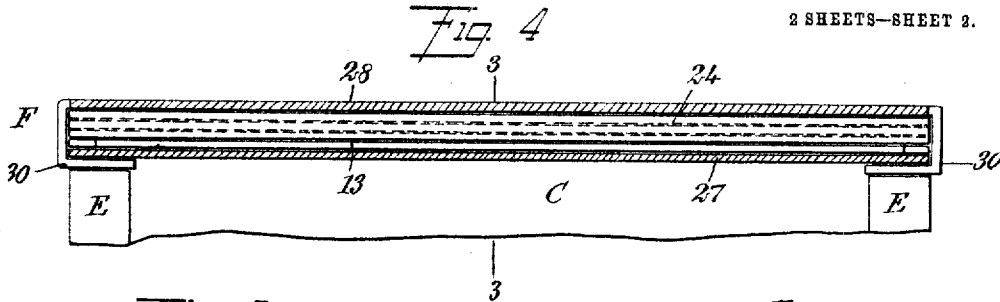
ATTORNEYS

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2 SHEETS—SHEET 2.



WITNESSES

M. Gartner.

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UNITED STATES PATENT OFFICE.

MILTON H. LONGFELLOW, OF PORTSMOUTH, OHIO.

PACKING-BOX.

No. 909,628.

Specification of Letters Patent.

Patented Jan. 12, 1909.

Application filed November 1, 1907. Serial No. 460,185.

To all whom it may concern:

Be it known that I, MILTON H. LONGFELLOW, a citizen of the United States, and a resident of Portsmouth, in the county of Scioto and State of Ohio, have invented a new and useful Improvement in Packing-Boxes, of which the following is a full, clear, and exact description.

My invention relates to knockdown or collapsible metal boxes to be used for packing and shipping goods of all kinds.

A purpose of the invention is to provide a box of the character described, so constructed and arranged that its parts can be expeditiously and conveniently assembled or knocked down and compactly bundled for transit to and from distant places, and so that it can be made as light as possible consistent with the needs required for ample protection to the goods in transit. To such end I aim to construct a box made of sheet metal of a required shape and thickness to be determined by the weight, quality, and character of the goods to be shipped, that will be simple, durable, and economic, and wherein the material may be corrugated or perforated if such construction is desirable.

It is also a purpose of the invention to provide a locking device or section for the several parts of the box that can be made of a brittle material, so that should the box have been opened or tampered with during transit the fact can be determined when the box reaches its destination.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the body of the box, part being broken away, and a perspective view of the cover and fastening device removed from the box; Fig. 2 is a longitudinal central section through the box, the cover being locked thereon; Fig. 3 is an enlarged detail section through the locking device for the box and that portion of the body and cover with which it engages, the section being taken practically on the line B—B of Fig. 4; Fig. 4 is an enlarged longitudinal section through the locking de-

vice for the cover, the section being taken substantially on the line 4—4 of Fig. 3; Fig. 5 is an enlarged horizontal section through a corner fastening for the box, taken practically on the line 5—5 of Fig. 2; Fig. 6 is an enlarged perspective view of a portion of one of the corner clamps or fastening devices; Fig. 7 is a perspective view of the parts of the box dismantled and packed or stacked for transportation; and Fig. 8 is a perspective view of the box drawn upon a reduced scale, illustrating a perforated body adapted to receive articles requiring ventilation.

The box consists in its entirety of a bottom A, opposing sides B and B', opposing ends C and C', a cover D, corner locking devices E, and a locking device for the cover, designated as F. The bottom A of the box is provided with inwardly extending side marginal overlying flanges 10, and corresponding end flanges 11, the said flanges being so formed that the side flanges will not interfere with the end flanges. The end sections C and C' of the box are of the same construction and each of said sections C and C' is provided at its bottom portion with an outwardly extending horizontal flange 12, and these flanges 12 are adapted to be received beneath the flanges 11 of the bottom A of the box, and each end section C and C' is provided at its upper edge with an outwardly extending horizontal flange 13, the flanges 13 of the said end sections being made to stop short of the side portions of said sections, as is illustrated in Fig. 1. In the further formation of the end sections C and C' of the box, the side edges thereof are peculiarly formed, as is illustrated in Fig. 5. An outwardly extending flange 14 is provided at each side portion of each end section C and C', and the material at the outer portions of such flanges is bent upon itself to form multiple leaves, preferably two in number, arranged in parallelism, and designated as 14^a and 14^b, which leaves when so formed are pressed firmly together and against said flanges 14, thus it will be observed that the side flanges 14 of the said end sections C and C' are greatly increased in thickness at their outer end portions.

Each side section B and B' is provided at its bottom with an outwardly extending horizontal flange 15, and these horizontal bottom flanges 15 are adapted when the box is set

up, to enter the spaces between the side flanges 10 of the bottom and the upper face of the said bottom A, as is shown in Fig. 1. Each side section B and B' is further provided at its upper edge with an outwardly extending horizontal flange 16, that stops short of the end portions of said side sections, as is also best illustrated in Fig. 1. With reference to the ends of the side sections B and B', these end portions are similarly treated to the end portions of the end sections C and C', as is shown in Fig. 5, that is the side sections B and B' at their end portions are carried out to form vertical straight flanges 17, and at the outer end portions of the said end flanges of the side sections B' and B' the material is bent upon itself to form multiple leaves preferably two in number, designated as 17^a and 17^b, which leaves correspond to the leaves 14^a and 14^b of the end sections C and C', and lie parallel with each other and are pressed together as firmly as possible.

When the side sections B and B', and the end sections C and C' have their lower flanges entered into the spaces between the bottom flanges and the upper face of the body of the bottom, a clip E is employed to secure the abutting enlargements of the flanges 14 and 17 together at the corner portions of the box. This clip is preferably made as is shown in Fig. 6, each clip consisting of a continuous piece substantially rectangular in cross section and provided with a chamber 18 extending through from end to end, also practically rectangular in cross section, and the chambers 18 of the clips E are of sufficient dimensions and formation to neatly receive the enlargements or leafed portions of the end flanges of the side and end sections of the box; and in the further construction of a clip E it is provided with an opening in its inner face extending through from end to end, as is shown at 19 in Figs. 5 and 6, and at the said opening 19 in the inner side of a clip, the walls of the chamber 18 are brought together, as is shown at 20 in said Figs. 5 and 6, so as to render the chamber 18 contracted at such point. In placing the clip over the corner enlargements of the set up box, it is slid down over said enlargements from the top, the larger and major portion of the chamber 18 receiving said enlargements, as is illustrated in Fig. 5, while the inner contracted and open side portion of the said chamber receives the plain surfaces of the opposing flanges 14 and 17 extending respectively from the end sections of the box and the side sections thereof.

Referring to the cover D of the box, it is provided upon its under face with an inwardly extending flange 21 at one of its ends, the end portions of the said flange 21 being closed or pressed close to the under

face of the cover D, as is shown at 22 in Fig. 1, thus producing a pocket at the said end of the cover at its under face, and also on the under face of the cover at each of its sides inwardly extending flanges 23 are provided, and these flanges 23 stop short of the pocket flange 21 and likewise stop short of the opposing end of the said cover, as is shown in Fig. 1, and at this latter end of the cover D which is designated as 24, the material of the cover is bent upward to form at such point a transverse flange 25 that extends in direction of the opposing end of the cover, and the space between the upper face of the cover and the upper flange 25 is open at each end.

When the sides and the ends of the box have been placed in position on the bottom thereof, and the corner clips E have also been placed in position, the cover is placed with its flange 24 on the upper flange 13, of the end C' in such a way that flanges 23 engage flanges 16; then the cover is slid over the box until flange 21 passes over the upper flange 13 of end C', thereupon flanges 13 of end C and flange 25 are connected by the locking device F, which is slid on side-wise as is further explained below. Thus the cover is slid in direction of opposing ends of the box until it completely closes it, and it may be here remarked that the leaf flanges of the side and the end portions of the box, and the clips E provided therefor, are of such length that a space will intervene the upper edges of such box, and the under face of the cover D when it is in place as shown in Figs. 2 and 4. This space is but slight, and is provided for the application of the locking device F heretofore referred to. This locking device F consists of a strip of metal that is longitudinally bent upon itself so as to form, as is illustrated in Figs. 1 and 3, an end member 26, an inner member 27, an outer member 28, and an intermediate member 29, a space intervening the said intermediate member, the outer member and the inner member, and the outer member 28 of this locking or closing device F is provided with extensions 30 at its ends, which extensions are in the form of tabs, as is clearly shown in Fig. 1. The sides and ends of the box having been secured to the bottom thereof in the manner described, and the top having been placed in position over the body of the box, the tabs 30 of the locking device F are placed in horizontal position, or parallel with the outer member 28 of said device, and then the said device is slid over the end portion 24 of the cover which engages with the flange 13 of the end section C, for example, and in sliding this device F over the flange 24 of the cover and the flange 13 of the said end section C', the member 27 of the locking device is brought beneath the flange 13 of the end section C', 130

the upper member 28 is brought over the upper face of the flange 25 at the upper portion of the said cover, while the intermediate member 29 of the said device F lies between the under face of the upper flange 25 of the cover and the upper face of the main flange 24 thereof, as is clearly shown in Fig. 3, and then the tabs 30 are bent downward and under the lowermost member 27 of the locking device, effectually preventing it from slipping from position. If the material employed in the construction of the locking device F is a friable material, or a material likely to break when bent upon itself more than once, for example, should an attempt be made to throw back the tabs 30 to permit the fastening device of the cover F to be removed, when the fastening device is again placed in position the tabs 30 will become detached and the party to whom shipment is made will be able to readily detect that the package has been opened or has been tampered with.

To collapse the box, the locking device F is removed, and the cover disengaged from the flanges 16 by sliding it to the proper end of the box. The clips E are then removed, after which the ends and the sides are disengaged from the bottom flanges. The parts of the box may be then stacked up as shown in Fig. 7 for convenience in shipping when emptied. The parts may be stacked in any preferred order, but as shown in Fig. 7, the bottom is placed first, the sides next with the flanges 15, and 16 of the one side overlapping the flanges 15, 16 of the other side. The ends are then placed end to end on top of the sides, and the top above the ends.

I desire it to be understood that in the construction of the box described, the sections thereof may be corrugated instead of plain as shown, and that also the body of the box, particularly at its sides and at its ends, may be provided with openings or perforations 31 for the free circulation of air there-through when perishable goods are packed in the box, as shown in Fig. 8.

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

1. A collapsible metal box comprising separable bottom, side, end and top sections, said bottom being provided with marginal overlying flanges and the sides and the ends with marginal angular flanges for engaging beneath the overlying flanges, said sides having thickened ends and said ends having at their ends outwardly extending thickened

flanges, clips having a longitudinal recess for receiving said thickened ends of the sides and ends, and a contracted slot for engaging the sides and ends inside of the thickened portion, and a cover detachably connected with the top of the sides and the ends.

2. A collapsible metal box comprising separable bottom, side, end, and top sections, said bottom being provided with marginal overlying flanges and the sides and the ends with marginal outwardly extending flanges for engaging beneath the overlying flanges, said sides having thickened ends and said ends having at their ends outwardly extending thickened flanges, clips having a longitudinal recess for receiving the said thickened ends of the sides and ends, and a contracted slot for engaging the sides and ends beyond the thickened portion, said sides and ends being provided at their top portions with angular flanges and a cover having overlying flanges at its sides and one end for engaging the angular flanges, and means for locking the cover in place.

3. A collapsible metal box comprising separable bottom, side, end and top sections, overlying marginal flanges for the bottom section, outwardly extending top and bottom flanges for the side and end sections, the bottom flanges being adapted to be received beneath the marginal flanges of the bottom section, abutting vertical flanges for the side and end sections, having oppositely extending vertically disposed enlargements, clips adapted to slip over said abutting flanges and their enlargements, a cover section having underlying inwardly extending flanges at its sides and one end adapted to receive the upper flanges of the side sections and an end section, which cover at its opposite end is adapted to engage with the upper flange of the other end section, said latter named end of the cover being provided with an upper overlying inwardly extending flange, and a locking device for the cover comprising upper, lower and intermediate parallel members that interlock with the upper overlying flange of the cover and the upper end flange beneath the same, and pliable extensions from the end portions of said locking device.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MILTON H. LONGFELLOW.

Witnesses:

EDWARD J. DAHLER,
LILLIAN E. LONGFELLOW.