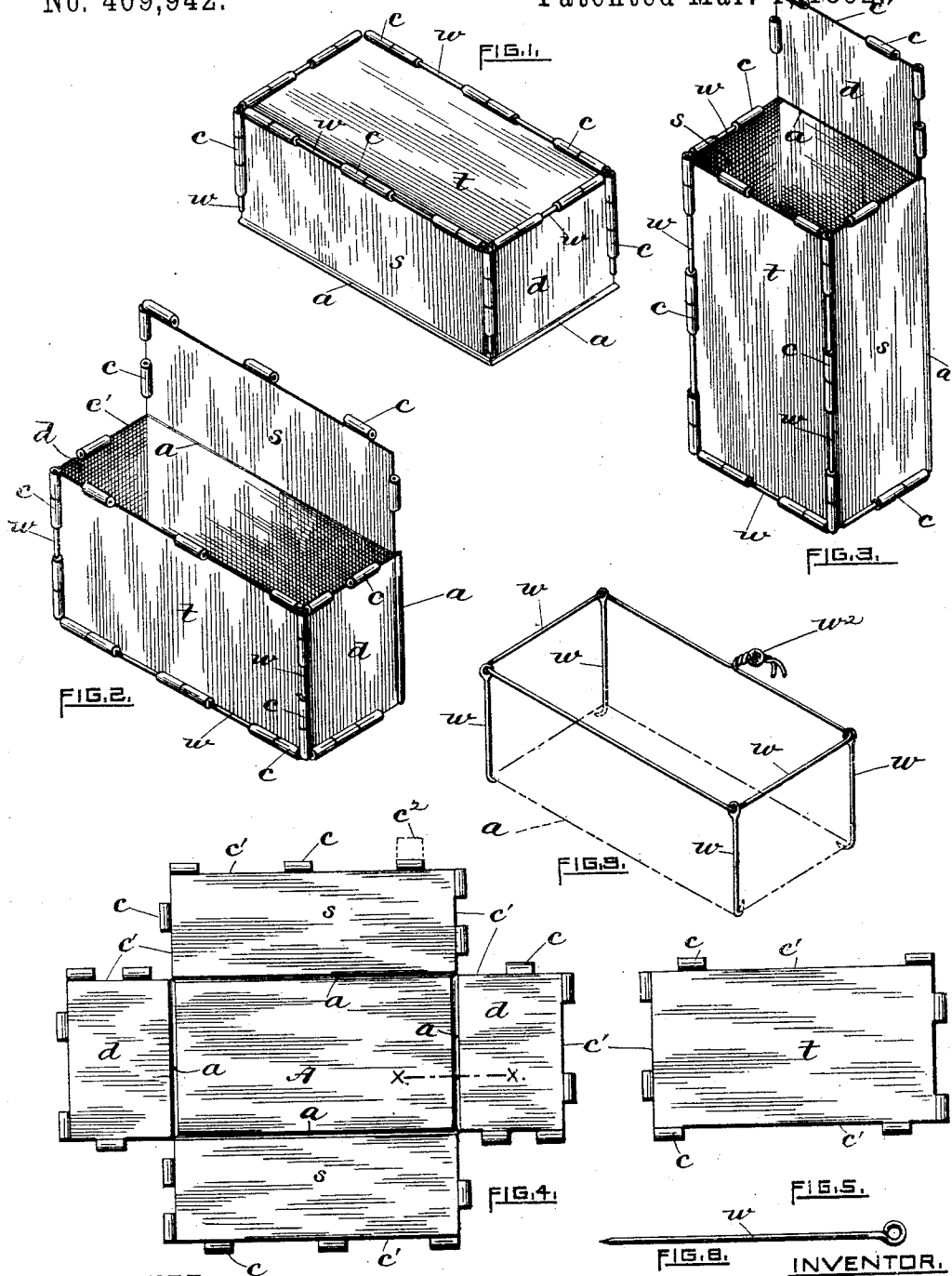


(No Model.)

G. B. HUSSEY.
PACKING CASE.

No. 469,942.

Patented Mar. 1, 1892.



WITNESSES.

Charles H. Hennigan
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FIG. 6.
FIG. 7.

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UNITED STATES PATENT OFFICE.

GEORGE B. HUSSEY, OF PROVIDENCE, RHODE ISLAND.

PACKING-CASE.

SPECIFICATION forming part of Letters Patent No. 469,942, dated March 1, 1892.

Application filed June 3, 1891. Serial No. 394,974. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. HUSSEY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Packing-Cases; 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 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.

In shipping textile fabrics and other classes of goods by rail or water it is very desirable to have a cheap packing-case that will withstand the ordinary usage to which it is subjected during such transportation, and at the same time be as light as possible and occupy a minimum amount of space for the goods carried; and at the same time it is also essential that the construction of the packing-case should admit of easy access to the goods cared for upon arrival at their destination without the laborious use of hammer, chisel, and like appliances. These conditions I believe I have very satisfactorily accomplished in my present invention, as it embodies a packing-case made of very thin sheet metal so designed and constructed that it may readily be closed after packing, and upon arrival at its destination it may be opened as readily at either of its ends or sides or at the top, as desired, by the withdrawal of sliding pins or wires passing through ears turned up from the metal and thus forming hinges at the several corners. It also admits of the goods being exposed to view by unhinging the sides, ends, and top complete, thus entirely freeing them from the sides of the case. This form of construction is, I believe, much stronger than when made of wood, and thus able to withstand the longest journey unimpaired, while its weight is far less than wooden cases of like capacity.

To properly illustrate my invention, I have prepared the annexed sheet of drawings, wherein—

Figure 1 is a perspective view representing my improved packing-case hinged together

and connected ready for shipment. Fig. 2 is also a perspective elevation showing the box or case open on one side. Fig. 3 is a perspective view showing the case as opened at one of its ends by withdrawing the pins from the hinges of the two sides and top and bending the metal rearwardly in the crimping, forming the corners of the bottom. Fig. 4 is a plan view of the sheet-metal blank as it is cut out ready to be formed up in the desired shape of a packing-case and showing the hinges formed upon its outer edges, which eventually form the vertical corners and top of the case. It also shows in outline the crimping or crease in the metal which serves to stiffen the bottom as well as to form a place to readily bend from. Fig. 5 is a plan view of the removable cover, also provided with corresponding hinges for connection to the sides of the case. Fig. 6 is a cross-section showing the crimping in the material forming the bottom of the case and before bending the formed blank into shape and is taken on line *xx* of Fig. 4. Fig. 7 is also a cross-section taken at the same position as in Fig. 6, but representing the end or side turned up at right angles to the surface of the bottom. Fig. 8 shows one of the pins for securing the several corners together by its passing through alternate hinges, and Fig. 9 shows a manner of uniting the several joint wires or pins.

Again referring to the drawings, Fig. 4, I first prepare a blank *A* by stamping, punching, shearing, or otherwise, and made of copper, tin, or other sheet metal, which forms the bottom, sides, and ends of my improved case, with a crimping *a* corresponding in outline to the size of the box or case when completed. This crimping of the outline for the bottom I prefer to be done in a separate machine. The hinges or eyes *c* I prefer to form from the material of which the case is made by turning up projections provided in forming the blank, (see dotted line *c*², Fig. 4;) but I can as well solder or rivet upon my case ears or hinges which have been previously shaped by hand or machine, as in many cases may be deemed desirable.

The crimping *a*, Figs. 4 and 6, I do by rolling or by any suitable die, depending upon the size of the case to be made. This flexible

joint, preferably curved in cross-section, forming the corners for the bottom, I provide so that the sides and ends of the case may be opened and closed several times without the liability of the metal forming the case cracking during such an operation. This projection also serves to stiffen the case very materially and adds to its efficiency, so that the case may be used many times for transporting material from one point to another. After the blank is formed and the ears or hinges turned thereon or otherwise provided therefor, I turn up the sides *s* and the ends *d*, thus bringing their corners *c'* together, and necessarily the alternate hinges thereon. Through each series of these corner hinges I pass a wire *w*, Fig. 8, which may have an eye for removal or not, as desired. The cover *t*, Fig. 5, I also prepare by stamping or by any other convenient method, thus forming the projecting hinges thereon, or soldering them thereto, as may be desirable, and upon its completion it is similarly secured to the case by the pins *w*, passing through the ears or hinges *c* of the cover and the corners of the sides and ends of the case. It is evident that these several corner hinges add very materially to the strength and efficiency of the packing-case for transshipment.

In the shipment of goods of various materials it is very often necessary to protect the same from dampness, and, in fact, make the case practically water-proof. This I do by lining my improved case with asbestos, oiled paper, or any other suitable material that will successfully withstand the dampness liable to be encountered during such a voyage, and to make it absolutely water-proof after it has been packed and connected together by the several pins I solder the joints, hinges, &c., and thus obtain a perfectly air-tight packing-case; but this latter I do not deem of much importance, as by my improved case I can ship goods properly protected against dampness by suitable packing, above referred to, for any distance at a much less freight rate than when the same goods are shipped in wooden cases, on account of their occupying less cubical space, and also save a large proportion of the dead weight of the case required to protect the goods.

I would state that in Fig. 9 I have indicated in reduced scale a manner of securing and sealing the several sides of the case together.

In the drawings the box itself is omitted, except as outlined by the dotted lines. The arrangement of the pins or wires, however, corresponds substantially to Fig. 1. As thus drawn the four corner pins *w* have each an

eye at the upper end, through which is passed a long wire *w*, the two ends of the latter being twisted together (see *w*²) and sealed or "lead-ed," the latter being as commonly employed. If desired, the lower ends of the corner wires may be bent, as indicated by dotted lines, thereby preventing any movement of the wires endwise.

Boxes or cases constructed according to my invention may, when not in actual use, be readily arranged for shipment by first flattening them out, as in Fig. 4. In this state they require but little room. Consequently the cost of returning empty cases would be very small as compared with wooden cases having the same capacity or volume.

I claim as my invention—

1. As an improved article of manufacture, a packing case or box having folding sides formed integral with the base or bottom, the movable edges or corners provided with hinge-eyes arranged to receive joint-wires, and a cover or top hinged or jointed to said sides, substantially as hereinbefore described.

2. The metallic packing-case hereinbefore described, consisting of a base having yielding sides integral therewith provided along their edges with fixed ears or eyes, as *c*, a removable top or side, as *t*, also provided with fixed ears, and joint wires or pins arranged to pass through said ears to secure the several sides and top together.

3. The combination, substantially as hereinbefore described, of a metallic blank *A*, having integral lateral wings or sides *s, d*, extending from its center portion and creased at the intersection of said sides and center portions and having the peripheral edges provided with a series of eyes or ears, a removable cover or top, also provided with fixed ears, and wires or pins arranged to pass through the several ears after the said sides have been bent or folded in position to receive them.

4. The combination, with a metallic packing-case having folding sides and a cover, all adapted to be hinged together, of movable corner joint wires or pins, and a securing wire passing through said corner wires and the hinges or eyes of the corresponding edges of the sides and cover, substantially as hereinbefore described.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE B. HUSSEY.

Witnesses:

CHARLES HANNIGAN,
GEO. H. REMINGTON.