J. GILBERT.

Sheet-Metal Box.

No. 209,556. Patented Nov. 5, 1878.

Fig. 5.

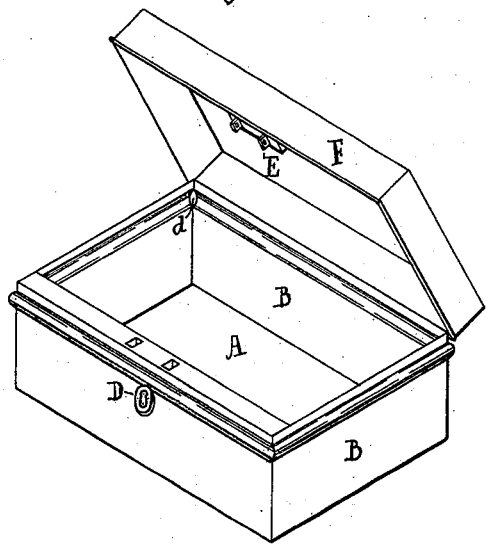
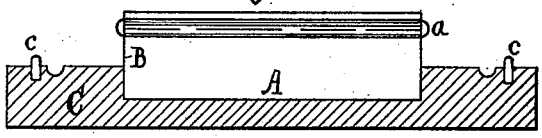


Fig. 4.



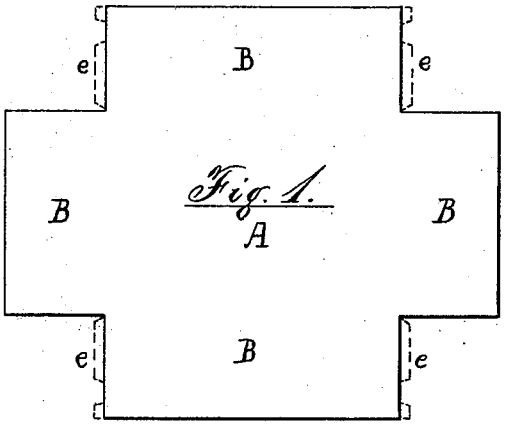


Fig. 1.

A

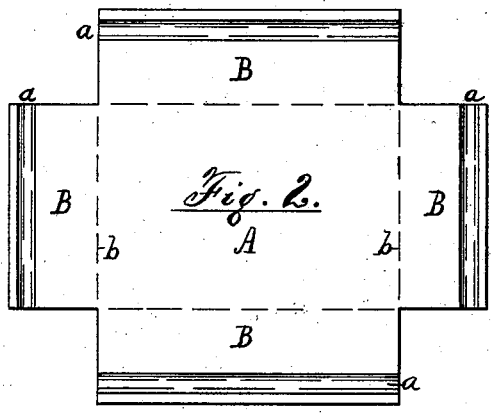


Fig. 2.

A

Fig. 3.

Attest:

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UNITED STATES PATENT OFFICE.

JOHN GILBERT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN SHEET-METAL BOXES.

Specification forming part of Letters Patent No. **209,556**, dated November 5, 1878; application filed September 11, 1878.

To all whom it may concern:

Be it known that I, JOHN GILBERT, of the city of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Sheet-Metal Boxes, which improvement is fully described in the following specification.

My invention consists in a new method of making cash-boxes or money-boxes of sheet metal, and is designed to substitute machinery for hand labor as far as practicable, and to improve the appearance and quality of the articles so produced.

My improved method consists, essentially, in making the body of the box of one piece of tin or other suitable material, instead of making the bottom and sides of five separate pieces, as has hitherto been done; and it further includes the formation of hollow beads about the margin of the blank, which appear around the outside of the box near the top when finished, and serve to stiffen the top to improve its appearance, and to stop the lid when closed against the same.

The manufacture of a box by my method is illustrated in the annexed drawings, wherein Figure 1 is a blank of the necessary form for a cash-box; Fig. 2, the same with the beads impressed near the margin; Fig. 3, an edge view of the blank as shown in Fig. 2; Fig. 4, a sectional view of a cash-box in the die used in bending the blank to the finished form, and Fig. 5 a finished box.

The blank, as shown in Fig. 1, is made large enough to embrace the bottom and four sides of the box, the corners being cut out to permit the several sides to be bent at right angles to the bottom. To produce the hollow beads at the margin of the blank, it is then subjected to a stamping operation, by which the form shown in Figs. 2 and 3 is produced, and the dimensions of the blank slightly reduced by the forcing of the metal into a hollow bead, *a a a a*, which is shown in Fig. 3, impressed in the metal near the margin of the blank, leaving the extreme edge of the blank flat to guide the cover F as it closes over the top edge of the box.

The several sides of the blank may be successively subjected to the stamping or beading operation, or the entire blank may be subjected to a single operation in a die sufficiently large. The shape of the bead may be altered to any desired pattern, as its office is merely to stiffen the upper edge of the box and form a stop for the cover F; and a variety of shapes may be designed to answer these purposes.

The blank being thus prepared, the four sides are bent to the proper angle with the bottom, marked A in the drawings, and defined in Fig. 2 by a dotted line, *b b*, separating the bottom from each of the sides B B. This operation may be performed by hand, but is much more rapidly and accurately done in a die, such as is shown in Fig. 4. In this die C a cavity is formed to fit the bottom of the box, and pins or guides *c* are provided on the top of the die to guide the blank to its position over the cavity, which is not more than one-third or one-half the depth of the box, that the beads may not be brought in contact with the die.

A punch or force, shaped to fit the inside of the box, is now applied to the blank, and presses it into the shape shown in Fig. 4, the bottom of the box being flattened and straightened by the contact of the force and die against it, while the bottom in hand-made boxes is almost always buckled or pulled out of its proper flat shape.

The projection of the box above the die enables the operator to remove it readily when the force is withdrawn, and the box is then finished by soldering and japanning, as usual, the cover F being made and applied in the usual way, and a lock, D, and hasp E being secured to the box and its cover when intended for the storage of valuables.

In Fig. 5, at *d*, is shown the lump of solder inserted in the joint of the two beads at a corner, the solder serving to make the miter for the adjoining beads upon the outside of the box, and also to strengthen the corner materially.

To further strengthen the corner, flanges *e e* may be formed upon two of the sides, as shown in Fig. 1, and bent at right angles with the sides when the beads are stamped in the blank. These flanges can then be soldered to the adjacent sides when the box is finished, taking care that they fit inside the corner instead of outside, where they would mar the appearance of the box.

From the above description it will be seen that the box thus made requires very little manual labor in its construction, and that the bottom corners on all sides of the box are much stronger than when the box is made of separate pieces. They are also much neater in appearance than when the bottom is joined to the sides by an upturned flange upon the outside of the box in the usual manner.

The material cut from the corners of the blank, Fig. 1, can all be profitably used in an ordinary factory, and sheets of the exact size for any box can now be procured to order, so that there is no waste of material by the method I employ.

The bead or molding *a*, being formed from the solid metal of the blank, presents a much finer appearance than when made separately and soldered on, while the cost is greatly lessened by the mode of forming the beads described above.

I am aware that such beads have been formed upon sheet metal already, and do not therefore regard them as new, except in combination with the blank described above.

I am also aware that various shallow objects are made by bending a slight flange upon each edge of a rectangular piece of metal, to receive other pieces subsequently, or to form a cover to some vessel; but I regard the operation, when applied to a deep receptacle like a cash-box, as new in the arts, and, therefore,

I claim as follows:

A blank for the body of a cash-box, made with the sides B in one piece with the bottom A, and a bead or molding, *a*, impressed in each of the sides, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto subscribe my name in the presence of two witnesses.

JOHN GILBERT.

Witnesses:

THOS. S. CRANE,

E. P. ROBERTS.