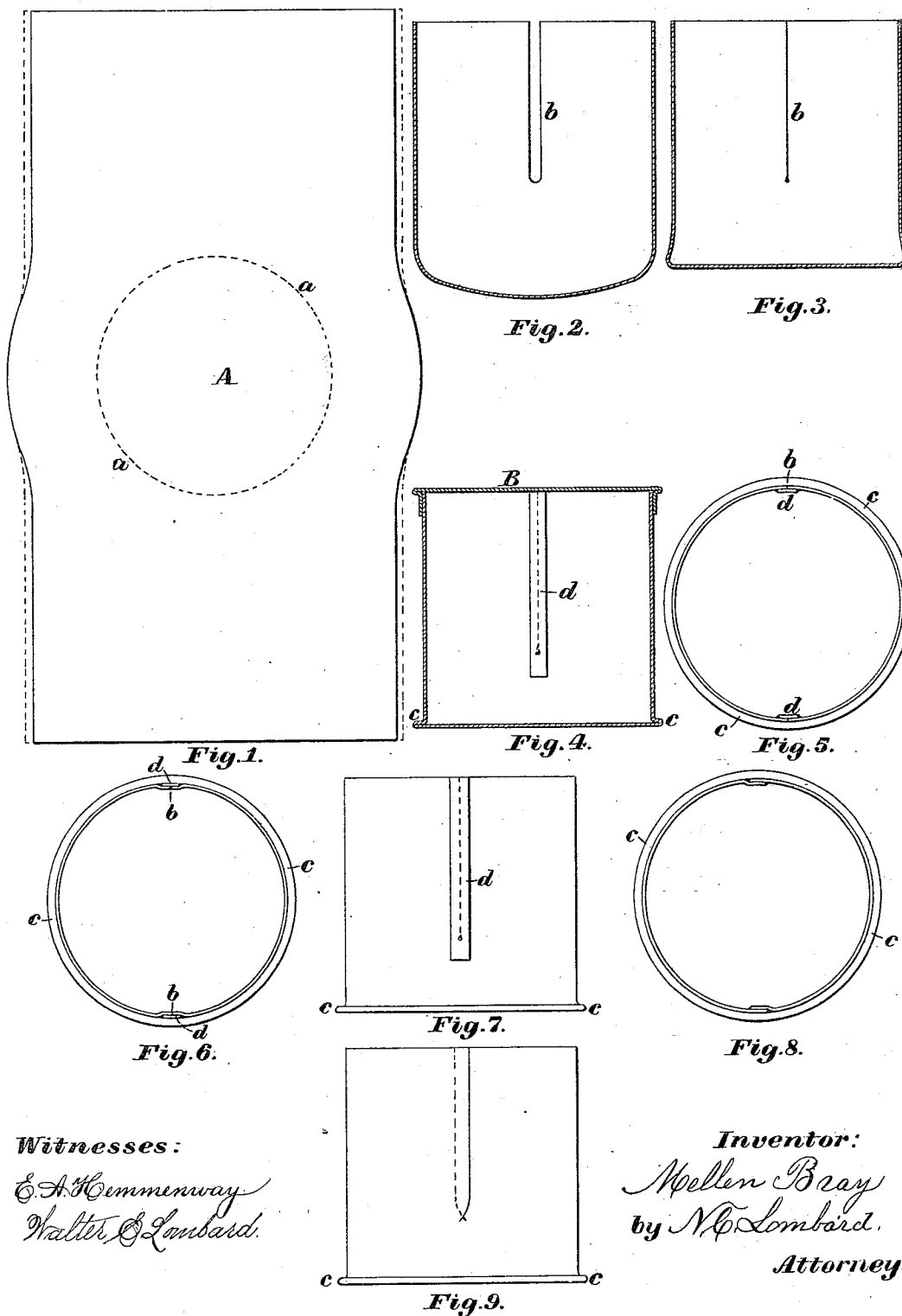


(No Model.)

M. BRAY.
Metallic Can and Box.

No. 228,512.

Patented June 8. 1880.



UNITED STATES PATENT OFFICE.

MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

METALLIC CAN AND BOX.

SPECIFICATION forming part of Letters Patent No. 228,512, dated June 8, 1880.

Application filed May 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, MELLEN BRAY, of Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Metallic Cans and Boxes, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the construction of cans and boxes from sheet metal; and it has for its object the production of an improved quality of such articles at a reduced cost.

Figure 1 of the drawings is a plan of the blank from which my improved can or box is to be formed. Figs. 2 and 3 are vertical sections of the partially-formed box or can, illustrating, respectively, the shape of the blank after the first and second operations of forming. Fig. 4 is a central vertical section of the finished can or box. Fig. 5 is a plan of the same with the cover removed. Figs. 6 and 7 are respectively a plan and side elevation of a box with the cover removed, and illustrating a slightly-modified form of construction; and Figs. 8 and 9 are respectively a plan and elevation of a box with cover removed, illustrating still another modification.

A is a blank cut from a flat sheet of tinned iron or other metal, somewhat wider in the middle than at its two ends, the dotted circle *a* representing the diameter of the box to be formed therefrom.

To produce a box or can from said blank it is first subjected to the action of male and female forming-dies to strike it into the shape shown in Fig. 2. The partially-formed blank shown in Fig. 2 is then forced, open end forward, into a bell-mouthed die and between it and a central mandrel having a diameter equal to the interior diameter of the desired box or can, to reduce the diameter of the partially-formed blank, close up the slit *b*, and give to the blank the shape shown in Fig. 3.

To complete the shape of the box or can the blank formed as in Fig. 3 is again driven, open end forward, into a female die, not bell-mouthed, and provided with the central mandrel above described, and also provided with a shoulder, upon which the end of the box strikes at the proper time to limit its farther

movement into the die, when the stock remaining above the mouth of the die will be thrown outward and downward to form the folded bead-like projection *c c*, as shown in Figs. 4, 7, and 9.

To make a liquid-tight can I sometimes place battens *d* of thin metal over the slits *b* upon the inside of the can and solder them, and solder on the cover B, and in other cases I place the battens *d* upon the outside of the can, having previously embossed the metal contiguous to the slits *b* to form sunken recesses to receive the battens, which are soldered as before.

In other cases I cause the edges of the blank which come together along the slit in the cases shown in Figs. 3, 4, 5, 6, and 7 to overlap each other, as shown in Figs. 8 and 9, and solder them together without using a batten, as in the cases before cited.

To produce a box or can of the same diameter in this way the blank A should be cut as indicated by dotted lines in Fig. 1.

By this method of construction I am enabled to produce from a flat blank a metal can or box without seam at the junction of its bottom with its vertical cylindrical wall, and without seam in the lower portion of said cylindrical body for a distance equal to about one-third of the diameter of the box or can, and requiring but little soldering along two vertical lines to complete a liquid-tight box or can body.

If the box or can is to be used to pack dry substances, no battens or soldering of the joints along the slits *b b* will be necessary.

Such boxes or cans can be made of any desired depth, and at comparatively small cost, and they will be much more serviceable and durable than cheap boxes or cans made in the old way from several pieces soldered together.

I am well aware that boxes have been made without seam by stamping them up from a flat circular disk of sheet metal; but such boxes are necessarily very shallow, as the tinned sheet-iron from which they are usually constructed cannot be drawn to any great depth without fracture; but by the method of construction herein described I am enabled to strike up a box or can of any desired depth,

with but little work required to complete it for holding liquids and none for dry substances.

5 What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A box or can body having its bottom and vertical walls made in one piece, with two vertical seams or joints extending from its top or open end downward toward but not reaching
10 said bottom, substantially as described.

2. A box or can body having its bottom and

vertical walls made in one piece, with two vertical batten-joints extending from its top or open end downward toward but not reaching said bottom, substantially as and for the pur- 15
poses described.

Executed at Boston, Massachusetts, this 29th day of April, A. D. 1880.

MELLEN BRAY.

Witnesses:

E. A. HEMMENWAY,
WALTER E. LOMBARD.