(No Model.)

J. BAUM.

METHOD OF MAKING SHELLS OR CASINGS FOR SAFES, &c.

No. 454,162. Patented June 16, 1891.

FIG. 1.

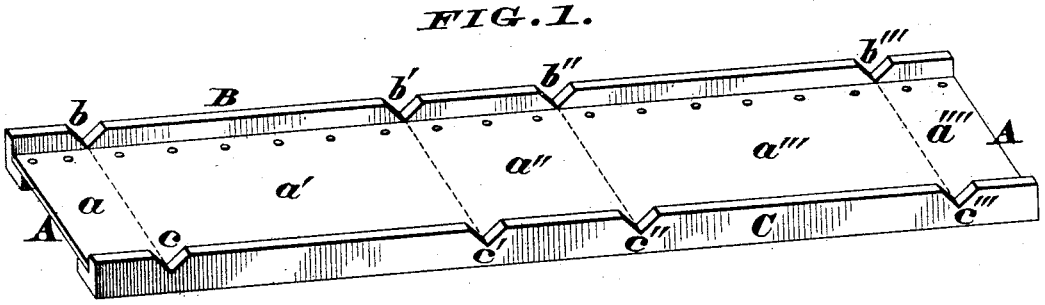


FIG. 3.

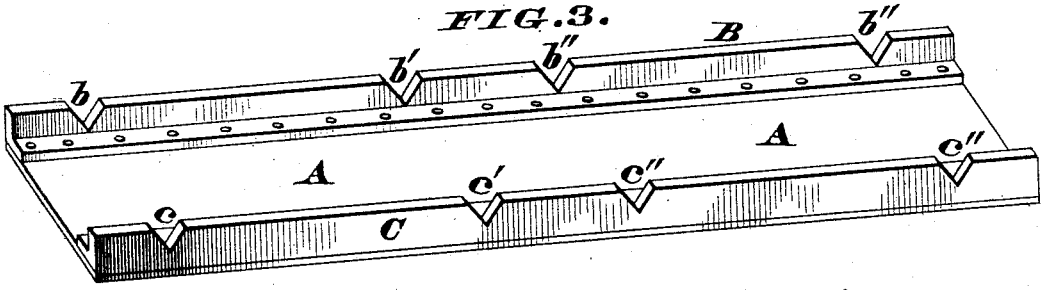


FIG. 2.

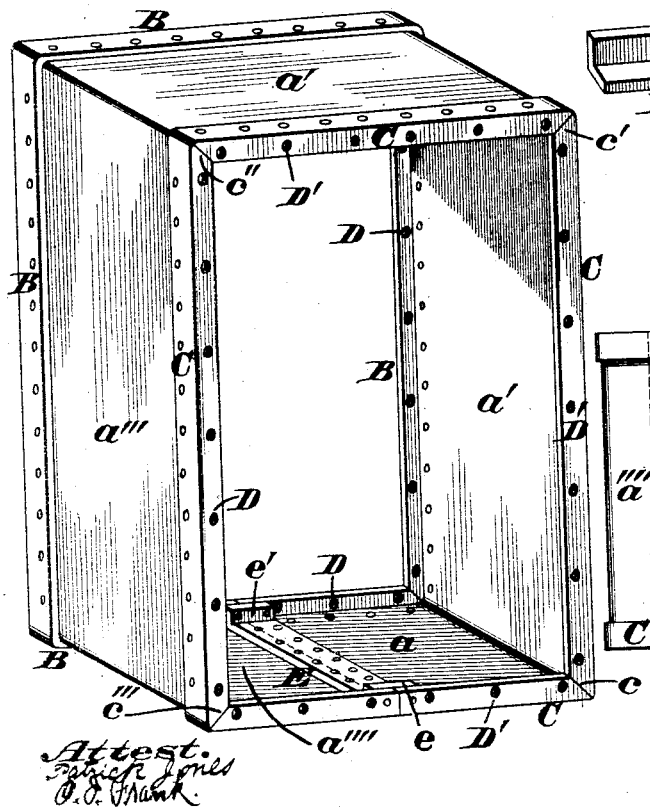


FIG. 4.

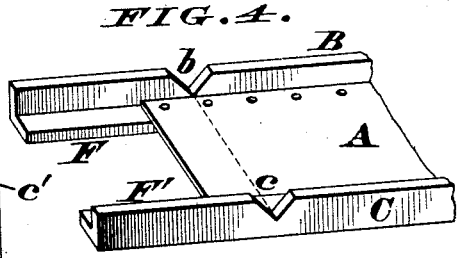
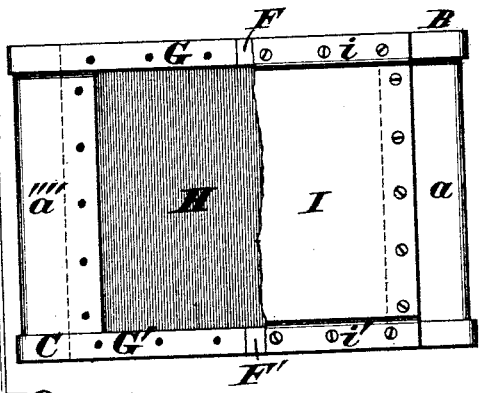


FIG. 5.



Attest.
Patrick Jones
P. E. Frank

Inventor.
Jacob Baum.
by James K. Layman.
Atty.

UNITED STATES PATENT OFFICE.

JACOB BAUM, OF CINCINNATI, OHIO.

METHOD OF MAKING SHELLS OR CASINGS FOR SAFES, &c.

SPECIFICATION forming part of Letters Patent No. 454,162, dated June 16, 1891.

Application filed February 26, 1891. Serial No. 382,978. (No model.)

To all whom it may concern:

Be it known that I, JACOB BAUM, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in the Method of Making Shells or Casings for Safes, Strong Boxes, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form a part of this specification.

My present invention comprises a novel method of making outer or inner shells or casings for fire and burglar proof safes and strong boxes generally, the successive steps involved in this method being as follows: A plate or sheet of metal of the proper width and sufficiently long to form the top, bottom, and both sides of the safe has angle-irons securely riveted along its opposite margins, which irons are notched at suitable intervals, so as to enable said plate and irons to be simultaneously bent in the plane of said notches and by any approved mechanism or means. When thus bent, the structure assumes the shape of a shell or casing composed of a single metallic sheet, with the angle-irons serving as a secure frame for the same, the two ends of the sheet preferably abutting at the bottom of the structure, where they are united by a lap-plate. The internal fittings of a safe can then be applied to the shell in any suitable manner, or the structure can be used for any and every purpose where a strong box will be available, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a perspective view of the metallic sheet with a pair of notched angle-irons riveted to its opposite margins. Fig. 2 is a perspective view, on a somewhat enlarged scale, showing this sheet and its attached angle-irons bent to form a box or casing, the abutting ends of said sheet and irons being united together by a lap-plate. Figs. 3 and 4 are perspective views of modified forms of the united sheet and angle-irons. Fig. 5 is a plan of a bottom of a safe formed by the construction seen in Fig. 4.

Referring to Fig. 1, A represents a plate or sheet of metal of any suitable thickness to adapt it to the purpose for which it is to be used, which plate is of any desired width and sufficiently long to form the top, bottom, and both sides of a safe or strong box or other receptacle for containing valuables.

B is an angle-iron securely riveted along one margin of sheet A, and C is another angle-iron attached to the opposite margin of said sheet.

$b\ b'\ b''\ b'''$ are square notches cut in the web of angle-iron B, that projects vertically from the plate A, and $c\ c'\ c''\ c'''$ are similar notches in the corresponding web of the other angle-iron C. These notches are usually cut before the angle-irons are secured to the sheet; but they may be made subsequent to this attachment, if desired. By thus notching the angle-irons the plate A may be supposed to consist of five undivided sections or parts a $a'\ a''\ a'''\ a''''$, occupying the intervals between the transverse dotted lines seen in Fig. 1. The straight plate, with its attached angle-irons, is then placed in a suitable machine and so bent in the planes of these dotted lines as to close up the various notches of said irons, by which means the portions a' and a''' of said plate are brought parallel to each other and at right angles to the portion a''. Furthermore, the portions a and a'''' are at right angles to the portions a' and a''' and parallel with the portion a'' of said plate, or, in other words, a rectangular box or casing is formed, which is open on two sides only and has a flush joint formed by contact of the ends of said plate. This flush joint is united by a lap-plate E, having upturned ends $e\ e'$, riveted, respectively, to the inner surfaces of angle-irons B C. When thus completed, the structure affords a very secure casing, the angle-irons forming hoops or bands around the same, and close miter-joints being made where the edges of the various notches are brought in contact, as seen in Fig. 2.

With the completion of the shell or casing my invention ceases; but a few instructions will here be given in regard to its subsequent use, and as it is designed more especially for safe purposes holes D D′ are drilled in the front and rear surfaces of the angle-irons B C, the holes D permitting the application of a back plate, while the holes D′ allow an ordinary stepped door-frame to be fitted to said

shell. This door-frame may be inserted within the shell in two or more sections, or the frame may be in one piece and have the shell bent or closed around it at any stage of construction, after which act the inner shell or cabinet work may be attached to said frame in the usual manner, the annular space between said outer and inner shells being subsequently charged with a non-combustible filling; or the door-frame and cabinet may be omitted and the shell be arranged to serve as a strong box for express service or for various other secure purposes.

The above is a description of the preferred method of carrying out my invention; but the details thereof may be varied to suit circumstances, one self-evident modification being seen in Fig. 3, where the plate is so applied to the angle-irons as to cause the latter to be located within the finished shell.

Another modification is seen in Fig. 4, where the ends of the angle-irons project somewhat beyond the end of the sheet, as at F F′, the opposite ends of said irons having similar extensions, as seen at G G′ in Fig. 5. Consequently when the plate and irons are bent to form the shell the ends of these extensions F F′ G G′ will meet, but an opening H will be left in the bottom of the structure, which opening will permit the ready insertion of the non-combustible filling. After the shell has been charged a bottom plate I, having side flanges *i i′*, will be bolted to the plate and angle-irons to retain the filling in place. Finally, this method may be employed for making the inner shells of safes, boxes, and other strong receptacles.

I claim as my invention—

1. The within-described method of making shells or casings for safes, strong boxes, &c., which method consists in securing notched angle-irons along two opposite edges of a plate, then simultaneously bending said united plate and irons in the plane of said notches, so as to form a rectangular structure, and finally securing the ends of said plate, substantially as described.

2. The within-described method of making shells or casings for safes, strong boxes, &c., which method consists in securing notched angle-irons along two opposite edges of a plate of relatively less length than said irons, then simultaneously bending said united plate and irons in the plane of said notches, so as to form a rectangular structure with a charging-opening in the bottom of it, and finally closing said opening with another plate, substantially as described.

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

JACOB BAUM.

Witnesses:
JAMES H. LAYMAN,
H. M. DIGGINS.