

A. RANSOM & M. CASSIDY.
Pattern for Dovetailed Snug.

No. 223,540.

Patented Jan. 13, 1880.

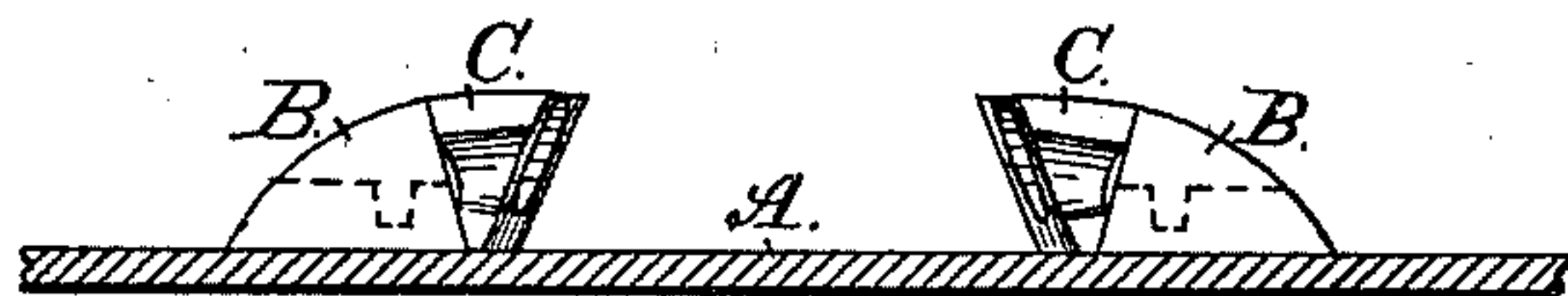


FIG. 1.



FIG. 4.

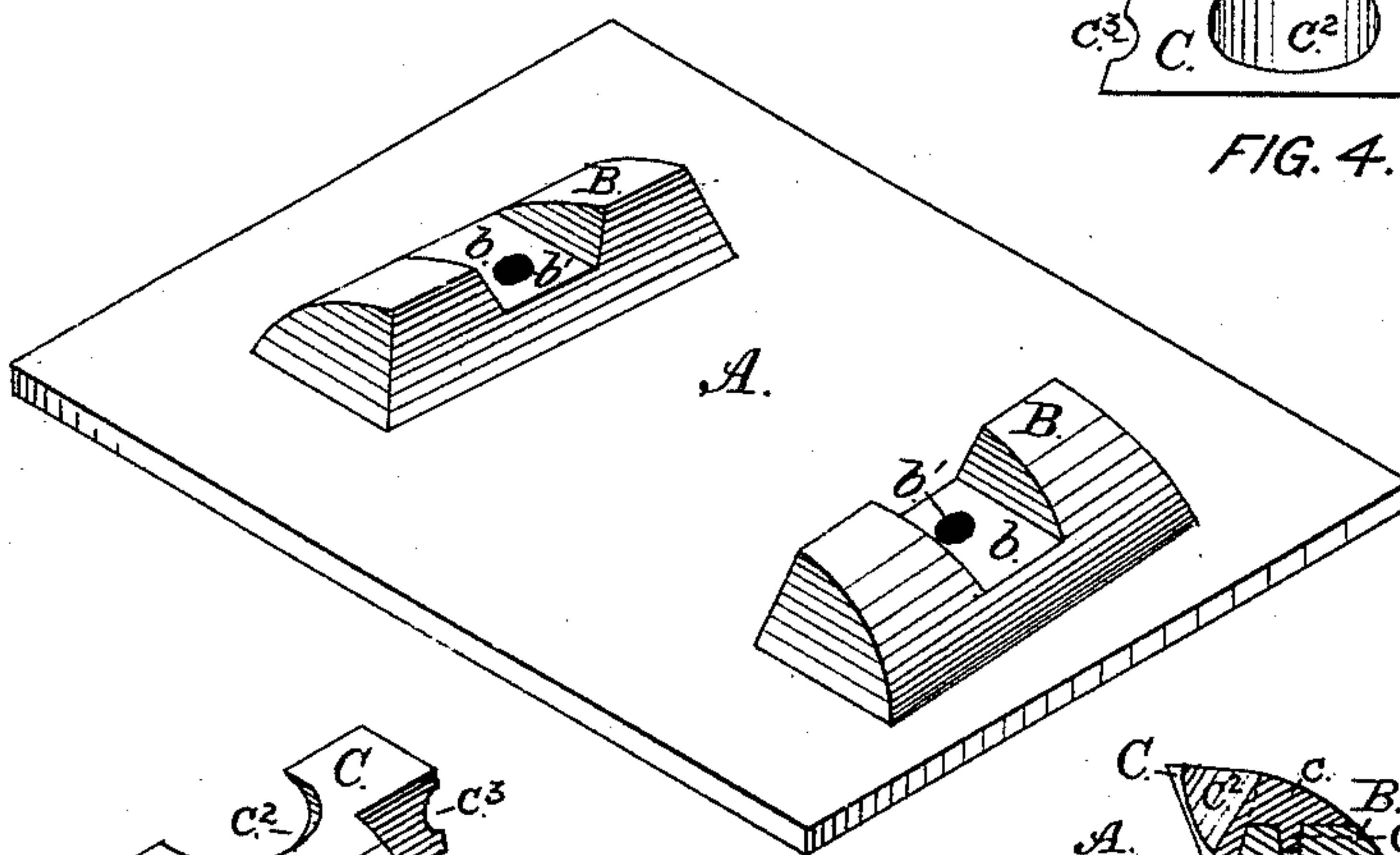


FIG. 2.



FIG. 5.

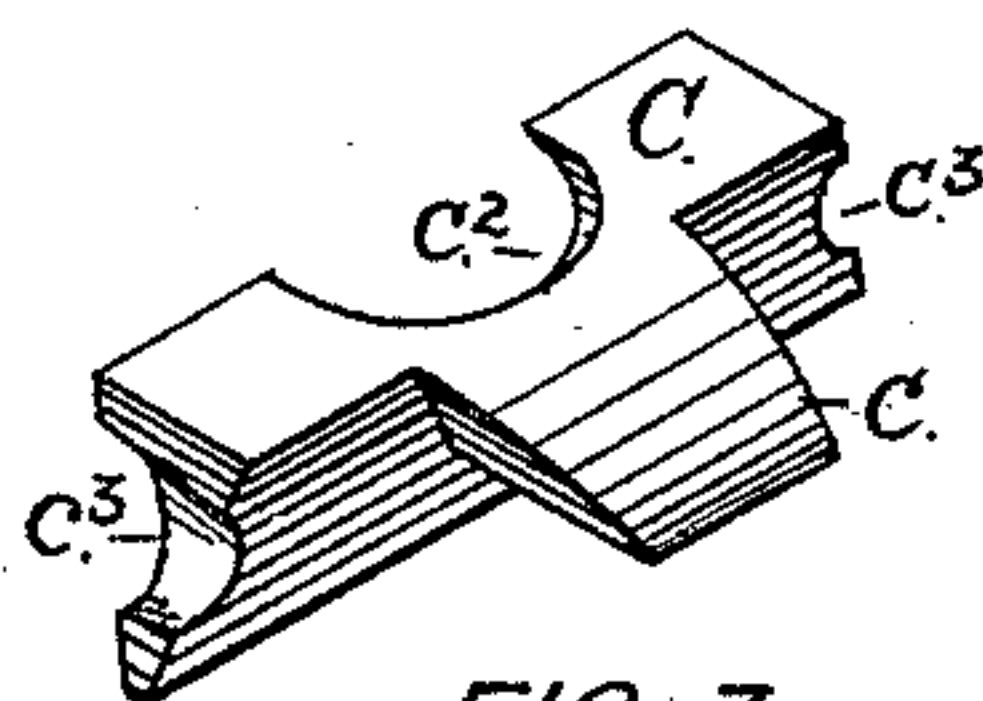


FIG. 3.

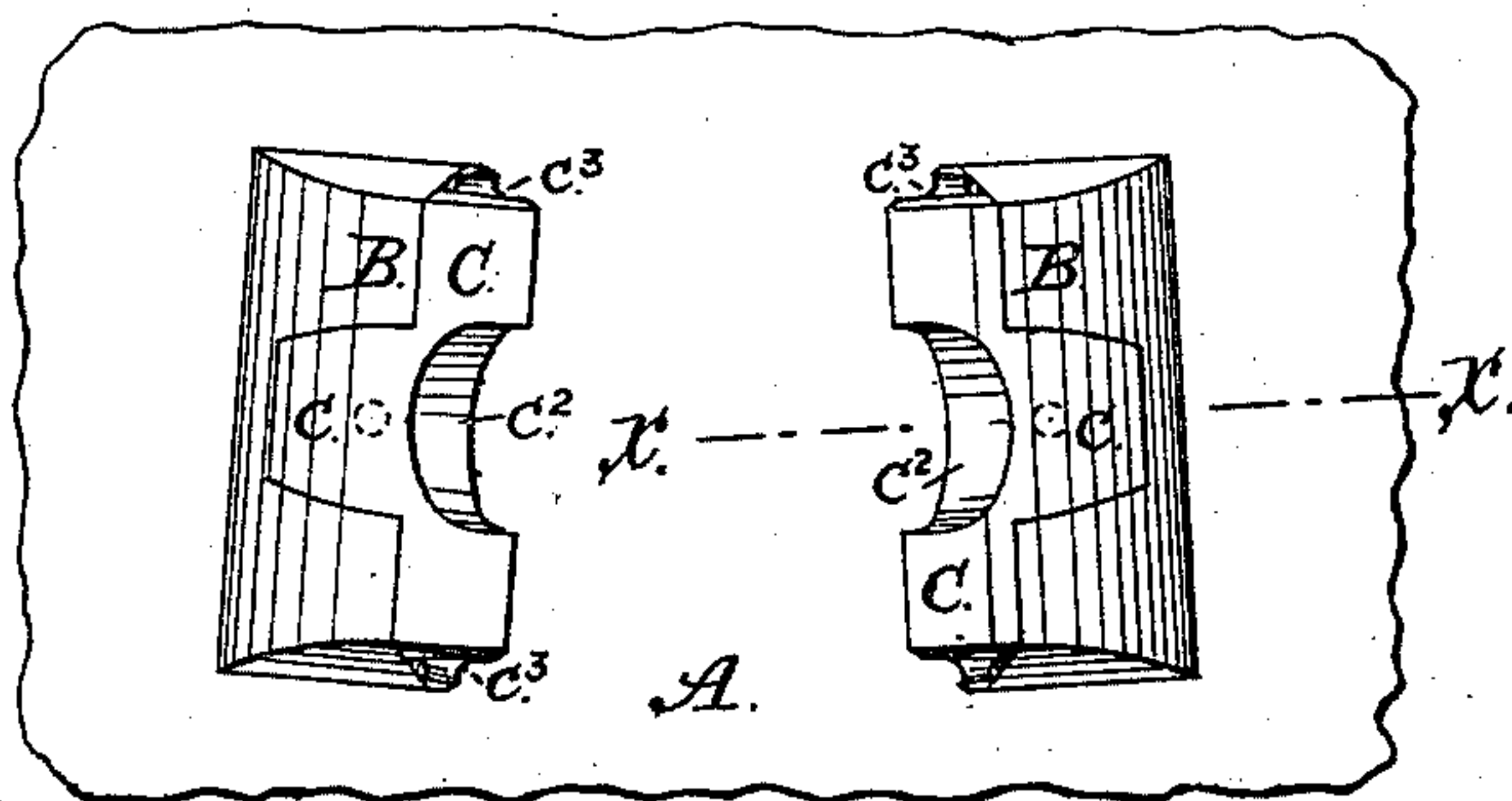


FIG. 6.

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UNITED STATES PATENT OFFICE.

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PATTERN FOR DOVETAILED SNUGS.

SPECIFICATION forming part of Letters Patent No. 223,540, dated January 13, 1880.

Application filed November 8, 1879.

To all whom it may concern :

Be it known that we, ALBION RANSOM, of Loudonville, and MICHAEL CASSIDY, of Albany, both in the county of Albany and State of New York, have invented certain new and useful Improvements in Patterns for Casting Dovetailed Snugs, of which the following is a full and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an end elevation; Fig. 2, a perspective view of plate with abutments; Fig. 3, a perspective view of detachable angle-piece; Fig. 4, a front view of same; Fig. 5, a cross-section at the line xx ; and Fig. 6, a plan view of plate with abutments having detachable angle-pieces in position.

Our invention especially relates to patterns for making the bottom plates of stoves, which plates, when cast, are commonly provided with dovetailed snugs for holding the stove-legs. These snugs have heretofore been produced by means of patterns made in the form of the entire snug, which were detachable from the plate-pattern, and held in place thereon by dowel-pins, which entered holes made in the plate-pattern. These pins and holes become worn so quickly that no reliance can be placed on this mode of holding the detachable patterns for producing a uniform space between the snugs in a number of castings from the same plate-pattern. From this cause manufacturers have been subjected to great trouble and expense in properly fitting the stove-legs to their places. To remedy this defect is the object of our invention; and to this end our invention consists in fixing on the principal pattern stationary abutments adapted to receive and hold in a reliable manner detachable patterns that, conjointly with the abutments, form the dovetailed snugs, as herein-after set forth.

As illustrated in the drawings, A represents the principal pattern for a plate or other article, provided with the stationary abutments B. These abutments are arranged in pairs at the required distance apart, and at any suitable angle to each other. Their inner faces should be made with a bevel, as shown in the drawings, so that the detachable patterns will be readily relieved therefrom. Each

of said abutments has a depression, b , formed therein to receive the tongue-piece of the detachable pattern.

C are detachable patterns, each of which forms a complement of a dovetail snug. Each has its back made to conform to the bevel of the face of the abutments B and its face made to the angle required for the dovetail.

A tongue-piece, c , made to fit the depression b of the abutments, extends from the back of each detachable pattern, and is provided with a pin, c' , which enters the slotted hole b' in the abutments and retains the detachable pattern snugly to its place against the face of the abutment.

The tongue-piece c , in addition to its function of holding the detachable pattern against the abutment, also serves to equalize the pressure of the sand while the mold is being rammed, and prevents the pattern C from rocking forward to destroy the truth of its position.

In making the detachable pattern C of metal (the material we preferably use for that purpose) it becomes necessary to lighten and fashion it so that its weight, by overcoming the retentive strength of the sand in the mold, will not cause it to drop from its place. To that end we cut away the central part, as shown at c^2 , and by enlarging the cut below the top line of the pattern, as shown in Fig. 4, form an under-cut that gives to the sand additional hold on the pattern. Other under-cuts, c^3 , are also made at each end of the detachable pattern, for the purpose of lightening the pattern and giving to the sand a better hold of it. These several under-cuts should be made in such form that, while they prevent the pattern from falling or being drawn at right angles to the face of the principal pattern, they will offer no obstruction to drawing the detachable pattern backward, as it should be drawn.

If, in addition to the cuts described, it becomes necessary to further lighten these patterns, it may be effected by cutting out any of the surfaces where the external form of the snug will not be affected.

When the detachable patterns C are made of wood or other light material the necessity for lightening and under-cutting will not exist.

In molding, the detachable patterns C are placed in position against the abutments B, where they are securely held by the sand that is press d between them in tucking the dove-
5 tails, and the abutments resist all tendency to force the detachable patterns from their true position while the sand is being rammed between them.

On removing the cope from the mold the
10 detachable patterns are lifted from the abutments by the sand in the cope, and are separately drawn therefrom, leaving the dove-tail snugs perfectly molded, and in such manner that the distances between them will be
15 uniform in all castings made from the same pattern.

We claim as our invention—

1. The combination, with a principal pattern, A, provided with abutments B, having depressions *b* and holes *b'*, as herein described, 20 of the detachable patterns C, each having a tongue-piece, *c*, and pin *c'*, as and for the purpose herein specified.

2. The combination, with a principal pattern, A, provided with abutments B, having 25 depression *b*, as herein described, of the detachable pattern C, provided with tongue-pieces *c* and undercut depressions *c*² and *c*³, as and for the purpose herein specified.

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