

No. 649,455.

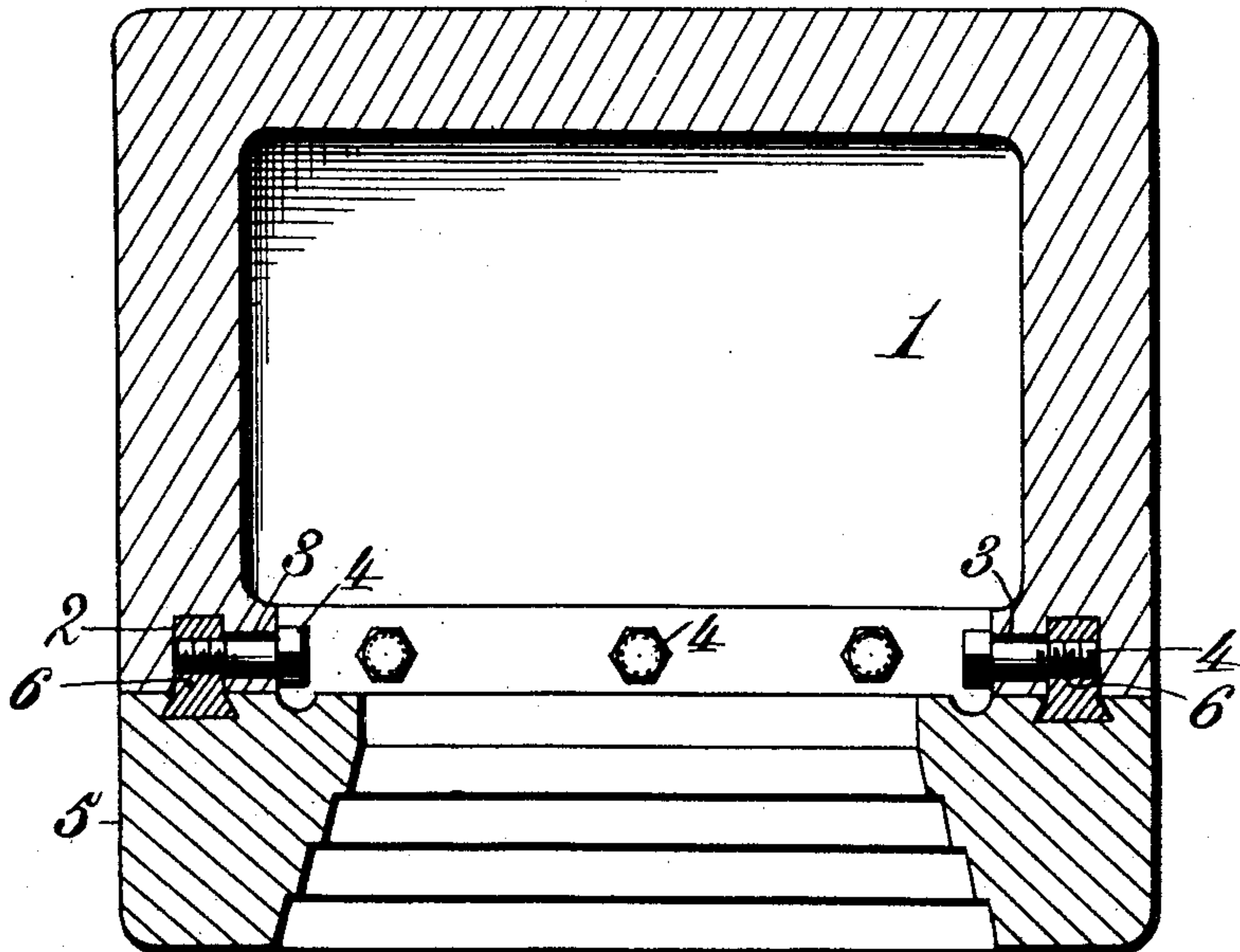
Patented May 15, 1900.

J. T. HOUGH.  
SAFE.

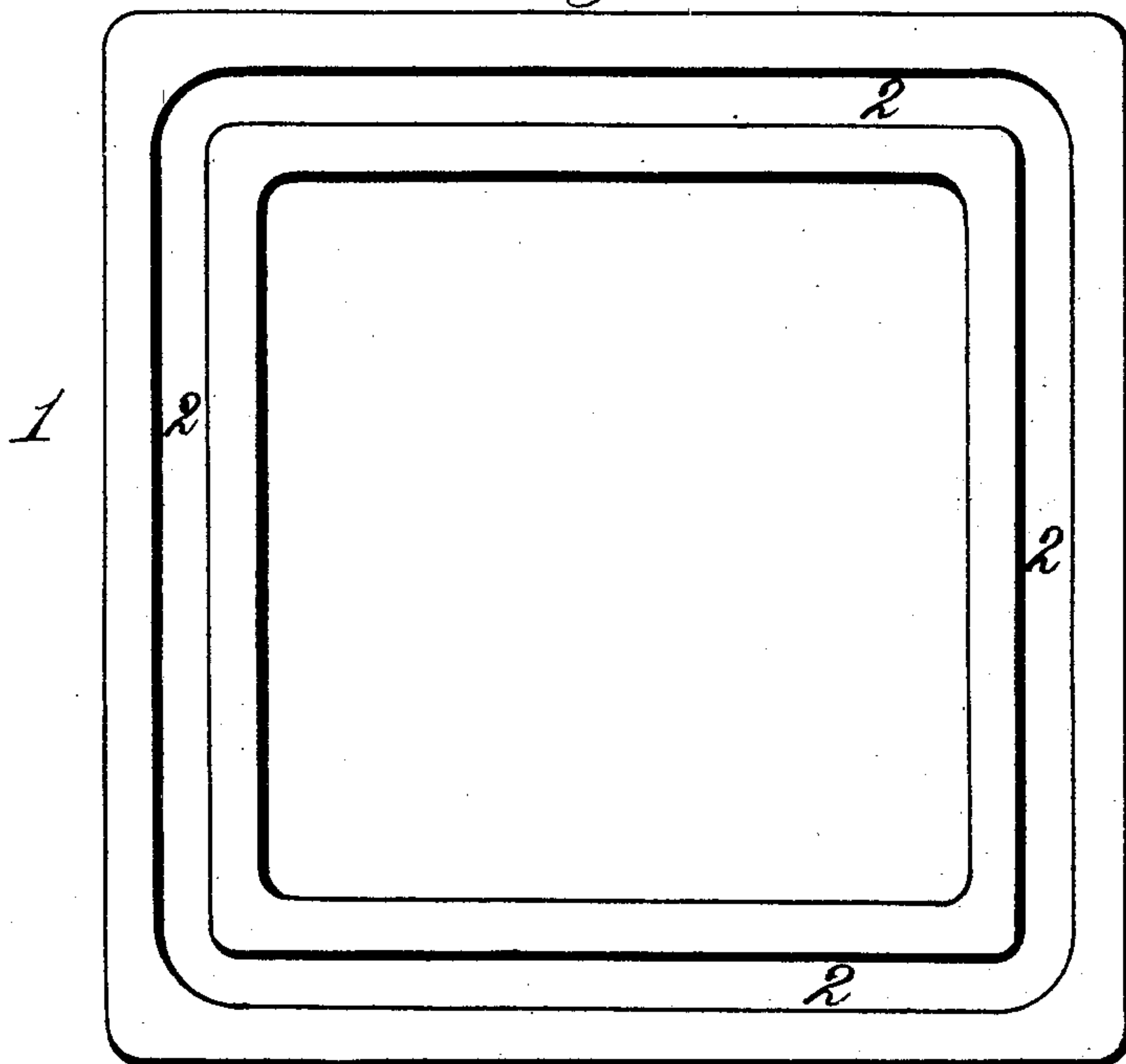
(Application filed May 9, 1899.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



Witnesses,  
*Robert G. Smith,*  
*J. B. Keefe*

Inventor,  
*John T. Hough,*  
By *James L. Norris,*  
*Atty.*

# UNITED STATES PATENT OFFICE.

JOHN THOMPSON HOUGH, OF PITTSBURG, PENNSYLVANIA.

## SAFE.

SPECIFICATION forming part of Letters Patent No. 649,455, dated May 15, 1900.

Application filed May 9, 1899. Serial No. 716,131. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN THOMPSON HOUGH, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Safes, of which the following is a specification.

In the construction of safes for banks and the like it is of course important that the casing be made of a material which is without flaws or weak spots and one through which boring is impossible. The usual manner of constructing the casings for safes is to cast them in the shape desired. In doing so, however, the different walls will be of different thicknesses at different points, the result being that the changes in temperature to which the material is subjected during the casting process will cause an unequal expansion and contraction and produce weak spots through which the safe may be penetrated or along which it may be cracked. I have discovered a material which may be advantageously used in the construction of safes which is extremely malleable and ductile and at the same time is so hard that it cannot be penetrated by a boring-tool. This material has the further property, on the other hand, of being subject to a high degree of expansion and contraction. In order that the same may be used effectively, therefore, I have provided an improved form of construction for the safe, which consists of a body cast in a single piece and comprising the top and bottom, the back, and side walls of the safe, the front edges of the sides and top and bottom having a groove cast in them which receives a tongue of corresponding shape on the front plate. This tongue is held in place by means of screws extending through the side and top and bottom walls into the tongue itself.

The details of construction will be set forth hereinafter and the novel features specifically defined in the claims.

In the drawings forming part of the specification, Figure 1 is a horizontal section of a safe-casing, showing my improvements; and Fig. 2 is a front elevation of the body thereof,

showing the groove in the front edges of the walls thereof.

Like reference-numerals indicate like parts in the different views.

In constructing the safe-casing I cast in one piece the body 1, having integral back, side, top, and bottom walls, all of equal thickness throughout, so that the expansion and contraction of the material during the casting process will be equalized and no flaws or weak points will be produced. In the front edge of the side, top, and bottom walls I form during the casting process a groove 2, and leading into said groove from the inner surfaces of said side, top, and bottom walls I also form during the casting process openings 3 for receiving securing-screws 4. The front plate 5 of the casing is also cast and has extending around its inner surface a ring or tongue 6, which fits within the groove 2 and is adapted to receive the threaded ends of the screws 4 for the purpose of locking the body 1 and front plate 5 in close contact with each other. The body 1 and the front plate 5 are preferably made of material having properties of malleability and ductility combined with that of extreme hardness. The ring or flange 6 is, however, of a softer material, cast with the front plate 5, so that it may be tapped to receive the securing-screws 4. By this manner of construction an extremely-effective safe-casing may be produced which is without flaws at any point.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A safe-casing consisting of a body and a front plate, one of said parts having a tongue of softer material than itself cast therewith and projecting therefrom, and the other having a groove for receiving said tongue, and means engaging said tongue for securing the same in said groove.

2. A safe-casing of impenetrable material, consisting of a body made up of integral side, top, bottom and back walls of equal thicknesses throughout, the side, top and bottom walls having a groove cast in their front edges



and openings extending from the inner surfaces thereof and leading into said groove, a front plate having a ring of softer material cast therewith on its inner face, the said ring  
5 or tongue adapted to fit within said groove, and screws extending through said openings and engaging threaded openings in said ring or tongue, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN THOMPSON HOUGH.

Witnesses:

H. J. GRAHAM,  
M. B. BATES.