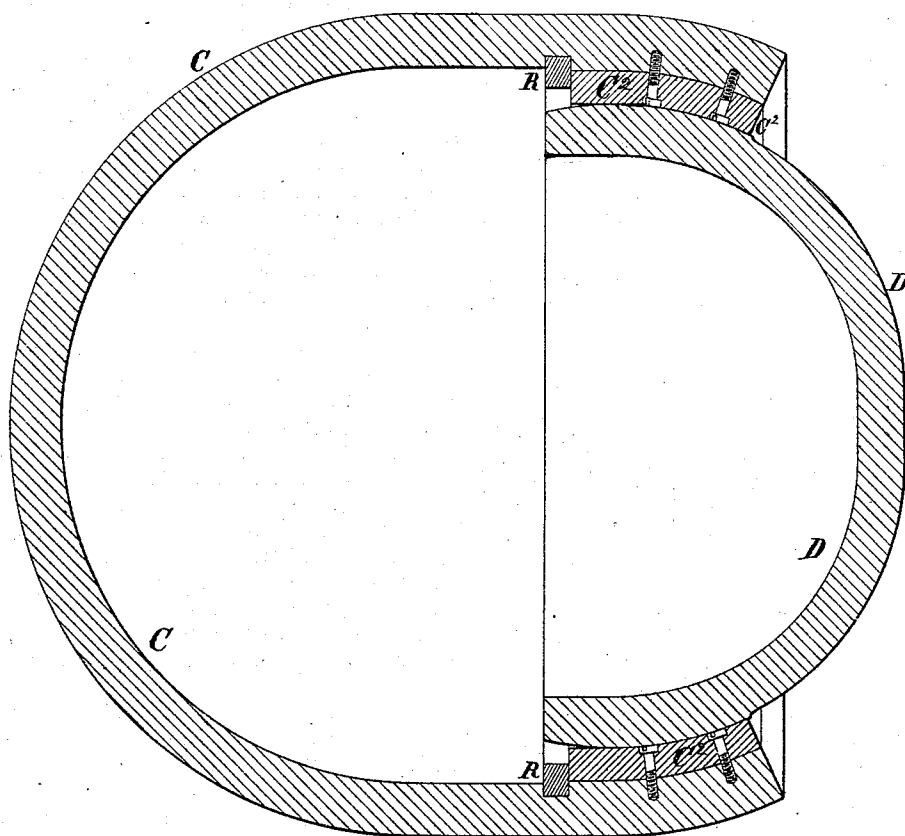


WILLIAM CORLISS.
Improvement in Safes.

No. 126,133.

Patented April 30, 1872.



12 9 6 3 0 1 2 3 Ft.

Witnesses,

A. Hermann
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Inventor,

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by his attorney *J. S. [Signature]*

UNITED STATES PATENT OFFICE.

WILLIAM CORLISS, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SAFES.

Specification forming part of Letters Patent No. 126,133, dated April 30, 1872.

To all whom it may concern:

Be it known that I, WILLIAM CORLISS, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in the Manufacture of Safes for Valuables, of which the following is a specification:

My present invention is more especially adapted to safes produced from Franklinite, chilled iron, or other very hard material, either alone or in combination with wrought-iron bars, chains, or the like, introduced to give toughness, when the form is imparted by molding in the manner of cast-iron; but it may be applied with good effect to safes made by forging from cast-steel or other hard material, either alone or mingled with wrought-iron or other like toughening and softer material. It applies, in short, to all the materials and to all the mixtures or compounds of vulcanite or other imperviable material intended to break or turn drills and other burglars' tools. The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawing forms a part of this specification and represents a central vertical section through the shell of the safe and door.

I form the safe in two principal parts—an exterior shell, C, and an interior revolving part, D. Both are made spherical. The part D I term the door, and mount it so that it revolves within the other. The details of the locking and other parts necessary to the complete operation of the finished safe are set forth in one or more applications for patent by me filed of an even date herewith, and need not be here repeated. It is sufficient for the present purpose to say that the inner part is mounted upon a shaft which holds its weight and allows it to turn without much friction, and that it is intended to be strongly fortified by locks and other means against being turned by any but the proper parties. When turned into the closed position it is adapted to be powerfully moved forward to a little extent, and this motion closes the joint very tightly around the periphery and over a portion of the face of the entire door. In order to realize these conditions, the mouth of the exterior part or shell C must be contracted. The opening must be of less diameter than the extreme diameter of

the door. I make the part C originally with a larger mouth than is finally required, and after introducing the door D I insert and strongly secure around the interior of the mouth of the shell C a thick ring or zone of properly-composed burglar-proof material, and secure it in position there. This entire ring or zone, marked C², is practically a fixed portion, and forms a unit with the main body of the shell C. Its inner surface is finished to match accurately to the spherical exterior of the door D. It will be observed that the mouth of the shell C, although sufficiently large to permit the door D to be inserted and removed in the absence of the zone C², is considerably smaller than the space within. The zone C² is made in several pieces, nicely finished to match tightly together and form close joints. It is, in effect, a solid ring when put together within the mouth of the shell C, and is also a fixture within, and forms, in substance, a part of the shell C. The parts may be secured together by bolting or by any other approved means, care being taken to make the bolts of such material and so to arrange them that they shall not furnish means for drilling or otherwise obtaining access to the interior of the safe. The whole or any portion of these bolts may be inserted from the interior face of the several segments of the zone C², and tapped a little ways into the main material C. The contracted form of the mouth of the shell C forms a most effectual bar against the movement of the zone C² outward by any violence. I have provided very efficient means to guard against any violence applied from the outside forcing the ring C² inward. This is effected by the part or parts R, which I designate a ring-key, and let partially into a groove turned or otherwise formed in the interior of the part C, just opposite to the inner edge of the zone C². I take care to make this ring-key R fit very tightly in this groove. It is introduced in pieces from the interior, and driven home by pressure or by blows, so as to force the zone C² strongly outward and cause it to fit very tightly to its seat, and then to stand as a most effectual backing to prevent the ring C², or any part of it, being forced inward into the safe by hydraulic press or any other appliance. This construction gives to the safe as a whole, and to this shell C, and its adjunct C² especially, an immense

strength to resist force in all directions. Its ability to resist a force pressing inward from any or all directions is almost immeasurable, while the resistance to a force pressing outward is measured by the tensile strength of the thick mass of strong material which is presented at every point. In case of the introduction of gunpowder, fulminates, or other explosive material, which I seek to make impossible, the strength of the exterior shell C, and certainly that of the door, is sufficient to withstand such an amount of explosive energy that when it is exerted the entire building will be demolished. The interior of the zone may be finished after the work is applied together. It is preferable, then, to give the last and final finish to the surface, the hemispherical door being for this purpose both turned around so that its hollow side is presented in front, and also turned partially around so that all parts of the surface of the interior of the zone C² will be exposed successively. It will be understood that the pintle on which the door D is mounted and revolved is not in place in the door during this operation, but is introduced afterward. The mode of construction allows

the parts to be made of immense stiffness and strength and yet allows the door D to be introduced with facility. The mouth of the shell C alone is longer than the diameter of the door so as to allow the door to be introduced; but the mouth of the shell C C², considering the ring or zone C² as a unit therewith, is smaller than the door and locks it in.

I claim as my invention—

1. The burglar-proof safe herein described, composed of the two parts C and D arranged as represented, with a ring or zone, C², introduced and firmly fixed in the interior of the mouth of the shell C so as to form a unit therewith and match tightly to the exterior of the door D, as specified.

2. The ring-key R, serving, as represented, relatively to the zone C², the shell C, and the spherical door D, as specified.

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

WILLIAM CORLISS.

Witnesses:

THOMAS D. STETSON,
CAMPBELL C. LIVINGS.