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L. Yale, Jr.,

Burglar-Proof Safe.

N^o 52,484.

Patented Feb. 6, 1866.

Fig. 3.

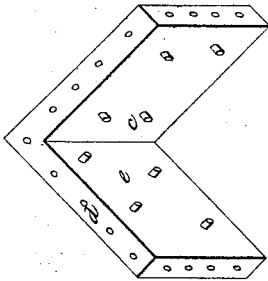


Fig. 2.

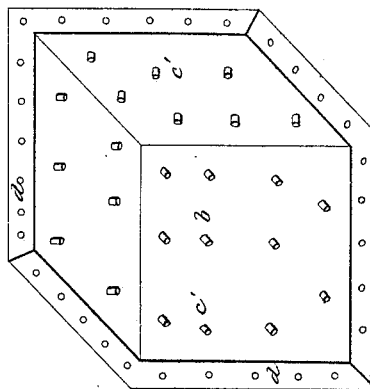
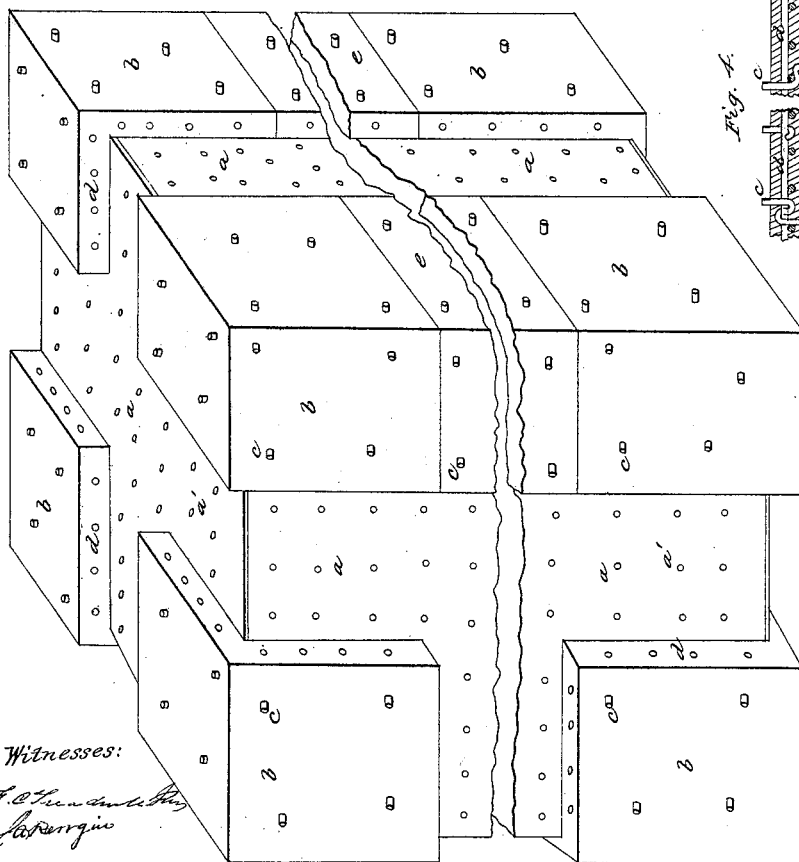


Fig. 4.



Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SAFES.

Specification forming part of Letters Patent No. 52,484, dated February 6, 1866; antedated December 9, 1865.

To all whom it may concern:

Be it known that I, LINUS YALE, JR., of Shelburne Falls, county of Franklin, State of Massachusetts, have invented certain Improvements in Burglar-Proof Safes; and I do hereby declare that the following is a full and correct description thereof, reference being had to the annexed drawings, and to the letters of reference thereon.

My said invention relates to the hard cast-iron or other hard-metal lining or filling used in burglar-proof safes.

It has heretofore been the practice to apply this material in the form of flat plates, and to rivet these plates to the wrought-iron inner portion of the walls of the safe, and then to put on the outer cover of wrought-iron plates by riveting. This mode of construction is not burglar-proof, although a great protection against burglars by reason of the hardness of the hard cast-iron resisting the action of cutting-instruments, such as chisels, drills, &c. Such safes may be opened by what is called the "peeling" or "stripping" process. The outside wrought-iron plates are first peeled or stripped off by driving a chisel or other wedge-shaped tool between the wrought-iron plates and the cast-iron lining at the corners or edges of the safe, the position of the joints permitting this operation to be readily performed, the joints being at right angles to the rivets, so that every blow on the wedge or chisel tends to force the wrought-iron plate away from the cast-iron lining and to break or cut off the rivets as the chisel is driven in between the plates. The outer covering of wrought-iron being thus peeled off leaves the hard cast-iron lining exposed to the burglar, who then proceeds to strip or peel it off from the inner wrought-iron box to which it is riveted in the same manner as one would go to work to open a common packing-box or to separate two flat boards that have been nailed together—that is, he drives a wedge or chisel into the joint at the corners, and the wedge or chisel will go in because the wrought-iron forms one side of the joint, and as the chisel goes in it cuts off or breaks off the rivets and forces the hard cast-iron armor from the wrought-iron inner box or safe, thus stripping the safe of its burglar-proof armor almost as

readily with proper tools as one would open a box.

My invention consists in part in an improved form of the hard cast-iron lining, whereby I have remedied this great defect in burglar-proof safes. Instead of using flat plates of hard cast-iron jointed at the corners and edges, I cast the hard iron intended for safe-linings in angular plates of a peculiar form—that is to say, I cover the wrought-iron inner box with hard cast-iron plates that have no joints at the corners, no joints at right angles to the rivets, and no exterior joints of wrought and cast iron plates, the joints being all between the hard cast-iron plates and all parallel with the rivets. Therefore should a burglar strip the outer cover of wrought-iron from my improved safe it would be next to impossible for him to get a prying-tool in between the joints of the hard cast-iron lining, and harder still to force it by the tool from the wrought-iron inner box, the joints being so disposed that the operation of stripping would be practically the same as that of attempting to raise, by a crowbar, thick slabs of iron laid on a floor closely jointed together and riveted to the floor if one has to begin in the middle of the floor or at any place where the crowbar cannot be inserted between the floor and the iron plates.

The difficulty of raising tiles or flags from their place in a pavement, where they are only bedded in sand, is a familiar instance of the effect of the mode of jointing I have embodied in my improved hard cast-iron linings for burglar-proof safes.

In carrying out my invention I construct the hard-metal plates I use by casting them in what I call "corner-pieces" and "edge or filling pieces." The corner-pieces are cast in the shape of three sides of a hollow cube, the sides being, say, about one-third the width of the sides of the wrought-iron box or safe to which they are to be applied. One of these corner-pieces is riveted on to each corner of the inner safe-box, and between the corner-pieces are riveted the edge or filling pieces, which are plates of hard cast-iron of the form of two sides of a hollow cube, and of sufficient width to fill up the space between the corner-pieces. If the edge or filling pieces be made of one size there

will remain a square in the middle of each side of the safe, which may be filled by a flat plate of the hard cast-iron; but by casting half of the filling-pieces enough longer than the others to fill up this middle space the center plate need not be used.

In the manufacture of safes I prefer to cast my corner-pieces with wrought-iron tie-rods or net-work embedded in them, as described in my patent of October 19, 1862. I also make the corner-pieces of one given size for several different sizes of safes, and vary the size of the filling pieces to suit the difference of size; but this is a matter of convenience in the manufacture. But more particularly to describe my invention I will refer to the drawings, of which—

Figure 1 is a perspective view, showing the mode of applying the hard corner-pieces and edge or filling pieces to the inner wrought-iron box. Letter *a* is the wrought-iron inner box; *b*, the corner-pieces, fastened to the inner wrought-iron box by means of the rivets *c'* and rivet-holes *a'*. Fig. 2 is a detached view of a corner-piece, *b*. Fig 3, detached view of edge or filling piece *e*.

The tie-rods *d* and rivets *c* are shown in all the figures and in section at Fig. 4, which latter figure represents two ways of crooking the rivet-rods—one the mode of hooking to embrace

the tie-rods, and the other a simple crook to make the same wire or rod answer for rivets for both sides.

Although I prefer, for economical reasons, to make my improved armor of hard cast-iron, I do not wish to be understood as confining myself to that material, as it is evident that case-hardened wrought-iron, steel, and other hard metals can be used. Neither does my invention consist in fastening by rivets cast in, as ordinary rivets, bolts, or any known form of fastening may be used. If the corner-pieces are made large enough, the edge or filling pieces may be omitted; but it is more convenient to use them in the practical manufacture of safes.

I claim as my invention and improvement in burglar-proof safes—

The angular plates or sections of hard metal, consisting of corner-pieces, or corner-pieces and edge or filling pieces, when constructed, arranged, and applied to the exterior of the inner wrought-iron portion of the walls of a safe substantially in the manner and for the purposes hereinbefore described.

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Witnesses:

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C. A. DURGIN.