L. H. MILLER.

SAFE.

No. 60,405. Patented Dec. 11, 1866.

Fig. 1.

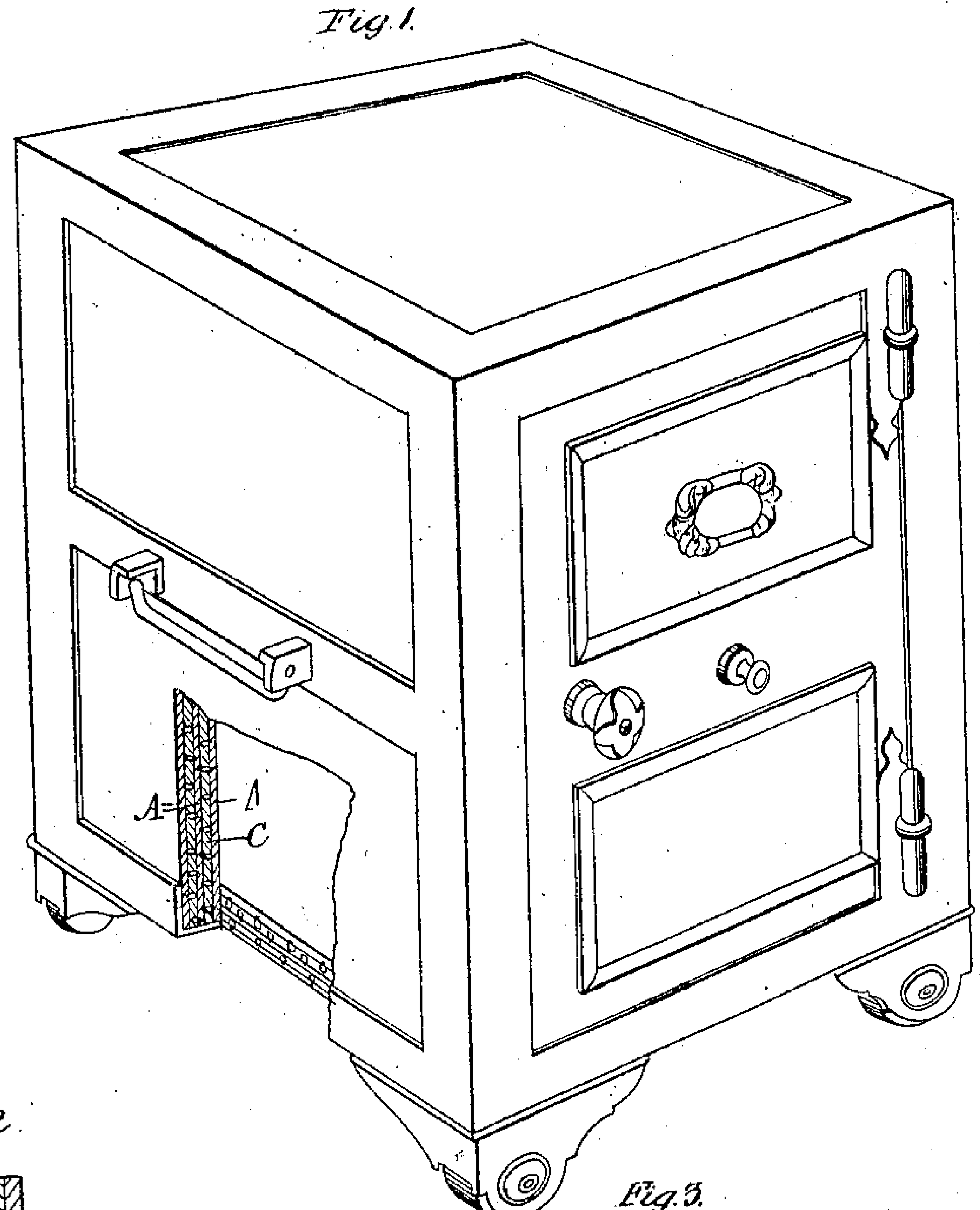


Fig. 2.

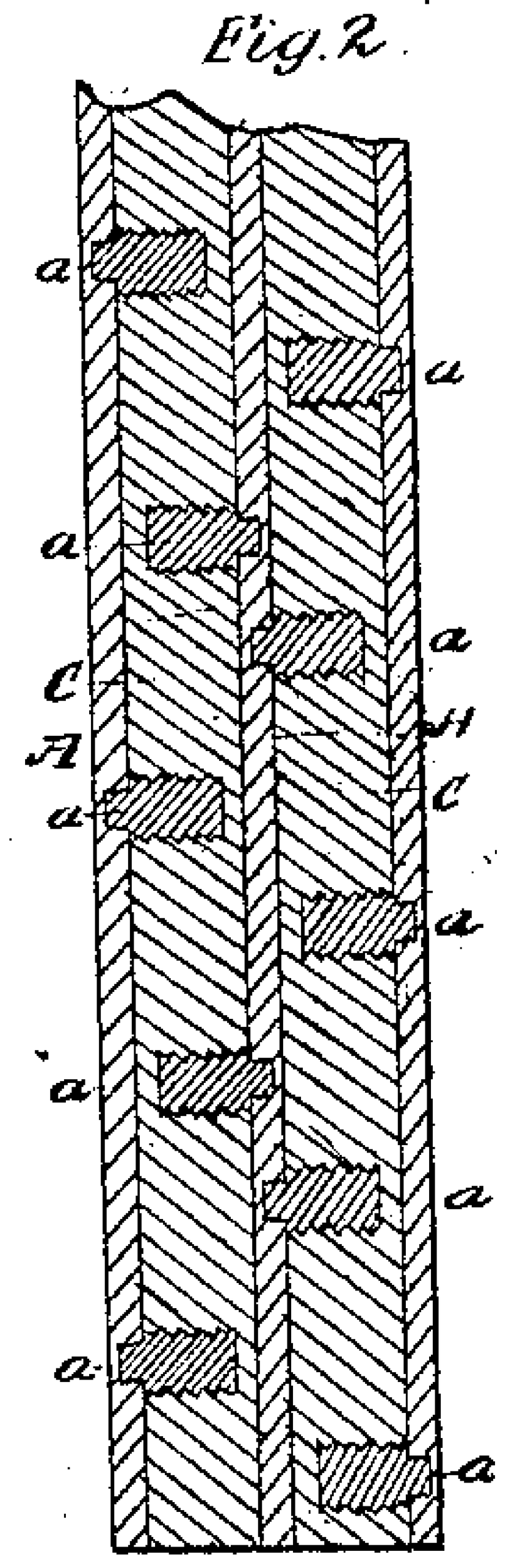
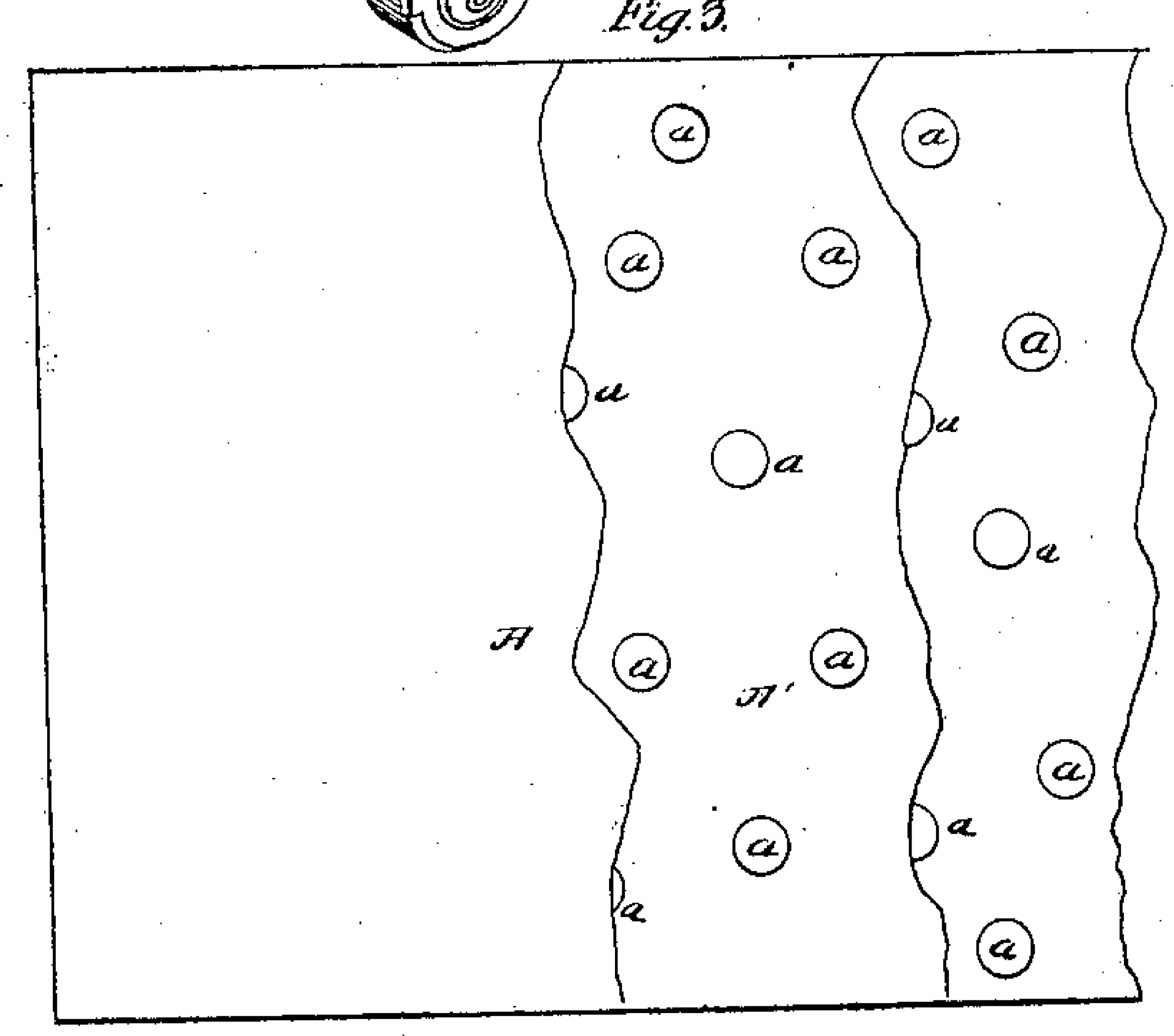


Fig. 3.



Witnesses

[illegible]

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Inventor

L. H. Miller

by his Attys

Mason, Fenwick & Lawrence

United States Patent Office.

IMPROVEMENT IN SAFES.

L. H. MILLER, OF BALTIMORE, MARYLAND.

Letters Patent No. 60,405, *dated December* 11, 1866.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, L. H. MILLER, of the city and county of Baltimore, and State of Maryland, have invented a new and improved mode of constructing Safe Frames; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a safe, showing a portion of one side broken away to exhibit the construction thereof.

Figures 2 and 3 are enlarged views of a portion of a safe frame, constructed after my invention.

Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to an improvement in the construction of burglar-proof safes, fire and burglar-proof safes—also vaults and vault-doors, my object being to prevent thieves from drilling holes through the walls of the safes, and also from gaining access to the interior of a safe by breaking and removing the brittle or drill-proof metal, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

My invention consists in constructing the walls of a safe of two or more sheets of wrought metal, say boiler iron, of a suitable thickness, to which plates a number of studs, knobs, or suitable projections are secured, and between these plates thus studded cast metal is poured, which, when cool, will form a union of the wrought plates, and make a solid wall. The drawings represent three plates, A A′ A, of wrought metal, forming part of a single wall; but for some purposes, a greater or less number of wrought plates may be required The inside surfaces of the plates A A′ A are thickly studded with screws, *a a*, or projections of any suitable form, which may be tapped into the plates A A′, but not to project through them. The length of these studs *a* may be less than the width of the spaces which it is desired to leave between the wrought metal plates, or, if desired, they may be equal in length to the width of such spaces. I prefer to leave spaces between the inner ends of the studs and the plates opposite to them, for reasons which will be hereinafter explained.

The intermediate plate A′ has the studs *a a* applied to both its sides, as shown in fig. 2. The outer plates A A have the studs applied only to their inside surfaces. The only order which it is necessary to observe in applying the studs *a a* to their respective plates, is to have them so arranged that, when the plates are brought together, said studs shall not coincide with each other, or, in other words, no stud will be in a line with another stud. The studded plates A A′ A are arranged at suitable distances apart, and confined in this position, when the spaces between them are filled by pouring in melted metal, which is indicated by letters C. I propose to employ for the inner walls C C, "Franklinite," or other suitable cast metal, which will be sufficiently hard to resist the action of drills or other metal tools. This metal will entirely fill up the spaces between the plates A A′ A, surrounding the studs *a a*, and when cool the studs will be firmly imbedded in it, thus forming a solid wall, composed of alternate layers of soft and brittle metal, united together by "secret" studs or "anchors." It will be seen from the above description of my invention, that I employ soft or wrought metal outside, and cast or brittle metal inside, in forming the walls; and I unite these plates together in such manner that the wrought metal will effectually prevent the hardened metal from being shattered, and any access being had to the interior of the safe in this manner. The hardened metal will prevent the safe-wall from being penetrated by drilling or other means; even should the drill penetrate one of the soft metal studs *a*, it would come in contact with the hardened metal before reaching the intermediate plate A′, as the studs do not abut against this plate.

I am aware that cast metal has been poured in between wrought metal plates; but in one instance where this has been done, the wrought metal studs which are employed as a means of mechanically uniting the wrought and cast metals have had their ends exposed on the outside side of the safe, and thus a facility for separating the different metals of which the safe is composed is afforded to the burglar; for, with the ingenious implements which burglars employ, these studs can be cut away so as to destroy their effect of holding the metals together. I also am aware that, in another instance, wrought and cast metals have been disposed in the order in which I have proposed to dispose them; but in this case no wrought metal studs or bolts have been employed, but the

ties or interlocking studs have been formed of the brittle hard cast metal; and therefore the burglar is also afforded a facility for separating the metals, it being a comparatively easy matter for him to break off, with a hammer, the interlocking studs or fastenings. I also am aware that studs or hooks which do not tie the wrought metal plates together, have been imbedded into plaster of Paris or other fire-proof material; but in this instance the intermediate material of the safe is not a drill-proof substance, and therefore is unlike my invention, both in construction and result.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A burglar-proof wall for safes and other similar purposes, of wrought and cast metal, made and held together by secret studs *a a*, all constructed substantially as described.

2. The studs *a a*, projecting from the inner surfaces of one of the wrought metal plates, but not extending to the inner surface of a contiguous plate, in combination with a cast metal filling between said plate, substantially as described.

L. H. MILLER.

Witnesses:
ALLEN E. FORRESTER,
WM. D. MILLER, Jr.