

UNITED STATES PATENT OFFICE.

DANIEL FITZGERALD, OF NEW YORK, N. Y., ASSIGNOR TO ENOS WILDER.

IMPROVEMENT IN FIRE-PROOF CHESTS AND SAFES.

Specification forming part of Letters Patent No. 3,117, dated June 1, 1843.

To all whom it may concern:

Be it known that I, DANIEL FITZGERALD, of the city, county, and State of New York, and a citizen of the United States, have discovered and made an Improvement (new and useful) in the Construction of Iron Chests or Safes, intended to resist the action of fire and for the safe keeping and preserving books and papers and other valuables from destruction by fire, which I call a "Salamander" Safe or Chest.

The following is a full and exact description of the safe or chest with my improvement combined therewith.

I make two iron chests in the common and ordinary way of making iron chests, which is well known to those engaged in this branch of business, one smaller than the other, which, when the safe is to be put together, forms the inner chest or inner part of the safe. The other chest is made about three inches larger than the inner one, and so as, when put together, it will form the outer part or crust of the safe and leave a space between the inner and outer chest of the safe of about three inches, which space may vary a little (more or less) when the chests are put together, but should be the same all round and in every direction. The inner and outer doors, where two doors are used, are prepared in the same way, leaving a space, as above, between the inner and outer crust of each door, which space is left for a like purpose with that left between the inner and outer chest of the safe. Where one door is used it should be made in the same manner, leaving a like space between the inner and outer crust or face of the door, and for a like purpose, and should be fitted to the chest or safe with great accuracy.

The edges and openings for the doors are to be neatly finished, as in other chests. I then take plaster-of-paris or gypsum, and having boiled it or baked it in an oven and calcined it and reduced it to a powder, I mix it with water till it is about the consistency of cream or thin paste, so fluid as that it may readily be poured into the space left as above to receive it, and I then fill all the space with the plaster-of-paris, putting in some sheets of mica between the inner and outer chest, to aid, if necessary, in checking the progress of the heat; but where pains are taken to have all the space left for the purpose properly filled with the

plaster-of-paris as above, so that, when set, it will expand and adhere firmly to the surrounding parts and completely fill the whole space and all the cracks and points, the mica may be dispensed with and every other substance, and the plaster may be used alone. It may also be reduced to a powder without being prepared as above and used in that state; but I have not found it as good. The inner case or chest may be made of wood instead of iron, as for a book-case, and the space left between that and the outer chest, filled in the manner and with the materials above named, will make a very durable safe, that will effectually resist the fire, as I have found by experience; but the safe may not be so strong or durable, though somewhat cheaper.

The above composition or preparation of gypsum may be mixed with several other articles not contrary to its nature with a view to increase its efficacy in resisting the action of fire; but from my experience I doubt if they have much effect. The gypsum alone, when properly prepared and properly placed in the space left to receive it and made to fill it completely, is quite sufficient to resist for a long space of time the most intense heat. The chemical properties of this article are such that by the application of intense heat it imparts a vapor or gas or some other properties which effectually stay the progress of the fire and arrest the influence and effects of the heat. This I have ascertained by various experiments, and I believe I am the first man that discovered the utility and devised the method of applying gypsum or the plaster-of-paris to increase the safety of an iron chest.

I am not aware that this article was ever used for the purposes above set forth until I used it in manner above described.

I therefore claim as my discovery and invention and improvement—

The application and use of plaster-of-paris or gypsum in its raw state, or prepared as above, either alone or with mica, in the construction of all iron chests or safes, in the manner above described or in any other manner substantially the same.

DANIEL FITZGERALD.

In presence of—
G. H. PATTERSON,
BEVERLY ROBINSON, Jr.