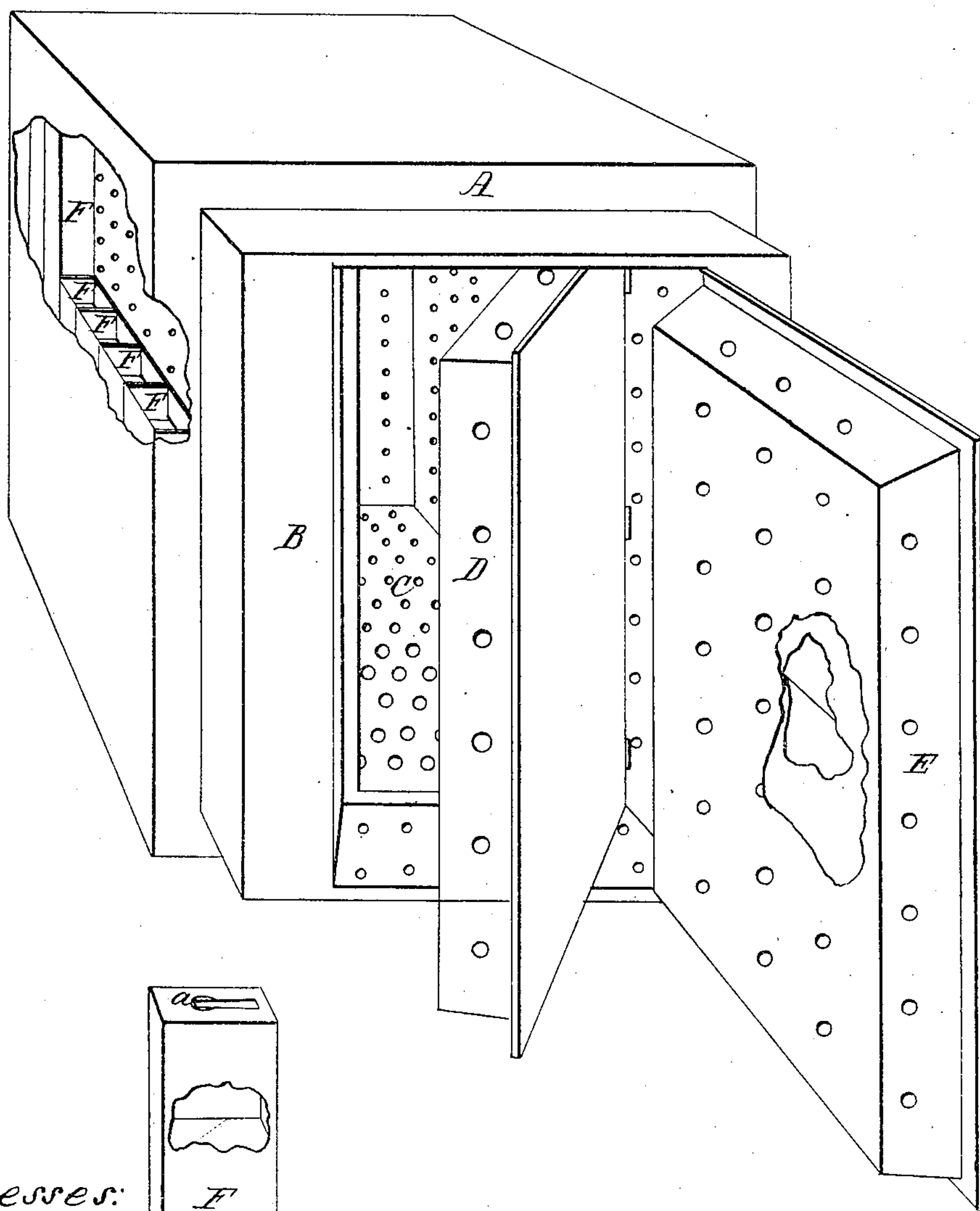


No. 67,220.

PATENTED JULY 30, 1867.

R. S. SANBORN.  
FIRE PROOF POWDER MAGAZINE.



Witnesses:

Chas. P. Gould  
H. Farnham Smith

Inventor:

Rufus S. Sanborn  
By his attorney  
Chas. F. Mansbury

# United States Patent Office.

RUFUS S. SANBORN, OF RIPON, WISCONSIN.

*Letters Patent No. 67,220, dated July 30, 1867.*

## IMPROVED FIRE-PROOF POWDER MAGAZINE.

*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, RUFUS S. SANBORN, of Ripon, in the county of Fond du Lac, and State of Wisconsin, have invented a new and useful Mode of Preserving Gunpowder and other explosive materials from all danger of explosion when the magazine or vessel in which they are contained is exposed to the action of a high degree of heat; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a form of magazine adapted to the practical application of my invention or discovery.

Figure 2 represents one of the water-vessels, with a part of one side cut away to show the interior.

In the course of my experiments with the safes which I have invented and patented, it occurred to me that gunpowder and other explosive materials might be secured from explosion, when the magazine or containing-vessel is exposed to a high degree of heat, by surrounding the powder with a bath of steam. I tried the experiment by exposing one of my water-lined safes, in which powder was deposited, for hours to the action of fire, raising it to a high degree of heat. The powder was not only perfectly preserved from explosion, but when taken from the safe and dried it retained all its original properties unimpaired. Frequent repetitions of the experiment were made, and the result was always the same. A discovery so important in its practical consequences led me to modify the construction of my steam-safe, so as to adapt its form and proportions to the requirements of a powder magazine.

My invention consists in the preservation of gunpowder or other explosive material from explosion, when the magazine or vessel which contains it is exposed to a high degree of heat, by immersing it in a bath of steam, however produced or supplied.

The accompanying drawing shows the form of magazine which I have devised for the purpose of applying my discovery in practice, but I do not in this application claim the magazine, as I conceive it to be fully covered by the patents already granted to me for my improvements in safes.

In the drawing, A marks the body of the magazine, B the door-jambs, C the interior, D the inner door, E the outer door, F the water-vessels, and *a* the valves. The walls of the magazine are made of metal, and hollow, for the reception of the water-vessels F. The top, bottom, sides, door-jambs, and doors are all provided with water-vessels. The interior walls are perforated, as shown, to allow of the free passage of steam from the water-vessels to the interior of the magazine. The water-vessels may be provided either with spring-valves, as shown at *a*, fig. 2, or with fusible plugs of an alloy, so compounded as to melt below the boiling point of water. When the magazine is exposed to a sufficient degree of heat to raise the water in any of the water-vessels F to the boiling point, the valve *a* is forced open by the enclosed steam, or the fusible plug is melted by the same agency, and the steam escapes and passes into the interior of the magazine, completely enveloping the packages of powder therein contained. Powder thus surrounded is, as before observed, perfectly secure from explosion.

—Having thus described the nature of my invention or discovery, and one mode of making it practically available, what I claim, and desire to secure by Letters Patent, is—

The application of a bath of steam to the interior of a magazine or other vessel for the reception of gunpowder or other explosive materials, in order to secure the contents from explosion when the magazine or vessel is exposed to a high degree of heat.

The above specification of my said invention signed and witnessed at Boston, this 17th day of May, A. D. 1867.

RUFUS S. SANBORN.

Witnesses:

CHAS. F. STANSBURY,  
WILLIAM C. CLEVELAND.