S. A. WILKINS.

Fire and Burglar Proof Safe.

No. 213,483 Patented Mar. 18, 1879.

Fig. 1.

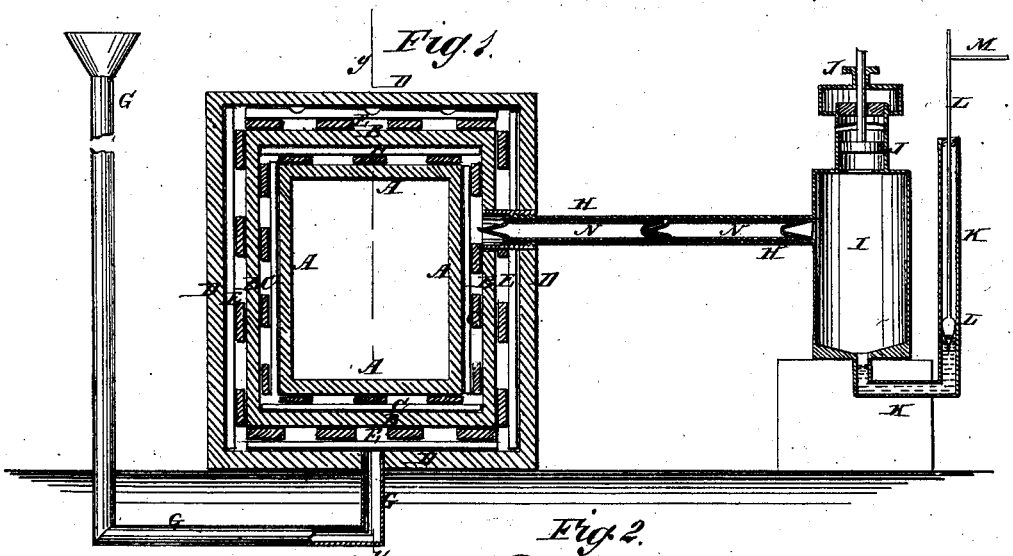

Fig. 2.

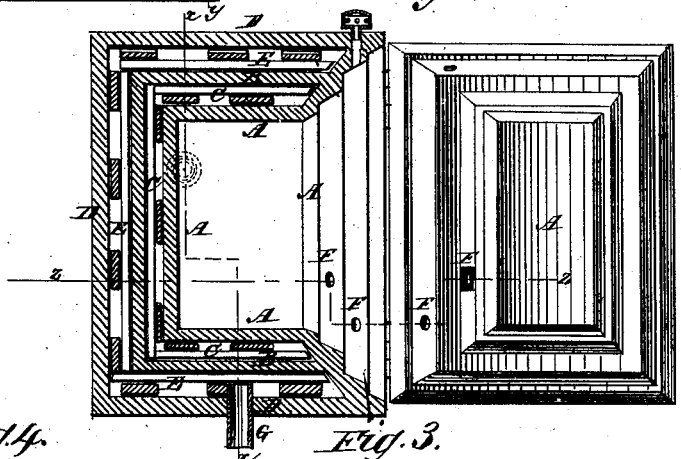

Fig. 4.

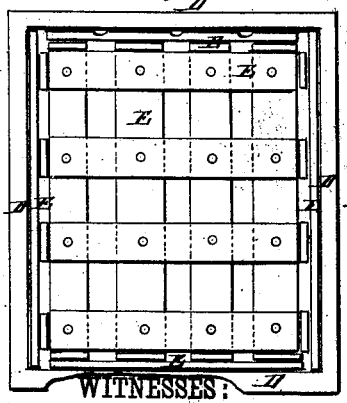

Fig. 3.

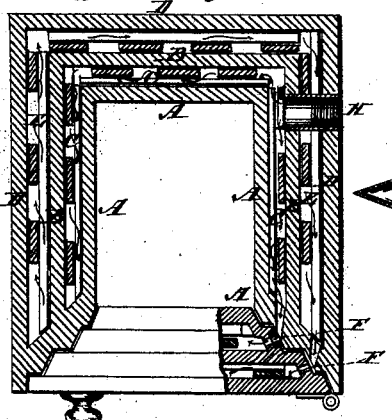

Fig. 5.

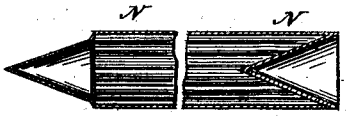

Fig. 6.

WITNESSES:

Francis McArdle

C. Sedgwick

INVENTOR:

S. A. Wilkins

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL A. WILKINS, OF VICTORIA, TEXAS.

IMPROVEMENT IN FIRE AND BURGLAR PROOF SAFES.

Specification forming part of Letters Patent No. **213,483**, dated March 18, 1879; application filed July 26, 1878.

To all whom it may concern:

Be it known that I, SAMUEL A. WILKINS, of Victoria, in the county of Victoria and State of Texas, have invented a new and Improved Fire and Burglar Proof Safe, of which the following is a specification:

Figure 1 is a section of my improved safe, taken through the broken line *x x*, Fig. 2. Fig. 2 is a cross-section of the same taken through the line *y y*, Fig. 1, the door being shown open. Fig. 3 is a cross-section of the same taken through the broken line *z z*, Fig. 2. Fig. 4 is a rear view of the same, the outer wall being removed. Fig. 5 is a detail longitudinal section of one of the short corrugated pipes placed in the connection air-pipe. Fig. 6 is a detail cross-section of the connection air-pipe and the corrugated inner pipe.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish safes which shall be so constructed as to be safe from fire and burglars, and which at the same time may be made lighter, and may be less expensive in manufacture than when made in the usual way.

The invention consists in safes or vaults provided with air and water tight chambers, either or both, surrounding the entire safe, and strengthened by cross bars, studs, or bosses, and in the combination of the corrugated pipe or pipes, closed air-tight at both ends, with the pipe that connects the air-chamber of the safe with the air-pump and the quicksilver-pipe.

A represents the inner walls or body of the safe. The body of the safe is surrounded by walls B, made enough larger than the walls A to leave a chamber between the said walls A B. The walls B are strengthened by cross-bars C, so arranged as to allow a free circulation of air through the said chamber. The walls B are surrounded by walls D, which are made so much larger than the walls B as to leave a space or chamber between the said walls B D. The outer walls, D, are strengthened by cross-bars E, so arranged as to allow a free circulation of water through all parts of the said chamber. The top bars, E, should be notched upon their upper sides to allow the water to circulate close to the top wall of the safe. If desired, the cross-bars C E may be replaced by bosses or studs; but I prefer to use the cross-bars.

The door is made with the two chambers in the same manner as the body of the safe, and a free communication is established between the chambers of the said body and door through corresponding holes F in the edge of the door and in the door-jambs of the safe, as shown in Figs. 2 and 3.

The connecting-holes of the air-chambers should be packed with rubber or leather, as shown in Figs. 1 and 2, in case the joint cannot be made air-tight.

Water is introduced into the chamber between the walls B D through a bent pipe, G, the lower end of which should communicate with the said chamber through the bottom or lower part of the safe.

The upper end of the pipe G should be as high or higher than the top of the safe, so that every part of the water-chamber in the safe may be completely filled.

Air, steam, and water are allowed to escape through an overflow-opening in the top of the safe, which opening should be covered with a perforated cap to prevent it from being closed by falling rubbish.

When the water-chamber is used the safe should stand upon the ground or upon a permanent foundation, as the pipe G would be broken off and the water-connection destroyed by the falling of the safe. For this reason the pipe G should pass down into and be carried out through the ground to the water-supply.

H is an air-pipe, the inner end of which passes through the walls D B and communicates with the air-chamber of the safe, or is screwed into or otherwise connected with a pipe passing through the said walls D B. The other or outer end of the pipe H is connected with an air-cylinder, I, with which is also connected an air-pump, J, so that air may be pumped into or out of the cylinder I and the air-chamber of the safe, according as condensed or rarefied air is to be used.

The inner surface of the bottom of the air-cylinder I is concaved, and with its lowest part is connected the end of one arm of the bent or V pipe K.

The pipe K is designed to contain quicksilver, and in its other arm is placed a float, L,

the stem of which projects above the end of the pipe K, and has an arm, M, attached to its upper part.

The arm M is designed to be connected with a clock-alarm or other alarm to give notice that the safe is being tampered with.

In the pipe H are placed one or more corrugated pipes, N, the ends of which are closed air-tight, and are so formed as to interlock with each other, so that a saw cannot be introduced between them.

The air passes through the pipe H along the corrugations of the pipe or pipes N. The pipes N prevent the possibility of closing or severing the pipe H without changing the state of the inclosed air, and thus giving the alarm.

In case air is pumped out of the cylinder I and the air-chamber of the safe, the pressure of the rarefied air upon the quicksilver in the pipe K will be less than the air-pressure in the outer arm of the said pipe, and the quicksilver will rise in the said inner arm, so that when the air-chamber of the safe is pierced air will enter and the float L will rise to give the alarm.

In case air is pumped into the cylinder I and the air-chamber of the safe, the pressure of the condensed air upon the quicksilver in the inner arm of the pipe K will be greater than the air-pressure in the outer arm, and the quicksilver will stand higher in the said outer arm, so that if the pipe H or the air-chamber of the safe be pierced air will escape and the float will descend to give the alarm.

With this attachment the walls of the safe may be made thinner and cheaper, and cheaper locks may be used; but in this case the safe should be provided with an inner door to detain the burglars until those aroused by the alarm have time to reach the safe.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. Safes or vaults provided with air and water tight chambers, either or both, surrounding the entire safe, and strengthened by cross bars, studs, or bosses, substantially as herein shown and described.

2. The combination of the corrugated pipe or pipes N, closed air-tight at both ends, with the pipe H, that connects the air-chamber of the safe with the air-pump J and the quicksilver-pipe K, substantially as herein shown and described.

SAML. ADAMS WILKINS.

Witnesses:

JAMES S. FERGUSON,

C. L. THURMOND.