(No Model.) 2 Sheets—Sheet 1.

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SAFE.

No. 444,197. Patented Jan. 6, 1891.

Fig. 1.

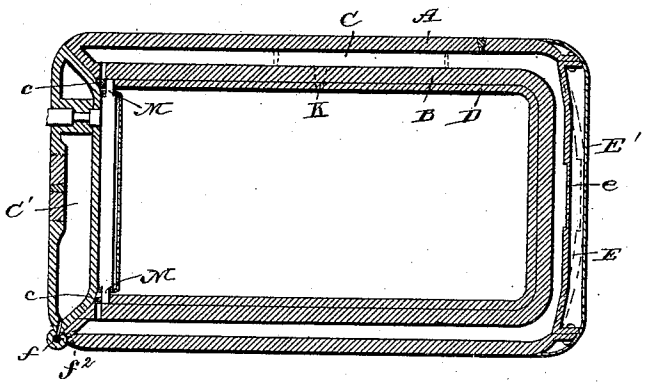


Fig. 3.

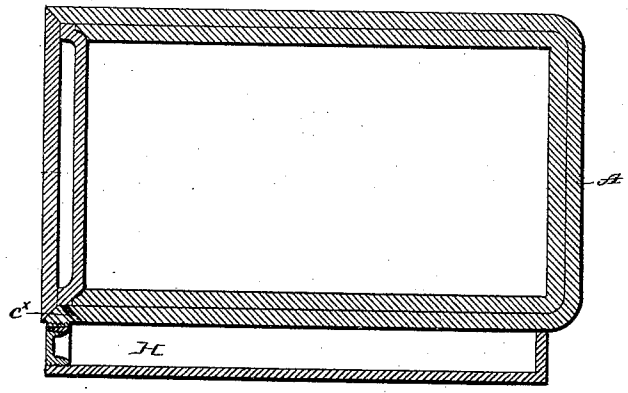


Fig. 2.

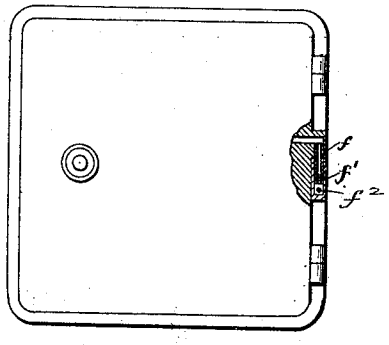
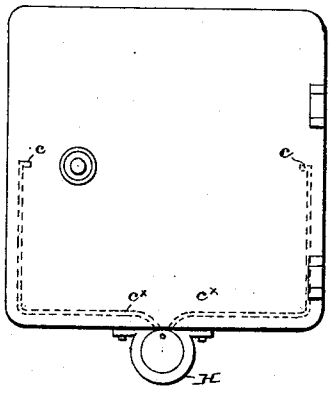


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5

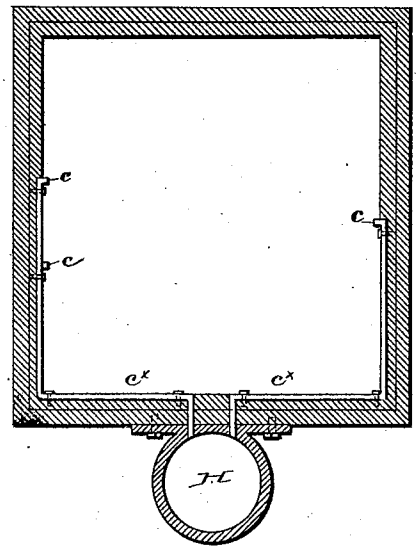


Fig. 6

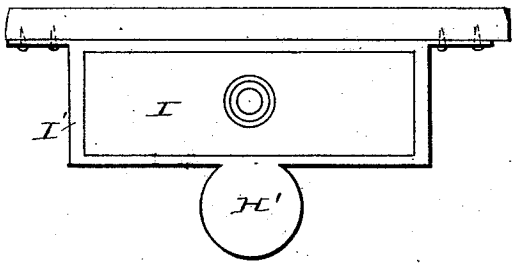


Fig. 7.

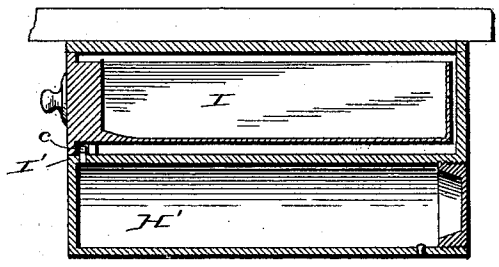
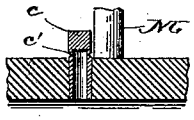


Fig. 8.



Fig. 9.



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UNITED STATES PATENT OFFICE.

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SPECIFICATION forming part of Letters Patent No. 444,197, dated January 6, 1891.

Application filed May 31, 1890. Serial No. 353,782. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. E. H. PAYNE, of Lipscomb, in the county of Lipscomb and State of Texas, have invented certain new and useful Improvements in Safes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to that class of safes which are made burglar and if desired, fire proof without increasing weight and cost of the same, reliance for security being placed upon the release or discharge of condensed gases, liquefied or not, and contained within the walls of the safe in such manner as that any attempt to force the safe will break the walls of the containing-chamber and release the fluid, said fluid or gases being of a deadly character, whereby persons or animals are compelled to flee from the vicinity of the safe as soon as the gas permeates the atmosphere, and, if desired, also having the property of extinguishing fires or preventing combustion, in connection with which feature it has been found desirable to provide fusible plugs on the interior of the safe, which will melt at a temperature above that of boiling water, but below that which will char paper, whereby, when the interior of the safe becomes so heated as to endanger its contents the gas will be discharged and the oxygen and air, &c., in the safe, which would support combustion, be driven out, thereby saving the contents from injury.

The invention consists in certain novel details of construction and combinations and arrangements of parts, to be hereinafter described, and pointed out particularly in the claims at the end of this specification.

Referring to the accompanying drawings, Figure 1 is a horizontal section through a safe constructed in accordance with my invention. Fig. 2 is a front elevation with a section of the door broken away to show the connection between the tanks in the door and in the body of the safe. Fig. 3 is a vertical section showing another form of tank; and Fig. 4 is a front elevation of the same, with the tubes shown in dotted lines. Fig. 5 is a view showing how this idea may be applied to safes already in use. Fig. 6 is a front elevation of a drawer-safe protected in accordance with my invention. Fig. 7 is a vertical section of the same. Fig. 8 is a view of a modified form of fire-extinguisher receptacle. Fig. 9 is an enlarged view of the end of one of the bolts and the preferred form of protecting-tube.

Similar letters of reference in the several figures indicate the same parts.

A indicates the outer wall or shell of the safe of any preferred construction; B, the inner wall slightly removed from the outer wall, so as to leave an internal chamber or recess; C and D, the internal lining or fire-proof casing. At the front end of the casing the usual door-opening and locking-bolt holes are formed in the same, and in front of each of the bolt-holes is located a tube *c*, communicating with the chamber C, as shown, whereby the bolts will rupture the same should they be forcibly moved to the front, as would be the case were an attempt made to force or blow the door off. In the preferred construction the door is also hollow or provided with a central chamber C′, communicating with the chamber C by means of a flexible connection, as shown in Fig. 2, and consisting, essentially, of a right-angle tube having its vertical portion *f* in line with the hinge-pintles and fitting in a socket *f′* on the casing, which socket communicates, through an opening f^2, with the chamber C. With this construction it will be seen that the entire safe or central recess is enveloped by a chamber within which may be placed a condensed or liquefied gas of a deadly character, such as SO^2 (sulphur dioxide or sulphurous-acid gas) or any other compressible or liquefied gas which human beings cannot bear to breathe, and should any attempt be made to tear the walls of the safe apart, drill the same, or force the door the deadly gas will be released and by permeating the atmosphere in the vicinity of the safe compel the burglars to depart and will not permit them to approach the safe near enough to carry on their operations. Further than this, it is obvious that if the gas employed be given a pungent or characteristic odor it will indicate to persons at a

great distance from the safe that the same has been tampered with, and they can give the alarm.

Provision is made for permitting the liquid contained within the chamber C to expand or contract under the influence of the variations of atmospheric temperature, or in case of fire, if need be, by forming the rear wall E of relatively thin material which will bulge outward, as shown in dotted lines, when the liquid expands, a central weakened portion *e* being made, if found necessary. The regular contour of the outside of the safe is preserved by placing a thin metal cover E′ over the expansible section or back.

In Figs. 3, 4, &c., the chamber for the reception of the deadly gas is not extended entirely around the safe nor within the door, but is located at the bottom of the safe, preferably in the form of a cylinder H, or it may be of any other desired shape, and the tubes $c^{\times}$ being extended down around the bottom of the door into communication with the chamber. This form of chamber may be easily filled, with proper precaution, by removing the screw-plug at the end. Safes of ordinary construction may be fitted with this appliance, as shown in Fig. 5, the chamber being bolted on the bottom of the safe and the tubes located around the door-jamb, with the ends projecting in front of the bolt-hole.

When desired, it is obvious that this invention may be applied to drawers or drawer-safes, as illustrated in Figs. 6 and 7, I indicating a drawer of any ordinary construction, and I′ the drawer-casing, adapted to be secured beneath or on top of a counter, as preferred, and having on the under side the chamber H′, similar in construction to that before mentioned, and having at the front end a short upwardly-projecting tube, the end of which projects in the path of the locked bolt, and any attempt to open the drawer forcibly would result in its rupture.

The chambers heretofore described, or a compartment therein, as shown in dotted lines, Fig. 1, may be in communication with the interior of the safe through the medium of fusible plugs K, which will melt at a temperature above that of boiling water, but below that required to char paper, in which instance the gas, besides having the deadly property mentioned, has the property of extinguishing fire or preventing combustion by displacing the air and oxygen. With this arrangement it will be seen that should the safe be subjected to a hot fire for a long-continued period said compartment would be opened to the interior of the safe and the contents preserved by the escaping gases.

In the preferred construction the compartment for containing the fire-extinguishing compound is separate from the other compartment and is secured or placed directly inside of the safe, Fig. 8 representing such a receptacle and *k k* the fusible plug therein.

Bolts M of the door may be of any desired construction; but it is preferred that the tubes have the outer ends, whether they project beyond the casing or not, solid, as shown in Fig. 9, *c′* indicating a groove cut around the tube at the top of the hollow portion to weaken the same and insure a breakage at the proper point.

A safe having the safety appliances such as contemplated by my present invention, it will be seen, cannot be tampered with by burglars without an almost absolute certainty of their being discovered or receiving such personal injury as will prevent them prosecuting their work to a finish.

Having thus described my invention, what I claim as new is—

1. The combination, with a safe having a locking-bolt, of a chamber containing condensed gas and a tube or extension thereof lying in the path of the locked bolt, whereby any attempt to force the safe will rupture the tube and permit the gas to escape, substantially as described.

2. The combination, with a safe having a locking-bolt and hollow walls forming a chamber containing condensed gas, of tubes or extensions communicating with said chamber and projecting into the path of the locked bolt, substantially as described.

3. The combination, with a safe having a chamber containing condensed gas, of a tube communicating with said chamber and having the solid end projecting into the path of the locked bolt, substantially as described.

4. The combination, with a safe having a chamber containing condensed gas, of a tube communicating with said chamber and having the solid end projecting into the path of the locked bolt, with the groove or weakened portion at the base of the solid end, substantially as described.

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