

W. WEIKEL.
 PROTECTIVE MEANS FOR SAFES.
 APPLICATION FILED MAY 15, 1909.

955,234.

Patented Apr. 19, 1910.

Fig. 1.

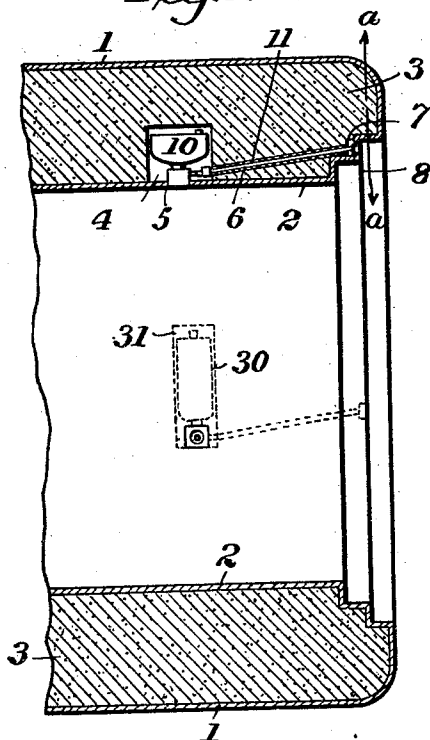


Fig. 7.

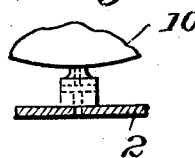


Fig. 2.

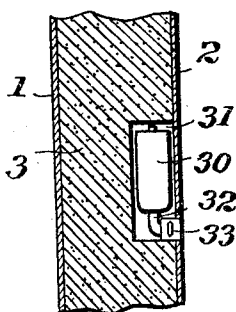
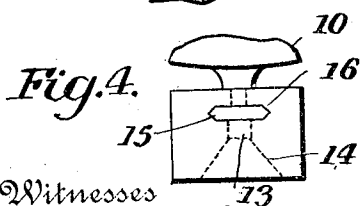
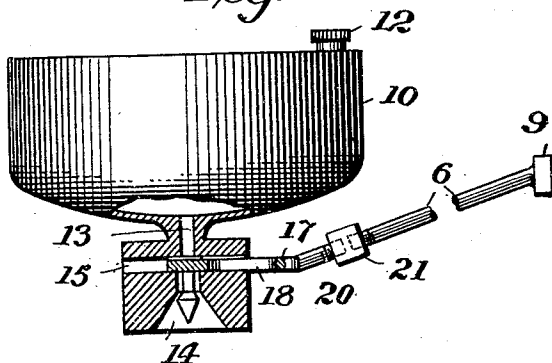


Fig. 3.



Witnesses
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Fig. 5.

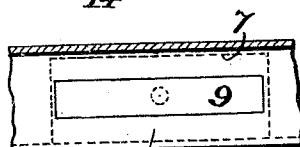
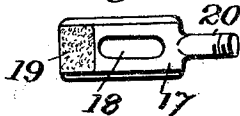


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILSON WEIKEL, OF TRENTON, OHIO.

PROTECTIVE MEANS FOR SAFES.

955,234.

Specification of Letters Patent.

Patented Apr. 19, 1910.

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To all whom it may concern:

Be it known that I, WILSON WEIKEL, a citizen of the United States of America, and a resident of Trenton, Butler county, State of Ohio, have invented certain new and useful Improvements in Protective Means for Safes, of which the following is a specification.

This invention relates to protective means for safes, vaults, and the like, and its object is to prevent unauthorized access to the interior of the safe by the use of explosives, this result being attained by the liberation of noxious, or nauseous gases or vapors when an attempt to blow open the safe is made, which will render the atmosphere in and around the safe unsuitable for respiration.

In my Patent No. 859,791, issued July 9, 1907, I disclosed and claimed a protective means for safes, in which the air-poisoning agent was contained in a receptacle, located upon the door of the safe adjacent to a second receptacle containing an explosive, so that the receptacle containing the air-poisoning agent would be shattered by the explosion of the second receptacle, when the safe was blown open.

The air poisoning agent used in accordance with the present invention may be the same as that used with the invention of my said patent, that is to say, it may be any substance or combination of substances, which is liquid under pressure, but which, when released, liberates noxious, pungent or poisonous fumes, odors or vapors, the liquid itself, of course, being non-explosive.

My present invention is in the nature of an improvement upon this device and consists in the provision of a non-frangible receptacle, located within one or more of the walls of the safe, and containing the air-poisoning agent, said receptacle being provided with a spraying-nozzle normally closed by a slide valve, the latter being adapted to be opened by the effect of the explosive used in attempting to blow open the safe.

The invention is illustrated in the accompanying drawing in which—

Figure 1 is a vertical section through the front part of a safe equipped with the improved protective means. Fig. 2 is a partial vertical section through one of the side walls of the safe. Fig. 3 is an enlarged view, partially in section, of the receptacle and slide valve. Fig. 4 is an end view of the

lower portion of the receptacle. Fig. 5 is a plan view of the slide valve. Fig. 6 is a detail view taken on the line *a—a* of Fig. 1, and Fig. 7 is a detail of a slightly modified arrangement.

The walls of the safe, as shown, comprise outer and inner linings 1, 2, of metal, with a relatively thick layer of cement 3 between them.

My invention contemplates the provision of receptacles, containing the air-poisoning agent, both in the top and side walls of the safe and, where hereinafter I use the term "wall" alone, I intend it to include the top of the safe as well as the side walls or door.

For the reception of the receptacle 10, a recess 4 is formed in the cement immediately behind the lining plate, 2, which latter is provided with an aperture 5 for the reception of the outlet nozzle of the receptacle. It may be preferred, however, to have the receptacle outlet lie back of the lining plate, so that only a small aperture in the latter is necessary, as shown in Fig. 7. From the recess 4, a passage is formed in the cement, leading to the front of the safe and terminating in a recess 7 formed in the cement back of the outermost door jamb 8, an oblong section of which is removed for the reception of a plate 9, to the back of which is secured a small rod 6, slidably mounted in the said passage, and connected at its inner end to the slide valve to be hereinafter described. The passage is preferably lined with a thin brass tube 11.

The receptacle 10 is preferably made of metal, such as brass, and in use is partially filled with the liquid agent, a space being left above the level of the same for the reception of compressed air, inserted through the valve 12. The lower portion of the receptacle is extended downwardly to form a valve casing and has an outlet aperture 13, flaring at its mouth 14, and containing a fixed conical spreader, this construction forming a spraying nozzle, similar in construction to that used with ordinary garden hose. A passage 15, having V-shaped sides 16, is formed transversely in the valve casing, intersecting the aperture 13. The slide valve 17 is a flat plate fitting in said passage and provided with a slot 18, and a packing 19 on its forward portion, which normally closes the aperture 13. The plate terminates in a shank 20, screw-threaded on its end and connected to the sliding

rod 6 by a turn-buckle 21, this construction being provided to permit the insertion and adjustment of the parts.

The receptacles 30 for the side walls, as shown in Fig. 2, are formed of a greater height and less thickness than the receptacles for the top of the safe, so that the recesses in the cement may be of minimum depth. Also the neck 32 of the valve-casing is bent at right-angles so that the spraying nozzle 33 can be directed horizontally toward the interior of the safe. The slide valve in this case is arranged vertically, but otherwise it is the same in construction and operation as the valve described above.

The operation will be readily understood. When an attempt is made to blow a safe, the nitroglycerin, or other high explosive is always placed adjacent to the edge of the door. Therefore, when the explosion takes place, the plates 9 will be thrown inwardly, moving the slide-valves 17 so that their slots 18 come opposite the outlets 13. The air-poisoning agent will then be forced out into the safe in a spray by the air pressure in the receptacle, rendering the atmosphere in the safe and in the surrounding space totally irrespirable.

The details of construction which I have described above are by way of illustration only, as modifications therein may be made without departing from the spirit of my invention, which resides in the fact that the receptacles are not intended to be broken by the action of an explosive, but merely to have their outlet valves opened thereby. Obviously, such receptacles may be located elsewhere than as shown in the drawing, as, for example, in the vicinity of the locking-bolts, or on the door adjacent to the lock-actuating knob or handle.

Among the advantages of this construction may be mentioned the facts that the receptacles are not destroyed when the agent is liberated, are not liable to breakage in handling, that they can be located well within the safe so as not to materially diminish the fireproof qualities of the same, and so as not to interfere at all with the ordinary use of the safe, and that the operation of releasing the air-poisoning agent is rendered certain, if an attempt is made to blow the safe open.

Having thus described the invention, what is claimed is:—

1. The combination with a safe, of a receptacle located in the wall thereof and having an outlet opening into the safe, said receptacle being adapted to contain an air-poisoning agent, a valve normally closing

the outlet, and a movable plate in the door-jamb connected to said valve.

2. The combination with a safe, of a receptacle located in a wall thereof and having an outlet opening into the safe, said receptacle containing a liquid under pressure adapted, when liberated to give off an air-poisoning gas, a slide-valve normally closing said outlet, a rod connected to said valve and a plate located adjacent to the surface of the door, and adapted to be actuated by an explosion to move said valve to open position.

3. The combination with the wall of a safe having a recess therein, said recess communicating by an aperture with the outer door-jamb, of a receptacle to contain an air-poisoning agent, located within said recess and having an outlet communicating with the interior of the safe, a slide valve normally closing said outlet, a rearwardly movable section in said door-jamb, and a rod slidably mounted in said aperture and connecting said section and valve.

4. In a safe, a rearwardly-movable plate set into the door-jamb, a receptacle for an air-poisoning agent within the safe, said receptacle having a spraying nozzle opening into the interior of the safe, a valve normally closing said spraying nozzle, and connections between said plate and valve.

5. In a safe, a rearwardly-movable plate set into the door-jamb, a receptacle for an air-poisoning agent within the safe, said receptacle having an outlet opening into the interior of the safe, a valve normally closing said outlet, and a rod connecting said plate and valve.

6. The combination with a safe having a shallow recess in its side wall, of a receptacle for an air-poisoning agent arranged vertically therein and having an outlet nozzle opening into the interior of the safe, a slide valve in said outlet, a movable plate in the door-jamb, and connections between said plate and valve.

7. In a safe having recesses in its walls behind the interior lining, the combination of receptacles for an air-poisoning agent located in said recesses, outlets for said receptacles communicating with the interior of the safe, slide-valves for said outlets, and movable means in the outer door-jamb rigidly connected to said valves.

Signed at Seven Mile this 12th day of May, 1909.

WILSON WEIKEL.

Witnesses:

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C. E. THOMAS.