(No Model.)

J. W. RUENZI.

PRISON, VAULT, AND SAFE ALARM.

No. 342,709. Patented May 25, 1886.

Fig. 1.

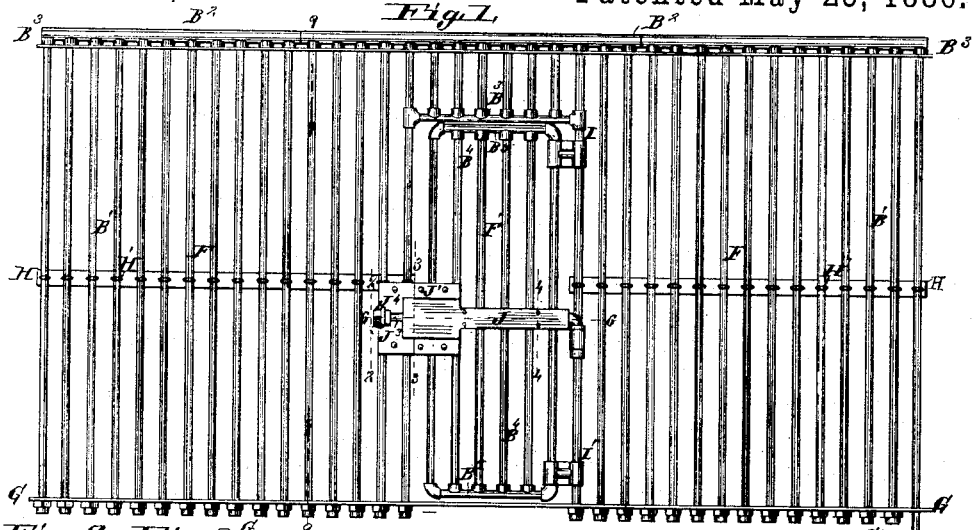


Fig. 2.

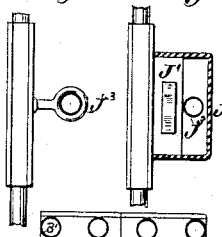


Fig. 3.

Fig. 4.

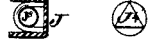


Fig. 5.

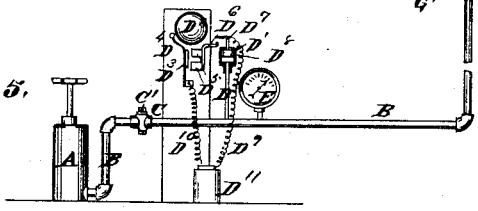


Fig. 6

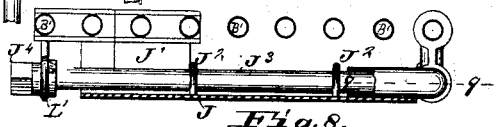


Fig. 7.

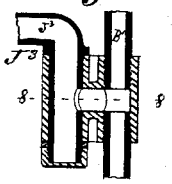


Fig. 8.

Fig. 9.

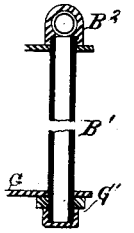


Fig. 11.

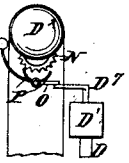
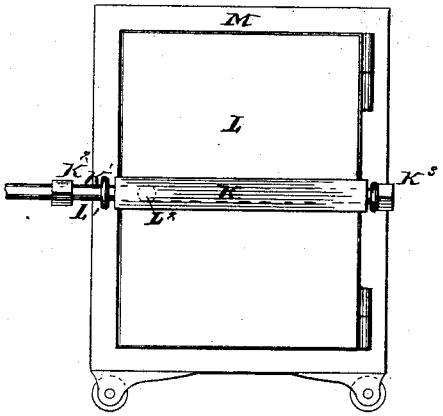


Fig. 10.



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UNITED STATES PATENT OFFICE.

JOSEPH W. RUENZI, OF TROY, MISSOURI.

PRISON, VAULT, AND SAFE ALARM.

SPECIFICATION forming part of Letters Patent No. 342,709, dated May 25, 1886.

Application filed August 15, 1885. Serial No. 174,497. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. RUENZI, of Troy, in the county of Lincoln and State of Missouri, have invented a certain new and and useful Improvement in Prison, Vault, and Safe Alarms, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification, and in which—

Figure 1 represents an elevation of the cage; Fig. 2, a vertical section on line 2 2, Fig. 1; Fig. 3, a vertical section on line 3 3, Fig. 1; Fig. 4, a vertical section on line 4 4, Fig. 1; Fig. 5, an end view of cap; Fig. 6, a horizontal section on line 6 6, Fig. 1; Fig. 7, a vertical section on line 7 7, Fig. 6; Fig. 8, a horizontal section on line 8 8, Fig. 7; Fig. 9, a vertical section on line 9 9, Fig. 1; Fig. 10, an elevation of the safe; Fig. 11, a front elevation of a modification of alarm device.

My invention relates to certain devices in connection with prison, vault, and safe alarms, that form a sure tell-tale if any person should attempt to break out of the one or into the other; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

In my invention the alarm is given previous to the escape of the prisoners or the entrance of the burglars, before any material damage is done.

My invention consists, essentially, of a system of air-tight tubes filled with air, gas, alcohol, or other fluid under pressure, a portion of said tubes surrounding the object to be guarded, as in prison-cells, or communicating with and guarding the fastenings and entrance to treasure vaults or safes.

The actuating or tell-tale devices consist of an air or force pump for enforcing pressure, a stop-cock for its retention, an indicating-dial for gaging the pressure, and the tell-tale alarm-bell, which is actuated by electric or clock-work devices, as shown in the drawings, or any other suitable means. These operating devices may be placed in the watchman's or jailer's room, or at a police station, or in any other place that may best suit the convenience of those who are interested in the charge of the same.

The pressure is obtained by air or force pump A, which forces the air or other media through the pipe B into the cage and safeguard pipes beyond. In the immediate vicinity of the pump the pipe is provided with a stop-cock, C, that enforces the retention of the pressure. The said stop-cock has an angle-headed cap, requiring a peculiar shaped wrench to turn it, so that it cannot be turned or tampered with by an ordinary wrench or key.

D is a small vertical tube that rises from the pipe a little in advance of the stop-cock, said tube being surmounted by a cylinder, D′, in which, while the piston is sustained to its seat the alarm is inoperative, but immediately that the pressure is relaxed the piston drops and the alarm is sounded on bell D^2.

I show two devices for operating the alarm; but it is evident that the alarm may be actuated by any other suitable device.

The electric device I have shown is of a simple form, in which D^3 represents an armature secured to the bell-hammer D^4, and D^5 represents magnets, from which extend the projection D^6, for receiving a projection, D^7, on the piston D^8 of the cylinder D. When these two projections come together, the electric circuit is closed, sounding the alarm. D^9 and D^{10} are the wires of the battery D^{11}.

The clock-work or spring-alarm device shown as a modification (see Fig. 11) is operated by the descent of the piston D^8 when the pressure is relaxed that sustains its valve. The trigger D^7 then releases the catch that dogs the spring, when the alarm is sounded until the spring is entirely relaxed.

A graduated indicating-gage, E, is also connected with the supply-pipe in close proximity to the other tell-tale devices in the watchman's room, and records the amount of pressure in the pipes to indicate at the time of charging when sufficient pressure is attained, and also the smallest relaxation of the pressure when the cage-pipes or the guard-pipes of the cage, vault, or safe doors are cut or tampered with. The pipe is extended to the cage F, surrounding the prison-cells, the said cage being formed of a system of vertical parallel pipes, B′, set about five inches apart; but they may be placed nearer or farther apart without departing from the essential features of this invention. The pipes are secured to a connect-

ing-bar, G, or to the iron floor of the cells at bottom by threaded caps G′, and are surmounted by a horizontal sectional pipe above B^2, into which they enter or are connected by unions B^3, so that the compressed air or other medium used passes freely from pipe to pipe by means of their connection with the horizontal pipe above, so that should either of the pipes be cut the pressure would be relaxed throughout the whole system and recorded, and the alarm-bell rung in the watchman's room.

The door F′ is composed of a similar system of vertical pipes, B^4, to those already described, and are connected by unions with horizontal pipes B^5 at their upper and lower ends, making a substantial door.

Tubular bracket-hinges serve the double purpose of hanging the door and conveying the compressed air or other medium from the main pipes of the cage into those of the door. (See Fig. 1.)

A flanged bar, J, of novel construction, guards the door and its lock J′. The said bar is secured by clips J^2 to a pressure pipe, J^3, that has a swing-bracket connection similar to that of the hinges, allowing free passage to the compressed air, &c. (See Figs. 4 and 6.) The bar and pipes cross and guard the door and its lock, and the pipe, the rear end of which telescopes, as shown in Fig. 6, is slipped through the eyebolt L′, and secured by an angular-headed cap, J^4, at their termination, said cap requiring a peculiar-shaped angle-faced wrench to unscrew it. (See Figs. 1, 5, 6, and 10.)

It will be readily seen that both the flanged bar and pressure-pipe guard both door and lock, and that the lock cannot be tampered with while thus protected.

Somewhat similar bars, K, and pressure-pipe K′ guard the doors L and combination-locks L^2 of treasure-vaults and safes M; but these latter bars and pipes have a different mode of attachment, and instead of swinging with the door, as in the cage-door just described, both bar and pipe are removable when the vault or safe is opened. The pressure-pipe is slid through the eyebolts and secured by a union, K^2, which, as also the head of the cap K^3 at the other extremity of the pipe, has an angular presentation unfitting it to be turned by a common wrench.

It is evident that when cells, treasure-vaults, and safes are guarded by my tell-tale alarm device they can neither be broken out of nor into, respectively, without giving vent to the air or other medium under pressure, and consequently actuating the alarm, as above described.

I am aware that it has been proposed to arrange a pressure-pipe upon the inside of a structure with one extremity near to the window or door, and to provide said window or door with a valve or stopper for sealing the end of the pipe while the door or window is closed, said pipe being also in communication with an alarm apparatus, which is put in action when the contents of the pipe are permitted to resume atmospheric pressure by the unsealing of the end of the tube; but this is not the equivalent of my invention. With such a device the alarm does not sound until the door is opened, which in many instances might be too late to be of any use, whereas by the use of my present invention the alarm is sounded before the burglar has gained access to the lock.

I am also aware that alarms have been employed in connection with locks, and do not claim such, broadly, as my invention.

I claim as my invention—

1. The combination, with a door composed of a connected system of tubes or pipes, of a fluid-pressure apparatus, and an alarm connected with the said system of pipes, substantially as and for the purpose set forth.

2. The combination, with a door and a lock, of a hermetically-sealed tube or pipe for intercepting access to said door and lock, and a fluid-pressure apparatus and alarm connected with said pipe, substantially as set forth.

3. The combination, with a door, of a hollow hinge, a fluid-pressure pipe connected with said hinge, and an alarm connected with said fluid-pressure pipe, as and for the purposes set forth.

4. The combination of a door formed of a system of tubes or pipes, hollow hinges communicating with said pipes, a pipe or tube supporting said hinges and also communicating therewith, and a pressure apparatus and alarm, all constructed and arranged to operate substantially as and for the purpose set forth.

5. The combination, with a cage formed of a connected system of pipes, and a door, also formed of a connected system of pipes having communication with those forming the cage, of a pressure apparatus and an alarm communicating therewith, substantially as and for the purposes set forth.

6. The combination, with the cage formed of a connected system of tubes or pipes and the pressure apparatus and alarm communicating therewith, of the door having the lock, the pipe J^3, the bar J, secured thereto and covering said lock, the eyebolt L′, and the cap-head J^4, all constructed and arranged to operate, substantially as set forth.

JOSEPH W. RUENZI.

In presence of—
BENJN. A. KNIGHT,
GEO. H. KNIGHT.