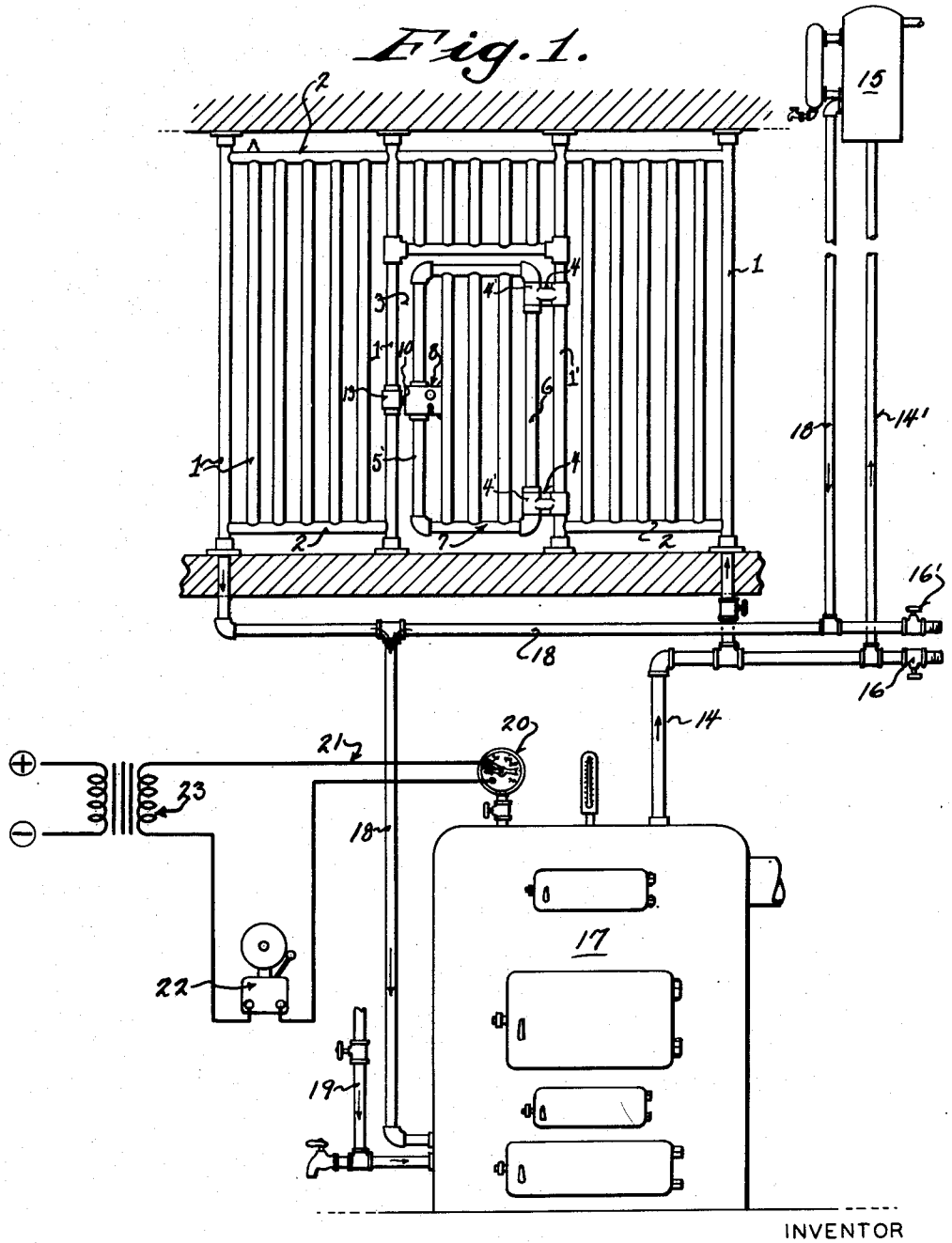
Dec. 22, 1953 O. W. BECKER 2,663,271

FLUID CONTROLLED ALARM SYSTEM FOR JAILS

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Fig. 1.



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Fig. 2.

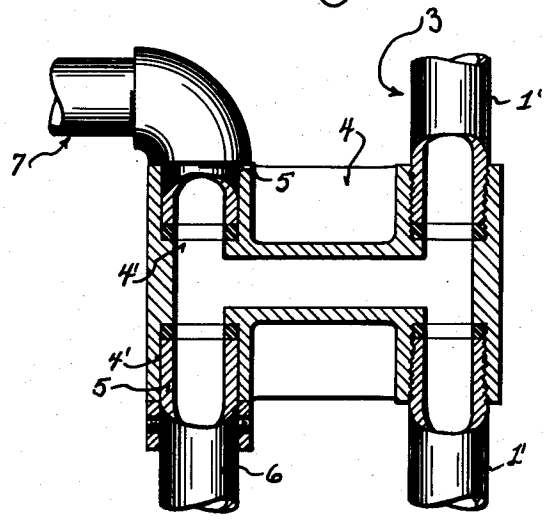


Fig. 3.

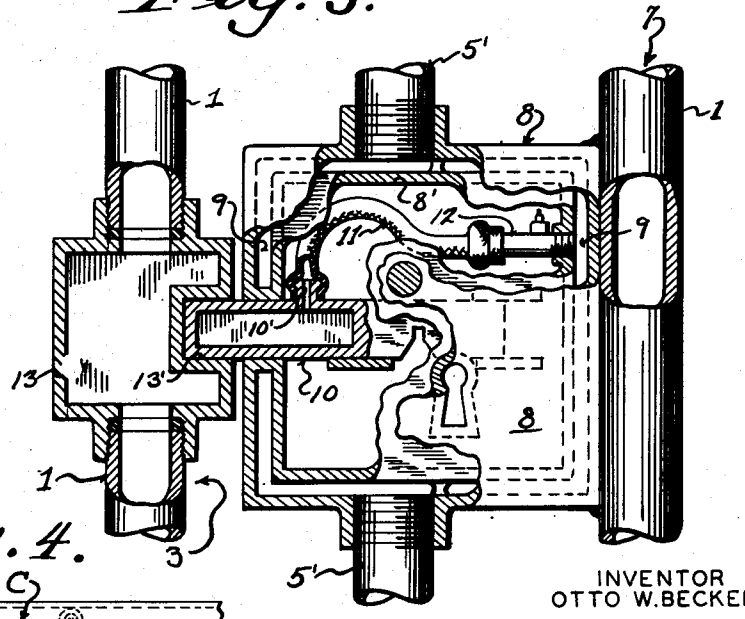
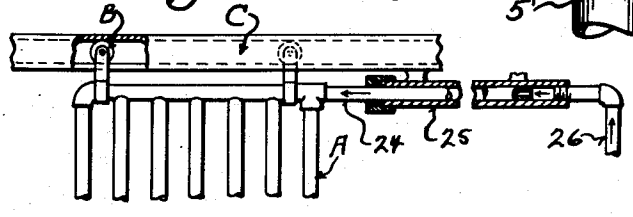


Fig. 4.



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FLUID CONTROLLED ALARM SYSTEM FOR JAILS

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1 Claim. (Cl. 109—31)

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My invention refers to escape-proof jail construction and it has for its primary object to provide tubular cell bars for partitions, windows, doors and locks therefor, all of which are charged with a constant volume of fluid, under pressure, whereby attempts by prisoners to cut their way out will develop a fluid leakage, causing the fluid pressure contained in the structure to automatically lower and signal an alarm to the guard.

Particular attention is called to the fact that any standard type of lock is provided with a hollow latch having a flexible tube connected with the tube fluid system and that the associated socketed latch plate is also hollow and in circuit with the fluid under pressure, whereby any attempt to damage the lock parts will develop a leakage, resulting in a drop of the fluid pressure to signal an alarm.

Another object of my invention is, under certain conditions, to provide a standard hot water heating system in communication with the tubular bars, the said heating system comprising the usual furnace having hot water supply and return pipes, an expansion tank, and pressure gauge communicating with an alarm bell electric circuit. It is also contemplated that the hot water heating system, in addition to filling the tubular jail bars, may be tapped for supplying heat to other apartments and buildings, if desired.

It is further understood that any anti-freeze or rustproof fluid may be employed to supply the jail tubes, under pressure, without departing from the spirit of my invention.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claim.

In the accompanying drawings is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawings:

Fig. 1 represents a diagrammatic view of a jail cell section connected up with a hot water heating system, embodying the features of my invention.

Fig. 2 is an enlarged detail sectional face view of a tubular door hinge.

Fig. 3 is an enlarged detail partly sectional face view of a door lock, embodying the salient features of my invention; and

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Fig. 4 is a fragmentary detail elevation of a modified form of door, wherein the same is slidably mounted, the same being partly in section.

Referring by characters to the drawings, 1 indicates a series of tubular cell bars, connected at their top and bottom by tubular header bars 2. The tubular cell bars are formed with a door opening 3, and, as best indicated in Fig. 2 of the drawings, one of the tubes 1' about the door opening has secured thereto a hollow pintle bracket 4 by interrupting the tube 1' and threading the interrupted ends of said tube into the bracket.

The ends of the pintle bracket are provided with vertically disposed hollow pintles 4', which pintles communicate with the fixed sectional tube 1'. The pintles 4' have journaled therein end sections 5 of a tube 6, which tube forms the rear hinged portion of a swinging door 7, the same being fitted in the opening 3 and having an outer tube 5' together with a series of inner parallel tubes, all of which are transversely connected by tubes at their upper and lower ends, as best indicated in Fig. 1 of the drawings.

The outer door tube 5' is interrupted centrally and the interrupted ends thereof are in threaded union with a lock housing 8, as best indicated in Fig. 3 of the drawings.

The walls of the rectangular lock housing are formed with an inner jacket 8', which jacket is spaced from the outer walls to form a fluid channel 9 encasing the housing and communicating with the tubular bars 5'.

For convenience in construction, the lock housing is suitably secured to one of the vertically disposed intermediate door tubes, as shown, the same paralleling the outer door tube 5'.

Slidably mounted in the lock housing 8 is a reciprocative hollow latch 10. The reciprocative latch 10 is provided with a nipple 10', which nipple is connected to one end of a flexible tube 11. The opposite end of the tube communicates with a pipe section 12, which pipe section also communicates with the housing channel 9, whereby fluid, under pressure, from said channel is supplied to the hollow latch 10, it being understood that said latch is under key control, not shown.

Thus when the latch is reciprocated under its key control, the flexible tube 11 will permit free movement of the same, while it will also maintain its constant communication with the fluid under pressure.

The door opening tube 1, which is parallel with

the door tube 5', is interrupted opposite the housing and the threaded interrupted ends thereof are connected to a hollow latch plate 13, which plate is formed with a socket 13' for engaging the tongue end of the latch 10.

As best illustrated in the diagrammatic view, Fig. 1 of the drawings, fluid, under pressure, is supplied to the tubular bars 1, and associated door, by a hot water delivery pipe 14, and a riser pipe 14', from the delivery pipe, communicates with a standard expansion tank 15, that is positioned at a proper high elevation to develop the required pressure in the heating system.

It is also understood that a valve control end 16 of the supply pipe may be used for attachment to the pipe system of an apartment or building remote from the jail.

The hot water supply pipe 14 is connected to a standard furnace 17 and the return pipe 18 of the heating system also communicates with one of the tubular bars of the cell 1 and the pressure tank 15, it being understood that this return pipe is in communication with the lower portion of the furnace.

To supply fresh water to the hot water heating pipe system, I provide the usual valve controlled pipe 19, whereby when the pressure in the hot water system lowers, due to evaporation or otherwise, the pressure in said system may be raised and the pressure expansion tank 15 is then filled.

The furnace is also provided with the usual water gauge 20 and when the water in the circulating system drops, through leakage or other causes, the dial fingers on said gauge close an electric circuit 21, into which circuit a bell 22 is connected, whereby when the water pressure lowers, the bell will sound an alarm, it being understood that the bell circuit is supplied from any suitable source through a transformer 23.

It is also understood that the hot water pipe system is provided with the usual air vent valves.

In connecting the hot water system, for supplying heat to an independent apartment, the return pipe 18 of said system is also provided with a valve controlled end 16', whereby the circuit to the apartment is completed.

From the foregoing description, it is apparent that if any one of the tubular bars is cut or broken out, the pressure of the fluid will drop, whereby the alarm bell 22 will be sounded. It

is also apparent, in the event that the locking latch 10 or latch plate 13 are interrupted by cutting or filing, that the fluid in these parts, due to leakage, will drop in pressure, whereby the alarm signal is sounded. In other words, all of the confining elements of a jail cell are thoroughly safeguarded against any attempt of a prisoner to break out by filing or cutting the various elements.

As illustrated in Fig. 4 of the drawings, as a substitute for a hinged door to a cell, I have shown a sliding door A, the same being composed of connected tubes and suspended by rollers B upon an overhead track C. The upper horizontal reach tube of the door A is provided with an extension 24, which extension is in telescopic union with a sleeve 25 that may be suitably anchored to the track C and said sleeve communicates with the fluid system through a supply pipe 26. Thus the door may be slid back and forth while fluid supply thereto is constantly maintained.

I claim:

In an alarm system for prison cells and the like; a lock for connection with a closure comprising a casing defining an enclosed chamber having inner and outer spaced walls defining a liquid receiving jacket completely about the chamber, means for supplying liquid under pressure to the jacket, whereby upon puncturing of the jacket, the pressure will be lowered in the system, a key operated bolt slidable through one side of the casing, said bolt being of a hollow construction forming a closed interior chamber, and a flexible liquid conduit housed within the casing connecting the jacket to the interior chamber of the bolt, whereby puncturing of the bolt will also lower the pressure within the system.

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