

(No Model.)

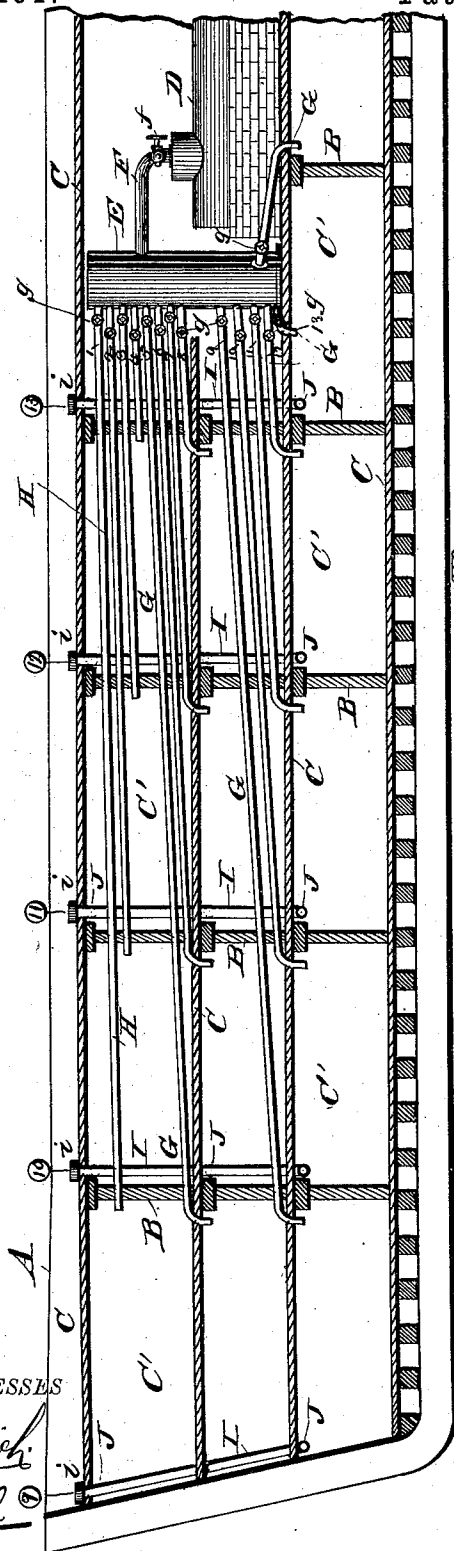
P. L. PALMER,

APPARATUS FOR LOCALIZING AND EXTINGUISHING FIRES IN
HOUSES AND VESSELS.

No. 334,461.

Patented Jan. 19, 1886.

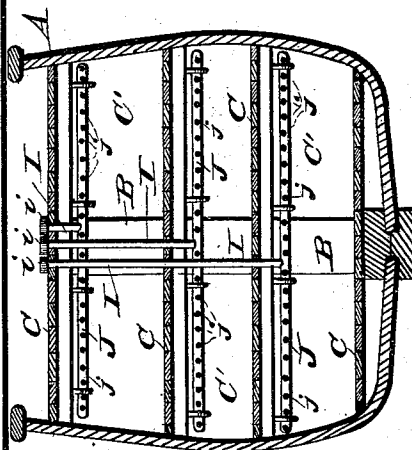
Fig. 1.



WITNESSES

Phil. Dietrich
A. E. Dowell

Fig. 2.



INVENTOR

Peter L. Palmer
by *J. H. Alexander*
Attorney

UNITED STATES PATENT OFFICE.

PETER L. PALMER, OF WHITE CLOUD, KANSAS.

APPARATUS FOR LOCALIZING AND EXTINGUISHING FIRES IN HOUSES AND VESSELS.

SPECIFICATION forming part of Letters Patent No. 334,461, dated January 19, 1886.

Application filed May 26, 1885. Serial No. 166,754. (No model.)

To all whom it may concern:

Be it known that I, PETER L. PALMER, of White Cloud, in the county of Doniphan and State of Kansas, have invented certain new and useful Improvements in Apparatus for Localizing and Extinguishing Fires in Houses and Vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 represents a vertical longitudinal section of the hull of a vessel through the line of the longest indicating-tubes of the invention, the plans of the numbered cups of said tubes being shown above the side views of the same, and the numbers of the steam-tubes being marked adjacent thereto. Fig. 2 is a vertical transverse section of the same through any line of compartments.

The invention relates to improvements in apparatus for extinguishing fires, either in buildings or vessels, by means of steam flowing from the boiler of a steam-engine located in the building or vessel; and it consists in the construction and novel arrangement of parts hereinafter described, and pointed out in the appended claims.

The invention is particularly adapted to vessels built in compartments by bulk-heads.

In the accompanying drawings, A designates the hull of a vessel divided into compartments by the bulk-heads B B.

C C are the decks, forming with the bulk-heads, the compartments C'.

D is the boiler, situated amidships, and E is a vertical steam chamber or receiver secured between decks, and receiving steam from the boiler through the pipe F, as shown.

f is a throttle-valve on the pipe F, by which the flow of steam and consequent pressure is regulated in the receiver E.

G G are steam-pipes going out of the receiver E, and having their outer ends bent downward and running through the decks into the compartments below the same.

g are valves on the sides of the pipes G, by means of which valves the engineer can admit steam from the receiver through any one of the said pipes to the compartment with which it communicates. The bent-down ends of the

pipes G pass through decks immediately after passing through the bulk-head above, and on the inner side of the compartment to which it runs. By this arrangement the pipe will not interfere with the stowing of the cargo.

H H are pipes running from the receiver E to the set of compartments lying below the upper deck. These pipes run through the inner bulk-heads of the compartments, with which they communicate, and do not have their ends bent downward, as they do not penetrate the decks.

I I are vertical tubes running from the upper deck down into the compartments C', into which their lower ends open, as shown. The said tubes run down along the outer bulk-heads of the compartments with which they communicate, so as to not be in the way of the cargo, and have fitted to their upper ends, above the upper deck, the caps i, which may screw therein or be fitted thereto in any suitable manner. The cap of each tube I has marked upon it a number, and the same number is marked upon the pipe G that communicates with the same compartment as the said tube. The number is marked on the pipe near its valve g, or upon the head of the said valve, as is most convenient. The caps i are intended to be as near flush with the upper deck as is practicable, so as not to interfere with the handling of the vessel. The lower end of each tube I communicates with the center of a transverse tube, J, which runs immediately below the deck that forms the roof of its compartment, and is provided at proper points with perforations j, for a purpose hereinafter explained. The tubes G and H run both fore and aft from the receiver E, which is situated near the boiler.

The method of operation of the apparatus is as follows: Any one of the watch on deck suspecting fire in a certain compartment removes the cap from the tube I communicating therewith. Smoke from the fire (if any exists) will then pass into the perforations j of the transverse tube J from either side of the compartment, and will rise with the updraft of air, through the tube I, and will be seen above deck. The cap i is then replaced on the tube I, and the engineer, being notified, opens the valve g of the pipe G bearing the same number as the cap, and consequently com-

communicating with the compartment to which the indicating-tube corresponding to the cap runs. The steam going into the compartment under pressure of the boiler fills every part thereof, and will even penetrate the wood-work, and, as it condenses into water, will effectually extinguish the fire. By removing the cap *i* at proper intervals of time it can be easily ascertained when the fire is extinguished, as steam only will then escape. Should the steam-pressure be too great in the compartment, it will be necessary to remove the cap *i* until the same is reduced. If desired, the numbers may be marked on the indicating-tubes instead of the caps.

I am aware that apparatus for directing a fire-extinguishing gas or liquid to the various compartments of a vessel or rooms of a building has been long in use, and such I do not claim.

Having described my invention, I claim—

1. In an apparatus to extinguish fire on steam-vessels built in compartments, the combination, with the boiler of the engine, a steam drum or receiver communicating with the boiler by a pipe controlled by a throttle-valve, and steam-delivering pipes running from the receiver to the compartments, (each pipe being provided with a throttle valve or cock near the receiver, having a separate number marked

on it near said cock and opening into a separate compartment,) of fire-indicating tubes, each running from a compartment to above the upper deck, and having on its end above the upper deck a removable cap marked with a number corresponding to the number of the steam-pipe communicating with the compartment to which the indicating-tube that it covers runs, substantially as specified.

2. In an apparatus to extinguish fire in steam-vessels built in compartments, the combination, with the boiler *D*, the receiver *E*, communicating with the boiler by the pipe *F*, controlled by the valve *f*, and the pipes *G* and *H*, controlled by the valves *g*, and each marked with a separate number near said valves and opening into a separate compartment, of the fire-indicating pipes *I*, the transverse perforated pipe *J*, and the screw-caps *i*, each marked on top with a number corresponding to the number on the steam-pipe opening into the compartment from which its pipe *I* ascends, substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

PETER L. PALMER.

Witnesses:

J. W. HAMILTON JOHNSON,

W. R. KEYWORTH.