No. 609,278. Patented Aug. 16, 1898.

W. KANE.

AUTOMATIC FLUE OPENING DEVICE.

(Application filed Dec. 9, 1897.)

(No Model.)

Fig. 1.

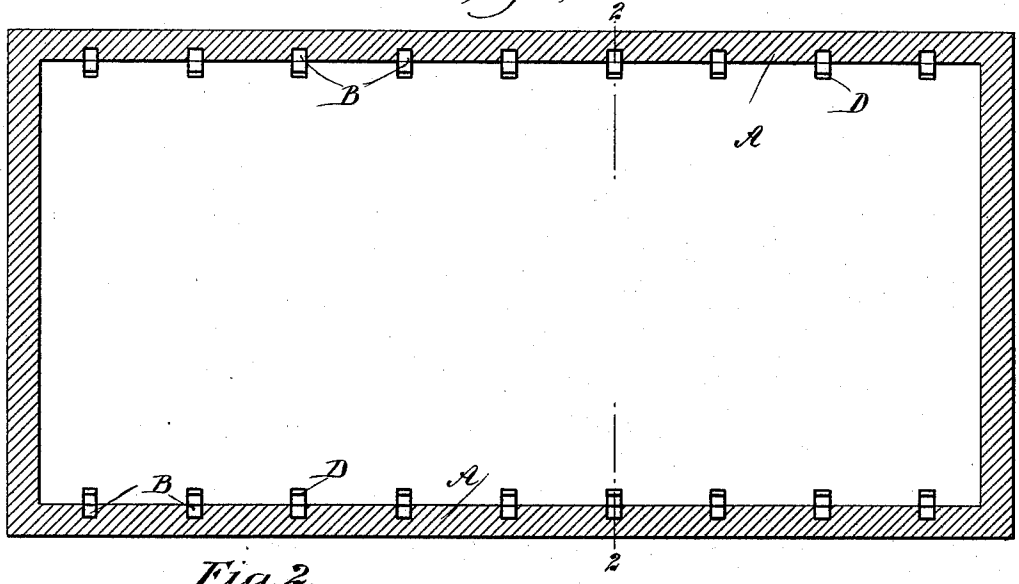


Fig. 2.

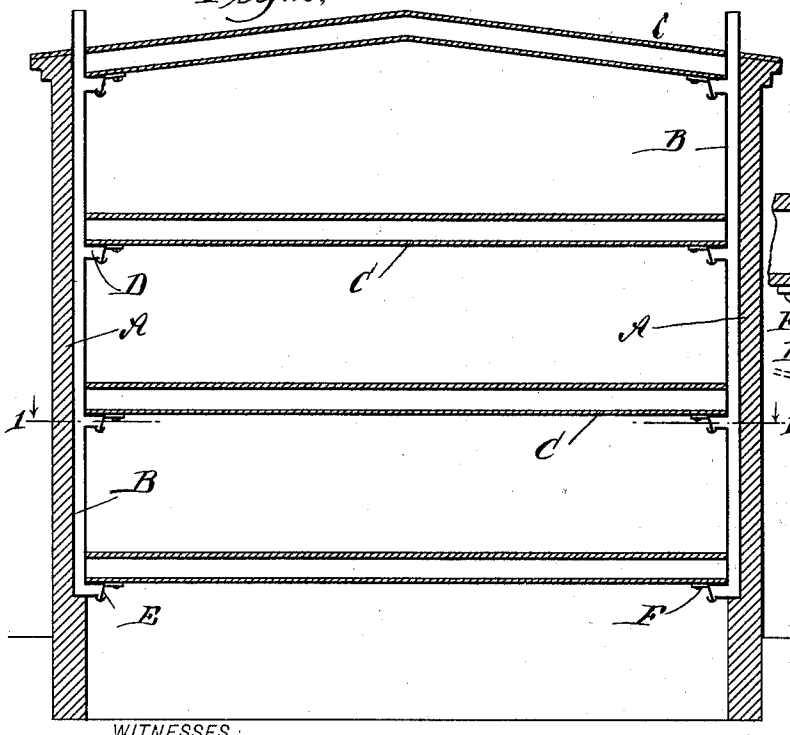
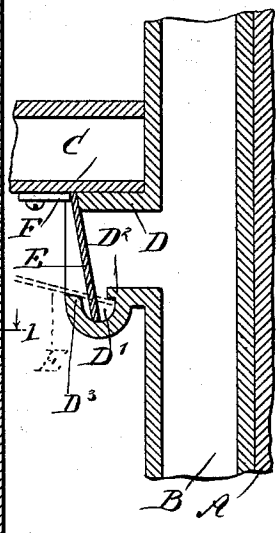


Fig. 3.

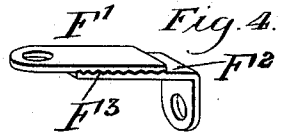


WITNESSES:

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Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM KANE, OF PHILADELPHIA, PENNSYLVANIA.

AUTOMATIC FLUE-OPENING DEVICE.

SPECIFICATION forming part of Letters Patent No. 609,278, dated August 16, 1898.

Application filed December 9, 1897. Serial No. 661,287. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KANE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Automatic Flue-Opening Devices, of which the following is a full, clear, and exact description.

Considerable difficulty is often experienced by firemen in locating the exact site of a fire in a burning building, since smoke and steam are liable to fill the entire room in which the fire has started to such an extent as to make it impossible to discern from which part of the room the blaze is proceeding.

The object of my invention is to provide an efficient automatically-operating remedy for the above-mentioned difficulty, and this I achieve by providing buildings with a series of ventilating-flues having openings or orifices leading into the several rooms of the building, said openings being normally closed by lids or other devices held in position by mechanism adapted to release them when a predetermined temperature exists within the room. Thus in the case of fire ventilation to draw away the smoke and gases will be afforded for that room only in which the fire is burning, and said room being cleared of smoke and steam the task of the firemen will be materially facilitated.

One way of carrying my invention into effect will be fully described hereinafter with reference to the accompanying drawings, and the novel features of the invention will then be pointed out in the appended claims.

Figure 1 is a sectional plan, on line 1 1 of Fig. 2, of a building provided with my improved ventilating-flues. Fig. 2 is a sectional elevation on line 2 2 of Fig. 1. Fig. 3 is a broken sectional elevation showing in detail the opening of one of the ventilating-flues, the lid for closing said opening, and the holder for normally keeping the lid closed; and Fig. 4 is a detail perspective view of another form of holder.

The walls A of the building are provided with flues B, extending upwardly from the basement or ground floor and terminating at any suitable place—for instance, above the roof, as shown. These flues are placed at suitable distances from each other. Preferably there will be one flue in each wall for each "bay" or division of the building. Each flue is adapted to communicate with the several rooms or stories of the building adjacent to the ceiling C or at least in the upper portion of the room. This communication may be afforded by an opening made directly in the side of the ventilating-flue, or short lateral branch pipes D may be employed, as illustrated. The branch pipes are normally closed at their inner ends by lids or covers E, which are held in position by a device so constructed as to release or open the lid when the temperature within the room reaches a predetermined limit—for instance, 160° Fahrenheit. Various devices may be used for this purpose—for instance, a fusible holder F, secured to the ceiling C and engaging the lid E.

As shown in Fig. 3, the lid is held at its upper end between the holder F and the end of the branch pipe D, while the lower end rests in a recess or pocket D′ of said pipe. The upper end is farther inward than the lower end, so that in case the holder F melts the lid will drop inward by its own weight, assuming the inclined position shown in dotted lines in Fig. 3. A projection D^2 on the branch pipe D, in conjunction with a shoulder D^3 on the end of said pipe, serves to then hold the lid in an approximately horizontal position and to keep it connected to the mouth of the branch pipe.

It will be obvious that in case of fire the lid E nearest to the conflagration will be released by the melting of the holder F, and in consequence thereof the smoke, gases, and steam will be allowed to escape through the ventilating-flue A from the room in which the fire is burning, so that firemen will be readily able to locate the blaze. In the rooms not yet reached by the fire the lids E will remain closed, so that a spread of the fire by the draft will be avoided.

It is contemplated to have the ventilating-flues placed in the walls during the construction of the building; but existing buildings may likewise be provided with such flues.

I desire it to be understood that modifications, so long as they are within the scope of the appended claims, will constitute no departure from the spirit of my invention.

The invention is also applicable in naval construction, and I wish to state that the

term "building" is to be interpreted as embracing ships and the like.

The holder illustrated in Fig. 4 comprises a strip F', adapted to be secured to the ceiling, and another strip F^2, adapted for connection with the lid E. The two strips are normally held together by soft solder F^3, placed between their opposing corrugated faces, it being understood that when a predetermined temperature is reached the solder will melt and release the lid.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In the construction of buildings, a ventilating-flue having an opening whereby it may communicate with the interior of the building and a pocket adjacent to said opening, a cover whose lower end rests in and forms a pivotal support in said pocket, and a heat-controlled holder for normally keeping the upper end of the cover in position to close said opening.

2. In the construction of buildings, a ventilating-flue having an opening whereby it may communicate with the interior of the building and a pocket adjacent to said opening, also a projection or stop extending into said pocket, a cover whose lower end rests in and has a pivotal support in said pocket and is adapted to engage said stop, and a heat-controlled holder for normally keeping the upper end of the cover in position to close said opening.

WILLIAM KANE.

Witnesses:
JNO. M. RITTER,
JOHN LOTKA.