

H. L. BROWER.

2 Sheet. Sheet 1.

Improvement in Fire Alarms.

No. 120,029.

Fig. 1.

Patented Oct. 17, 1871.

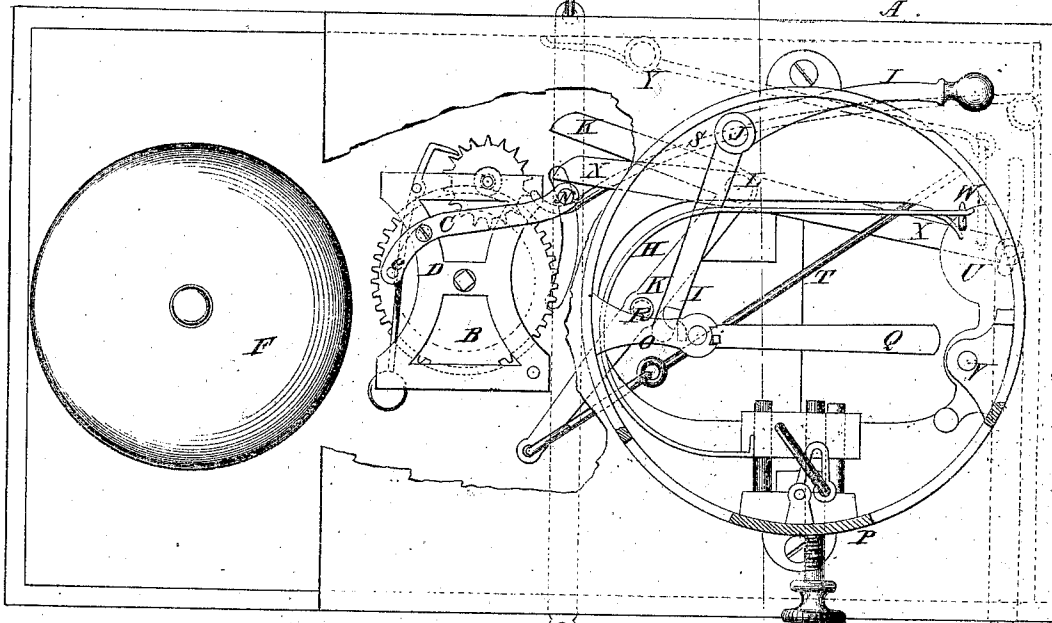
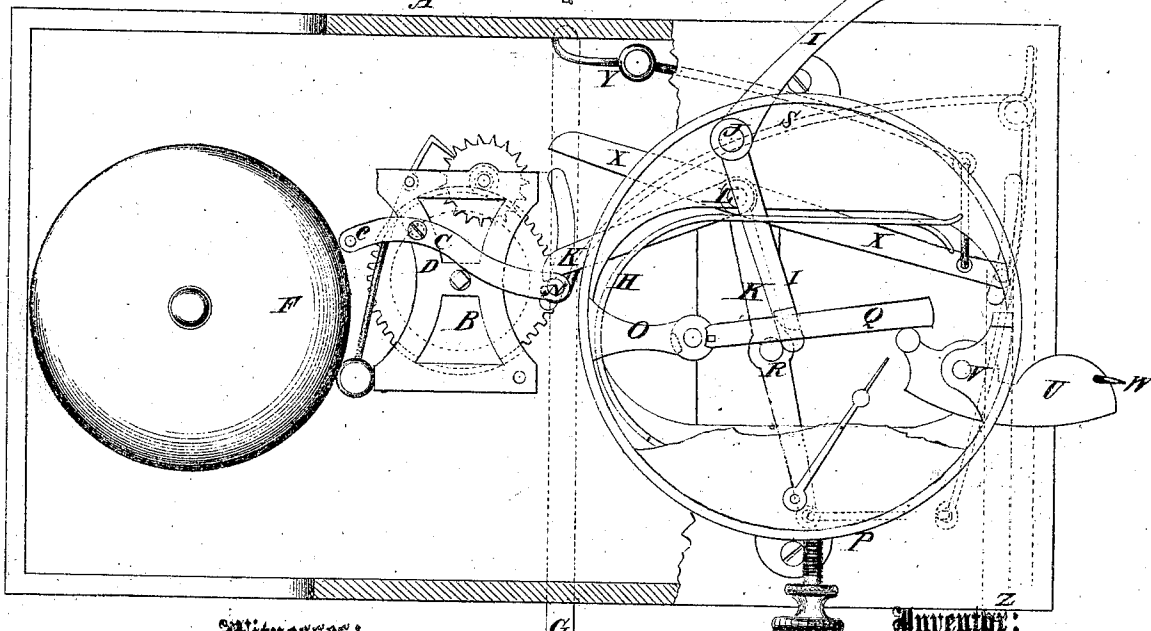


Fig. 2.



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2 Sheet, Sheet 2.

Improvement in Fire Alarms.

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Fig. 3.

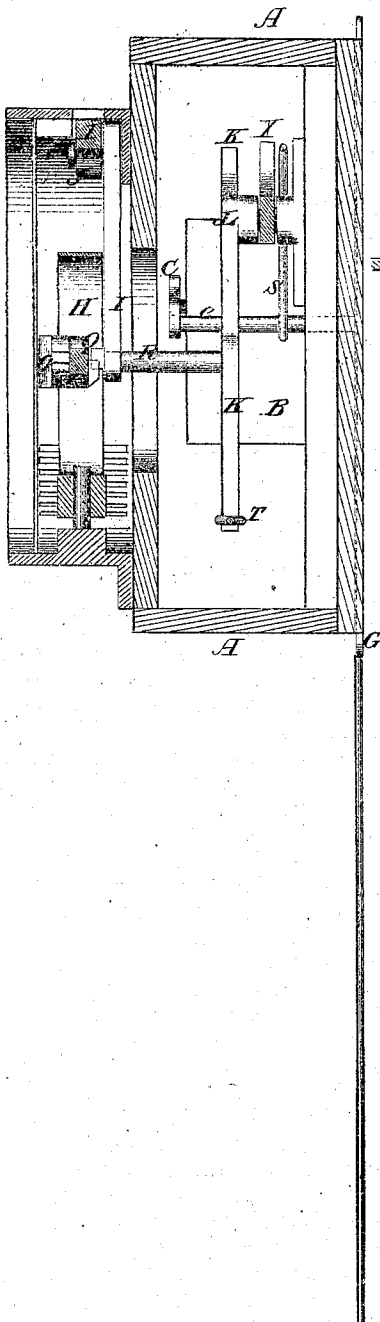
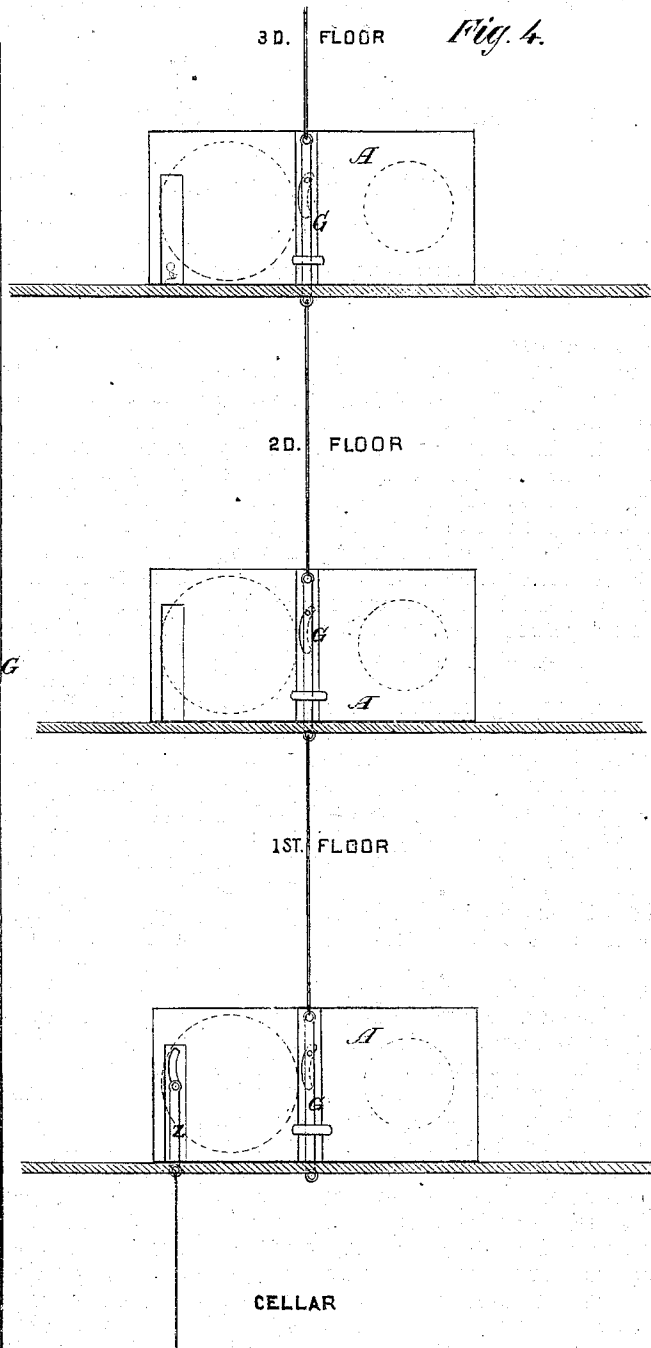


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY L. BROWER, OF NEW YORK, N. Y.

IMPROVEMENT IN FIRE-ALARMS.

Specification forming part of Letters Patent No. 120,029, dated October 17, 1871.

To all whom it may concern:

Be it known that I, HENRY L. BROWER, of the city of New York, in the county and State of New York, have invented a new and useful Improvement in Fire-Alarms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention consists in the improvement of fire-alarms for dwellings, as hereinafter fully described and subsequently pointed out in the claim.

In the accompanying drawing, Figure 1 is a plan view with a portion of the case broken away, showing the apparatus set as when ready for giving the alarm. Fig. 2 is a similar view, showing the apparatus spring as when giving the alarm. Fig. 3, Sheet 2, is a cross-section of Fig. 1 taken on the line *xx*. Fig. 4 represents an outline showing the mode of applying the alarm to the different floors of a dwelling.

Similar letters of reference indicate corresponding parts.

The present invention is designed to render more useful a fire-alarm for which Letters Patent have already been granted to me dated November 15, 1870; and for this purpose I place an alarm movement, connected with a delicately-constructed thermostat and mechanism on each floor of the building, (preferably in the halls of the different stories,) and connect them together by this apparatus now devised, so that when, by reason of the raising of the temperature from a fire in any one hall or story, the alarm will be given in each hall at one and the same time. To accomplish this I employ an alarm-movement and thermostat spring, with a dial-plate and finger, which may be adjusted to indicate any degree of temperature, which will enable the spring to liberate the movement and give the alarm, as shown in my former patent.

A is the casing, containing the alarm-movement and liberating mechanism. B is the alarm-movement. C is a lever, which is pivoted to the outer plate D. One end of this lever is provided with a stop-pin, *e*, at a right angle with the lever, which, when the alarm is set, as seen in Fig. 1, holds the rod of the hammer, and prevents the latter from striking the bell F. The other

end of the lever is connected with the sliding bar G, which works up and down in a groove in the back of the case. These bars G of each alarm are connected together by wires or rods, as seen in Fig. 4, so that they move simultaneously, and, in moving, give the alarm. In Figs. 1 and 2 H represents the thermostat spring, which, by reason of its expansion by heat, liberates the movement and gives the alarm. I is a bent lever, which is pivoted at the outside of the casing at J. This is the setting lever. K is a triangular lever, working at its angle on a stud, L. One arm of this lever is made to operate on the rod which connects the end of the lever C with the sliding bar G. In Fig. 2 the arm is seen in contact with this rod, which throws the lever C round and liberates the hammer. N is this connecting-rod. It is thrown back, as seen in Fig. 1, by the spring S, seen in dotted lines. O is an arm projecting from the case P, which case incloses the thermostat H. *q* is a tripping-lever, pivoted to the arm O. R is a pin attached and projecting out at a right angle from the triangle-lever K. The inner end of the setting-lever I operates on this pin when the outer end is brought down, as seen in Fig. 1. T is a spring rod, which serves to draw back the long arm of the lever K, when the alarm is liberated. U is a weighted trigger, pivoted to the case P at V. When the alarm is set, as seen in Fig. 1, the point W of the trigger engages with the end of the thermostat spring. This arrangement is so delicate that when, from a rise of temperature in the hall or apartment, the thermostat expands the trigger is liberated and drops by its own gravity. There is a lug on the short or inner end of the trigger, which strikes the tripping-lever *q*, as seen in Fig. 1. This disengages the setting-lever, which has been holding the triangular lever K in position, which gives the alarm.

In setting the alarm the end of the setting-lever I is caught by a lug on the tripping-lever *q*, seen in dotted lines in Fig. 1, and is disengaged therefrom when the tripping-lever is struck by the falling trigger, as before stated.

From this arrangement it will be seen that when the thermostat is expanded, the tension of the spring T is brought into play and reacts upon the lever K. The short arm of this lever strikes the connecting-rod N, forcing the bar G down, and thereby communicating the same

movement from one alarm to another on each floor of the building. The basement of the building is provided with the thermostat arrangement, and communicates with the alarm above by means of a lever marked *x*, spring *y*, and sliding bar *z*. The sliding bar *z* is connected by a wire with the end of the bent lever *I*, so that the expansion of the thermostat operates the alarm and produces the same effect as already described.

With this alarm on each floor of a dwelling, arranged as described, a fire cannot occur on any floor or get under way sufficiently to raise the temperature of the atmosphere two or three degrees without notice to the inmates throughout the house, thus allowing them time to make their escape, if not to extinguish the fire.

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

1. The bar *G*, by means of which two or more alarms are connected, substantially as described.

2. The lever *C*, with the pin *e* and connecting-rod *N*, substantially as and for the purposes described.

3. The bent lever *K* with short arms, operating the bar *G*, setting-lever *I*, and spring rod *T*, when the same are arranged to operate as and for the purposes described.

HENRY L. BROWER.

Witnesses:

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(24)