

C. Dion,
Fire Alarm.
No. 88,698. Patented Apr. 6. 1869.

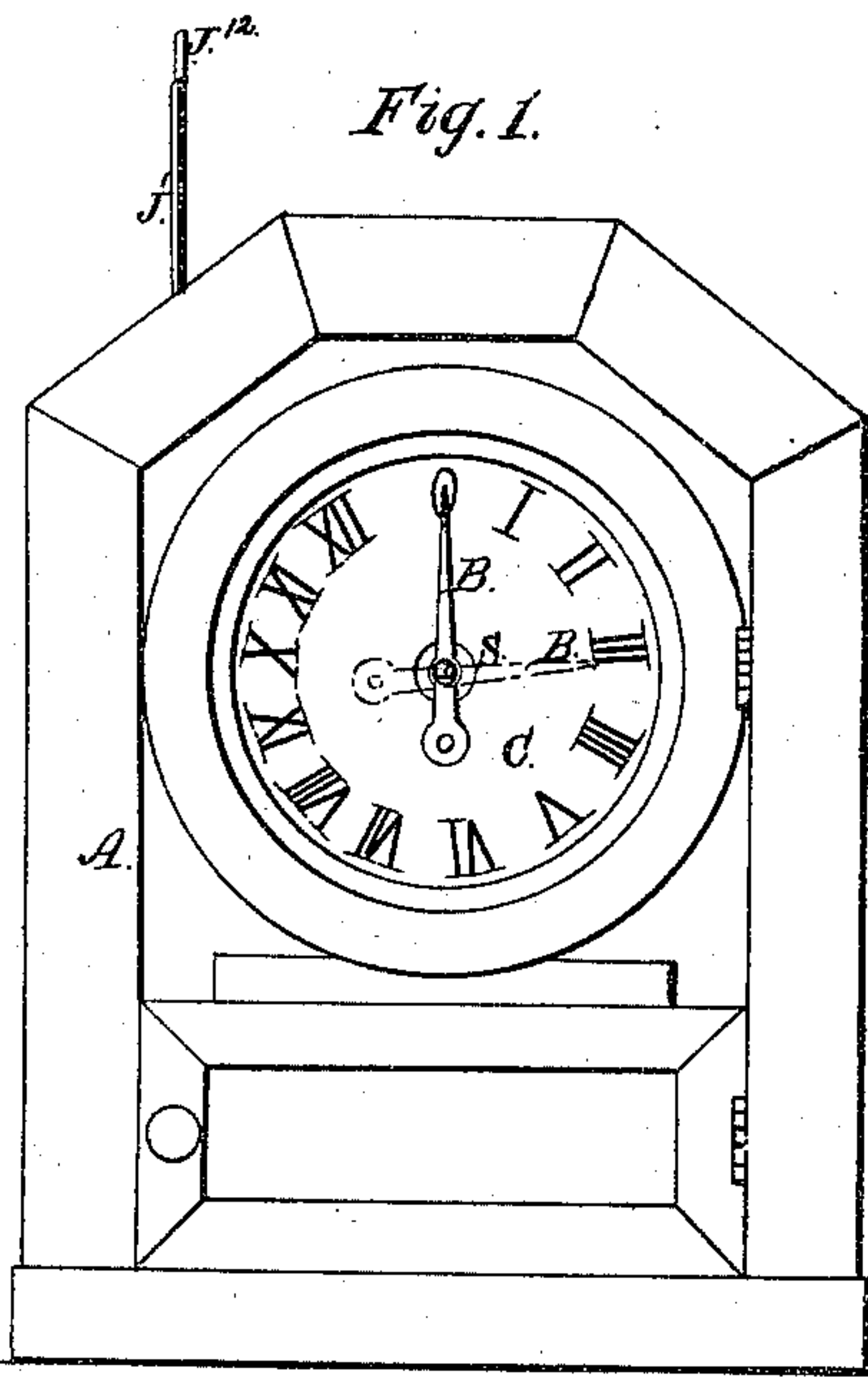


Fig. 3.

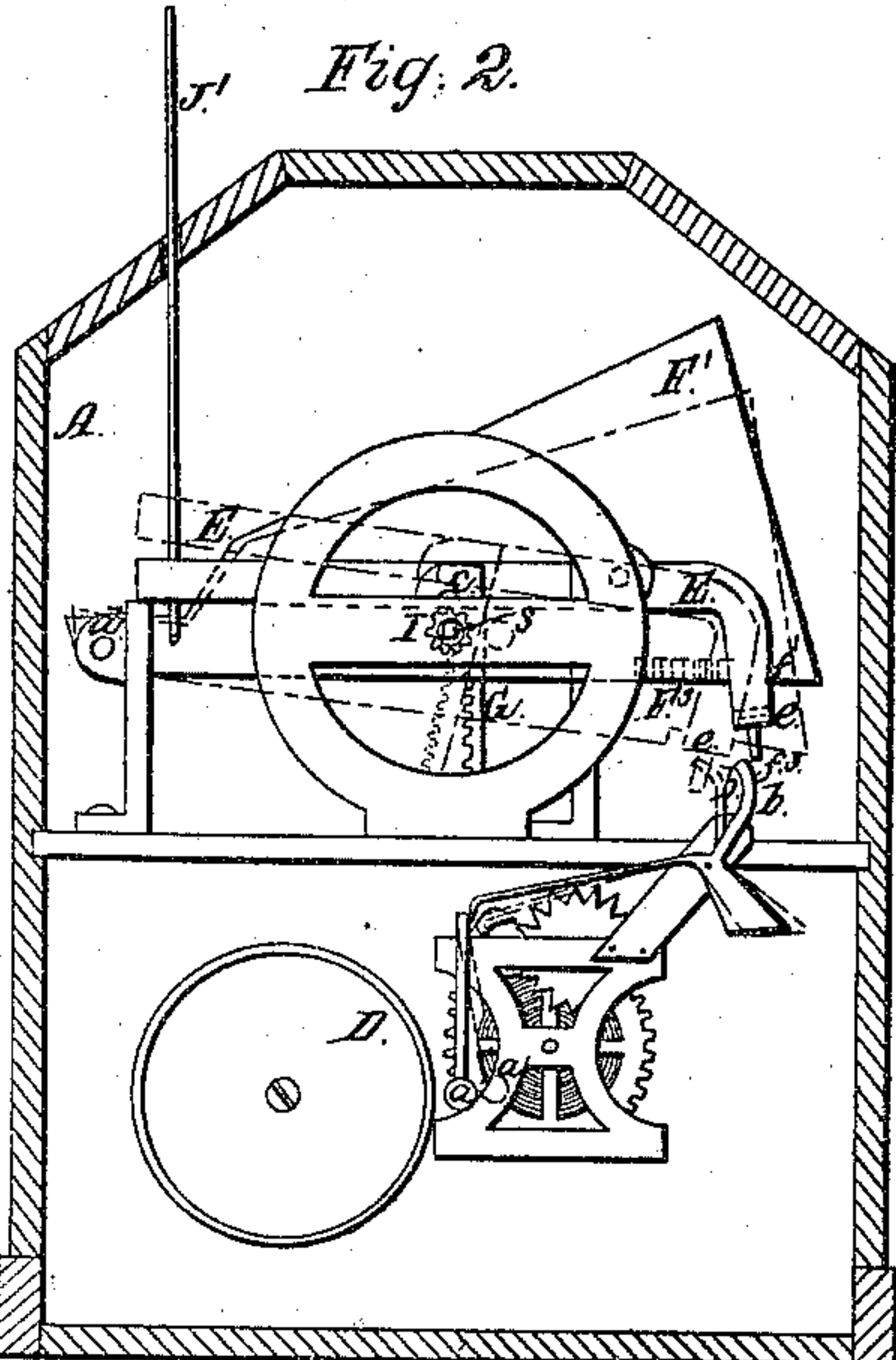
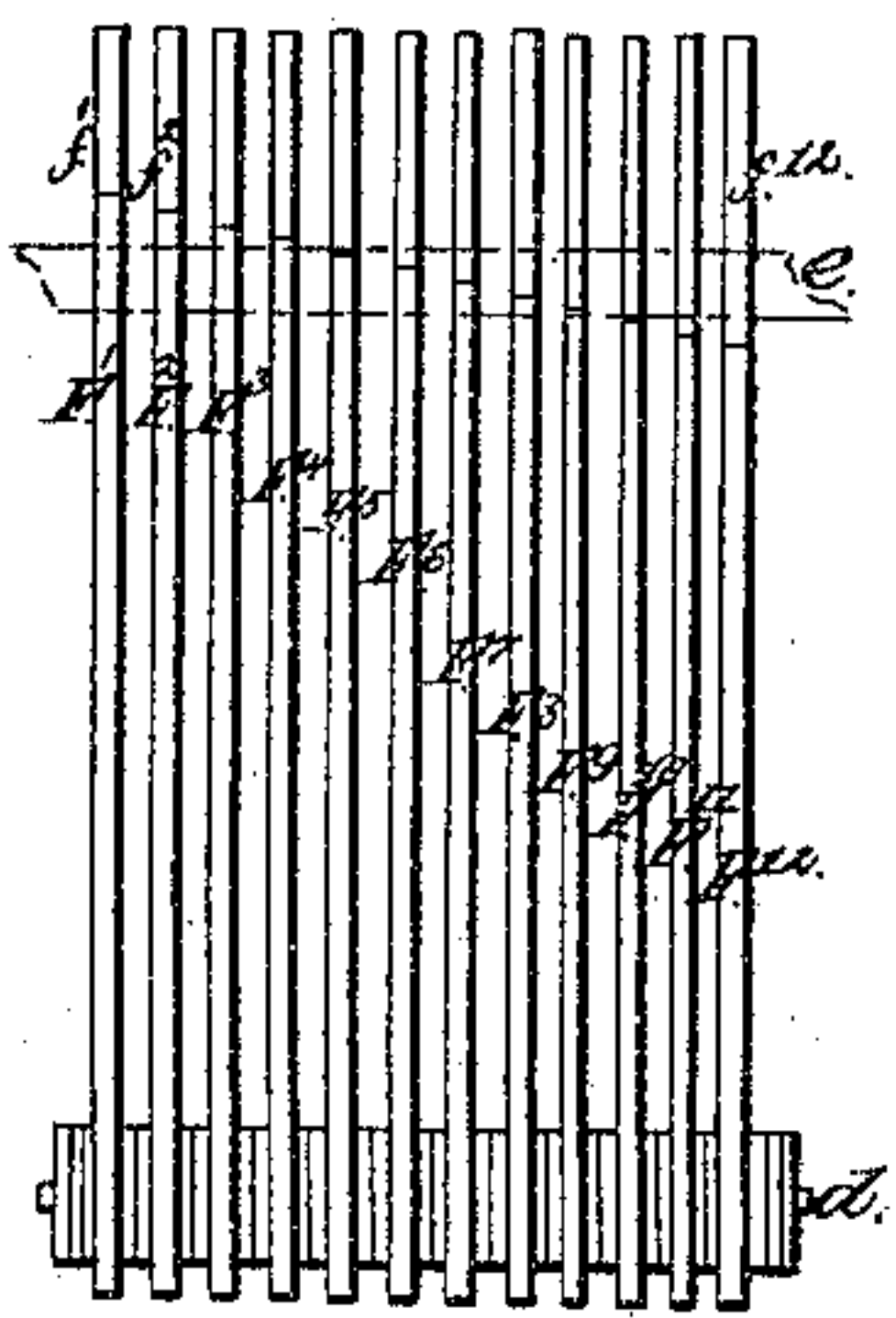
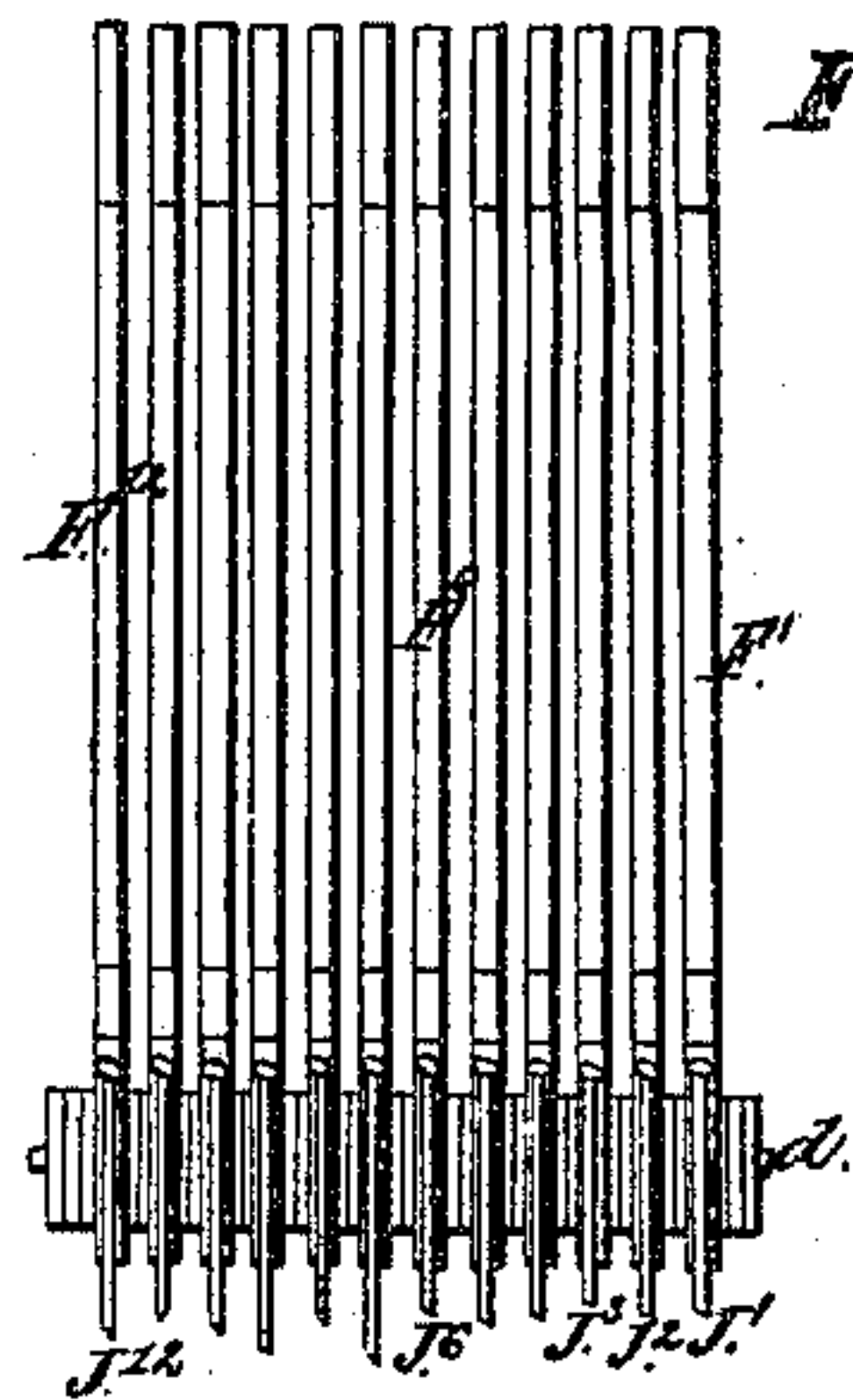


Fig. 4.



Witnesses.

A. Leclerc
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Inventor.

C. Dion

United States Patent Office.

CHARLES DION, OF NEW YORK, N. Y.

Letters Patent No. 88,698, dated April 6, 1869.

IMPROVEMENT IN FIRE-ALARM.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES DION, of the city, county, and State of New York, have invented a new and useful Improvement in Fire-Alarm Annunciators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a front or face view of a fire-alarm annunciator, constructed in accordance with my improvement; and

Figure 2, an interior front view of the same, the outer face of the case being removed.

Figure 3 represents an inverted plan of certain details detached, for operating the annunciator, to indicate the particular place, or room in which the fire is; and

Figure 4, a top view of the same, with wires attached.

Similar letters of reference denote corresponding parts.

My invention consists in a combination with a dial, index, or pointer, and alarm-bell, or its equivalent, of a series of separate weights and lever operating the index and bell, so constructed as that on release of any one of the weights, by letting loose, or cutting the wire (by which they are supported, and connected with a corresponding number of devices, or rods operating by expansion,) it will not only sound the alarm, but also move the index to a given sign, or mark, indicative of the room, or place in which the fire is.

Referring to the accompanying drawing—

A represents the case of the annunciator, which may be located in any convenient place for proper exposure of the index, or pointer B, on the dial C, and sound of an alarm, or bell, D, that may be struck by a hammer, *a*, operated through any suitable mechanism, or clock-work, on letting loose an escape-lever, or catch *b*.

E is the lever, or lever-frame, that serves, through the instrumentality of any one of a series of weights; as hereinafter described, to let loose the catch *b*, for sounding the alarm, and also, through the medium of suitable connecting-devices, for actuating the index.

This lever-frame E is pivoted on either side, as at *c*, to any suitable upright, or frame in the case, and is so constructed as that, if left free to work on its pivots, it assumes the position represented for it by black lines in fig. 2, which is its set, or normal position, or place of rest on a suitable stop.

This self-adjustment may either be effected by weight or spring, and is here shown as produced by giving it a greater weight on the one side of its fulcrum.

Thus situated, said lever-frame has no action upon the catch *b* to sound the alarm, and serves to hold the index, or pointer B, at O, on the dial.

To operate the lever-frame E, in order that it may act upon the catch *b*, to sound the alarm and move the

index as required on the dial, any one of a series of separate weights, F^1 F^2 F^3 , and so on numerically, pivoted, say at *d*, is caused to fall and bear against a cross-bar, *e*, to the lower, or bent shorter arms, or portion of the lever-frame, in such manner as to depress and work inward said lever, or bent shorter portion, say as represented by red lines in fig. 2.

The index, or pointer B, is operated in such motion of the lever-frame E, by or through a rack, G, carried by said frame, and serving to turn a pinion, I, fast on the index-shaft *s*.

According to the amount of tip thus given the lever-frame E, will the index be more or less moved, so that by constructing the several weights, from F^1 up to F^{12} , according to the number employed to act, in dropping, with varying ranges, as it were, on the lever-frame, will the index be moved to different figures or marks on the dial, thus the dropping of the weight F^1 will adjust the index to No. I on the dial, dropping of the weight F^2 to No. II, and so on up to the last weight, here shown as F^{12} , which, in dropping, acts upon the lever-frame to adjust the index to No. XII; but, though the position of the index, by the dropping of either of the separate weights, is changed, each and all of them in dropping similarly release the catch to sound the alarm.

To accomplish this control of the index by the several weights, in their separate operations, said weights are variously notched on their lower edges, which, in falling, strike the cross-bar *e*, said notches progressively increasing in length or backward run, so that their backs f^1 f^2 f^3 , and so on, by acting as stops to the cross-bar *e*, limit the tip of the lever-frame, to move the index to different positions on the dial, as required.

These several and separate weights, F^1 to F^{12} , are held from action on the lever-frame, to sound the alarm and move the index, by separate wires, J^1 J^2 J^3 , and so on, which wires, by suitable bell-cranks, or their equivalents, are arranged to run to the separate rooms, or places it is required to connect with the annunciator, and are there connected to any suitable apparatus, or device which, acting by the expansion of a metal, or otherwise, serves to let loose the wire holding up its respective weight, operating the lever-frame, as described.

Thus each of the wires, J^1 up to J^{12} , may be connected to fire-alarms in each of the separate rooms, or places, constructed to operate substantially on the principle described in Letters Patent, No. 53,757, of the United States, issued to me on April 3, 1866, but dispensing with the falling-weights operated by the alarm-lever, to act upon the bell-wire, the annunciator-weights F^1 to F^{12} , at the opposite end of the wires, here rendering such other weight, or weights unnecessary.

Any other suitable apparatus, or expansion-device, however, may be used for releasing the annunciator-weight wires, on the temperature of the room being

raised by fire therein. Thus the mere expansion in the room of the wire which holds up the annunciator-weight may suffice.

The weights in this annunciator, it will be seen, are not operated by pull of the wires on them, which is, in many respects objectionable, and, apart from other special devices, would not provide for sounding the alarm, in case of the wires snapping, or being cut, but, by operating on the weights through release of the wires, this is provided for.

In some cases, it may be desirable to arrange the dial and index, by extension of its shaft, or different arrangement of the index-rack and pinion, at a distance from the annunciator-weights and lever-frame operated by them, as, for instance, on the outside of a wall, or building, while the weights and lever-frame are on the

inside thereof; also, to similarly arrange the bell on the outside of the building, or at a distance for operation, through a suitable extension of connecting-devices, by the lever-frame.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination, with the dial, index, and bell, or its equivalent, of any desired number of separate weights, F, made to operate the index and bell-hammer, or either of them, through the lever-frame E, in the manner substantially as and for the purpose set forth.

C. DION.

Witnesses:

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ARTHUR KINNIER.