

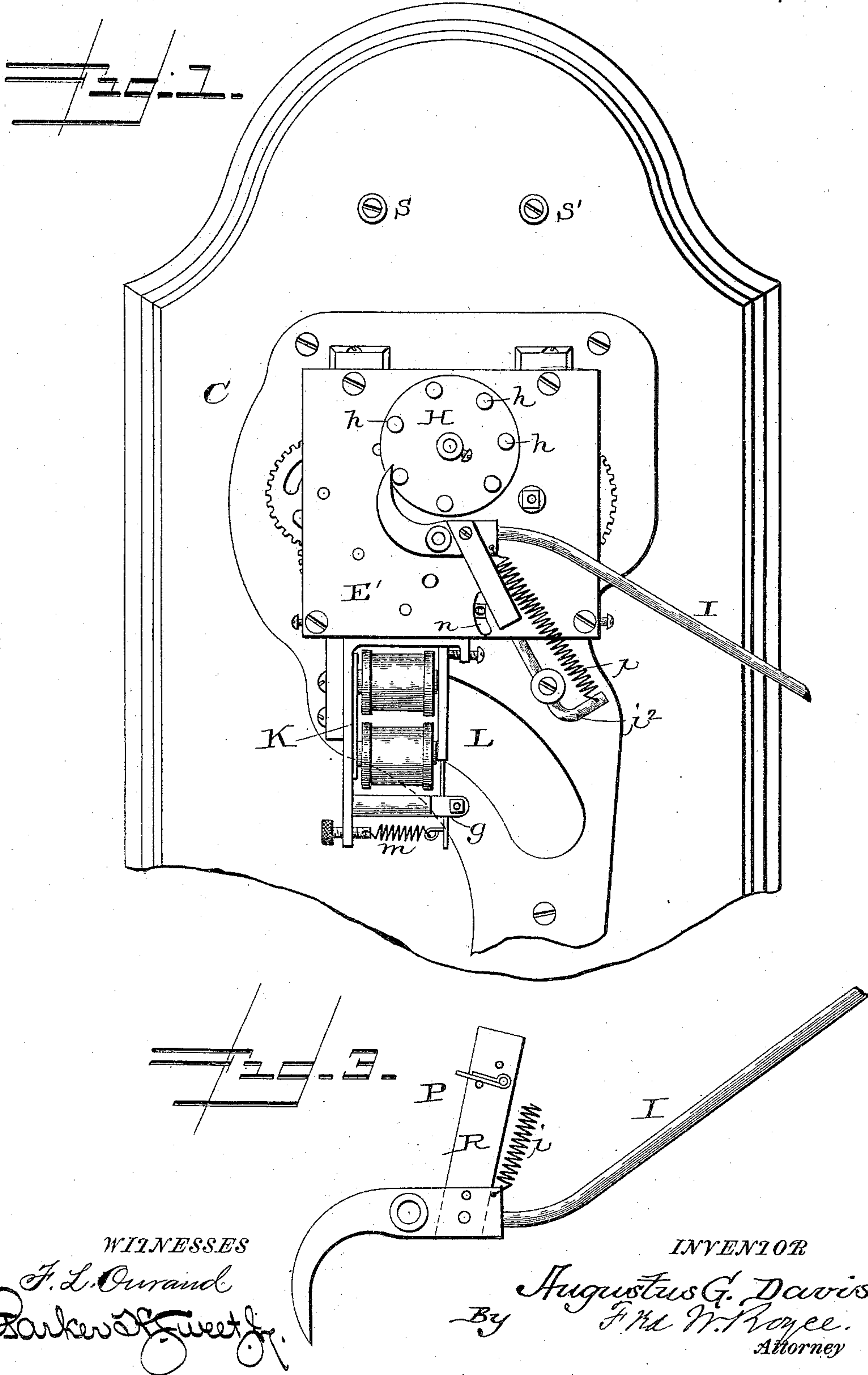
(No Model.)

2 Sheets—Sheet 1.

A. G. DAVIS.  
FIRE ALARM APPARATUS.

No. 488,388.

Patented Dec. 20, 1892.



WITNESSES

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INVENTOR

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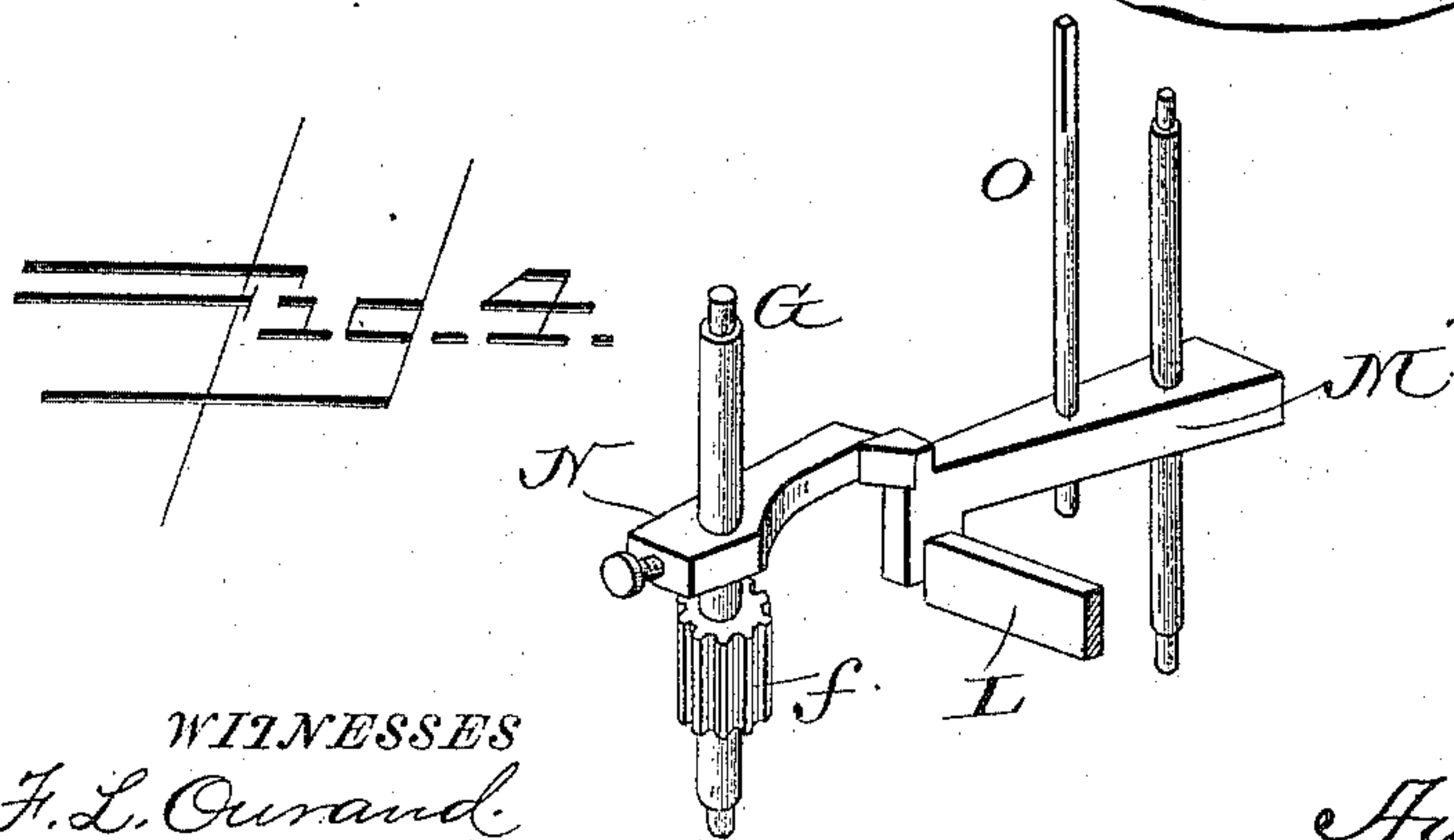
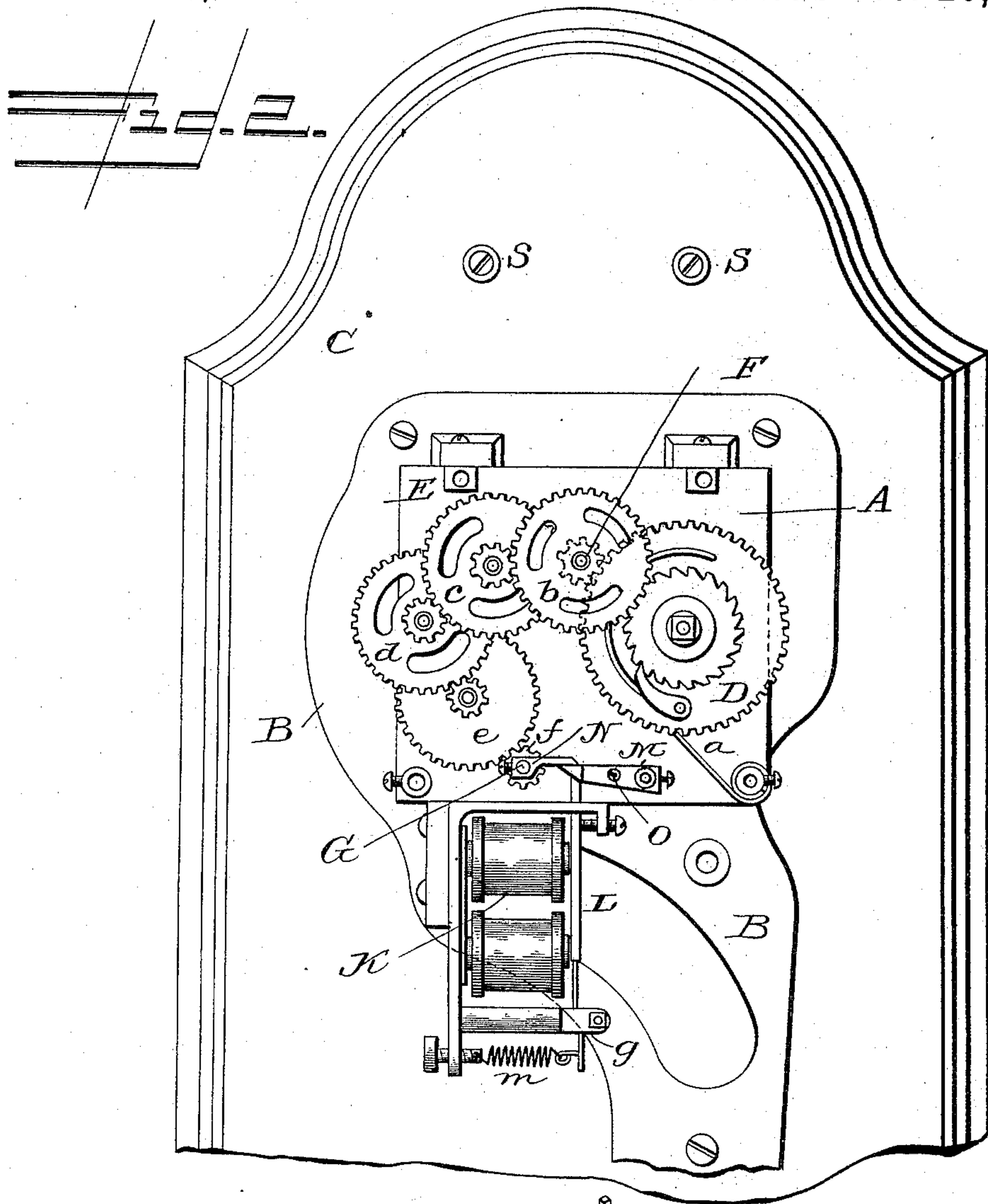
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# UNITED STATES PATENT OFFICE.

AUGUSTUS G. DAVIS, OF BALTIMORE, MARYLAND.

## FIRE-ALARM APPARATUS.

SPECIFICATION forming part of Letters Patent No. 488,388, dated December 20, 1892.

Application filed May 27, 1892. Serial No. 434,570. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS G. DAVIS, a citizen of the United States, residing at Baltimore, State of Maryland, have invented new and useful Improvements in Fire-Alarm Apparatus; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates generally to fire alarm telegraphs and particularly to the signal receiving apparatus located at the central station, engine house, or other place to which the message may be sent, the object of my invention being to provide an improved alarm-striking mechanism which will indicate, by single strokes upon a suitable gong, the number of the signal box sending in the alarm, and, my improvements consist essentially of the novel details of construction and general arrangement of parts as will be hereinafter fully described and specifically designated in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of an alarm-striking mechanism which embodies the essential features of my invention. Fig. 2, a similar view of the same, with the front plate and striking hammer removed to more fully show the train of spring-actuated gears. Fig. 3 represents a detail view of the striking hammer, and Fig. 4 a detail view of the alarm checking mechanism.

Similar letters of reference occurring on the several figures of the drawings indicate corresponding parts.

In carrying out my invention the alarm striking mechanism A is supported upon a metallic skeleton frame B which, in its turn, is secured to a suitable backboard or support C, the said frame B carrying a gong upon a forwardly extending post formed on its lower end. The striking mechanism A is spring-actuated, and consists of the large gear D, adapted to be driven by the coiled spring a which imparts motion to the train of gearing b, c, d, e, and f, all of said gears being suitably journaled within the framework E, E', and so arranged with relation to each other as to impart a slow motion to the shaft F,

upon the gear b, and a rapid motion to the shaft G upon the gear f, when the mechanism is in operation.

A disk H is mounted upon the forwardly projecting end of the shaft F; said disk being provided with a series of forwardly projecting studs or pins h, which are adapted to engage the hook-shaped end of the hammer I, which is pivoted near its upper end to the framework E; a coil spring i being attached to the hammer and to an extensible arm j<sup>2</sup> to increase the strength of the blow of the hammer and produce a louder alarm upon the gong.

An electro-magnet K is secured to the skeleton frame B, just below the alarm striking mechanism, the armature L of said magnet being pivoted near its lower end to a projection g forming a part of the skeleton frame B. The one end of a coil spring m is secured to the lower end of said armature L and the opposite end to the regulating screw k, the object of the same being to throw the armature away from the magnet when the circuit is open, to allow the free or upper end of the armature, which extends into the striking mechanism, to be there locked and stop the mechanism until the circuit is closed to send in an alarm.

To secure the armature in a locked position, when the circuit is open, I provide an arm M, which is suitably journaled at its one end within the framework E, E', and its opposite or free end being adapted to catch upon the top of the armature and there held by means of the stud or catch N, upon the shaft G, bearing down upon the free end of said arm M. When the circuit is closed to send an alarm, the armature is attracted to the poles of the magnet and allows the free end of the arm M to drop, thereby releasing the stud or catch N and causing the train of gearing to be set in motion, thus revolving the studded disk H and tripping the hammer which strikes the gong and gives the alarm.

The number of the signal box sending in an alarm is automatically indicated by single strokes upon the gong by means of the following described mechanism: Near the free end of the arm M is provided a forwardly extending arm O, which projects a short distance through a curved opening n formed in the



framework E', and this arm O engages with a trip P, pivotally secured to an extension R upon the hook-shaped portion of the hammer I to lift the arm M in the path of the armature L and engage the same to lock the striking mechanism each time that the circuit is broken and said armature drawn away from the poles of the magnet. Each time that the circuit is closed to release the striking mechanism the hammer I descends to sound a single stroke upon the gong, and in the operation of descending the point of the trip P projects under the arm O to lift the arm M and engage with the armature L to lock the mechanism until the circuit is again closed to sound another stroke upon the gong. Near the top of the backboard or support C, are provided the posts S, S' connecting the magnet K with the line wire.

20 Having thus described the construction and

operation of my improved apparatus, what I claim is:

1. An improved fire alarm apparatus composed of the striking mechanism A, the alarm checking mechanism consisting of the arms M and O, catch N, and the trip P on the hammer I, and the magnets K and armature L, substantially as and for the purpose specified.

2. In an alarm operating mechanism, the hammer I provided with the trip P, in combinations with the arms M and O, armature L, magnet K, catch N, and the train of gearing, all substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

AUGUSTUS G. DAVIS. [L. s.]

Witnesses:

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CHAS. A. BOYLAN.