(No Model.)

2 Sheets—Sheet 1.

A. C. GORDON.

FIRE ALARM.

No. 338,593. Patented Mar. 23, 1886.

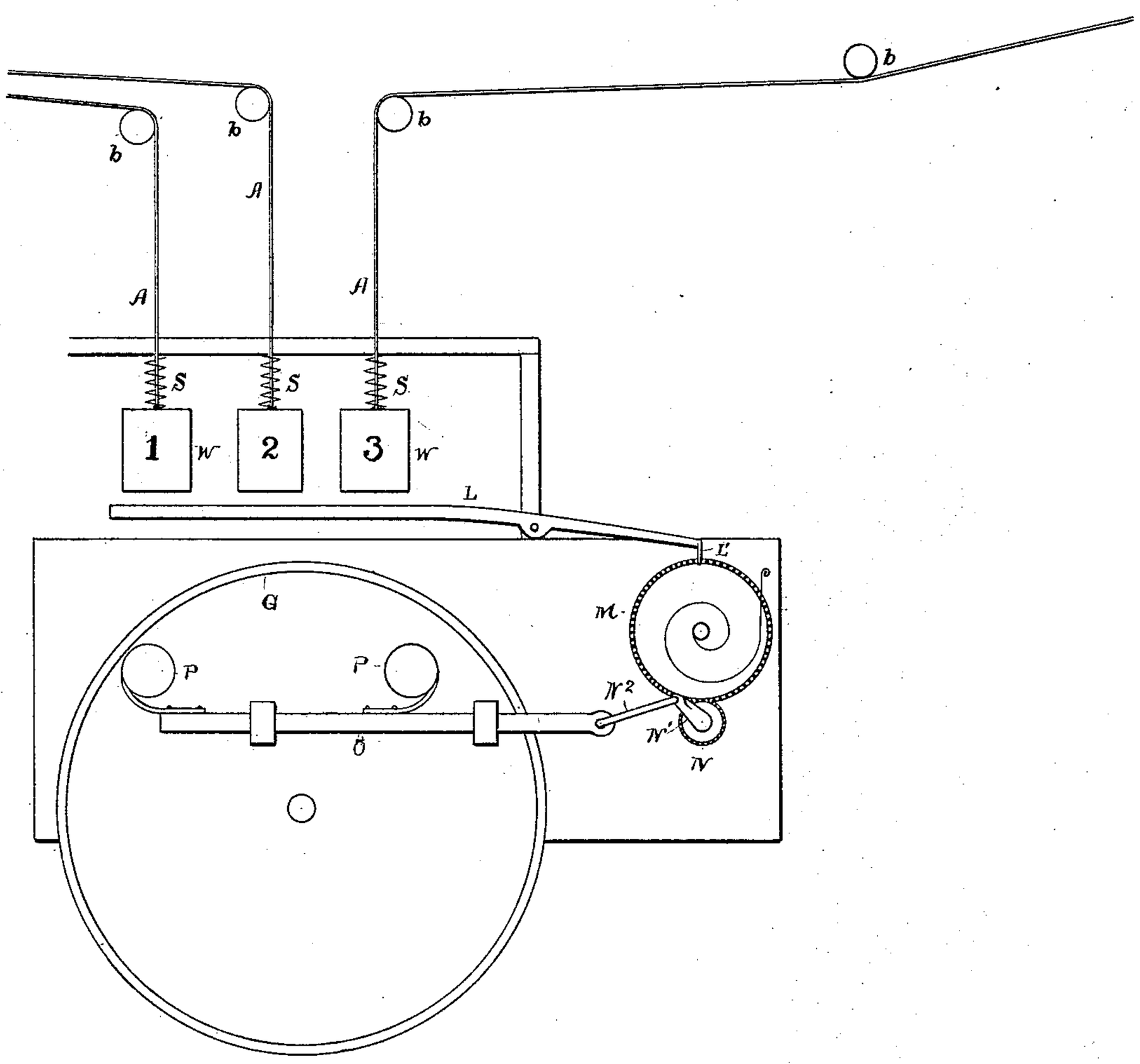

Fig. 1.

Witnesses;

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Richd. A. Goldsborough.

Inventor,

Alma C. Gordon;

per A. B. Upham,

His Attorney.

(No Model.) 2 Sheets—Sheet 2.

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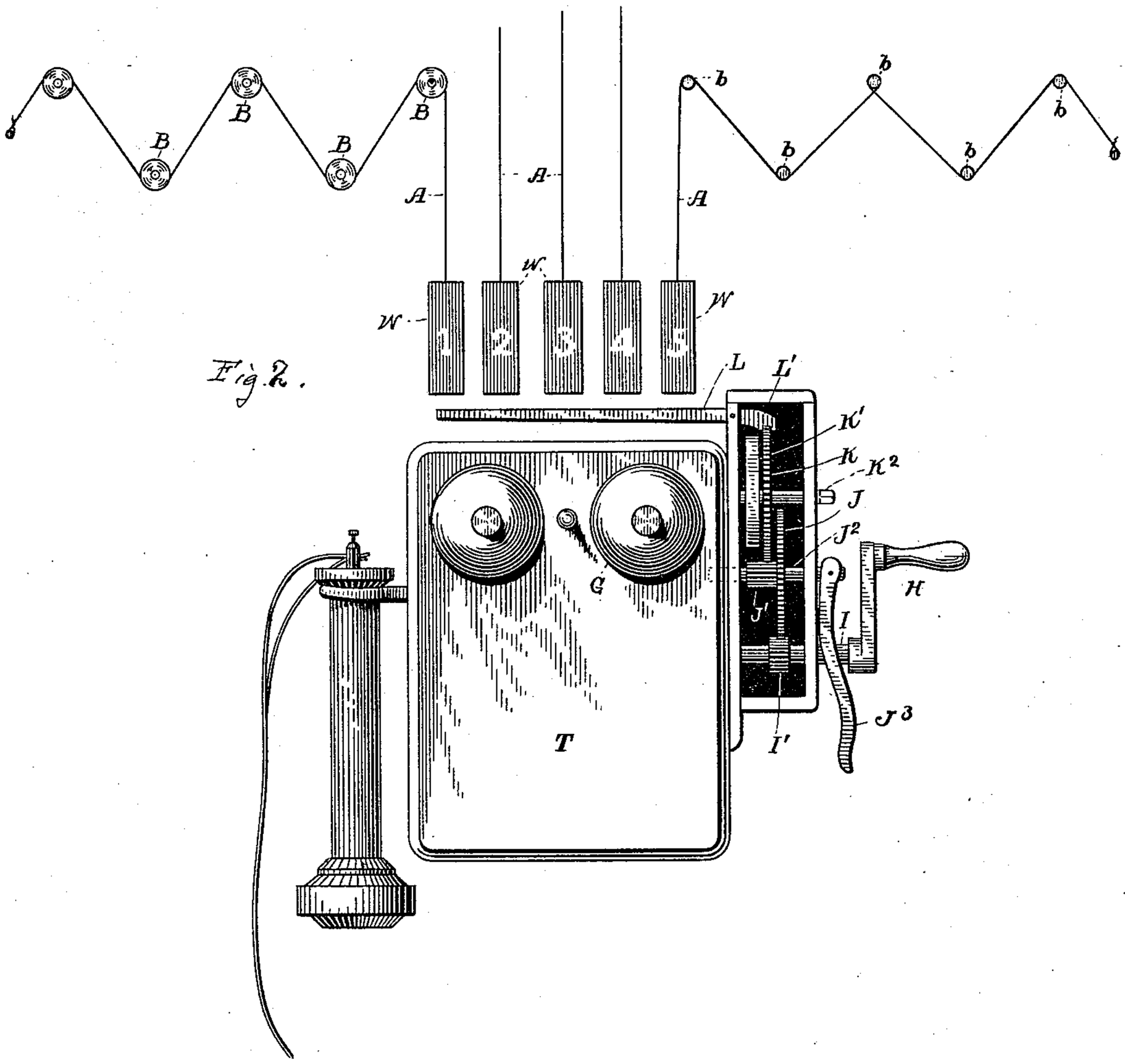
Fig. 2.



Witnesses;

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Inventor,

Alma C. Gordon;

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His Attorney.

UNITED STATES PATENT OFFICE.

ALMA C. GORDON, OF DUNLAP, ILLINOIS.

FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 338,593, dated March 23, 1886.

Application filed May 22, 1884. Serial No. 132,381. (No model.)

To all whom it may concern:

Be it known that I, ALMA C. GORDON, of Dunlap, in the county of Peoria, in the State of Illinois, have invented an Improved Fire-Alarm; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents an elevation of the same, and Fig. 2 a front elevation of my fire-alarm combined with an ordinary Bell telephone.

The object of this invention is the construction of means whereby the starting of a fire in a room or rooms of a house is caused to automatically set in motion mechanism at any desired point that will strike a gong or otherwise alarm all within hearing.

My device for this purpose consists, essentially, of a wire passing about easily combustible or fusible supports in such a way that should any one or more of said supports get burned or melted away there would be slack given to the wire, and an alarm at one or both ends thereof would be permitted thereby to strike.

In the drawings, A represents a wire or cord made of comparatively incombustible and infusible material.

B *b* are the easily combustible or fusible supports for the wires A. Of these supports I have shown two kinds—B, a form of wheel about which the wire is coiled once or twice to retain it more securely thereon, and also to enable more slack to be given to the wire in case said wheel burns and is entirely consumed, and *b* a wooden or soft-solder pin, from one to the other of which the wire passes in a zigzag. The wheel B is secured in place wherever desired by a nail or pin driven through its center into the wall or ceiling. When one wheel B is burned or melted away, the wire A, which was coiled about it, is given slack equal in amount to the length of such coil, and this slack is taken up at the alarm end of the wire by the other wheels B, serving as friction-pulleys to permit longitudinal movement of the wire. The other form of support consists of small pins *b*, of wood or solder, driven into the wall, ceiling, or elsewhere in such a way that no three neighboring pins shall be in the same straight line, as B in Fig. 2. It is evident that the burning or melting of one or more of these pins *b* will give the wire passing about the same considerable slack.

To cause this slackening of the wire to strike an alarm, I have devised the following construction: One end of a wire, A, being made fast to a pin, the other end is secured to a weight, *w*, which is suspended thereby a short distance above a lever, L. This lever L is adapted to engage its end opposite to the portion beneath said weight *w* with one of the gear-wheels of an alarm-striking mechanism, and thereby keep the same immovable. When the wire A is slackened, as previously described, its weight *w* drops upon the lever L, the striking mechanism is released therefrom, and proceeds to sound an alarm. By having several different wires and weights for the same, each wire going to a different room or part of the house, and having the different weights numbered or lettered to indicate the places passed through by their respective wires, the exact locality of the fire is shown by a glance to see what weight is resting upon the lever L.

In Fig. 1 I have shown a simple train of clock-work driven by weight or spring. The spur-wheel M, held from rotation by the leaf L′ of the lever L, meshes with a pinion, N, having crank-arm N′ and connecting-rod N^2. The bar O, reciprocated by said mechanism, is provided with striking-hammers P, which, forcibly meeting the sides of the gong G, ring the same and alarm the neighborhood. This gong may be within the house or on the outside of the same. In the case of a barn which it is desired to protect, the gong would be placed on the outside, probably just under the eaves, for protection from the weather.

I usually provide a spring, *s*, to aid the weight *w* in taking up the slack of its wire, and hitting the lever L with sufficient force to release the clock-work.

In towns where the Bell telephone is used an alarm may be transmitted from any telephone to the central office by the following means, which I have devised: Let T represent a portion of a Bell telephone, and H the crank-handle by which the call-bell is rung. The shaft I of this crank-handle H is elongated and provided with a pinion, I′. The spur-

wheel J, meshing with said pinion I′, has an elongated pinion, J′, and a shaft, J^2, which is longitudinally movable by means of a small lever, J^3. Meshing with said pinion J′ is the spur-wheel K, prevented from rotation by the leaf L′ of the lever L. Said spur-wheel K is mounted upon the shaft K^2 and driven by the coiled spring K′. Should a fire occur and a pin *b* or wheel B get burned, the wire A, passing about the same, would be slackened, its weight *w*, aided by the spring *s*, drop upon the lever L, and the wheel K would be released. The clock-work being therefore set in motion by the spring, the crank-shaft I would be revolved and the call-bell rung continuously at the central telephone-station. The fact that the call-bell is ringing continuously and no one replies to the call of the operator at once assures that there is a fire at the alarming-office, and the city fire-alarm station is at once notified of the same and its locality. This mechanism enables the alarm of fire to be automatically transmitted to the central station.

When it is desired to call up the central station in the ordinary way, the lever J^3 is pressed back until the spur-wheel J is moved forward out of mesh with the pinion I′, and the crank H can then be easily turned, as in other telephones. When through with the telephone, the spur-wheel J is returned to mesh with the pinion and it is ready for the automatic transmission of an alarm, as described.

The elongation of the pinion J′ permits the shaft J^2 and spur-wheel J to be removed, as described.

What I claim as my invention, and for which I desire Letters Patent, is as follows:

1. In a fire-alarm apparatus, the easily fusible or combustible pins or wheels arranged in a zigzag path, the incombustible wire made fast at one end and passing about said pins or wheels, and attached at its other end to an alarm mechanism adapted to be actuated when said wire is slackened, all in combination, as and for the purpose set forth.

2. In a fire-alarm apparatus, the easily fusible or combustible supports arranged in a zigzag path and the wire passing about the same, in combination with a lettered or numbered weight supported by said wire, and an alarm mechanism adapted to sound by the falling of said weight, substantially as and for the purpose specified.

3. The crank-shaft I, the call-bell of a telephone-circuit connected therewith, a pinion, I′, fast on said crank-shaft, a spur-wheel, J, meshing with said pinion, a shaft, J^2, adapted to be moved longitudinally, on which said spur-wheel is mounted, an elongated pinion, J′, fast on said shaft, a spur-wheel, K, meshing with said elongated pinion, and a spring, K′, for driving said spur-wheel K, in combination with a stop or lever, L, for holding said spur-wheel K, and means arranged to be actuated by fire to release the spur-wheel from said stop, substantially as and for the purposes described.

In testimony that I claim the foregoing invention I have hereunto set my hand.

ALMA C. GORDON.

Witnesses:
ALVA DUNLAP,
R. A. KERR.