

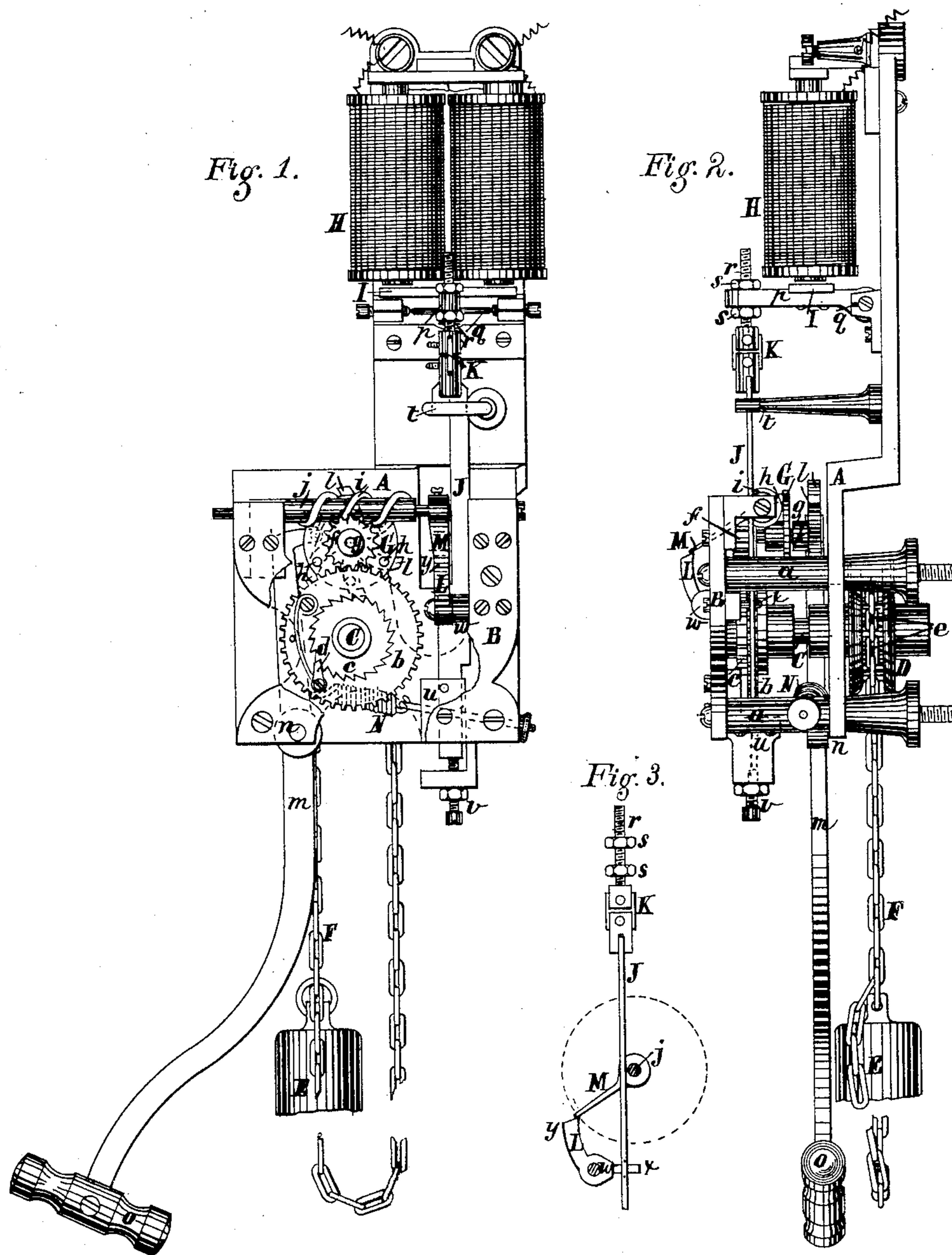
(Model.)

A. C. & A. H. PALMER.

TELEGRAPHIC FIRE ALARM APPARATUS.

No. 262,242.

Patented Aug. 8, 1882.



Attest;

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UNITED STATES PATENT OFFICE.

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TELEGRAPHIC FIRE-ALARM APPARATUS.

SPECIFICATION forming part of Letters Patent No. 262,242, dated August 8, 1882.

Application filed October 7, 1881. (Model.)

To all whom it may concern:

Be it known that we, AUGUSTUS C. PALMER and AUGUSTUS H. PALMER, citizens of the United States, residing at Utica, in the county of Oneida and State of New York, have invented a new and useful Improvement in Telegraphic Fire-Alarm Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to that part of telegraphic fire-alarm apparatus which is employed at the receiving-station for giving the alarm transmitted from the signal-station; and it consists primarily in the construction of that part of the mechanism which forms and controls the stop for the moving parts after each stroke of the alarm.

Our invention also consists in the special means for driving said moving parts, and in such further details as are hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a front and Fig. 2 a side elevation of so much of the apparatus used at the receiving-station and embodying our invention as serves for illustration of the same. Fig. 3 shows the vertical rod and stop-lever.

The frame is formed of the rear plate, A, front plate, B, (a part of which is broken away in Fig. 1,) and rods or posts *a*, for holding the plates in position.

On a shaft, C, is a gear, *b*, which is provided with a ratchet-wheel, *c*, and pawl *d*, so that the shaft may turn in one direction in winding up without moving the gear.

Fixed on the shaft C, at the rear of the plate A, is a sprocket-wheel, D.

We employ as the actuating means a weight, E, attached to an endless chain, F, which extends over the sprocket-wheel. The sprockets *e* on this wheel hold the chain from slipping thereon, though the chain simply passes over or bears on the upper half of the wheel. This chain forms a simple and ready means for winding up and actuating the motive parts of the mechanism.

Into the gear *b* meshes a pinion, *f*, which is fixed on a shaft, *g*. On this shaft is a wheel, G, which has teeth or pins *h* on its side to engage with a worm, *i*, on a shaft, *j*. On the shaft *g* is also a wheel, *k*, having teeth or pro-

jections *l*, that swing the lever *m*, pivoted at *n*, and having at the other end a hammer, *o*.

The magnet H is located at the top of the device, as shown.

The armature I is fixed to an arm, *p*, which is pivoted at *q*.

To the arm *p* is connected a rod, J, by means of a link, K, pivoted as shown, and an adjusting screw, *r*, and nuts *s*. This rod J is placed vertically and guided in stands *t* and *u*, so as to slide therein. There is a screw, *v*, in the stand *u*, bearing against the lower end of the rod J, for regulating the distance which this rod and the armature may drop.

A lever, L, is pivoted to a stand at *w*. One end, *x*, of this lever enters loosely an opening in the rod J and the other end, *y*, is shaped and located as shown.

An arm, M, is fixed on the shaft *j* in such position that the outer end may strike and rest on the end *y* of the lever L when the latter is brought within the range of the arm.

When the circuit is complete the armature is drawn to the magnet and the rod J is lifted, and this action, by the swinging of the lever L, brings the end *y* from under the end of the arm M. Thereupon the weight E sets the gear *b* in motion, which causes the pinion *f* to make a partial revolution, and also the disk or wheel *k* and the wheel G. The partial revolution of the wheel *k* is sufficient that a tooth or projection, *l*, may cause the lever *m* to swing and the hammer *o* to make one stroke, the lever and hammer being returned to a position away from the bell by a spring, N. The partial revolution of the wheel G is sufficient to cause, by means of one of the teeth or pins *h* and the worm *i*, a revolution of the shaft *j*. In the meantime, the circuit being broken, the armature and rod J fall by gravity and bring the lever L in such position that the arm M shall strike the end *y*, and the striking parts be stopped. The circuit being again completed, another blow is struck as before, and so on for the required number given at the signal station.

By arranging the rod J so that it and the armature are removed from the magnet by gravity a simple, reliable, and effective device for this part of the mechanism is produced. By using a lever, L, set as specified, the removal of its end—that is, of a stop from under the

arm M—is accompanied with little friction, and requires but little force by the magnet, and hence the operation is rendered more certain.

We claim as our invention—

5 1. The combination of the vertical sliding rod or bar J, armature I, and pivoted lever and stop L, substantially as specified.

2. The combination of the vertical sliding rod or bar J, armature I, and link K, substan-
10 tially as specified.

3. In combination with a vertical sliding rod connected with the armature and operating as specified, lever L and revolving arm M, substantially as and for the purpose set forth.

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Witnesses:

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