A. C. & A. H. PALMER.

Telegraphic Fire Alarm Apparatus.

No. 201,941. Patented April 2, 1878.

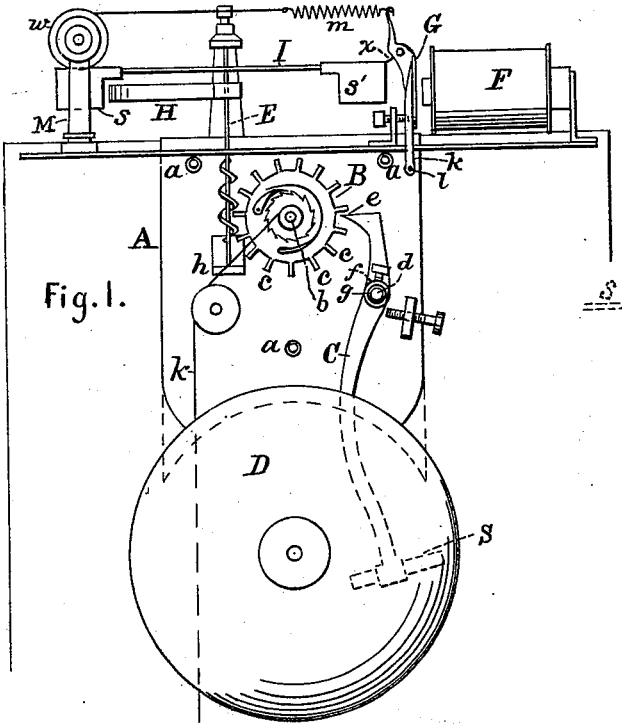


Fig. 1.

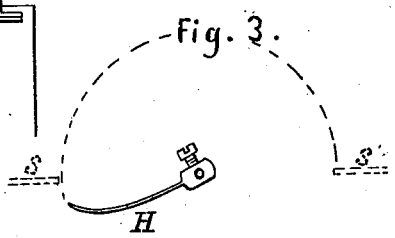
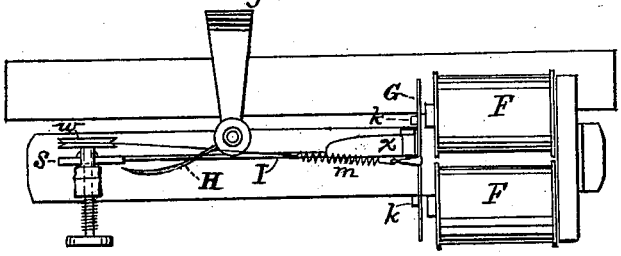


Fig. 3.

Fig. 2.



Witnesses:

G. B. Fowles.

W. Burris

Inventors:

A. C. Palmer

A. H. Palmer

by J. L. Kellogg

Attorney.

UNITED STATES PATENT OFFICE.

AUGUSTUS C. PALMER AND AUGUSTUS H. PALMER, OF UTICA, NEW YORK.

IMPROVEMENT IN TELEGRAPHIC FIRE-ALARM APPARATUS.

Specification forming part of Letters Patent No. **201,941**, dated April 2, 1878; application filed January 9, 1878.

To all whom it may concern:

Be it known that we, AUGUSTUS C. PALMER and AUGUSTUS H. PALMER, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Fire-Alarm-Telegraph Apparatus; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention relates to fire-alarm-telegraph apparatus; and consists in certain improvements in the construction of that portion of such apparatus which is used at the receiving-station, to which an alarm is transmitted from the signal-station.

In the drawing referred to as forming a part of this specification, Figure 1 is a front view of our improved receiving apparatus, the front plate being removed. Fig. 2 is a plan or top view of same. Fig. 3 illustrates, in plan view, the revolving arm, (marked H.)

In the said drawing, A designates the frame, consisting of plates provided with posts or bars *a*, holding them in position.

B indicates a wheel on a shaft, *b*, having bearings in the frame A, said wheel having radial teeth *c*, and shaft *b* being provided with a ratchet and pawl, so that the cord *k*, holding the weight which actuates the wheel, may be wound up without turning it.

C is a lever fixed to a shaft, *d*, at a point about one-fourth of the length of the lever from its upper end, the latter having a V-shaped point, *e*, turning at right angles to the wheel B.

On the shaft *d* is a spiral spring, *g*, made fast to the frame A at one end, the other end of the spring being fastened to a collar, *f*, on the shaft, and held by a set-screw, by which means the spring can be set to give the required tension.

The lever C has at its lower end a hammer, S, to strike the bell D. By turning the wheel B the point of the lever is raised from the space between two of the teeth *c*, and falls into the next space, bringing the hammer against the bell D.

At the left of wheel B is an upright shaft, E, stepped on a bracket, *h*, said shaft having a screw-thread thereon to engage with the teeth of wheel B, so that in operation each tooth of said wheel causes one revolution of the shaft E. The said shaft E has secured to it near the top, by means of a set-screw, the arm H, made thin and light, so that it is easily turned with the shaft.

The magnet F is located at the top of the frame, as shown. G is the armature, held in position by the upright *k* fixed thereto, and held by a rod, *l*, below.

I is a horizontal rod, provided with stops *s* and *s'* at its ends, one end resting in a slot in the post M, and the other being coupled to the armature at *x*, so that when the armature is drawn toward the magnet the rod is moved slightly in the same direction, and when the electric current is broken the armature is drawn in the opposite direction by the spring *m*, giving the rod I a slight movement in that direction.

The weight attached to cord *k*, wound upon a roller on shaft *b*, causes the wheel B to revolve, and the shaft E is thus turned, moving the arm H against the stop *s*. When the circuit is broken, the spring *m*, drawing the armature from the magnet, moves the rod I, so that the arm H passes the stop *s*, and, describing half a circle, is stopped by the stop *s'* at the other end of the rod, and held until the circuit is renewed. In this construction of the arm H, secured to shaft E in a horizontal position, and the rod I connecting with the armature, the latter having the spring *m* attached thereto, a mechanism is provided which is prompt and correct in its operation, and less complicated than other devices of this class.

At each breaking of the circuit the hammer S strikes the bell D, the shaft E turning half-way around, and when the circuit is renewed it again turns half-way around, and the hammer is simultaneously withdrawn from the bell.

We claim as our invention—

In combination, the shaft E with the arm H fixed thereto in a horizontal position, the rod I, provided with stops *s* and *s'*, and connecting with the armature G, and the spring *m*, substantially as and for the purposes described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

AUGUSTUS C. PALMER.
AUGUSTUS H. PALMER.

Witnesses:
E. B. HASTINGS,
JOSEPH B. COUPE.