

WEBSTER GILLETT.  
Improvement in Telegraph Apparatus.  
No. 120,262.

Patented Oct. 24, 1871.

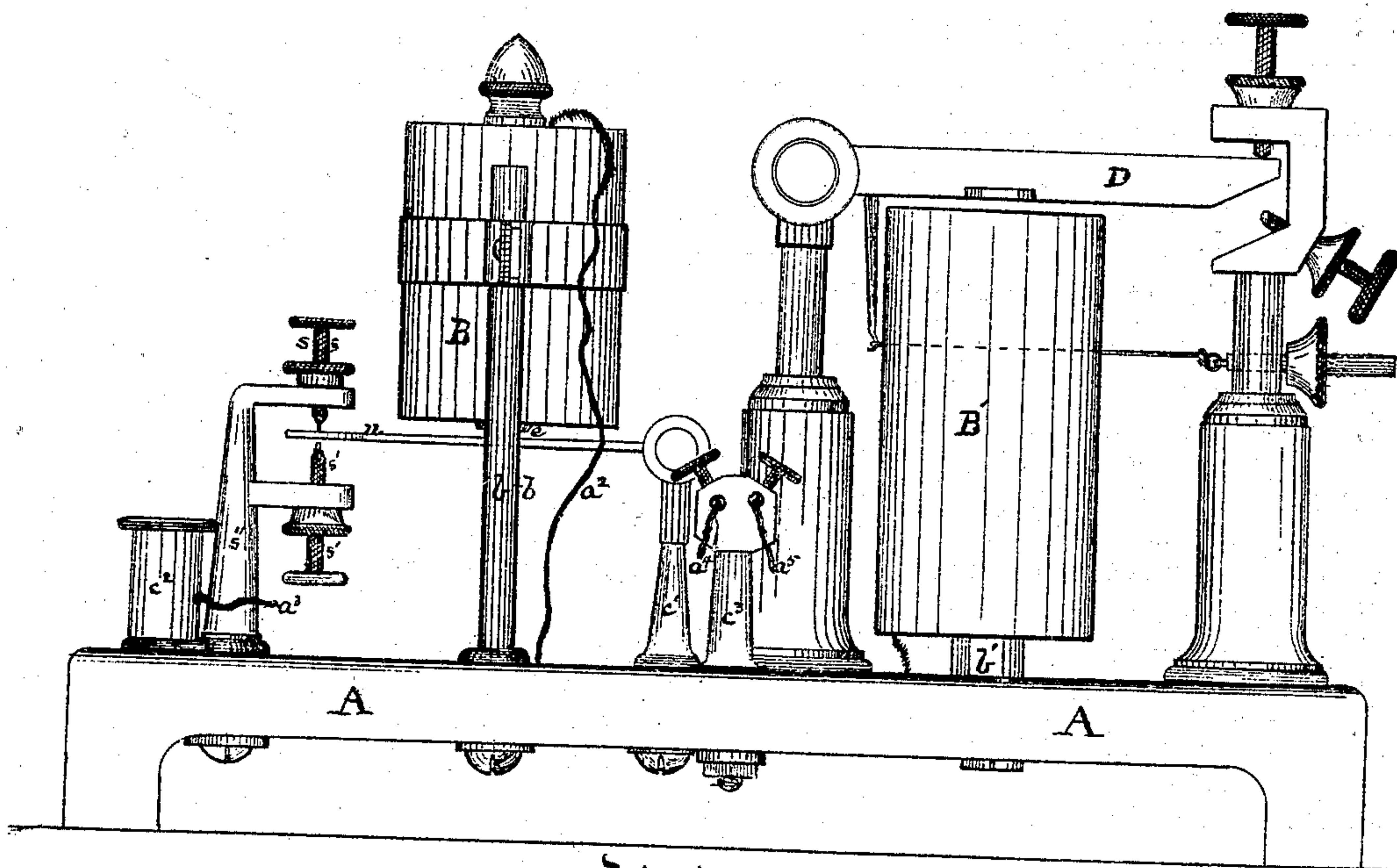


Fig. 1.

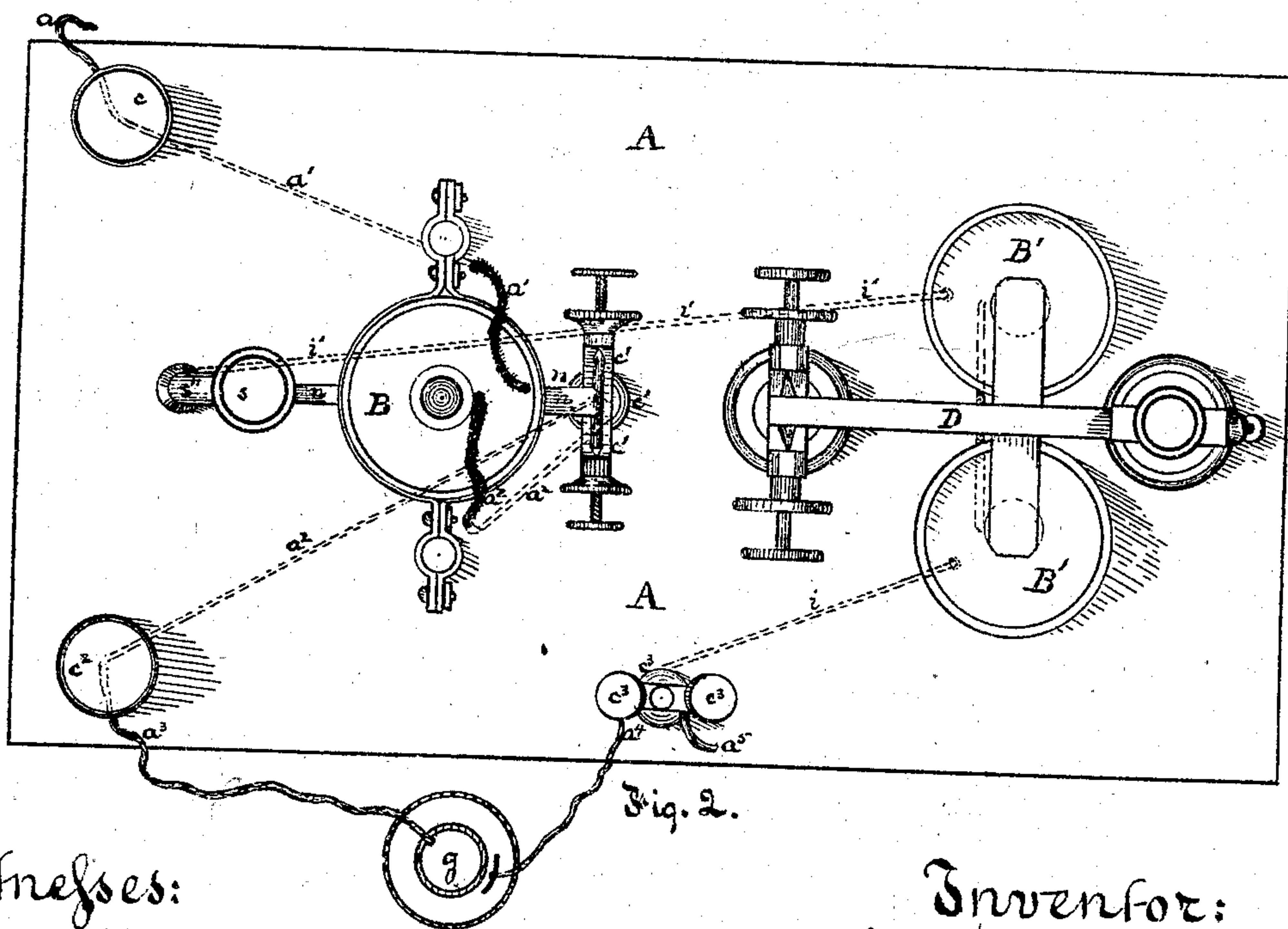


Fig. 2.

Witnesses:  
James I. Kay  
E. C. Fidler.

Inventor:  
Webster Gillett,  
by Bakerwell, Christy & Kerr,  
his Attys.



# UNITED STATES PATENT OFFICE.

WEBSTER GILLETT, OF ALLEGHENY CITY, PENNSYLVANIA, ASSIGNOR TO HIMSELF, PAUL HUGUS, OF PITTSBURG, PENNSYLVANIA, AND CHARLES M. GILLETT, OF CLEVELAND, OHIO.

## IMPROVEMENT IN TELEGRAPH APPARATUS.

Specification forming part of Letters Patent No. 120,262, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, WEBSTER GILLETT, of Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Telegraph Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of a telegraphic apparatus illustrative of my invention. Fig. 2 is a plan view thereof.

Like letters of reference indicate like parts in each.

My improvement relates to electro-magnetic apparatus for sending, transmitting, and receiving messages; and consists in the construction and combination of devices, substantially as hereinafter described and claimed, whereby the local batteries shall not only, as they do now, operate the sounding or recording apparatus at the local station, but also, at the same time, act as feeders to the main line. My improvement is also of value in fire-alarm and other like sounding telegraphic uses. By it I am enabled wholly to overcome the relay resistance.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and mode of operation.

The insulated pedestal stand or table A is of any suitable construction. On this, supported by suitable posts *b*, is mounted a switch-magnet, B, and by suitable posts or supports *b'* a pair of sounding or recording-magnets, B'. These are made in the usual way, except that, to lessen resistance in the line of the main wire, I prefer to make the switch-magnet B of wire of a comparatively coarse or large gauge. The main wire *a* connects with the corner binding-post *c*, from the foot of which the main-line connection is made by a wire, *a*<sup>1</sup>, to the wire-coil of the switch-magnet B, and a wire, *a*<sup>2</sup>, continues the main line to the foot of a center post, *c*<sup>1</sup>, and thence to the foot of the corner binding-post *c*<sup>2</sup>. From this post the wire *a*<sup>3</sup> leads to the positive pole of the local battery *g*, and from the negative pole a like wire, *a*<sup>4</sup>, communicates with the side binding-post *c*<sup>3</sup>, and from this post the main-line wire *a*<sup>5</sup> leads to the next office or station. In this way, it will be seen, the local battery is brought into direct communication with the main line—in fact, is in the main

line—so as to operate as a feeder to the main line and overcome, wholly or in part, the relay resistance, if any, caused by the switch-magnet B or by the ordinary relay-magnets in common use. The advantage of thus utilizing local batteries as main-line feeders is too obvious to require further description. Under the switch-magnet B is an arm, *n*, which is pivoted at one end to the upper end of the center post *c*<sup>1</sup>, and at its other end it plays freely between the ends of adjusting-screws *s s'*, the point of the upper one being insulated and the point of the other being uninsulated. This arm passes directly under the core *e* of the magnet B, and is so adjusted that when the main line is closed the arm *n* will be held up against the core, so that it will then form no part of any through connection or circuit; but when the main line is broken the arm *n* will drop and its free end come in contact with the point of the lower adjusting-screws *s'*. It thus forms a part of the local circuit by which the sounding-magnets are operated, as I will next explain. From the foot of the side binding-post *c*<sup>3</sup> a wire, *i*, leads to the coil of the local magnets B', (which are fitted with the usual armature D,) and from the opposite end of the coil of such magnets a wire, *i'*, leads to the foot of the post *s''*, which carries the adjusting-screws *s s'*. When the main-line circuit is broken the arm *n* drops onto the point of the adjusting-screw *s'*, as already stated, so that a continuous local circuit is thus secured through the post *s''*, the arm *n*, the center post *c*<sup>1</sup>, the wire *a*<sup>2</sup> leading from its foot to the corner binding-post *c*<sup>2</sup>, and thence through the local battery, as already described, and back to the side binding-post *c*<sup>3</sup>. By these connections the local battery is brought into use in both the main and local circuits, so that, while still operating the latter as formerly, it also acts as a feeder to the former, as already stated. It is important that the magnet-coil be so made and arranged that the resistance of the switch-magnet B plus the resistance of the local battery shall be less than the resistance of the local magnets B' B'; otherwise the main current, taking the course where resistance is least, would pass through the local circuits. I also use the instrument described for operating fire-alarm, sounding, and other single-circuit lines, with a saving of one battery. What I have described as the local battery will, in such cases, operate both the main line and the local circuits. The



only difference is that in through telegraph lines, where there are a number of intermediate battery stations, the local battery at each station acts as a feeder to the main line, while on single-circuit lines, with no intermediate battery-stations, a main battery, arranged and connected as I have described the local battery to be, will operate both the main line and the local circuits; also, on single-circuit lines the resistance of the local magnets must be greater than that of the line; otherwise the construction and operation are the same on both main and single-circuit lines.

The arrangement of the several devices described with relation to each other may be considerably varied without departing from the scope of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A local battery, arranged in the direct main line, in combination with a local circuit, which shall leave and return to the main line outside of the local battery so as to operate as a feeder to the main line, substantially as described.

2. In single-circuit lines, a working battery arranged in the line of both the main and local circuits, whereby a single battery may be made to work both the main and local circuits, substantially as described.

In testimony whereof I, the said WEBSTER GILLET, have hereunto set my hand.

WEBSTER GILLET.

Witnesses:

W. N. PAXTON,  
R. C. WRENSHALL.

(50)