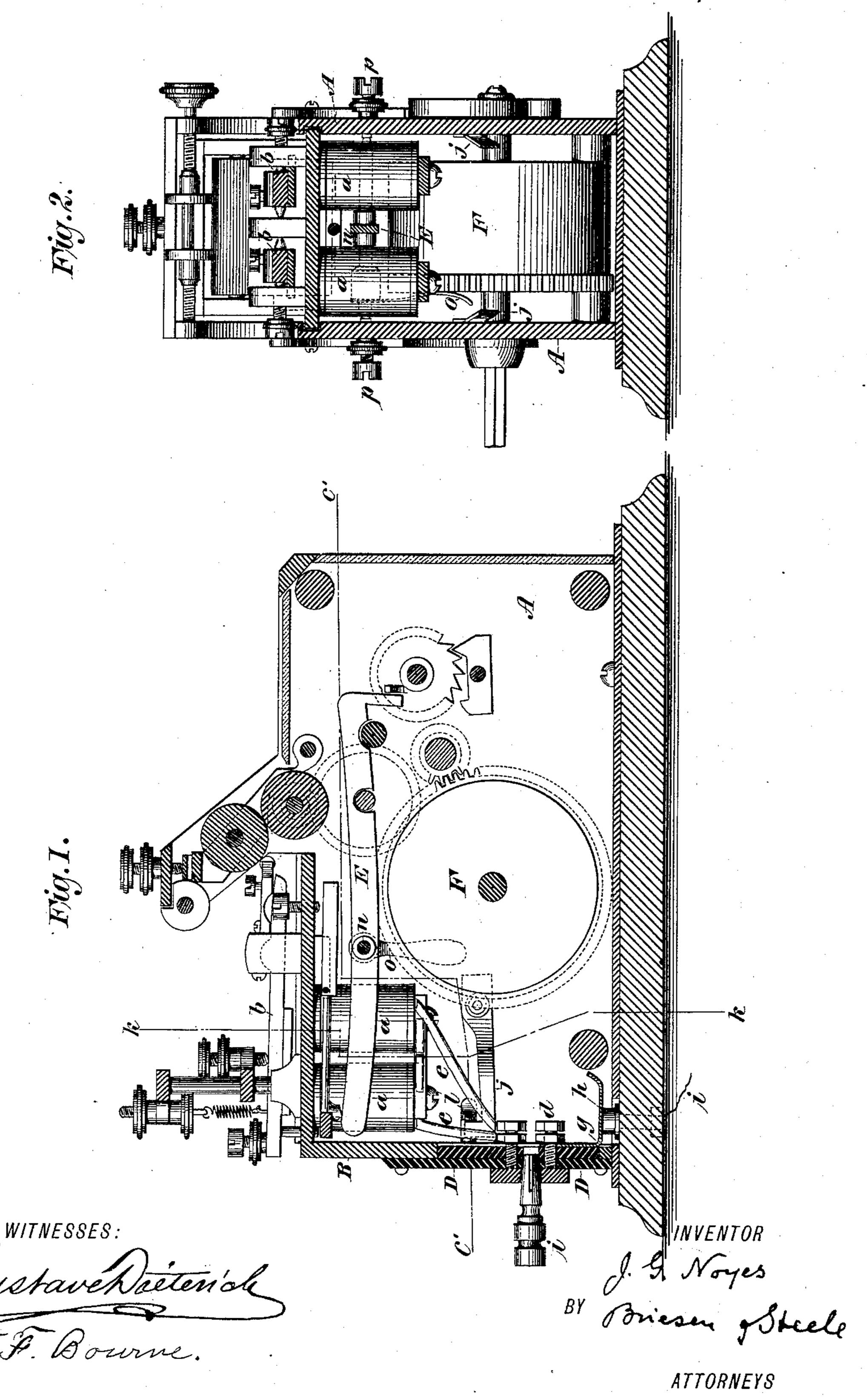
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TELEGRAPH REGISTER.

No. 375,766.

Patented Jan. 3, 1888.

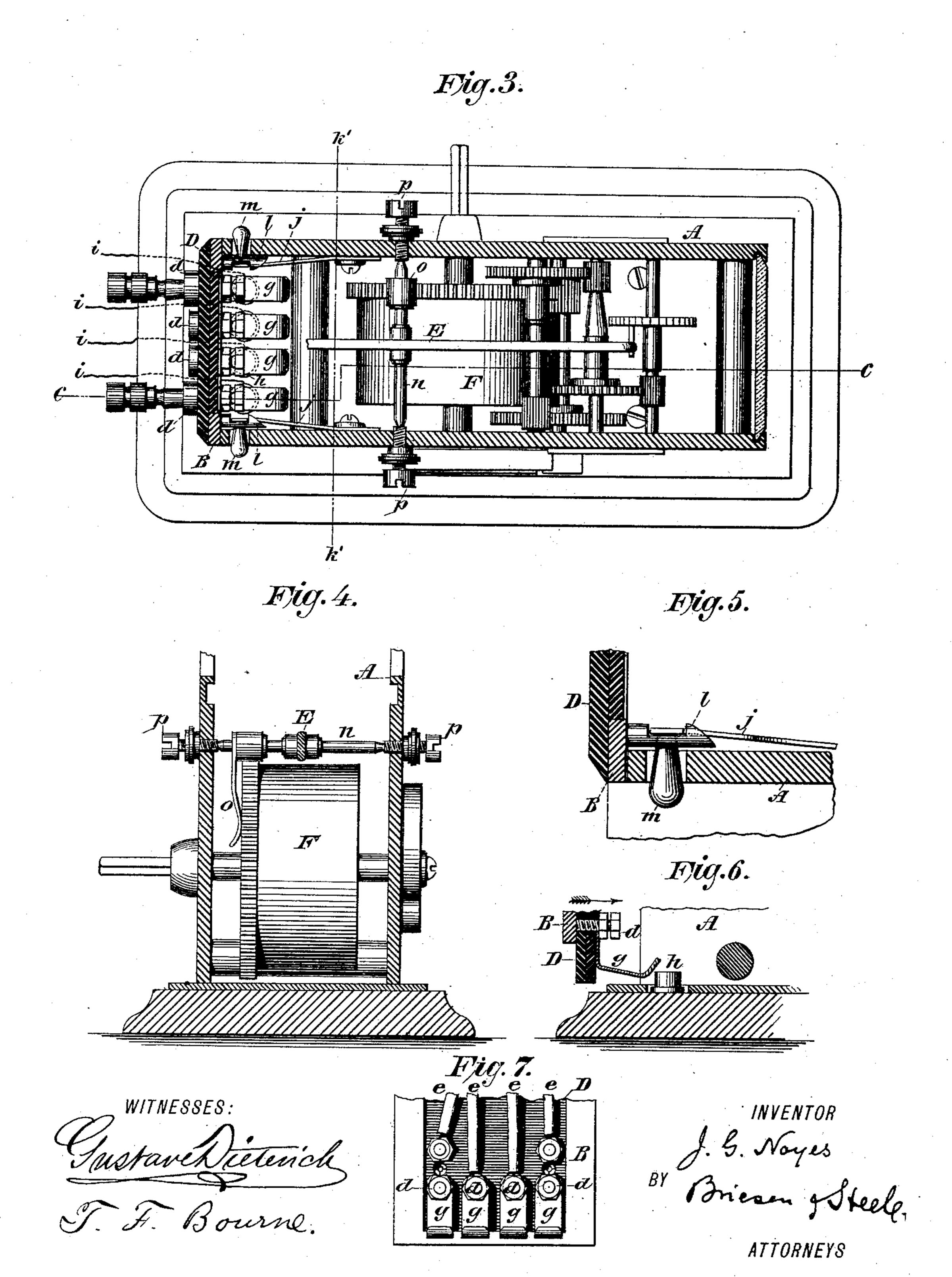


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United States Patent Office.

JOSEPH GILLET NOYES, OF NEW YORK, N. Y., ASSIGNOR TO THE NEW HAVEN CLOCK COMPANY, OF SAME PLACE.

TELEGRAPH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 375,766, dated January 3, 1888.

Application filed October 11, 1887. Serial No. 251,999. (No model.)

To all whom it may concern:

Be it known that I, Joseph Gillet Noyes, of the city, county, and State of New York, have invented certain new and useful Improvements in Telegraph Registers, of which the following is a specification.

My invention relates to improvements in telegraph-registers, more particularly those shown in United States Patents Nos. 338,328 to and 338,329, wherein the electro-magnets, armature-levers, and line-wire connections are carried by a slide at one end of the instrument.

The invention has for its object to provide improved means for making electrical connection between the electro-magnets and the line-wires; also, to improve the construction of other parts of such registers.

The invention consists in the various details of construction and combination of parts, that will be more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section on the line c c, Fig. 3, of a telegraph register embodying my improvements. Fig. 2 is a vertical cross section of the same on the line k k, Fig. 1. Fig. 3 is a horizontal section on 30 the line c' c', Fig. 1. Fig. 4 is a detail crosssection on the line k' k', Fig. 3, of the lower part of the instrument, the slide being removed. Fig. 5 is an enlarged detail horizontal sectional view of part of the slide and 35 casing, showing the manner of holding the slide in the casing. Fig. 6 is a longitudinal detail sectional view of a portion of the lower part of the casing and slide, showing the position the metal springs assume when the 40 slide is being inserted in the casing; and Fig. 7 is an inner face view of the lower part of the slide.

A in the drawings represents the box or casing of a telegraph-register provided with suitable mechanism, and B is a slide adapted to cover a portion of the top and one end of the casing A. The slide B carries the electromagnets a a and armature-levers b b, suitably secured. The electromagnets a a are preferably arranged in pairs, as shown in Figs. 1

and 2, each pair being provided with an armature-lever, b. The poles of the pairs of electro-magnets a a are electrically connected to binding-posts d d by means of conductors e e. Switches f f may be used, if desired, to regu- 55 late the current, as best shown in Fig. 7. The posts d d are carried by a non-conducting plate, D, secured to the slide B. The bindingposts d d are connected to springs g g made of suitable conducting metal. The springs g g 50 are arranged in pairs for connection with the magnets a a. (See Fig. 7.) The springs g gare L-shaped, the vertical arms being securely fastened to the inner wall of the non-conductor D or slide B and metallically connected to the 65 binding-posts d d, while their inwardly-projecting spring arms are free to play up and down. These inwardly - projecting arms are preferably bent slightly downward and their inner ends are turned upward, as shown in 70 Fig.6. h h are posts carried by the base of the instrument and which project within the instrument, as shown. The posts h h are so arranged that when the slide B is placed in position the springs g g will bear upon them. 75 By bending the springs g g downward, as in Fig. 6, good contact with the posts h h is insured, and by turning up the ends of the downwardly-projecting arms they can easily slide upon the posts h h.

In Fig. 6 is shown the position of a spring when the slide is being placed in the instrument just as the spring contacts the post, and Fig. 1 shows the spring in position on the post. The posts h h are in electrical connection with conducting wires i i from a suitable generator. The wires i i pass under the instrument.

When it is desired to inspect the interior of the instrument, the slide B may be readily 90 withdrawn, the springs g g slipping off the posts h h, by this means overcoming the necessity of detaching the conducting wires from the binding posts, as has heretofore been necessary, thereby saving time and annoy- 95 ance.

Another advantage of this construction is that the connections of the conductors are within the instrument and not subject to exposure, and the wear on the conductors by 100

continued detachment from the binding-posts is overcome. The slide B is held in position in the casing by means of spring-catches j j, secured on the inner side of the casing, which 5 engage hooks l l on the slide B. The springcatches jj are L-shaped, as shown in Fig. 1, and their free ends are a short distance from the inner wall of the casing. Upon their free ends are secured studs m m, which project 10 through the sides of the casing. The ends of the hooks l l are preferably beveled, as shown. When the slide is inserted in the case, the hooks l l pass between the inner walls of the casing and the springs jj, pressing said springs 15 slightly inward. When the notches in the hooks come opposite the vertical parts of the springs, said springs will snap outward and engage said hooks. When it is desired to remove the slide, the studs m m are first pressed 20 inward, which carries the springs inward away from the hooks l l. The slide is then free to

be withdrawn. E is the trip lever, adapted to release the clock-work at the proper time. The trip-lever 25 E is mounted upon an arbor, n, which arbor also carries a spring, o, adapted to bear upon the main-spring drum F, as shown. The lever E and spring o are of usual construction. When the lever E has been moved by the elec-30 tro-magnet to release the clock-work, the drum F, acting upon the spring o, moves said lever back to check the running of the works. By causing the spring o to bear upon the drum F with more or less pressure the time at which 35 said lever shall check the running of the works can be regulated. Heretofore to adjust the pressure of said spring it was necessary to remove the slide and then move the spring along the arbor. I accomplish the adjustment of the 40 spring from the outside of the casing and without removing the slide by the following means: p p are two set-screws carried by the casing A, and they are adapted to project through the walls of the casing, as shown. The screws p45 p have conical depressions in their inner ends and receive therein the pointed ends of the arbor n. These screws thus serve as a bearing for the arbor n.

When it is desired to adjust the spring o with reference to the drum F, it is only necessary to 50 move said screws together in one direction toward either side, which will move the arbor n, and consequently the spring o, in the desired direction, causing the spring to bear with more or less pressure against the drum F. This 55 manner of adjusting the spring o will be found convenient and much time can be saved.

The arbor *n* could be journaled in the screws *p* otherwise than shown, if desired; but I prefer the above mode.

Having now described my invention, what I claim is—

1. In a telegraph register, the electro-magnets a and binding-posts d in electrical connection, and L-shaped springs g, having upturned 65 inner ends connected with the binding-posts d, all carried by and combined with the slide B, in combination with the binding-posts h in the base of the instrument for connection with a generator, the strips g being adapted to bear 70 upon and slide over the posts h, substantially as herein shown and described.

2. In a telegraph-register, the combination, with the slide B, of the magnets a a and of the springs g g, arranged in pairs, each pair being 75 electrically connected with the magnets, substantially as described.

3. In a telegraph-register, the casing A and springs j, secured to the inner walls thereof, the springs j having studs m, in combination 80 with the slide B and hooks l, carried thereby, the springs j j acting inward and outward against the hooks l, substantially as described.

4. In a telegraph-register, the combination of the casing A, trip-lever E, arbor n, spring o, 85 and screws p p, carried by the casing, said screws acting as movable bearings for the arbor of the trip-lever and as means of adjusting the tension of said spring, substantially as described.

JOSEPH GILLET NOYES.

Witnesses:

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