

No. 671,334.

Patented Apr. 2, 1901.

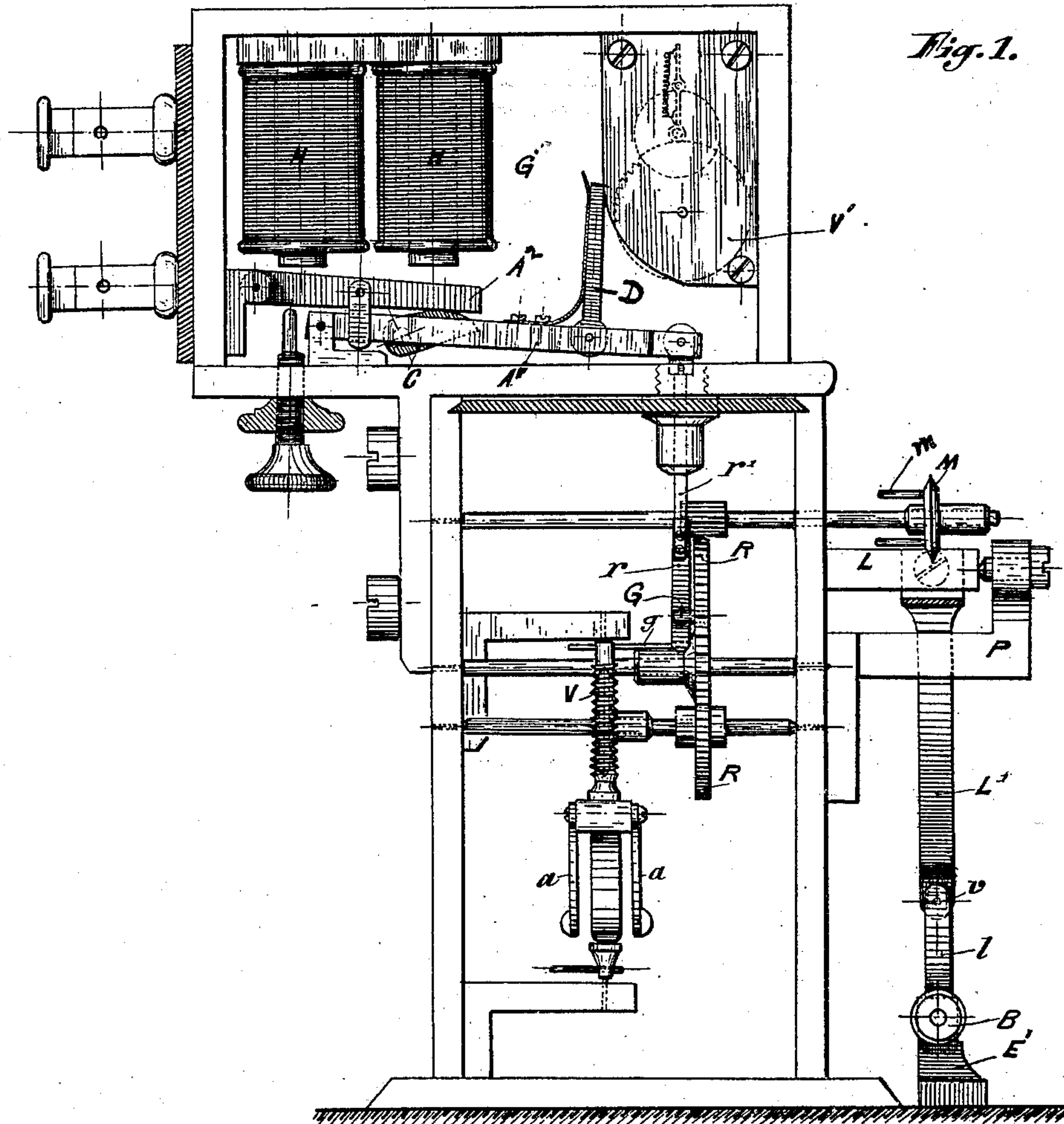
E. DUCRETET.

CONSTRUCTION OF MORSE'S REGISTERING TELEGRAPHIC INSTRUMENTS.

(Application filed July 29, 1898.)

(No Model.)

3 Sheets—Sheet 1.



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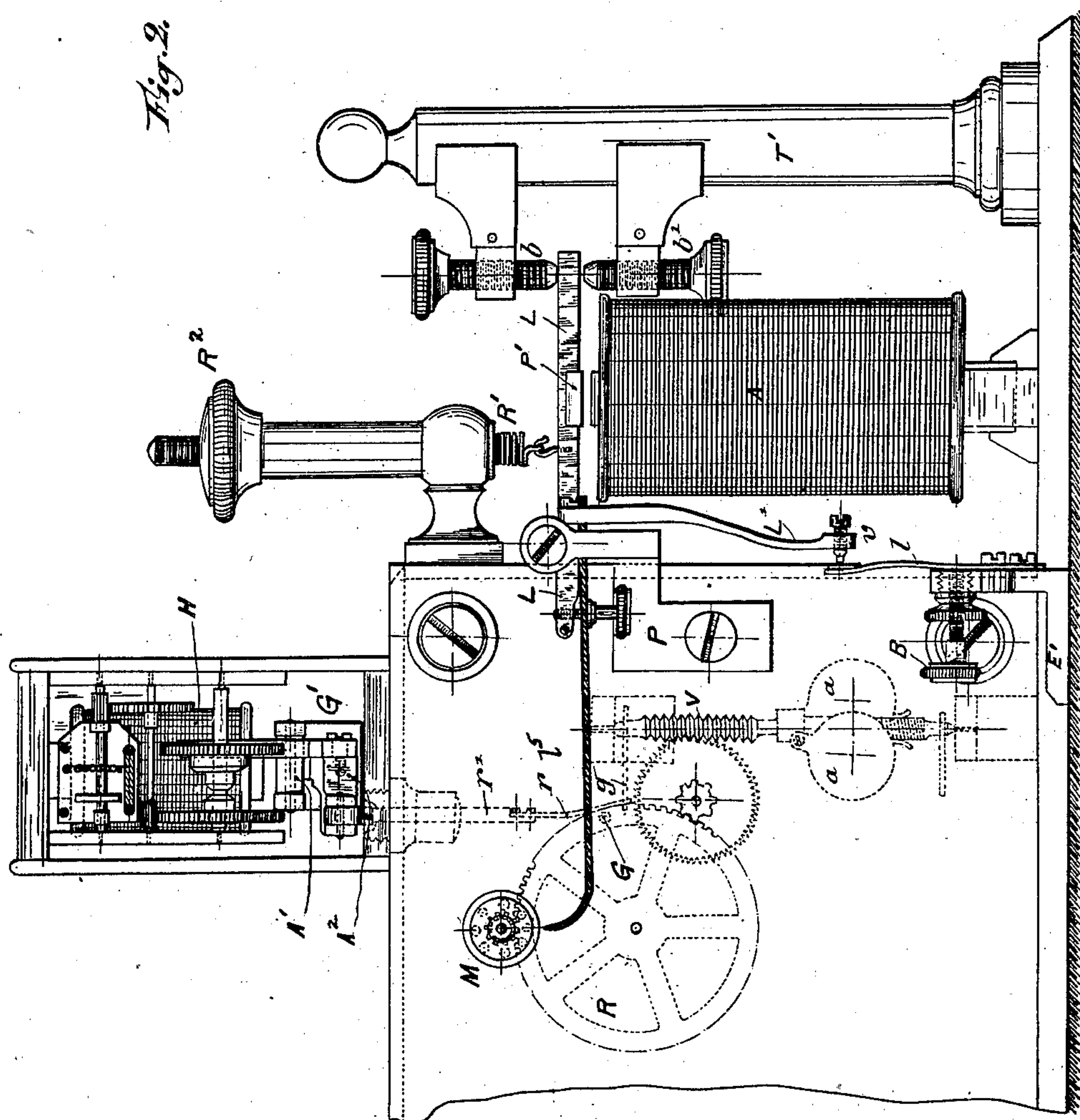
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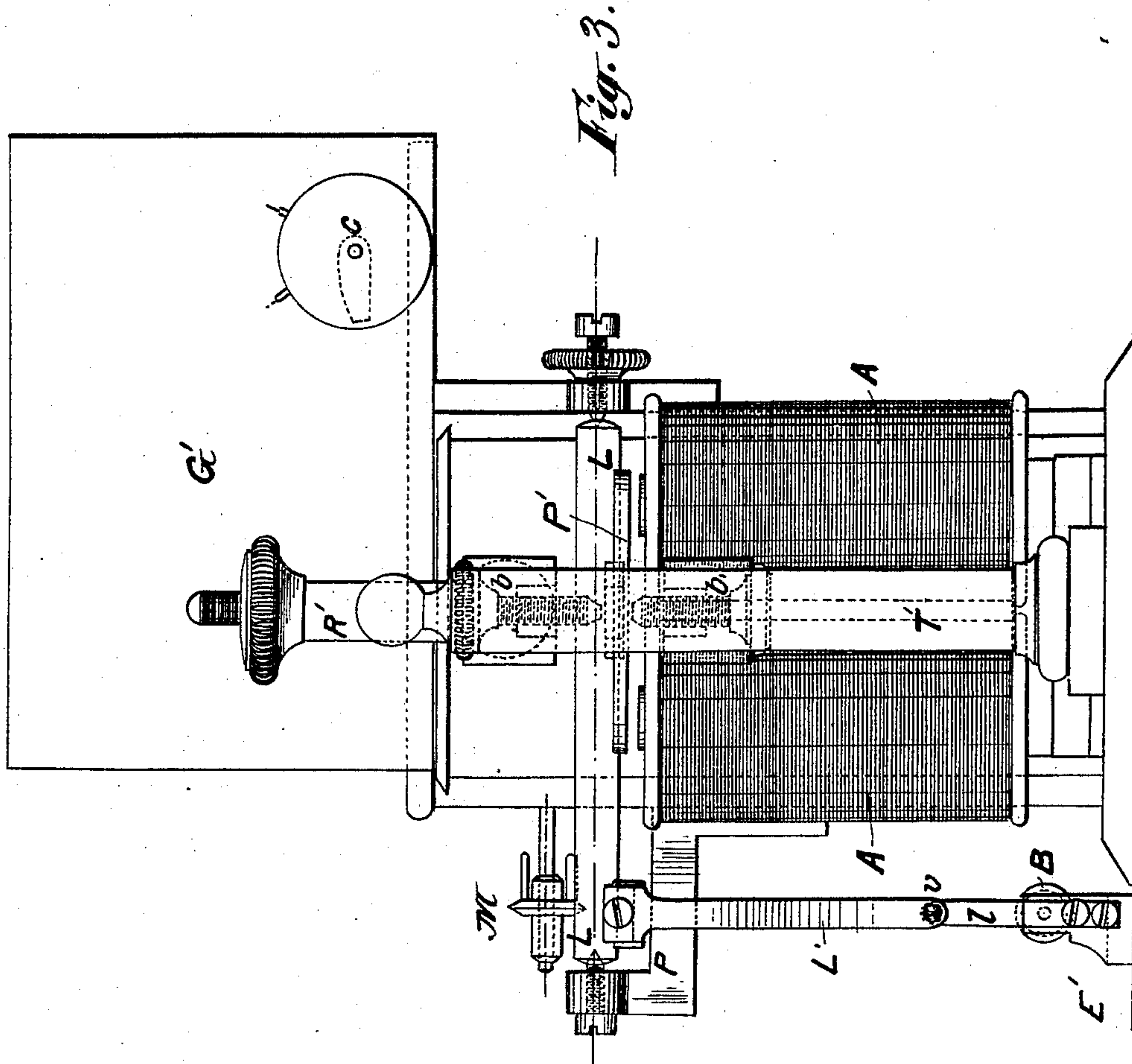
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

EUGÈNE DUCRETET, OF PARIS, FRANCE.

CONSTRUCTION OF MORSE'S REGISTERING TELEGRAPHIC INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 671,334, dated April 2, 1901.

Application filed July 29, 1898. Serial No. 687,201. (No model.)

To all whom it may concern:

Be it known that I, EUGÈNE DUCRETET, a citizen of the Republic of France, and a resident of Paris, France, have invented certain new and useful Improvements in the Construction of Morse's Registering Telegraphic Instruments, of which the following is a specification.

The present invention relates to certain improvements in Morse's telegraphic receivers; and the special object thereof is to provide a device automatically throwing into and out of gear the usual clockwork actuating the feed-roller of the apparatus. Furthermore, this improved telegraph receiver or indicator is provided with a special adjusting device adapted to be easily and readily operated; and my improvements consist in the construction, combination, and arrangement of parts hereinafter more fully pointed out and claimed.

In order that my invention may be properly understood, I have hereunto appended explanatory sheets of drawings, in which I have illustrated, by way of example, a construction of the improved apparatus embodying my invention.

Figure 1 is a side view of the apparatus, the lateral walls of the casing, as well as some of the other parts, being removed to better show the clockwork and automatic clutch device. Fig. 2 is a front view of same. Fig. 3 is a view of the apparatus, taken from the side opposite that seen in Fig. 1 and more clearly showing the electromagnet A and lever L.

Similar letters of reference denote corresponding parts throughout the figures.

The apparatus comprises the usual rectangular box inclosing the clockwork for actuating the feed-roller M, an electromagnet A, operating the indicating-lever L, and another smaller box G', preferably arranged above the former box and inclosing the means for actuating the clutch device. The feed-roller has pins *m*, between which is adapted to engage the end *l*⁵ of the indicating-lever L.

The indicating-lever L of the receiver, supported on the bearing P, secured to the casing of the clockwork, carries the armature P' of the electromagnet A, and the free end of this lever is adapted to rock between the

stop-screws *b* and *b'*, said screws being adapted to turn in nuts secured to the post T'. This post T' is constructed in the usual manner and forms, in conjunction with the lever L, a first system of relay. The lever L is controlled by the spring, the tension of which may be adjusted by the nut R². These objections are overcome with my arrangement, which is very accessible and adjustable in operation—that is, during the reception—and this adjustment is, moreover, independent from the aforesaid adjustment of lever L and stop *b'*. The stop-screws *b* *b'* are provided to limit the exact throw of the lever L in either direction.

My improved arrangement consists in an arm L', made integral with the lever L and adapted to come into contact at each attraction of the armature P' by the electromagnet A with a springy or resilient blade *l*, secured to a stationary shoe E' and adjustable by means of the screw B, as shown in Fig. 2. The arm L' is provided at its lower end with a small screw *v*, by means of which the contact between said arm and the resilient blade *l* is established and may be regulated. This arrangement forms a second relay.

The clockwork of the apparatus is automatically thrown into and out of gear in the following manner: Whatever may be the use of the receiver the first contact between the screw *v* and the blade *l* acts on an auxiliary electromagnet H H, with local battery, to produce the attraction of an iron bar A', having a long throw or travel, this attraction being effectuated either direct or through the intermediary of an armature A². This auxiliary electromagnet H H, the iron bar A', and the armature A² are housed in a box placed above the clockwork hereinafter described.

In operation the iron bar A', through the intermediary of the armature A², actuates a vertical rod *r'*, pivotally secured to the free end of said bar and carrying at its lower end a springy blade *r*, extending into the wheelwork of the apparatus. When the armature A² is at rest—that is, in depressed position—the rod *r'* stops the wheelwork. When this armature is attracted by the auxiliary electromagnet H H, the rod *r'* will be raised and disengage the wheelwork.

The clockwork of the apparatus may be

composed of any suitable number of wheels and pinions. One of the movers of this clockwork, the wheel R, rotating at a comparatively low velocity, carries a stop-pin G, secured thereto, and during the revolution of this wheel R said stop-pin G approaches another pin *g*, secured to the last mover of the clockwork. As shown in the drawings, the pin *g* is secured to the endless screw V, which carries, moreover, a speed-regulator *a a*, usually used with this class of mechanism. The two pins *g* and G cannot contact and act upon each other except by the intervention of the springy blade *r* when A² is depressed. In this position the pin *g* engages the springy blade *r* and causes it to engage the pin G to stop the movement of the clockwork. During the succession of the transmitted signs the armature A² is subjected to a series of attractions, holding the springy blade *r* in a raised position, whereby the clockwork is allowed to revolve. After the reception of the sign, the armature A² being no longer under the influence of the auxiliary electromagnet, the springy blade *r* moves downward, and at the next passage of the pin G this latter engages said blade *r* and causes it to engage the pin *g*, whereby the movement is stopped. A complete revolution of the wheel R unrolls a certain length of paper to receive the transmitted signs, which cover only a portion of this unrolled strip of paper, thus automatically separating the successive telegrams without the intervention of the telegraphist. The up movement of the armature A², and therefore of the springy blade *r*, is effectuated very quickly, while the down movement of these parts is checked by the following arrangement: To the armature A² is pivotally secured a pawl D, held by a spring D' and operating in a ratchet V'. This pawl D is adapted to engage the ratchet V' during the down movement of the armature A², while it slides over said ratchet during the up movement of said armature. When the ratchet V' is operated by the pawl D, it moves a small wheelwork adapted to suitably check the down movement of the blade *r*.

My improved apparatus is furthermore provided with a cam C, adapted to be operated from the outside of the box G' for the purpose to hold the armature A², and therefore the stop *r*, in raised position, thus transform-

ing the apparatus into an ordinary Morse apparatus.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a Morse registering telegraphic apparatus, the combination of a depending arm on the indicating-lever, an auxiliary electromagnet an adjustable resilient blade adapted to be engaged by said depending arm to act on said auxiliary electromagnet, and means on the armature of the auxiliary electromagnet for engaging and stopping the clockwork of the apparatus as said armature is attracted, substantially as and for the purpose set forth.

2. In a Morse registering telegraphic apparatus, the combination of a depending arm on the indicating or registering lever an auxiliary electromagnet, an adjustable blade adapted to be engaged by said depending arm to close the circuit of said auxiliary electromagnet, said electromagnet preferably arranged above the clockwork of the apparatus, a depending rod and a springy blade secured to the armature of said electromagnet and extending into said clockwork, suitable stops on two movable parts of the clockwork and adapted to engage said blade, and means for checking the down movement of the said armature, substantially as and for the purpose set forth.

3. In a Morse registering telegraphic apparatus, the combination of an auxiliary electromagnet, suitable connections between the said relay and said electromagnet to actuate the latter when the main armature of the apparatus is actuated, a depending rod on the armature of the auxiliary electromagnet, and extending into the clockwork of the apparatus, stops on two movable parts of said clockwork and adapted to engage said depending rod, and means for checking the down movement of the armature of said auxiliary electromagnet, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name, this 4th day of May, A. D. 1898, in presence of two subscribing witnesses.

EUGÈNE DUCRETET.

Witnesses:

PHILIPPE LAFERE,
JULES POYEN.