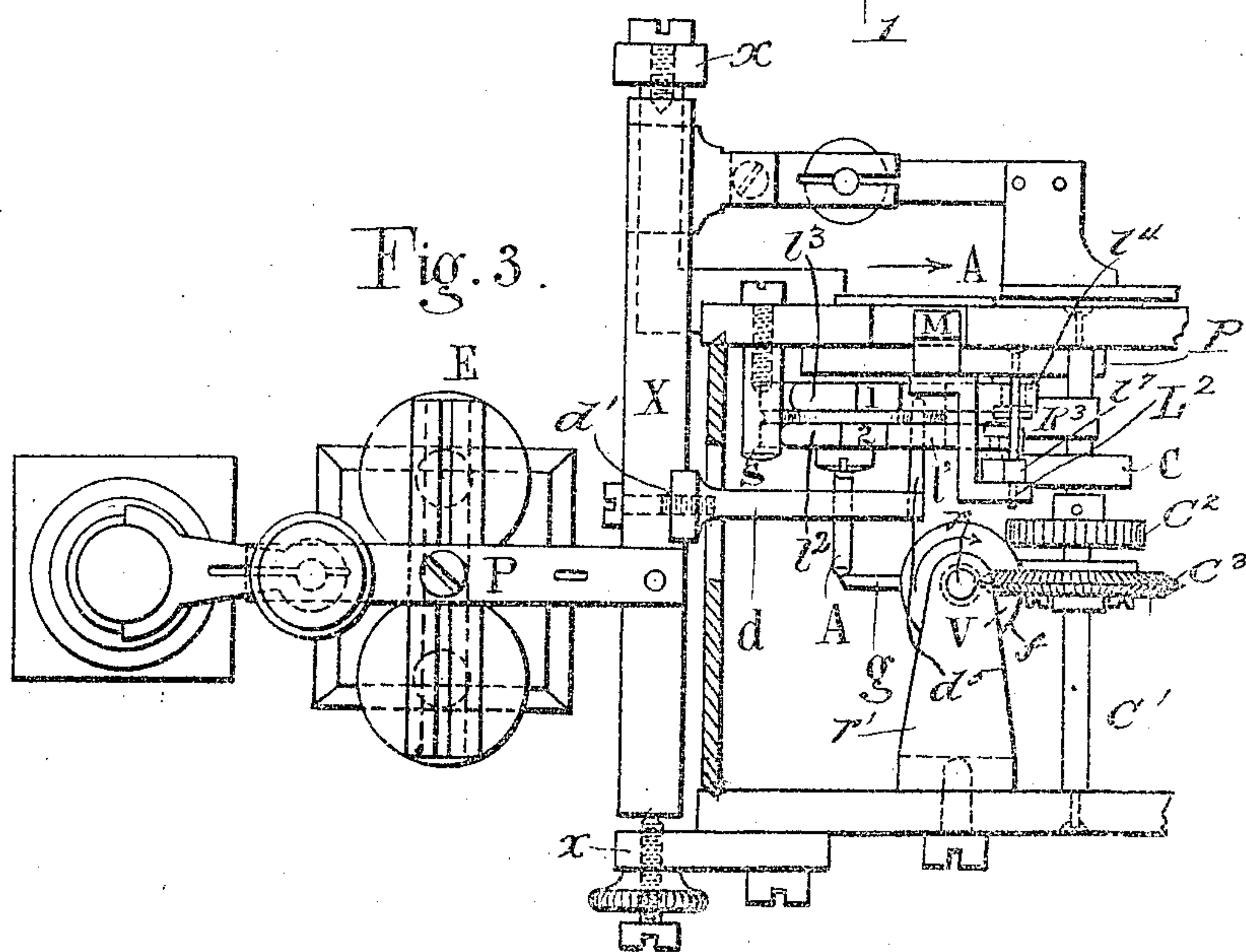
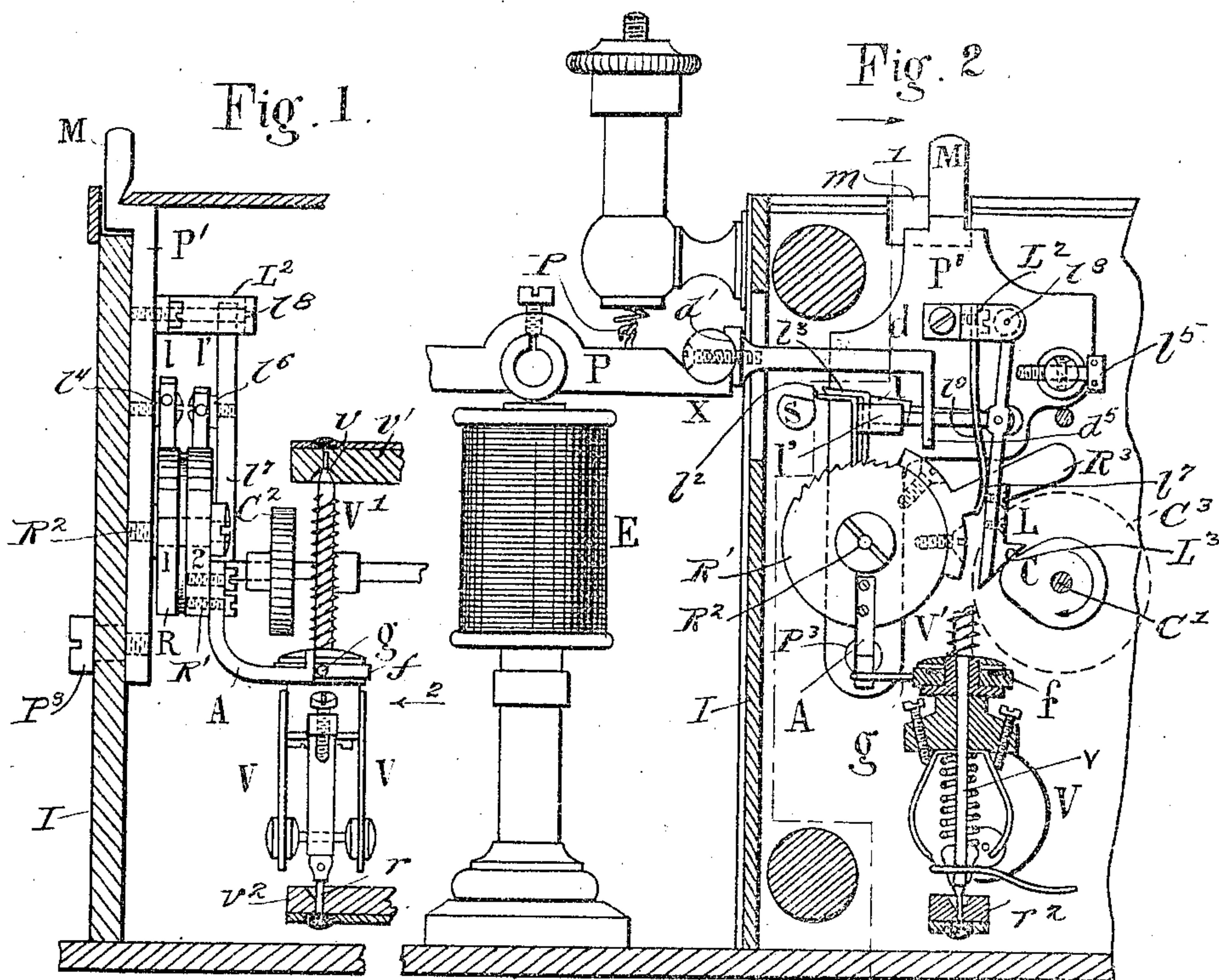


No. 876,952.

PATENTED JAN. 21, 1908.

E. DUCRETET.
RELEASE MECHANISM FOR MORSE TELEGRAPHS.

APPLICATION FILED JUNE 15, 1905.



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UNITED STATES PATENT OFFICE

EUGÈNE DUCRETET, OF PARIS, FRANCE.

RELEASE MECHANISM FOR MORSE TELEGRAPHS.

No. 876,952.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed June 15, 1905. Serial No. 265,400

To all whom it may concern:

Be it known that I, EUGÈNE DUCRETET, a citizen of the Republic of France, and resident of 75 Rue Claude Bernard, Paris, France, manufacturer, have invented certain new and useful Improvements in Release Mechanism for Morse Telegraphs for Automatically Releasing Electric Telegraphs, of which the following is a specification.

10 This invention relates to improvements in devices for automatically or manually arresting the paper feed mechanism which is especially adapted for a Morse receiving instrument the device serving the purpose of automatically arresting the paper feed when the instrument ceases to operate and also serving to release and permit starting of the paper feed mechanism when instrument starts to operate.

20 The invention will be more fully described in connection with the accompanying drawing and will be more particularly set forth and ascertained in and by the appended claims.

25 In the drawing:—Figure 1 is a sectional view taken on line 1—1 of Fig. 2. Fig. 2 is a sectional view looking in the direction of the arrow 2 of Fig. 1. Fig. 3 is a plan view of the device.

30 Like characters of reference designate similar parts throughout the drawing.

As shown E designates a coil which may or may not form a part of a Morse receiving instrument and P designates an armature which likewise may or may not form the sounder or a part of the receiving instrument. Said armature P is secured to a shaft X which is mounted at its ends upon bearings x of a common type used in this class of instruments. A spring p normally maintains the armature P in an elevated position when the coil E is deenergized and permits operation of the armature when the coil is energized. A pawl releasing device in the form of an arm d is secured to said shaft X at d' and carries at its opposite end a pendent bent portion d⁵ adapted to project beneath and release engagement between pawls l and l' and ratchet wheels R and R'. Said ratchet wheels as shown are provided with teeth and are mounted upon a stud shaft R² secured at one end to a movably mounted manually operable cut-in device in the form of a plate P' which will be more fully described hereinafter. Said pawls l and l' are preferably in the form of straight bars having

angularly bent cam engaging portions l² and l³ adapted for engagement with a cam S which is preferably in the form of a stationary projection anchored to any convenient fixed part.

One of the pawls, preferably pawl l is pivotally mounted upon plate P' at l⁴ while the other pawl l² is pivotally secured at l⁵ to a cam operated arm or lever l' pivotally mounted at l⁶ to a bracket L², which is rigidly secured to the plate P'. The lower end of said arm l' is provided with a cam engaging portion L³ adapted to be engaged by a cam C mounted upon shaft C'. Said shaft C' constitutes a part of the mechanism for feeding the paper, the major portion of which mechanism is not shown, the shaft C' being provided with a gear C² adapted to be operatively related to said mechanism. In order to provide a substantially constant feed for said mechanism the same is usually provided with a governor such for instance as that which is used in connection with music boxes and the like and in the present case such a governor is shown at V and comprises in part a shaft v mounted in bearings v' and v². Said shaft v is provided at its upper end with a worm V' meshing with a worm wheel C³ on shaft C'. A hub f, to which is secured an arm g, is fixed to the shaft v. Ratchet wheel R' carries a stop arm A adapted to be swung into the path of the arm g in the manner shown in Figs. 1 and 2 to arrest rotative movement of the latter and act through the governor to stop the paper feed mechanism. Ratchet wheel R' is also provided with a balance in the form of a weighted arm R³ acting normally to rotate the ratchet wheel R' in a manner to hold the arm A out of the path of arm g, the shaft C' limiting such rotative movement of the ratchet wheel R' by reason of the fact that the arm R³ engages the shaft C'. In order to maintain the arm l' in operative relation with the cam C a spring l⁹ is provided and is mounted at one end in the bracket L² and engages at its free end the arm l'. The movement of arm l' in one direction is preferably controlled by an adjusting device in the form of a screw l⁸ secured to the plate P'.

In order to permit of manually throwing the paper feed mechanism into operation there is provided a manually operable device as hereinbefore described in the form of the plate P'. Said plate is pivotally mounted at its lower end to any suitable stationary

part p^s and is provided at its upper end with a projection or handle M adapted to project through a slot m the opposite walls of which serve to limit movement of said plate P' .

5 As shown the ratchet wheels R and R', the cam arm l' and the adjusting device l^s are mounted on said plate P' .

The operation is as follows. As shown in Fig. 2 the parts are in a position of rest.

10 When the coil E is energized the armature P is drawn downwardly toward the coil E against the action of spring p thereby serving to raise the arm d and lift both pawls l and l' out of engagement with ratchet

15 wheels R and R'. The balance R^s thereupon swings or rotates the ratchet wheels in a clockwise direction until the balance engages shaft C' thereby serving to swing arm A out of engagement with arm g and release

20 the paper feed governor. The paper feeding device is thereupon started through its own driving mechanism, not shown, and operated in conjunction with the telegraph receiver in the usual manner. When the receiver

25 ceases to operate and the coil E is deenergized the spring p lifts the armature P depressing the arm d and permitting the pawls l and l' to engage the ratchet wheels R and R'. The continued operation of the paper

30 feeding mechanism causes the rotating cams C to engage and operate cam arm l' and therethrough reciprocate pawl l' in a manner to cause rotation of the ratchet wheels R' and R in a contra-clockwise direction

35 which movement serves to raise the balance R^s and swing the arm A into the path of arms g as shown in Fig. 2 and thereby arresting movement of paper feed mechanism. In performing this function the pawl l' acts to

40 positively rotate ratchet wheel R' and therethrough ratchet wheel R while pawl l merely serves to retain said wheels in their advanced position during the retractive movement of pawl l' , the two pawls acting in con-

45 junction with the ratchet wheels in the manner of an escapement. When it is desired to throw the paper feed mechanism into operation manually the operator may grasp the projection M and swing the plate P' to

50 the left and to the limit of its movement whereupon the portions l^s and l'^s of the pawls will engage the cam S lifting the pawls out of engagement with the ratchet wheels and freeing the latter so that the balance

55 R^s will cause a partial rotation and swing the arm A out of engagement with the arm g in the manner hereinbefore described.

I claim:—

1. A device of the class described, comprising an armature provided with a depending 60 pawl releasing extension, a ratchet wheel composed of two toothed sections, pawls adapted for engagement with said sections and extending above said depending extension, a cam arm connected with one of said

pawls, a swinging frame to which said cam arms and wheels are mounted and with which remaining pawl is pivotally secured, a balance for said ratchet wheel, a stop arm for said wheel, a swinging arm adapted to be 70 engaged and released by said stop arm, and a cam engaging and oscillating said cam arm.

2. A device of the class described, comprising an armature provided with a depending pawl releasing extension, a ratchet wheel 75 composed of two toothed sections, pawls adapted for engagement with said sections and adapted to be engaged by said depending extension, a cam arm connected with one of said pawls, a spring engaging said 80 cam arm, an adjustable stop for said cam arm, a movable frame to which said cam arm and wheels are mounted and with which the remaining pawl is pivotally secured, said 85 pawls having overhanging arms, a cam adapted to be engaged by said arms, a counterweight for said ratchet wheel, a stop arm for said wheel, a swinging arm adapted to be engaged by said stop arm, and a cam 90 engaging and oscillating said cam arm.

3. A device of the class described comprising in combination, an armature, means for operating the same, a ratchet wheel provided with a stop arm and a balance, a pawl for operating said ratchet wheel adapted to 95 be thrown out of operative relation therewith by said armature, and a governor provided with means adapted to be arrested by said stop arm.

4. A device of the class described comprising in combination, a telegraph receiving instrument, a ratchet wheel and escapement, said escapement being operatively associated with the receiving instrument to permit 100 the latter to disconnect the escapement from the ratchet wheel, means acting through the escapement to operate the ratchet wheel, a governor constituting a part of said means, and devices for said governor and wheel 105 adapted to co-act and arrest operation of said governor and therethrough said means.

5. A device of the class described comprising in combination, an operated means, a second operated means, and an interposed device operatively associated with said first 115 mentioned means and said second mentioned means and held by said first means in a position to arrest operation of said second means and adapted to release said interposed device to permit operation of said second 120 means, said second means including devices operatively associated with said interposed device to restore the same to an arresting position.

In testimony whereof I have hereunto set 125 my hand in presence of two witnesses.

EUGÈNE DUCRETET.

Witnesses:

HANSON C. COXE,
JOHN BAKER.