

(No Model.)

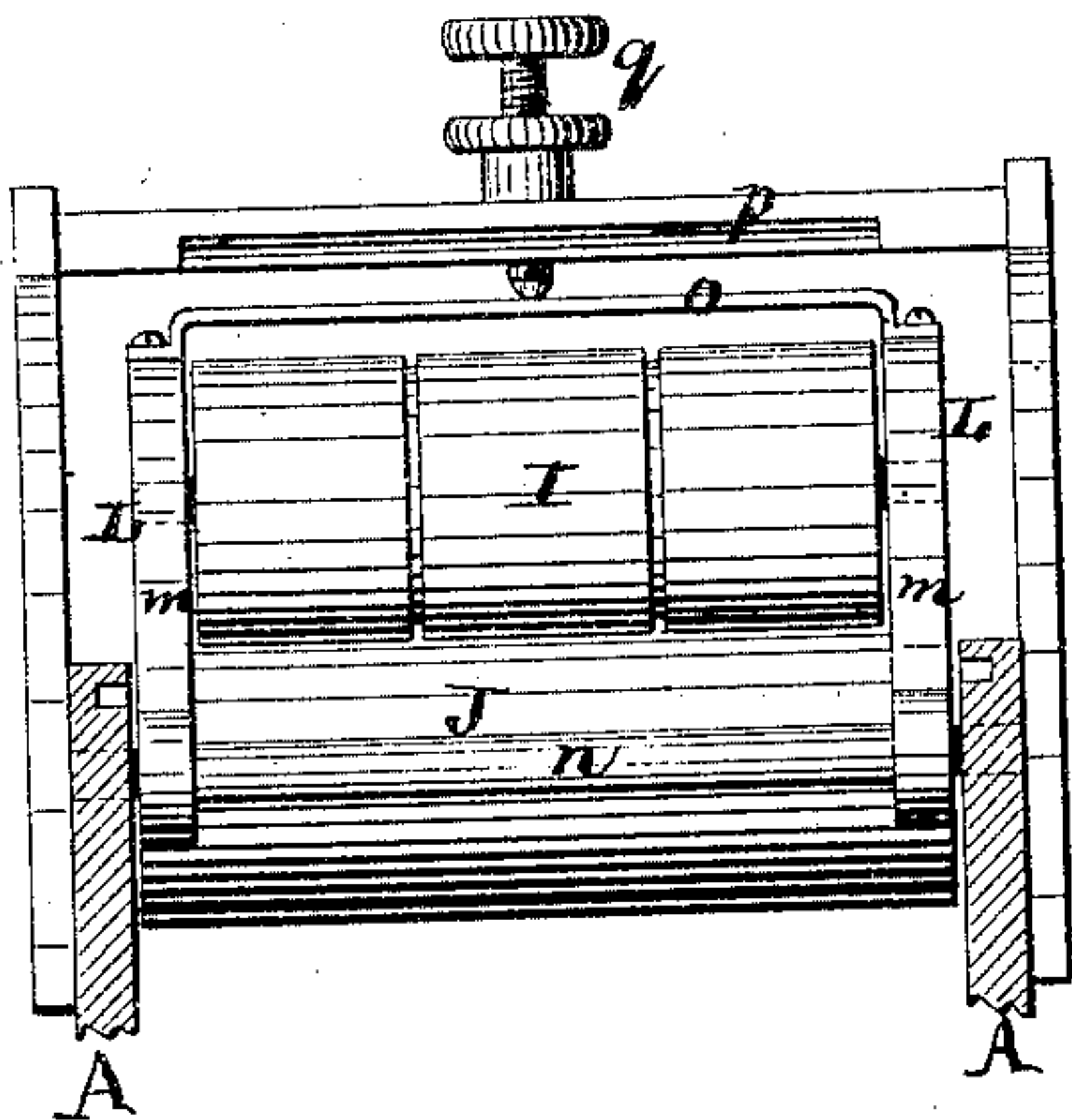
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L. WINTERHALDER.  
TELEGRAPH REGISTER.

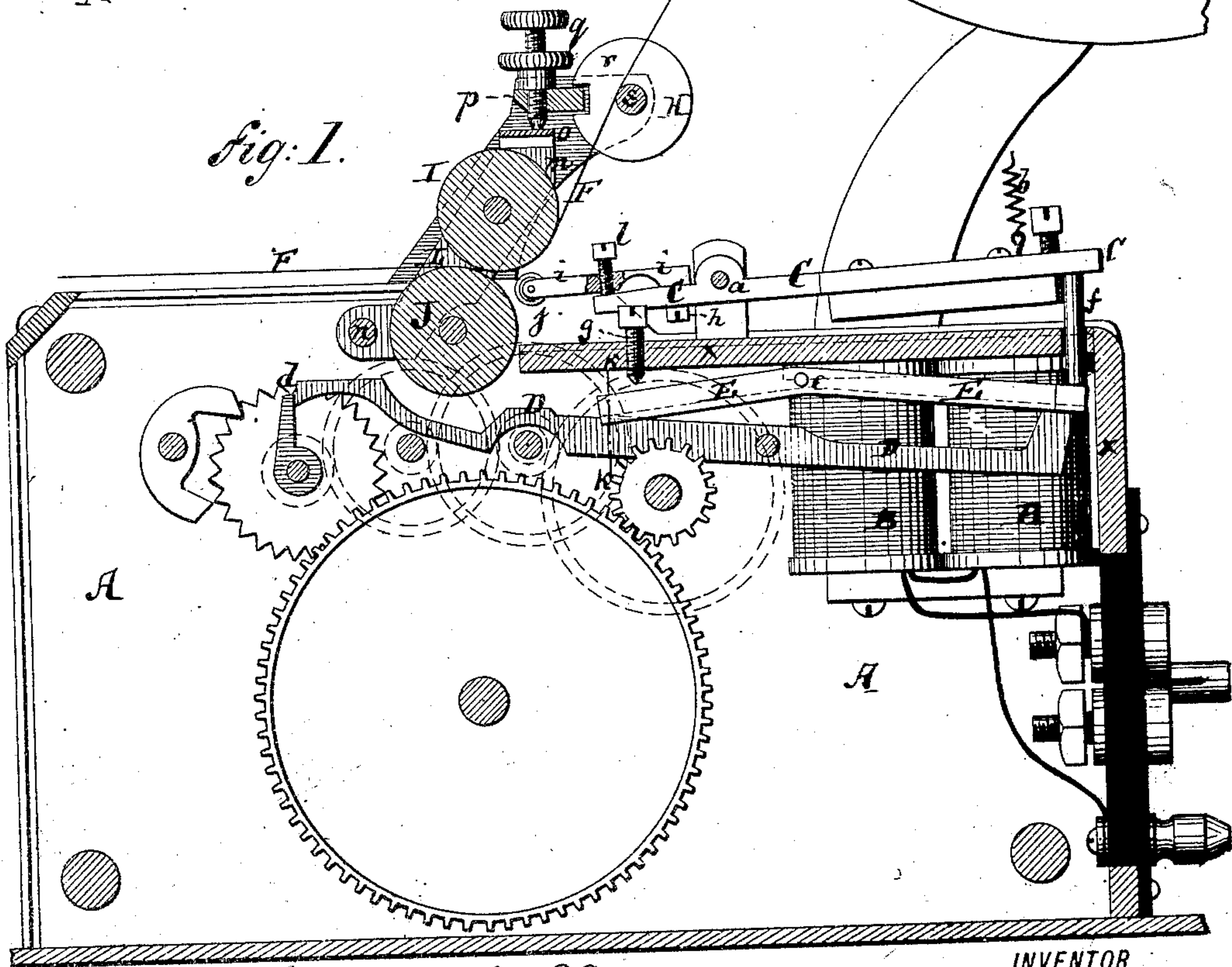
No. 338,328.

Patented Mar. 23, 1886.

*Fig. 2.*



*Fig. 1.*



*Fig. 2<sup>a</sup>*



WITNESSES:

*A. Schehl.*  
*Harry M. Smith*

INVENTOR

*Louis Winterhalder*

BY

*Bresler & Steele*

ATTORNEYS.

(No Model.)

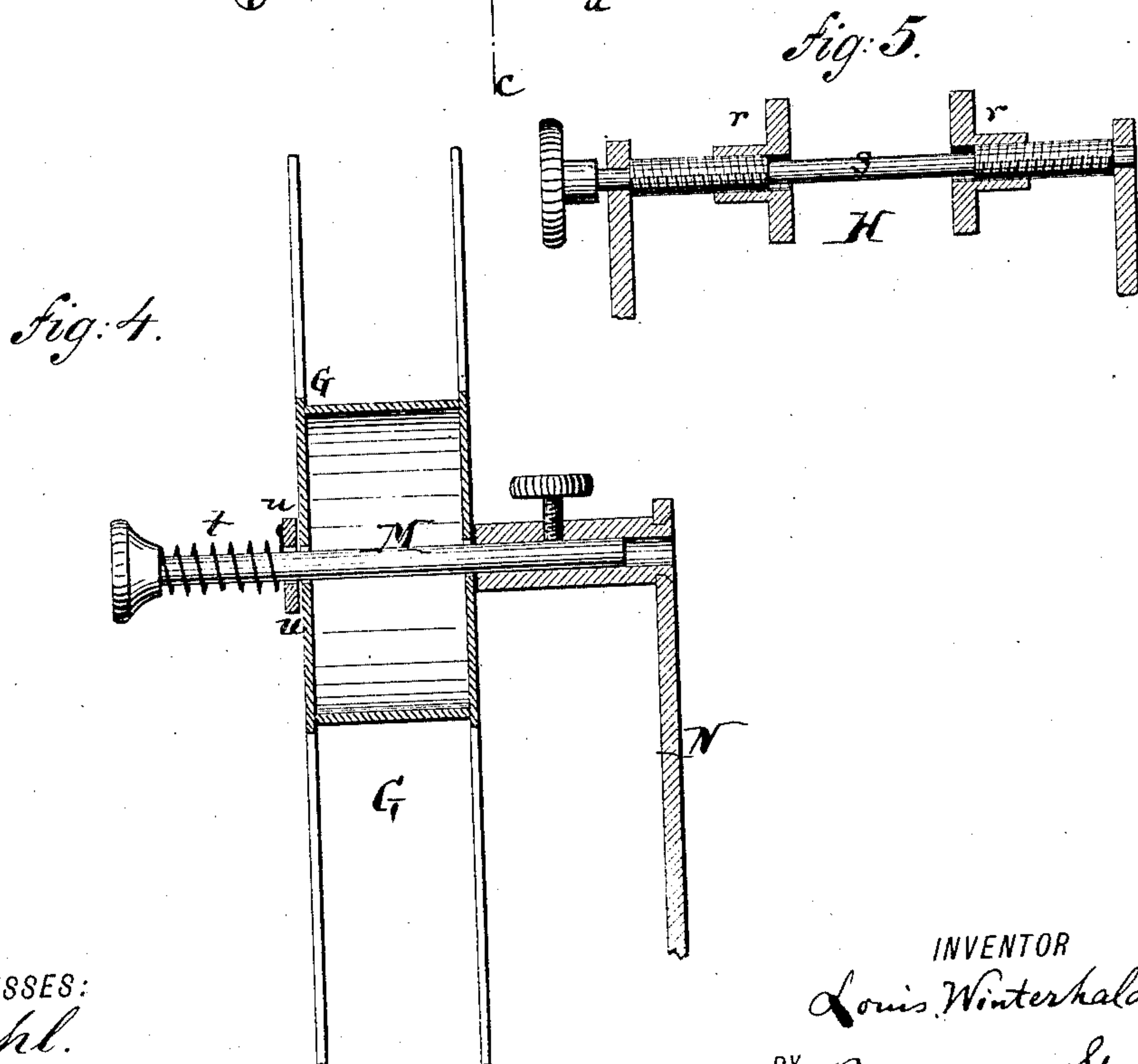
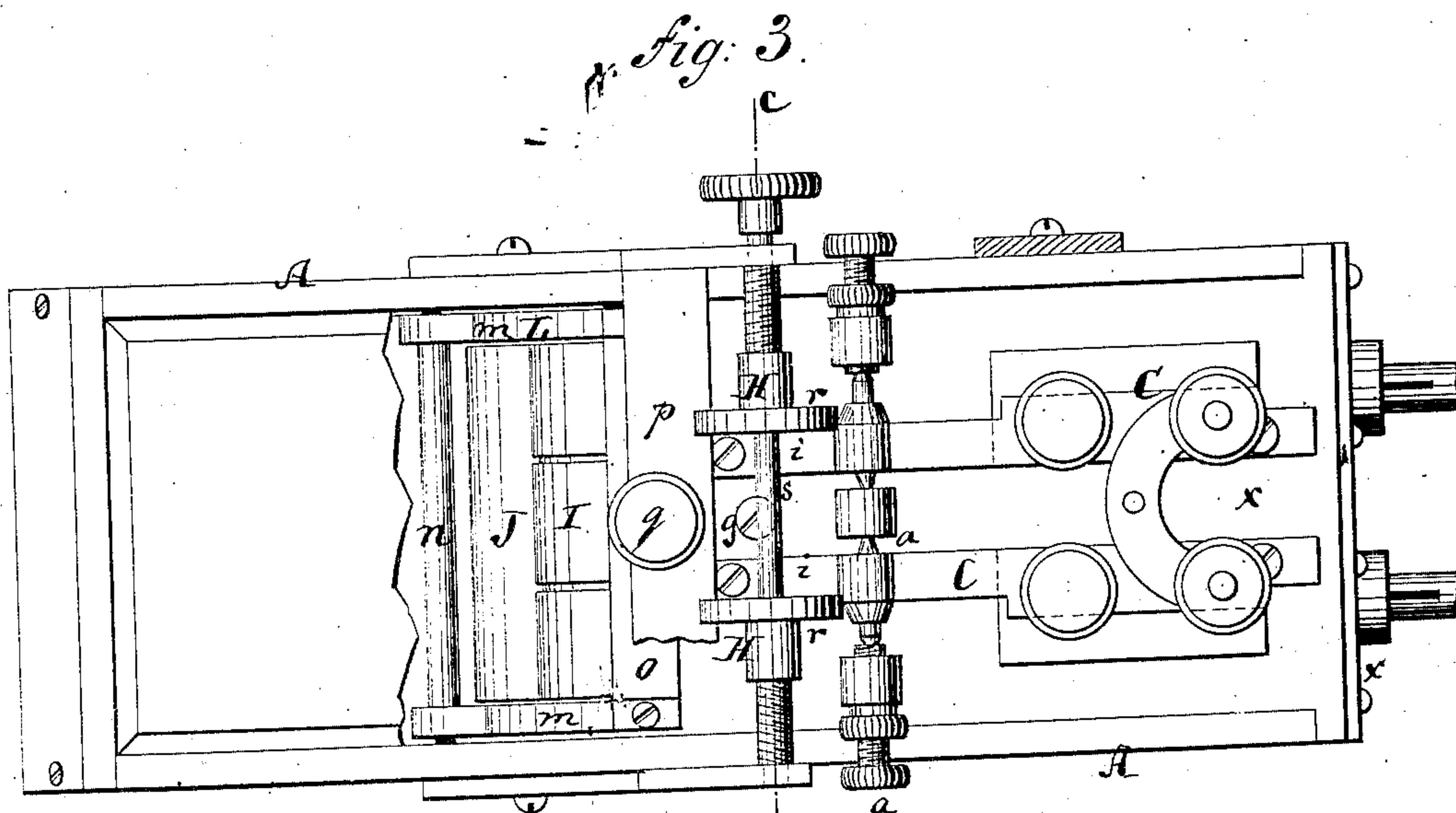
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# UNITED STATES PATENT OFFICE.

LOUIS WINTERHALDER, OF BROOKLYN, ASSIGNOR TO THE NEW HAVEN  
CLOCK COMPANY, OF NEW YORK, N. Y.

## TELEGRAPH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 338,328, dated March 23, 1886.

Application filed November 9, 1885. Serial No. 182,211. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS WINTERHALDER, a resident of Brooklyn, in the county of Kings, State of New York, have invented an Improved Telegraph-Register, of which the following is a full and complete description, reference being had to the accompanying drawings, wherein—

Figure 1 represents a vertical longitudinal section of my improved telegraph-register; Fig. 2, a detailed face view of the feed-rollers. Fig. 2<sup>a</sup> is a detailed section on the line K K, Fig. 1; Fig. 3, a top view of the register; Fig. 4, a cross-section of the reel-shaft; and Fig. 5 is a section on the line C C, Fig. 3.

This invention relates to sundry improvements in telegraph registers; which are instruments for printing or marking messages upon strips of paper, the marking-instruments indenting a strip which is fed through the machine by clock-work.

The first part of the present invention consists in making the indenting-roller, which is carried by the armature-lever, adjustable on said lever for the purpose of regulating the depths of the indentations produced in accordance with the size of the indenting-roller, thickness of paper, or thickness of feed-roller.

Secondly, the invention consists in making the feed-lever—that is to say, the lever which locks and releases the clock-work—in two parts, of which one is adjusted to regulate the stroke of said lever.

Thirdly, the invention consists in constructing a paper-guide of two sliding cheek-pieces fitted upon a right-and-left screw, as hereinafter more fully stated.

Fourthly, the invention consists in a new manner of hanging the upper feed-roller so it can be adjusted by one screw; and, finally, it consists in rigidly connecting the spring of the reel-shaft to the washer, all as hereinafter more fully described.

In the drawings, letter A represents the box or case of the telegraph-register. B are the electro-magnets secured therein.

C is the armature-lever, pivoted at *a* to the upper side of the box or case A, which armature-lever is moved up and down by the joint action of the electro-magnets and of the spring *b*.

D is the lever I call the “feed-lever,” which locks the escapement *d* of the clock-work which is contained in the case A, and which lever, when moved on its pivot, releases said escapement and lets the clock-work feed the paper.

E is a lever pivoted at *e* in the removable end portion, *x*, of the case A, so as to be directly above the lever D and below the armature C. This lever E is hollowed on the under side, (see Fig. 2<sup>a</sup>,) and receives in the hollow the upwardly-projecting rear end or outer end of the lever D, and also the front part of said lever D, where it enters a groove in the front end of the lever E. The armature C has a downwardly-extending pin, *f*, which bears on the lever E. The lever E is removable with the part *x* of the box, and leaves the lever D always in the box. Moreover, the lever E is always below the pin *f*, and prevents any strain of the armature-lever while inserting the part *x*. Above the front or inner end of the lever E there is a screw, *g*, in the cover of the case A, which regulates the upward throw of the front part of said lever, and also that of the lever D. By making this feed-lever D practically of two parts, inasmuch as lever E is part of it, I am enabled to regulate its stroke with the utmost precision, and thereby also the action of the clock-work upon the paper.

To the front or inner end of the armature-lever C is fastened, by screw *h*, the extension-piece *i*, in which the indenting-roller *j* is hung, said indenting-roller being a tool for marking the paper F. The extension-piece *i* carries the screw *l*, which bears upon the front end of the lever C, and by means of which the height of the roller *j* can be regulated with great nicety.

The paper F is drawn from the reel G over the paper-guide H, and thence by two feed-rollers, I and J, which at the proper time are turned by the clock-work. The indenting-roller *j* is arranged to strike the paper as it lies on the roller I immediately before being grasped by the roller J. The roller J is hung in the box or case A, but the roller I, according to this invention, is hung in the frame L, that consists of two upright side pieces, *m m*, the lower horizontal bar, *n*, and the upper



spring, *o*. The pin *n* serves as a pivot for the frame *L*, holding it in the box *A*, and the spring *o* unites the check-pieces *m* on top, all as shown in Fig. 2. The frame *L* thus constructed is beneath the stationary cross-bar *p*, that is firmly supported on the box *A*, and this cross-bar has in its middle a screw, *q*, which bears on the middle of the spring *o*. By means of this single screw *q* the tension between the rollers *I J* is regulated, and the upper roller, *I*, is, so to say, "spring-supported," allowing it to yield readily to inequalities in the thickness of the paper—in other words, to be self-adjusting.

The paper-guide *H* consists of two collars, *r r*, which are fitted upon the rod *s*, that is hung in upright lugs of the box or case *A*. The rod *s* is screw-threaded near its end, as shown in Fig. 5, one thread being right and the other left handed, and the collars *r r* are correspondingly threaded to fit said screws. Each collar *r* is, moreover, notched at its circumference to straddle the bar *p*, (see Fig. 1,) which prevents it from turning; hence, when the pin *s* is turned by a suitable handle, which it carries, the two collars *r r* are screwed to approach and recede from one another and set the requisite distance apart for guiding the paper *F* between them. The reel *G* is hung on a pin or shaft, *M*, (see Fig. 4,) which hangs in a bracket, *N*, that projects from the box or case *A*. The shaft *M* carries a friction-spring, *t*, which is to give tension to the reel. Heretofore this friction-spring, which ordinarily is a coiled wire spring, was made to bear against a loose washer, which in turn was in contact with the reel. The difficulty with this arrangement was, that the washer and reel were apt to turn together against one end of the coiled spring, so that the contact with the latter was one-sided, and not sufficient to exert the proper tension.

According to my invention, the washer *u* is

rigidly caught to the end of the spring *t*, so that the reel *G* in revolving will be unable to cause the washer to turn with it, and will be subjected to the frictional contact with the whole surface of the washer.

I do not claim adjusting a marking-tool in an armature-lever. The problem in my case was to adjust a marking-roller which is hung in a rigid block or piece.

I claim—

1. In a telegraph-register, the armature-lever *C*, combined with the adjustable extension-piece *i*, which carries the rotary indenting-roller *j*, and with the holding-screw *h*, which connects the parts *C* and *i*, and with the adjusting-screw *l*, which serves to tilt the part *i* into the desired inclined position, substantially as and for the purpose specified.

2. In a telegraph-register, the feed-lever *D*, combined with the lever *E*, adjusting-screw *g*, and with the armature-lever *C*, substantially as and for the purpose shown and described.

3. The paper-guide *H*, constructed of the threaded and notched collars *r r*, right-and-left screw *s*, and stationary bar *p*, as specified.

4. The combination of the feed-rollers *I J* with the frame *L*, in which the roller *I* is hung, spring *o*, which constitutes the sole upper portion of the frame *L*, and with the stationary bar *p* and central adjusting-screw, *q*, as set forth.

5. The combination of the reel *G* and mechanism, substantially as described, for revolving it with its supporting-shaft *M*, tension-spring *t*, and washer *u*, the said spring and washer being rigidly united and held on the non-revolving shaft *M*, substantially as herein shown and described.

LOUIS WINTERHALDER.

Witnesses:

GUSTAV SCHNEPPÉ,  
JOHN M. SPEER.