

(No Model.)

A. T. McCOY.
PRINTING TELEGRAPH.

No. 397,466.

Patented Feb. 5, 1889.

Fig. 1.

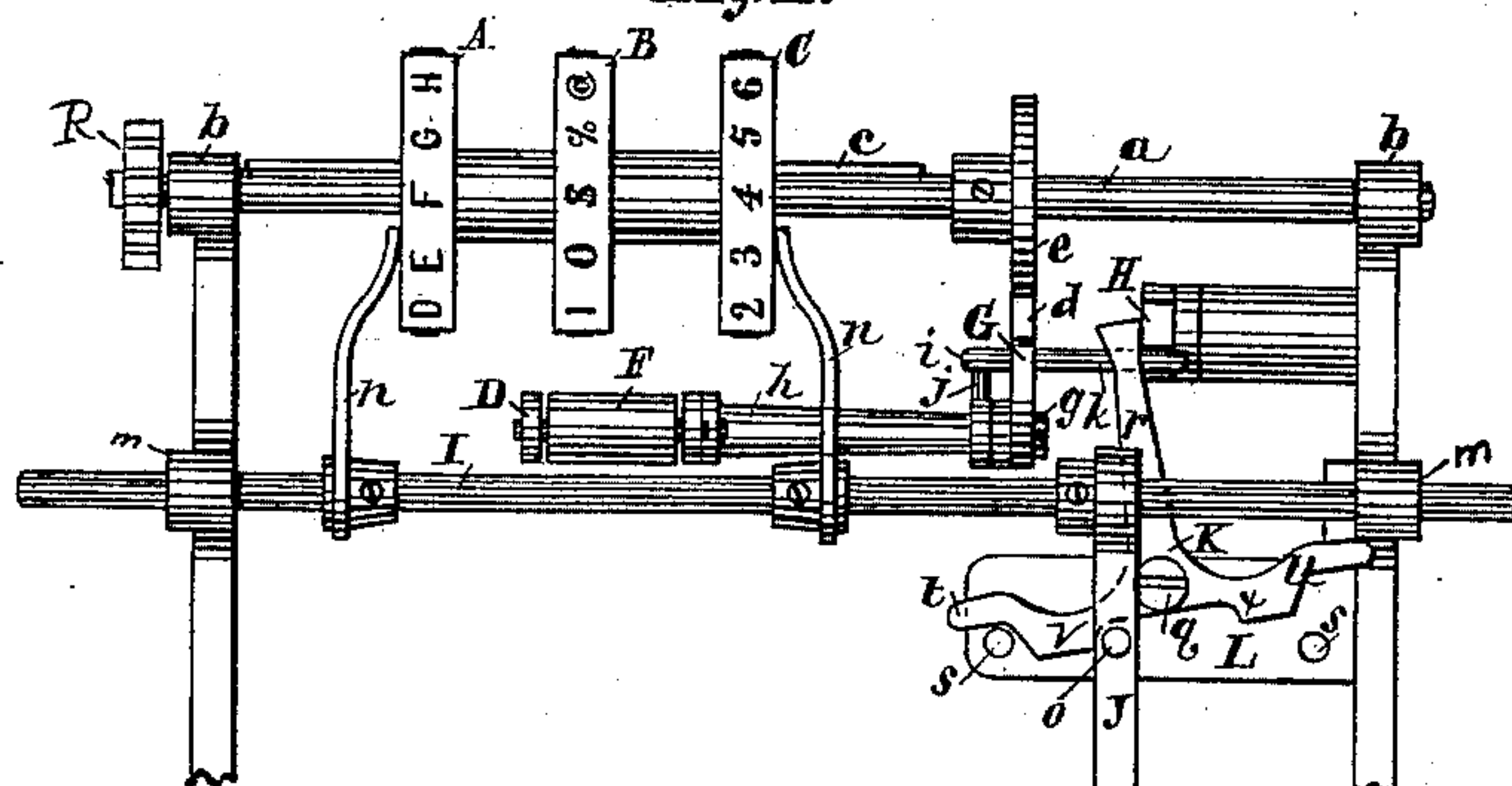
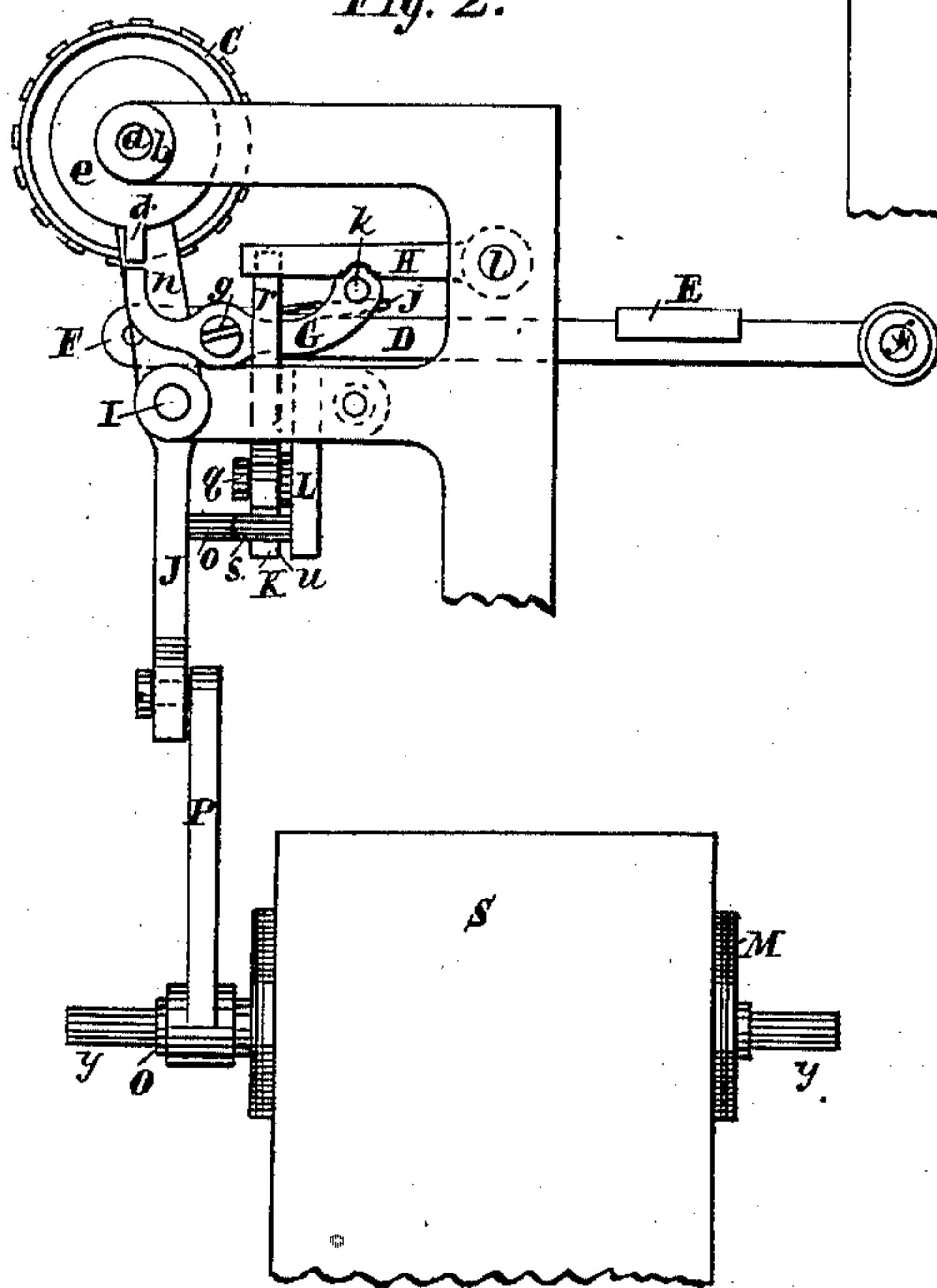


Fig. 2.



Attest;

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PRINTING-TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 397,466, dated February 5, 1889.

Application filed October 17, 1887. Serial No. 252,641. (No model.)

To all whom it may concern:

Be it known that I, ANDREW T. MCCOY, a subject of the Queen of Great Britain, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Printing-Telegraphs, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the printing-machine of a printing-telegraph; and it consists in such a machine embodying three type-wheels, and in the devices and their combinations for adjusting the type wheel or wheels with reference to the platen or press-roller and strip of paper to be printed, substantially as hereinafter set forth, and specifically pointed out in the claims.

In the drawings, Figure 1 is a front view of so much of an electric printing-machine embodying my improvements as is sufficient for illustration of my invention. Fig. 2 is a side view of the same.

I prefer to use three type-wheels, A, B, and C. These wheels are joined together as one piece and are on a shaft, *a*, which has bearings *b* in the frame of the machine. The wheels may slide lengthwise on, but revolve with, the shaft, there being a spline, *c*, fixed to the shaft, but loose in the hubs of the wheels. The shaft *a* may be revolved by means of a gear, R, driven by clock-work or other well-known motive mechanism suitable for this class of machines, and which it is not necessary to describe herein. Radiating from the shaft *a* is a pin, *d*, here shown as projecting from a flange, *e*, which may be adjusted and fixed on the shaft. Pivoted at *f* is the ordinary press-lever, D, bearing an armature, E, to be operated by the press-magnet in the usual manner. The outer end of this lever bears the platen or press-roller F. Pivoted on the side of the press-lever, or at *g*, to a stand, *h*, fixed thereon, is a lever, G. The outer end of this lever is turned up so as to meet the pin *d* when the latter is immediately over the same, as shown. The normal position of the lever G is, as shown, the inner end—which is supposed to be the heavier end—having a pin, *i*, which rests on a projection, *j*, on the stand *h*. From the inner

end of the lever G projects another pin, *k*, which may meet an arm, H, pivoted to the frame of the machine at *l*.

On a rod, I, which may slide endwise in bearings *m* in the frame, are two arms, *n*, which meet the type-wheels in such a manner that the latter may be moved endwise thereby. On the rod I is another arm, J, on which is a projection or pin, *o*, and the lower end of which has a slot, *p*.

A three-armed piece, K, is pivoted at *q* to the frame or to a stand, L, fixed thereon. The piece K may swing to bring the upper end of the arm *r* into position on either side of the arm H, as required, the arm H serving as a locking-piece. The limit of the motion of the piece K in either direction is determined by pins *s*, fixed to the stand L, each of these pins being met by one or the other of the two arms *t* and *u* of the piece K. The pins *s* also serve as stops for the arm J. The piece K is formed to present two stops, *v* and *x*, one or the other of which is met by the projection or pin *o*.

Located in suitable position is a permanent magnet, a part of each of the poles N and S of which is shown. An armature, M, bearing a helix, is located between the poles of this magnet on a shaft, O, which has bearings at *y* and is provided with an arm, P. The outer end of this arm has a stud, which enters the slot *p* in the arm J.

It is not necessary to herein describe the mechanism for operating the press-lever, or for securing unison of movement of printing-machine and transmitter. For present purposes this may be supposed to be such as is well known. The pin *d* is to be set at the "zero" or "unison point," with reference to each of the type-wheels, and also with reference to the corresponding device of the transmitter.

The object of my invention, in general, is to move a type-wheel endwise—that is, in a direction transverse to the strip of paper to be printed—and in particular, when three type-wheels are used, to thus move them so that the central wheel, B, may be brought over either half of said strip; or, in other words, over either the right or left hand portion of the platen or press roller F; or the

right-hand wheel, C, over the right-hand portion of the roller F, or the left-hand wheel, A, over the left-hand portion of said roller.

On each upward movement of the press-lever D the lever G, pivoted thereto, will be carried upward, but not so as to touch the arm H, provided that the pin *d* is not in position directly over the outer end of the lever G. In case that the pin *d* is over the end of the lever G, the arm H will be swung upward by the lever G above the end of the arm *r*.

If no current passes through the helix of the armature M, there will be no movement of the type-wheels endwise. If, however, (the armature M and other parts of the mechanism being in the positions shown,) a current be sent through this helix tending to move the armature so as to swing the arm P to the right, then the rod I will be slid by the arm J and the type-wheels moved by the arms *n* to the right, so as to bring the wheel A over the press-roller and strip thereon. At any time, except when the lever G is swung by the pin *d*, the wheel B may be brought back into its former position upon a reverse current passing through the helix, when the arm P will be swung back until the pin *o* meets the stop *v*; but—the parts being in the positions shown in the drawings—if a current be sent through this helix tending to move the armature to swing the arm P to the left, when the pin *d* meets the lever G, then the piece K—being free to swing, since the arm H is carried above, so as to release the arm *r*—will be swung, the pin *o* pressing against the stop *v* to that end. Thereupon the pin *o* will pass under this stop, and hence, by means of the devices between the armature M and the type-wheels, the latter will be moved so that the wheel C will be brought over the press-roller and strip thereon. While the piece K is held in the last-specified position the wheel B may be brought over the left-hand portion of the press-roller, or the wheel C be brought back over the press-roller, at will, according to the nature of the current sent through the helix. Thus, without further explanation, it will be understood that if the electrodes connected with the helix of the armature M extend to the transmitting-station the operator thereat may cause, by sending a current of the proper sense and at the proper time with reference to the movement of the unison mechanism at each station, either type-wheel to take the position (with reference to the strip to be printed) desired and above specified.

While my invention, so far as relates to a change of location of type-wheel with reference to the strip to be printed, is applicable when any number of type-wheels is employed, yet it is of my invention to embody in the machine three type-wheels located with reference to each other as above specified and adapted for the purposes hereinafter named.

The machine is of the class of machines commonly called "tickers," and which are

generally used for "stock-reporting." The printing is done on a strip of paper, and there are two parallel lines of printed matter. I so apportion on the wheels the type for the characters to be printed that each of the outer wheels, A and C, bears the type required for only one of said parallel lines, while the middle wheel, B, has type to be used for either of said lines. Thus, for instance, the wheel A may have letters and such as are only needed for printing on the left-hand part of the strip, the wheel C such figures as are used only for the right-hand part of the strip, while the wheel B may have certain characters, letters, and figures that are required for both parts of the strip or lines of printing. The result of such arrangement is that the least change or shifting of the type-wheels is required, and hence a great saving of time and the most expeditious transmission of messages.

Certain modifications might be made in the construction of the machine without altering prominent features of the invention—modifications which would occur to any mechanic skilled in the art, and which need not be illustrated herein, being such as would arise in the adaptation of the invention to the various machines differing in form and mechanism for rotation of the type-wheel.

I claim as my invention—

1. In an electric printing-machine, three type-wheels having the same axis, one of the wheels provided with type required for printing on either of two parallel lines and each of the other wheels provided with type required for printing on one only of said lines, substantially as set forth.

2. In an electric printing-machine, three type-wheels, one provided with type for printing on one of two parallel lines, and each of the others provided with type required for printing on one only of said lines, the wheels being adapted to rotate together, and also to be moved endwise, substantially as and for the purposes set forth.

3. In an electric printing-machine, three type-wheels, one provided with type for printing on one of two parallel lines, and each of the others provided with type required for printing on one only of said lines, the wheels being on the same shaft, which shaft has also a pin or projection, *d*, at the unison-point for each of the type-wheels, substantially as set forth.

4. In an electric printing-machine, three type-wheels, one provided with type for printing on one of two parallel lines, and each of the others provided with type required for printing on one only of said lines, the wheels being located on one shaft, in combination with a device, substantially as the rod I and arms *n*, for moving the type-wheels endwise, as specified.

5. In an electric printing-machine, the combination of a type-wheel, a permanent magnet, an armature provided with a helix and

adapted to oscillate between the poles of the magnet, and means, substantially as the arm P, rod I, and arms *n* and J, for moving the type-wheel endwise, substantially as set forth.

5 6. The combination of the press-lever, a pin, *d*, or projection on the type-wheel shaft, a lever, G, pivoted to the press-lever, provided with a pin, *k*, a pivoted arm, H, and a piece, K, which is formed to provide a stop to limit
10 endwise motion of the type-wheel, substantially as specified.

7. The combination, in an electric printing-machine, of a permanent magnet, an armature provided with a helix and adapted to
15 oscillate between the poles of the magnet, an

arm, J, adapted for moving the type-wheel endwise, and a pivoted piece, K, to act as a stop for said arm, substantially as set forth.

8. In an electric printing-machine, the combination of a permanent magnet, a pivoted 20 armature therefor provided with a helix, an arm, P, an arm, J, a pivoted piece, K, provided with stops *v* and *x*, and an arm, *r*, and arm H, or locking-piece, substantially as specified.

ANDREW T. McCOY.

Witnesses:

EDW. DUMMER,
CHAUNCEY B. MCGEE.