

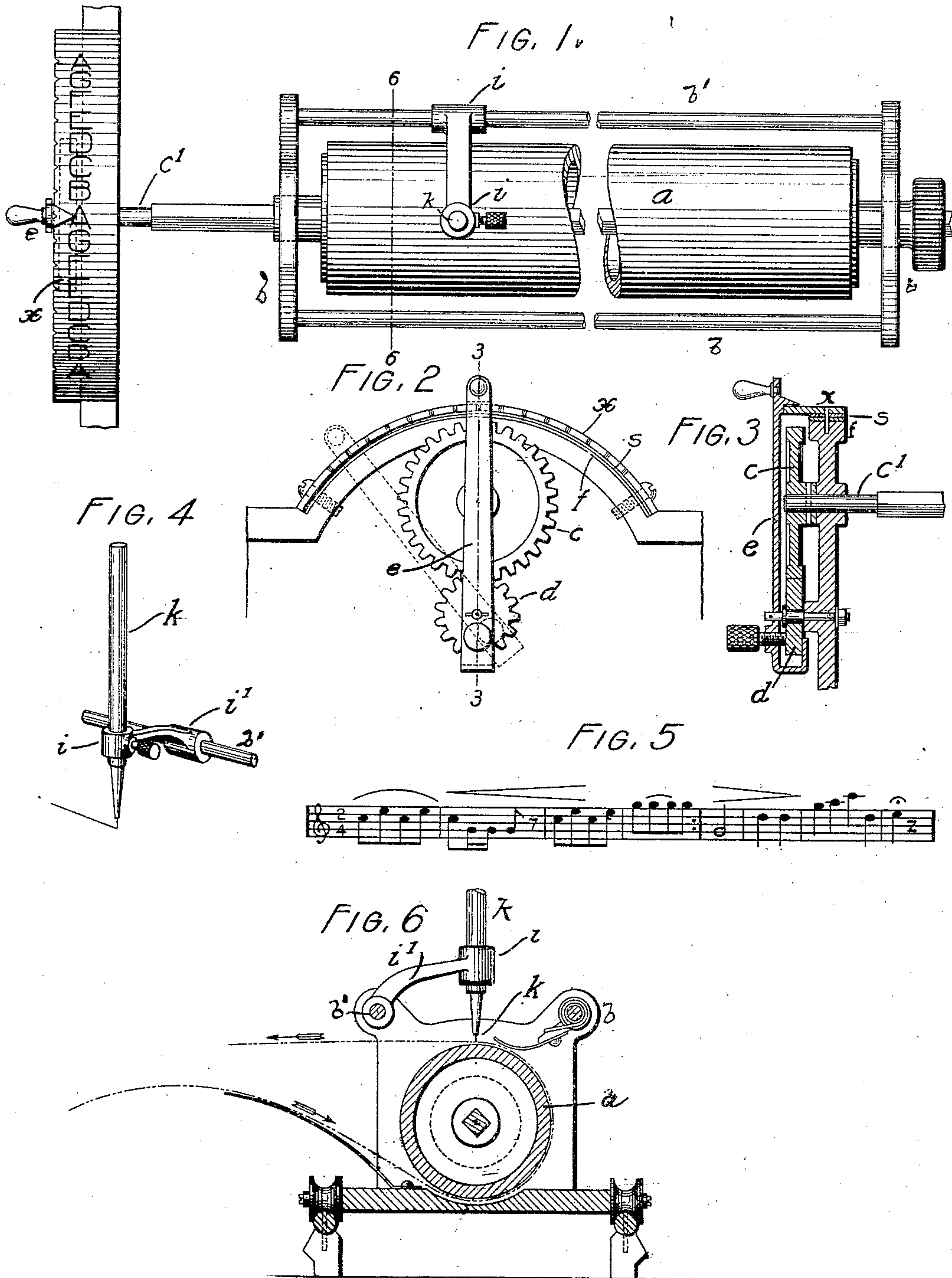
No. 835,133.

PATENTED NOV. 6, 1906.

J. J. GREENOUGH.

TYPE WRITER.

APPLICATION FILED MAY 25, 1905.



WITNESSES,

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# UNITED STATES PATENT OFFICE.

JOHN JAMES GREENOUGH, OF BROOKLINE, MASSACHUSETTS.

## TYPE-WRITER.

No. 835,183.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed May 25, 1905. Serial No. 262,111.

*To all whom it may concern:*

Be it known that I, JOHN JAMES GREENOUGH, a citizen of the United States, residing at Brookline, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Type-Writing Machines, by which music can be printed upon the lines of a staff, the device being a connection of my invention with the paper-carrier platen of a type-writer of ordinary construction by which the printing of music is effected, of which the following is a specification.

In the accompanying drawings, Figure 1 is a plan of a paper cylinder or platen in a sliding frame with my improvements affixed. Fig. 2 is an elevated end view; Fig. 3, the pointer-arm and pinion in section, showing their connection; Fig. 4, the pen and penholder for ruling; Fig. 5, a music-staff and notes and lines that can be ruled and printed by my invention; Fig. 6, section on line 6-6, Fig. 1.

The same letters designate like parts in all the figures.

The cylinder *a*, on which the paper is printed, has its bearings in the frame *b*, with which it slides laterally, and can be revolved by a hand-wheel *a'*, as in well-known type-writers. The stop that spaces the distance between the lines in type-writing being omitted, the paper on the platen is advanced by the hand-wheel *a'* from one staff to the next any distance, as in ordinary type-writers. With these well-known elements I connect my invention to print notes and other characters upon a staff. I affix on the shaft by which platen *a* is turned a gear-wheel *c*. This shaft may be so constructed, as in Fig. 3, to permit the platen *a* to slide laterally over it. A pinion *d* gears into wheel *c* and turns on a fixed journal by an arm *e*, that can be affixed to or detached from said pinion, as shown at Fig. 3, or in any other convenient way. The arm *e* is moved over a fixed scale *x* on a permanent segmental base *f* on the frame concentric with it. The scale

*x* is marked at equal intervals with the seven letters of the scale repeated any number of times, so proportioned in accordance with the wheel *c* and pinion *d* as to print the note correctly upon the staff.

To gage the printing with accuracy on staffs of different breadths, the base is expanded or contracted by strips or layers *s* upon the base under the scale *x*, by which the distance can be expanded or contracted with the minutest accuracy.

To insure the greatest accuracy with speed and facility in practical execution, I connect a ruling-pen with the platen *a* by a rail *b'*, affixed to the frame *b*, that extends the length of the platen, on which the penholder *i* slides. This penholder has a socket-arm *j'*, in which the fountain-pen of any suitable construction is affixed, and draws a line upon the paper at a point determined by the arm *e*. By the movement of this arm *e* a staff can be ruled by the pen *k*, and by the joint action of the arm and pen lines at right angles, oblique, and curved can be drawn and notes printed accurately upon the staff, as shown at Fig. 7. By substituting a broad-line pen flags to the notes and other broad lines can be ruled.

Having thus fully described my invention, what I claim therein is—

1. In combination with a paper carrier or platen of a type-writing machine a relatively adjustable arm for moving it as herein described, by which musical notation is printed upon a staff with accuracy and facility, in the manner herein set forth.

2. In a musical type-writer the combination of a cylindrical paper carrier or platen and pointer-arm adjustable relatively to the revolution of said platen, and a ruling-pen moved laterally on said platen substantially as and for the purposes herein described.

JOHN JAMES GREENOUGH.

Witnesses:

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M. MATHEWSON ATKINSON.