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2,626,697

LINE NUMBER AND PAGE END MARGIN INDICATOR FOR TYPEWRITERS

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2 SHEETS—SHEET 1

Fig. 1

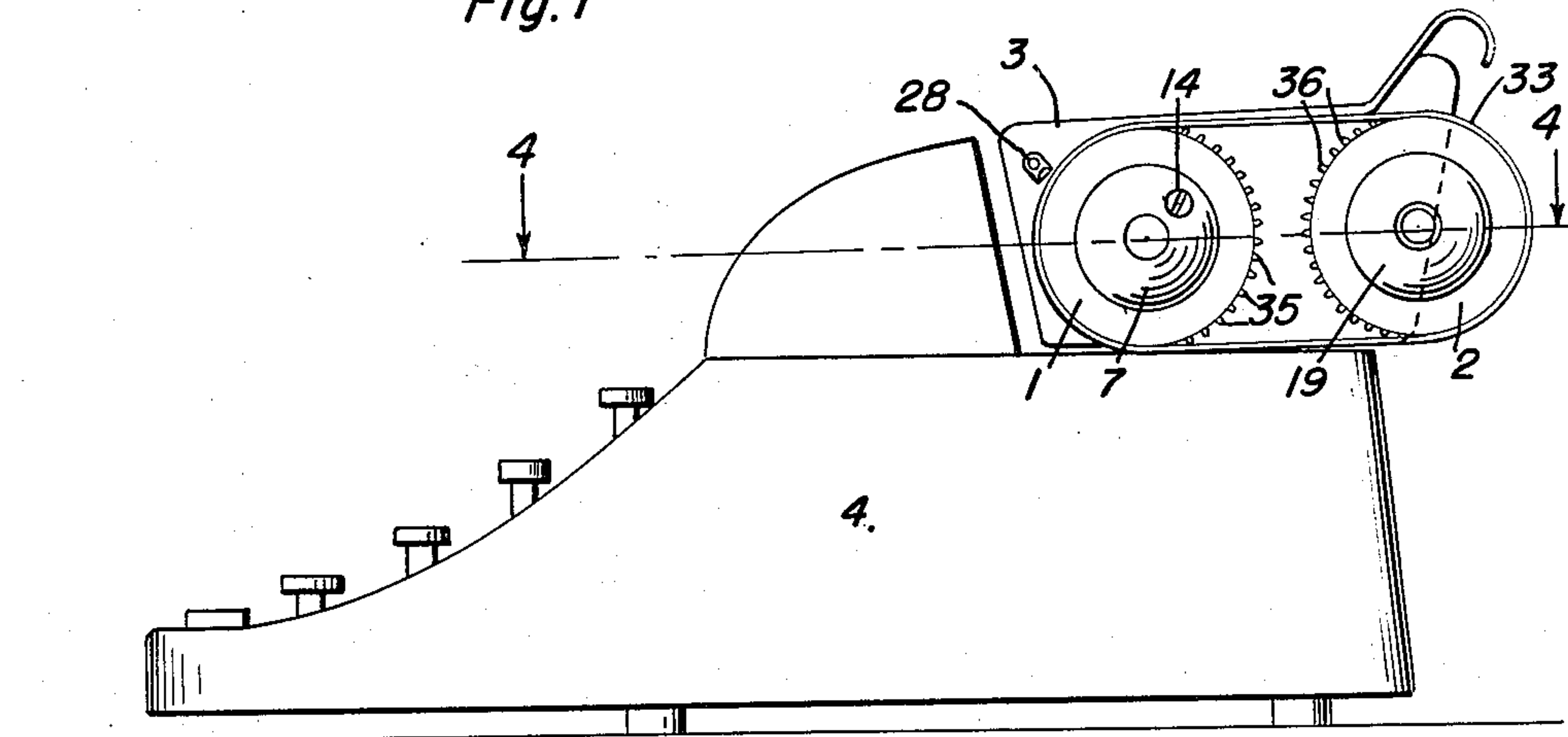


Fig. 2

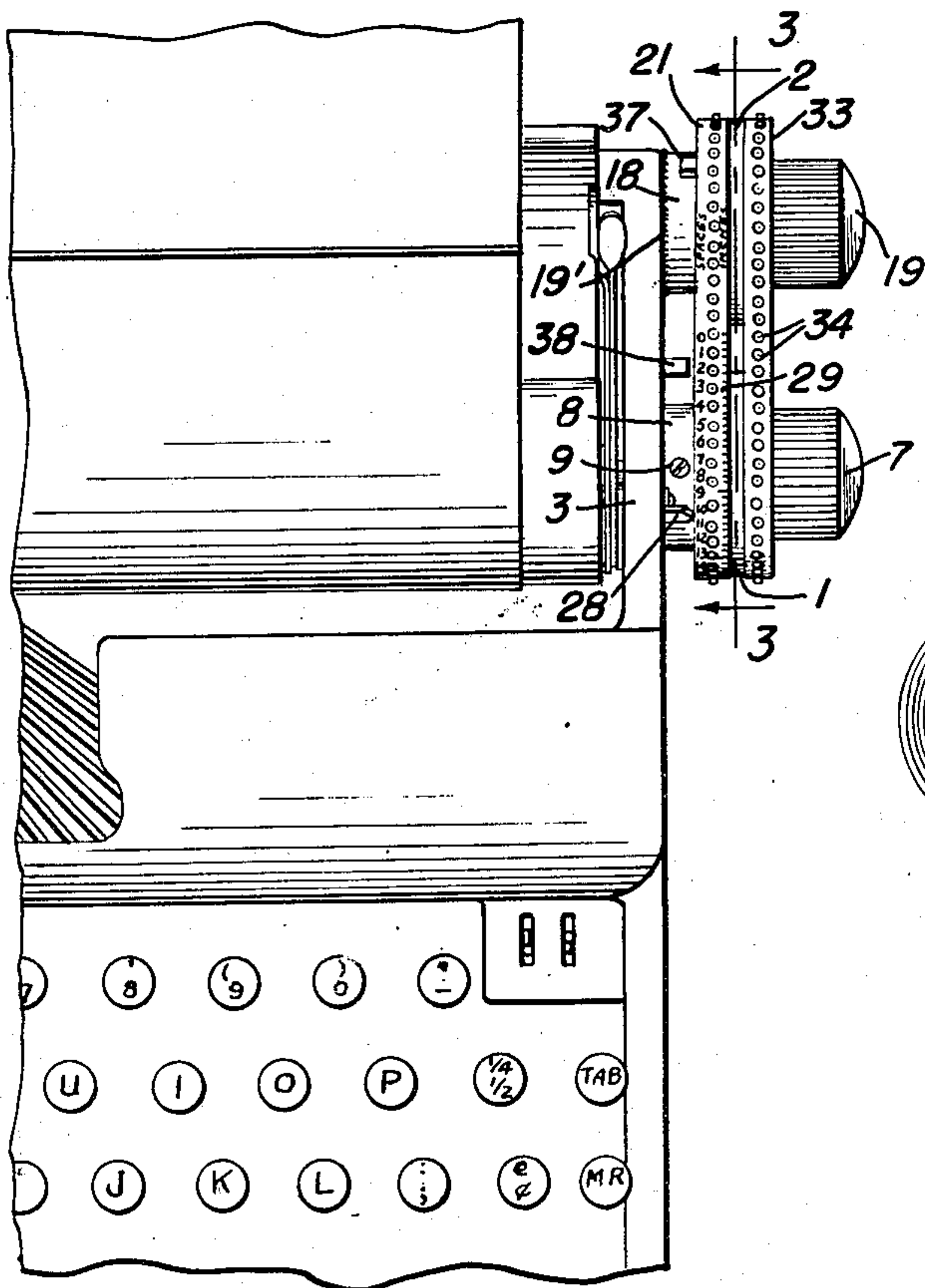
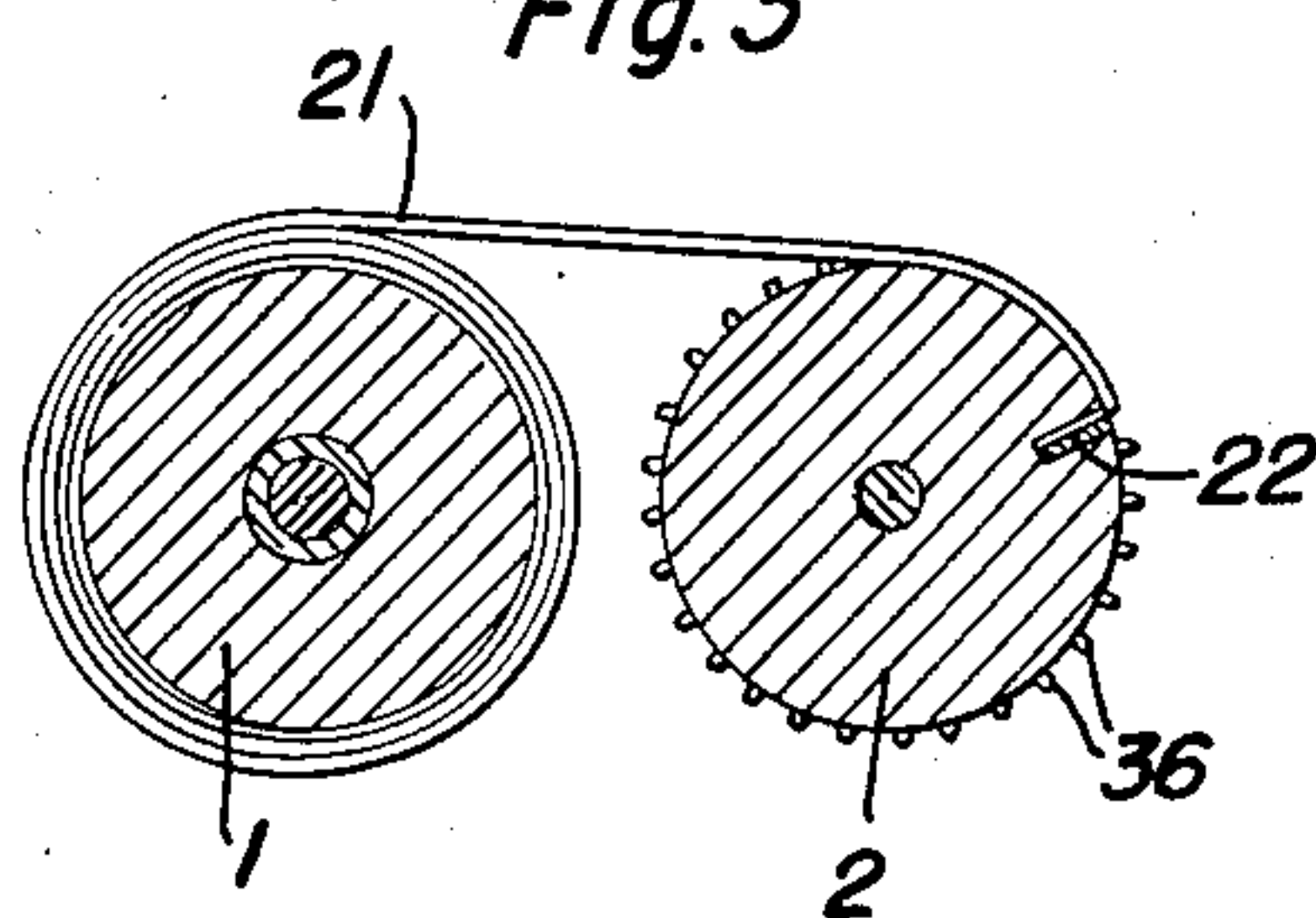


Fig. 3



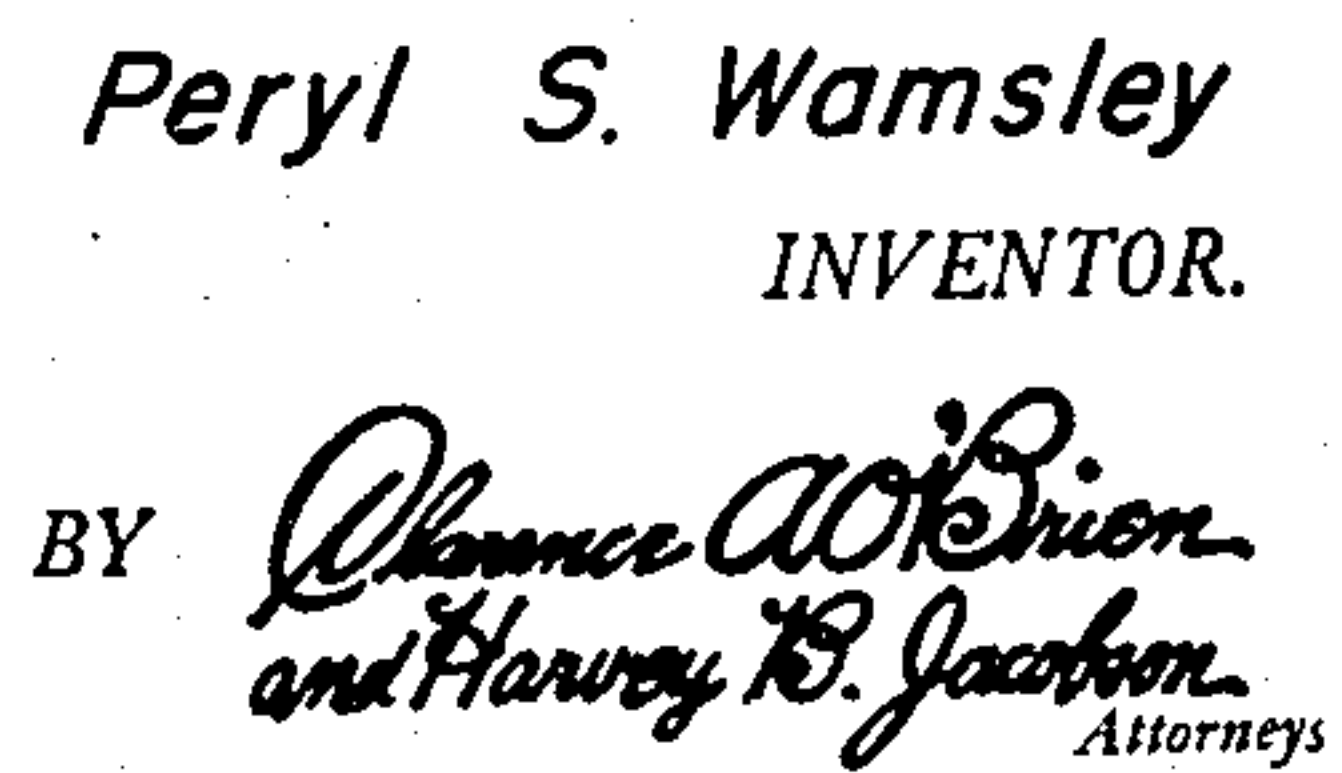
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**2,626,697**

2 SHEETS--SHEET 2





## UNITED STATES PATENT OFFICE

2,626,697

LINE NUMBER AND PAGE END MARGIN  
INDICATOR FOR TYPEWRITERS

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Application August 29, 1951, Serial No. 244,121

4 Claims. (Cl. 197—189)

1

My invention relates to improvements in line number and page end margin indicator attachments for typewriters.

The primary object of the invention is to provide an attachment for typewriters operative by line spacing operation of platen to indicate by a numbered tape the number of times the paper has been line spaced and thereby indicate the number of lines typed, or to be typed, so that the operator will know exactly the bottom margin left on the sheet before and after the typing of each line, both on standard and larger sheets of paper.

Another object is to provide an attachment for the above purposes in which the tape is unwound from a disk by line spacing operation of the platen and which may be operated independently of the platen to rewind the tape for presenting to a predetermined starting position relative to a new sheet to be typed.

Still another object is to provide an attachment for the above purposes attachable to the conventional platen carriage of the typewriter and to the platen shaft without material alteration in the carriage or shaft and which is accurate, easy to service, not liable to become defective in operation, and is comparatively inexpensive to manufacture.

Other and subordinate objects, within the purview of my invention, together with the precise nature of my improvements will become readily apparent when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in side elevation illustrating my invention in the preferred embodiment thereof attached to the platen carriage and the platen shaft of a typewriter;

Figure 2 is a fragmentary view in plan drawn to a larger scale;

Figure 3 is a detail view in vertical section taken on the line 3—3 of Figure 2;

Figure 4 is a fragmentary view in horizontal section partly in plan and taken on the line 4—4 of Figure 1 and drawn to a larger scale;

Figure 5 is a view in vertical section taken on the line 5—5 of Figure 4;

Figure 6 is a fragmentary view in vertical section taken on the line 6—6 of Figure 4; and

Figure 7 is a view in transverse section taken on the line 7—7 of Figure 4.

Referring to the drawings by numerals, according to my invention, a pair of front and rear, coplanar, annular tape unwinding and rewinding

2

disks 1, 2 are rotatably mounted, as presently described, in vertical position at the right hand end of the platen carriage 3 of a typewriter 4.

The mounting for the front disk 1 comprises a sleeve 5 fitting over the platen shaft 6 and provided with enlarged outer end knob 7 thereon serving a purpose presently seen.

A collar 8 on the inner end of the sleeve 5, and together with the sleeve 5 is secured to said shaft 6 by a set screw 9 whereby the sleeve 5 and collar 8 are rotated by the platen shaft 6. The front disk 1 fits on the sleeve 5 between the knob 7 and the collar 8 and is confined thereby for free rotation on said sleeve.

A ratchet and pawl drive is provided between the knob 7 and the front disk 1 comprising radial ratchet teeth 10 on the outer face of the disk 1, and a splined ratchet pin 11 slidable in a transverse bore 12 in the knob 7 and urged by a coil spring 13 in said bore into engagement with said teeth 10. A screw plug 14 closes the outer end of the bore 12. The ratchet pin 11 has a bevelled front end 15 coacting with the bevel side of the teeth 10 to drive the front disk 1 in the same direction as the platen 16 when the platen 16 is rotated for line spacing, said pin 11 ratcheting over the teeth 10 when the front disk 1 is rotated reversely.

The rear disk 2 is rotatably mounted on a stud bolt 17 threaded into an attaching plate 18 fixed to the end of the carriage 3 by welding 19'. A hand grip knob 19 on the outer face of the rear disk 2 provides for manually rotating said disk 2 for a purpose presently explained.

A line number counting and sheet measuring tape 21 is carried by the disks 1, 2 on the left hand side of the median plane of said disks. The tape 21 has one end suitably fixed, as by rivets, not shown, to the front disk 1, is wound around said disk 1, in its normal position, and has its other end provided with a metal tab 22 frictionally, and detachably, fitted in a peripheral slot 23 in the rear disk 2 whereby said tape is detachably attached to the rear disk 2. Longitudinally spaced pin holes 24 in the center of the tape 21 are engaged by circumferentially spaced pins 25 on the rear disk 2 to prevent side slipping of said tape 21. The left hand side of the tape 21 is provided with number symbols 26 for line counting purposes and indicating the page end margin left after, or before each line is typed. The symbols 26 ascend in numerical order from zero to ninety for counting lines and they are spaced apart in accordance with single line spacing increments of movement of the platen 16 and



3

the shaft 6. An indicating finger 28 on the carriage 3 is provided for cooperation with the number symbols 26. The right hand edge of the tape 21 is graduated and numbered in inches beginning with 1, the graduations being designated by the numeral 29. These graduations are for the purpose of measuring the length of the sheet or page being typed, for top or bottom margins and ascend in numerical order like the number symbols 26.

An endless driving tape, or belt, 33 is trained around the front and rear disks 1, 2 on the other side of the median plane of said disks 1, 2 and is provided with longitudinally spaced pin holes 34 engaging circumferentially spaced pins 35, 36 on the front and rear disks 1, 2, respectively, to prevent said tape 33 from slipping. The rear disk 2 and tape 33, as will presently more clearly appear, comprise means for resetting the tape 21 to normal starting position. An edge stop lug 37 on the tape 21 engages a stop lug 38 on the carriage 3 to establish said normal starting position.

In operating the invention, the sheet 39 is inserted in the typewriter 4 in the usual manner but with its top edge even with the top of the usual line space scale, not shown. By rotating the rear disk 2 by means of the knob 19, counter-clockwise as viewed in Figure 1, the tape 21 is preset to zero, or normal position, at the indicating finger 28. This normal preset position is established by the stops 37, 38. As will be clear, in this presetting operation to normal position, the described ratchet and pawl drive between the sleeve 5 and the front disk 1, which is to say between the front disk 1 and the platen shaft 6, permits rotation of the front disk 1 idly with respect to the platen shaft 6 to wind up the tape 21 on said front disk 1, if previously unwound therefrom. Now, as each line is typed, in single line space work, the front disk 1 is driven, as previously explained, clockwise in Figures 1, 2 and 4, the tape 33 is driven thereby to drive the rear disk 2 clockwise to wind up the tape 21 on the rear disk 2 and unwind the tape from the front disk 1 with a step by step movement positioning the numbers symbols 26 successively opposite the indicating finger 28 to indicate the number of each line typed.

If a top margin of a selected number of inches is required on the sheet, the tape 21 may be, at the start, set accordingly to register the corresponding one of the number symbols 26 with the indicating finger 28 and the line number indicating will start from that point. If a top margin of a selected number of inches be required, the tape 21 should be set, for instance at 18, if a three-inch margin is required. With the length of the sheet 39 indicated by the graduations 29, with the line capacity of the sheet being known, the operator is constantly advised of how many lines the work is from the end of the page, or in other words, the operator is advised as the work

4

progresses of the page end margin remaining. Of course, in double, or triple line spacing, the lines of typing are indicated by every other or third one of the number symbols 26 as will be clear.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification, without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described my invention, what is claimed as new is:

1. The combination with a typewriter having a carriage and a platen shaft, of a line numbering and page end margin indicating device comprising a tape having line number indicating symbols spaced along the same in correspondence with line spacing increments of movement of the platen shaft, a pair of tape unwinding and rewinding disks to which opposite ends of the tape are attached for unwinding of the tape from each disk onto the other, means to rotatably attach one disk to said shaft, a ratchet and pawl drive for rotating said one disk in one direction upon line spacing rotation of said shaft and providing for reverse rotation of said one disk relative to said shaft, means to rotatably attach the other disk to said carriage, an endless belt trained around said disks whereby rotation of said first named disk in said one direction will rotate the other disk to wind up the tape unwound from the first named disk, said other disk being manually rotatable to reverse the same and through said belt reverse the first named disk to rewind the tape off said other disk onto the first named disk.

2. The combination according to claim 1 wherein said tape is graduated in inches to measure the length of the sheet being typed.

3. The combination according to claim 1 wherein coacting stops are provided on the tape and carriage limiting rewinding of the tape on the first named disk to preset the same.

4. The combination according to claim 1, said first named means comprising a sleeve fast on said shaft and having a collar and a knob thereon between which the first named disk is rotatably confined on said sleeve.

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