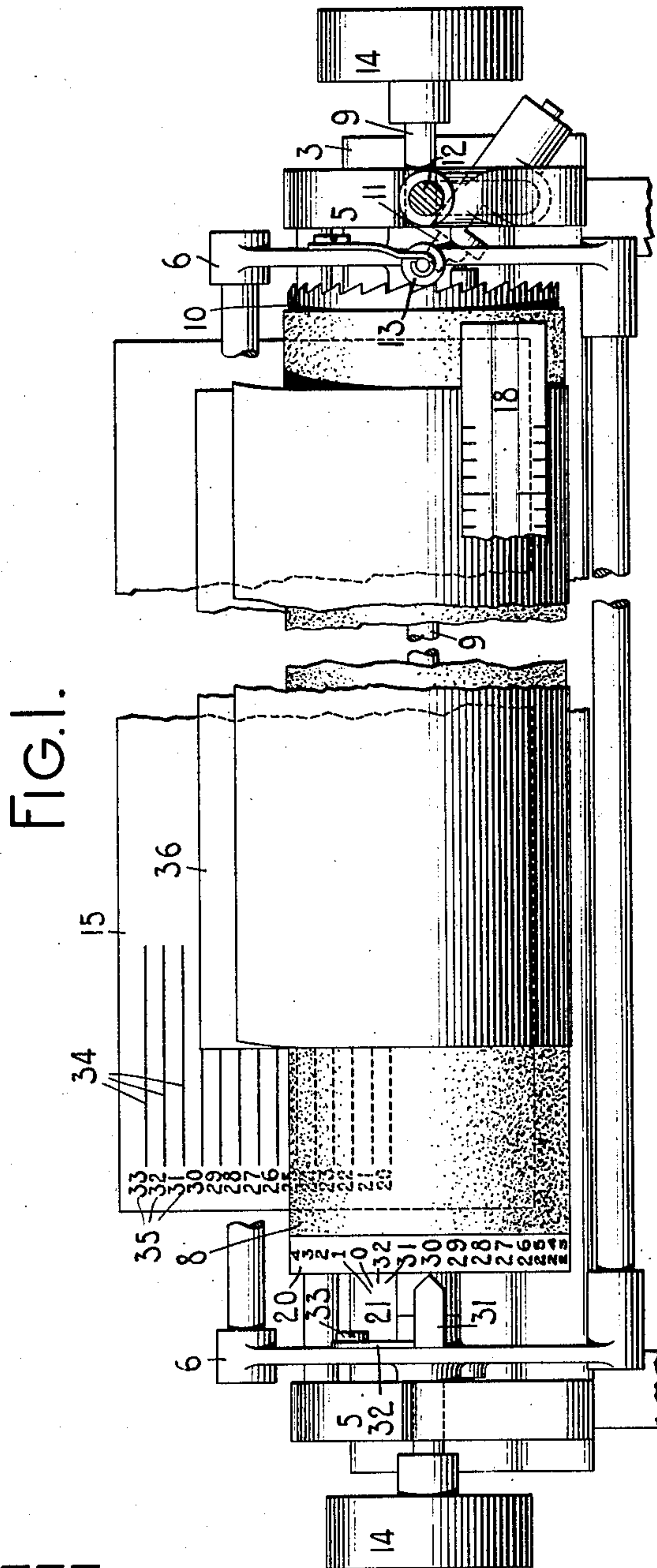


W. J. ROCHE.
TYPE WRITING MACHINE.
APPLICATION FILED JAN. 28, 1909.

955,207.

Patented Apr. 19, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

E. M. Wells.

R. H. Strother.

INVENTOR:

William J. Roche

By Jacob Felbel

HIS ATTORNEY

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2 SHEETS—SHEET 2.

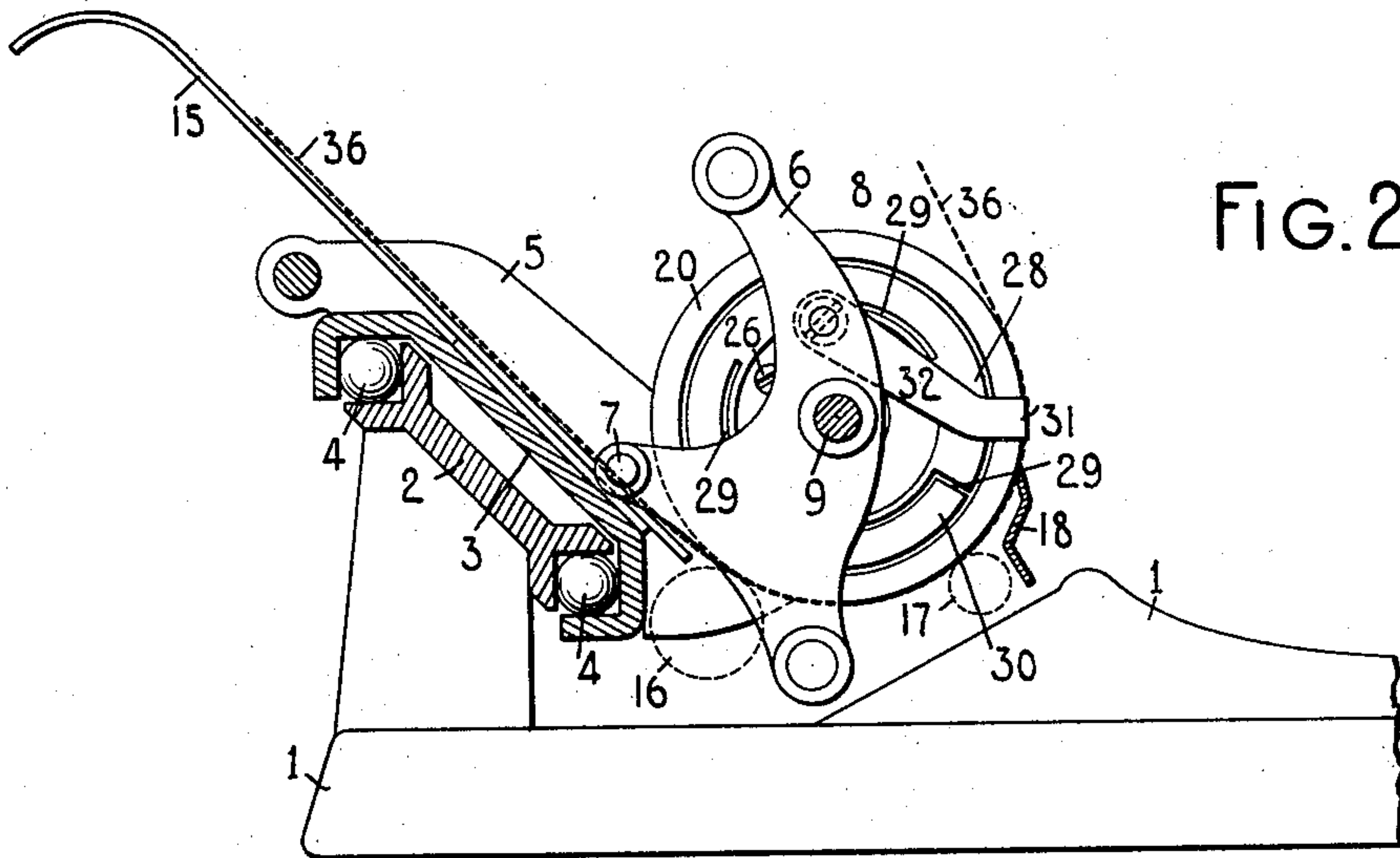


FIG. 2.

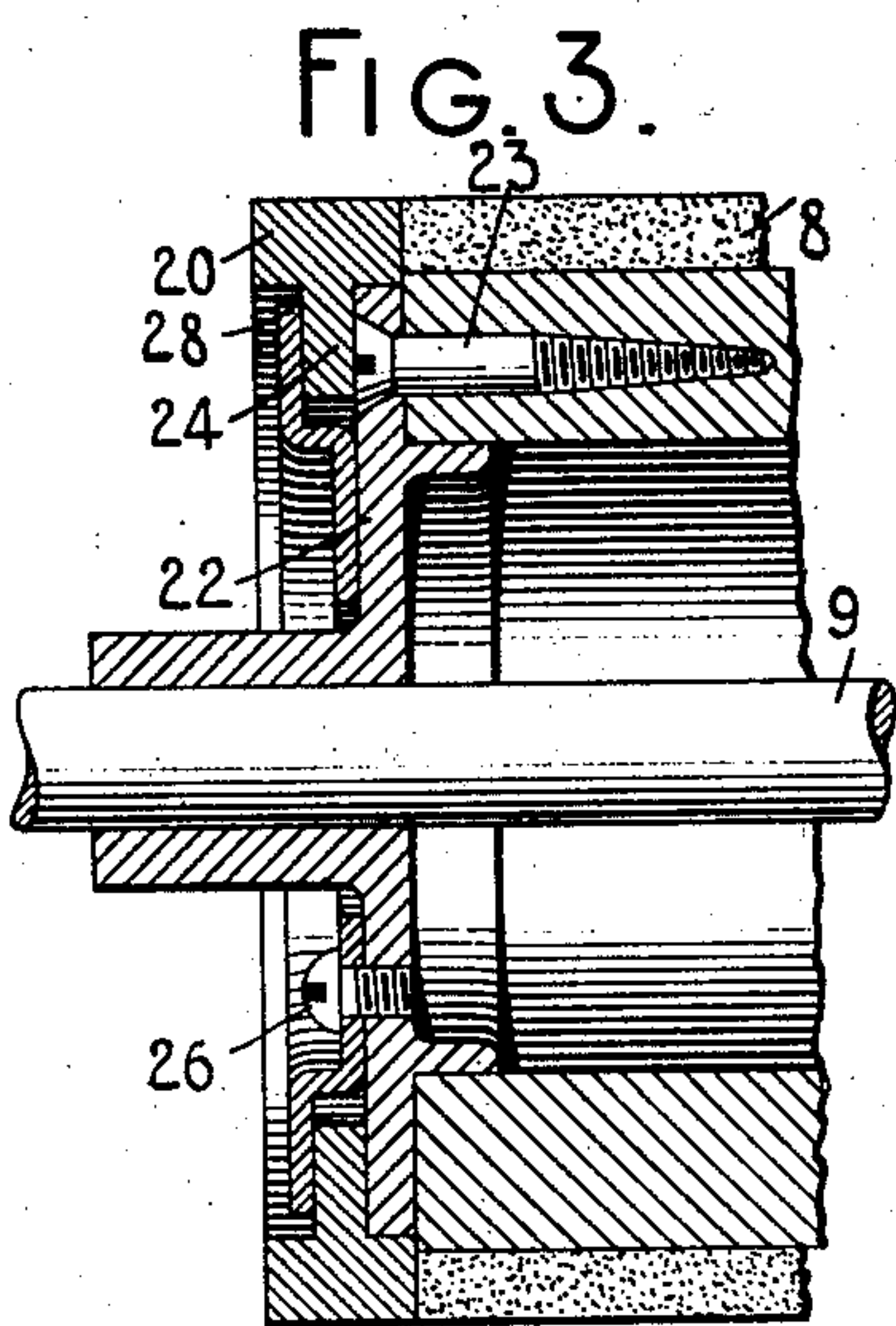


FIG. 3.

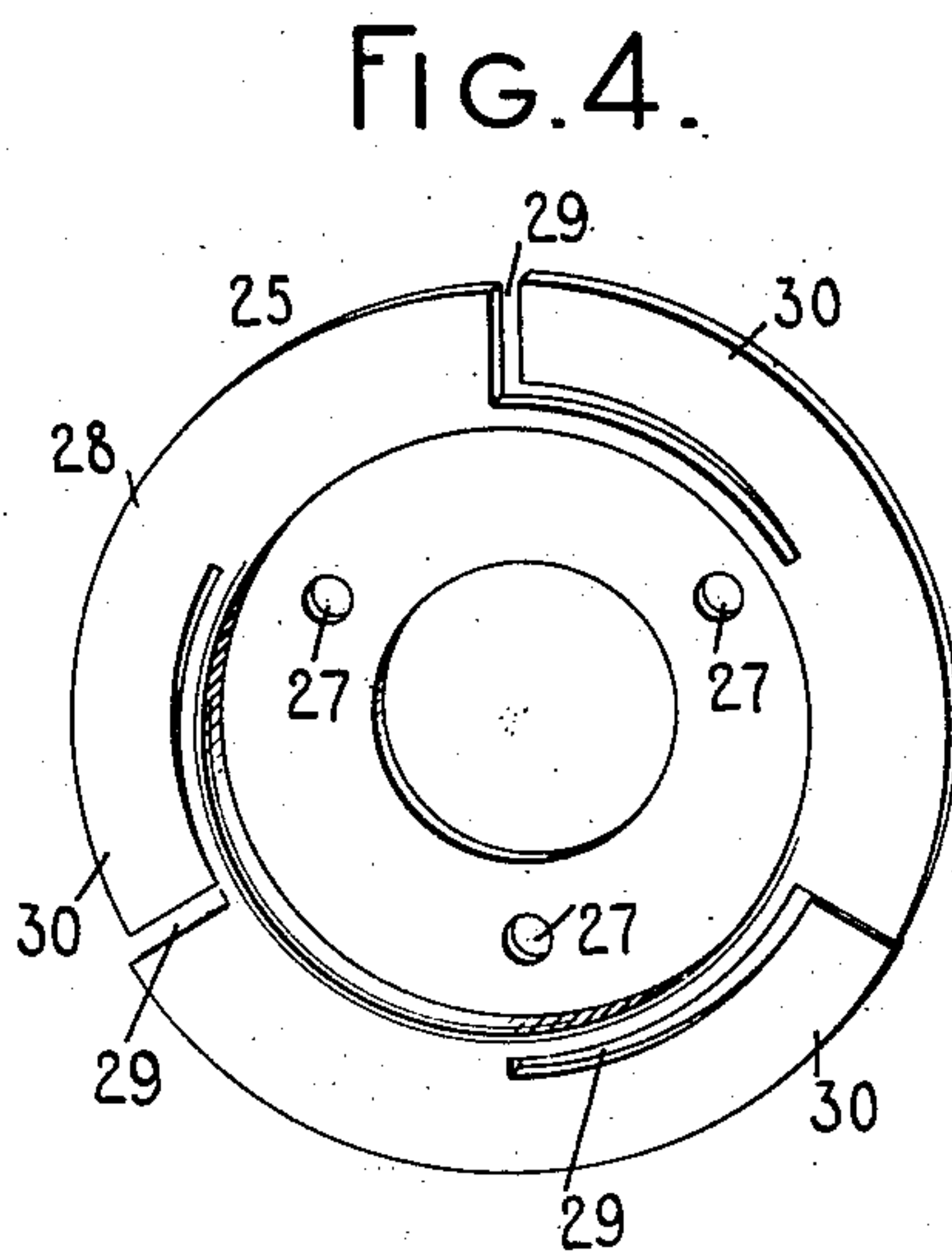


FIG. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM J. ROCHE, OF COCHRANTON, PENNSYLVANIA, ASSIGNOR TO THE SMITH
PREMIER TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF
NEW YORK.

TYPE-WRITING MACHINE.

955,207.

Specification of Letters Patent.

Patented Apr. 19, 1910.

Application filed January 28, 1909. Serial No. 474,757.

To all whom it may concern:

Be it known that I, WILLIAM J. ROCHE, citizen of the United States, and resident of Cochran, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and it has for its principal object to provide an improved page end indicator for typewriting or other printing machines in which a piece of paper is fed from one line printing position to another.

My invention consists in certain features of construction and combinations and arrangements of parts, all of which will be fully set forth herein and particularly pointed out in the claims.

One embodiment of my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the upper part of a Smith Premier No. 10 typewriter including the platen and the carriage but with the top plate broken away, and other parts broken or in section, and said typewriter having my invention applied thereto. Fig. 2 is a left-hand end elevation of the upper rear part of said typewriting machine but with one end piece of the carriage sectioned away and with some parts omitted. Fig. 3 is a fragmentary central section taken longitudinally of the platen and showing the left-hand end of the platen and associated parts on an enlarged scale. Fig. 4 is an isometric view, on the same scale as Fig. 3, of a retaining friction plate.

My invention is applicable or adaptable generally to printing devices having a paper feed of the sort usually employed in cylinder platen typewriters such for example as listing adding machines and typewriters.

The invention can be used on "visible" typewriters or on those of the bottom-strike variety. In the present instance I have shown it applied to a Smith Premier No. 10 typewriter, which is a front-strike machine. This machine comprises the usual keys, type bars and ribbon mechanism, none of which is shown in the drawings. The main frame of the machine comprises a top plate 1 which supports a stationary carriage rail 2 on which a carriage 3 is mounted by means of

ball or roller bearings 4. The carriage has end pieces 5 in which a platen frame 6 is pivoted on pivot pins 7. In Fig. 2 the left-hand end piece 5 has been sectioned away so as better to show the construction of the platen frame and one of said pivot pins. A platen or paper roller 8 is mounted in the platen frame 6 by means of a shaft 9 which is journaled in said platen frame. At its right-hand end the platen carries a toothed line space wheel 10 which is operated by a line space pawl 11 mounted on a rock shaft 12 having a line spacing lever mounted thereon, said lever, however, being sectioned away in the drawings. The line space wheel is also controlled by a spring-pressed detent roller 13. In the present instance the line space wheel has thirty-three teeth. The platen is equipped with the usual finger wheels 14 by which it may be turned. A paper table 15, extending upward and rearward from the back side of the platen, guides the paper to the platen or between the platen and a rear feed roll 16. The machine is equipped also with a forward feed roll 17, a platen and carriage scale plate 18 and the usual paper apron, the last, however, not being shown. For the purposes of the present invention it is desirable that the paper table be rather a wide one, as indicated in Fig. 2, although this is not essential.

My invention, in the embodiment of it here shown, comprises an annular scale or indicator 20 mounted on the left-hand end of the platen and of substantially the same diameter as the platen, this scale having imprinted on its periphery suitable indices which in the present instance are shown as the numbers from "0" to "32" inclusive, these numbers being spaced to correspond with the spacing of the teeth of the line space wheel 10. The scale or indicator 20 is made rotatively adjustable relative to the platen. This may be accomplished in any suitable manner. In the present instance the scale is mounted on the end of the platen and provision is made for friction to retain the scale in any position to which it may be set with relation to the platen, but allowing it to be turned readily by hand to any desired extent. In the present machine the platen has a left-hand platen head 22 which is secured to the end of the platen roller by screws 23. The scale 20 is ar-

ranged to fit circumferentially around the edge of this platen head and said scale is formed with an internal annular flange 24 that lies against the left-hand face of the platen head. Said scale is retained in place on the platen head by a retaining device 25 which consists of an annular plate of sheet metal dished in at its middle part and secured to the face of the platen head 22 by means of screws 26 which pass through holes 27 in the plate 25 and are threaded into the platen head. The plate 25 has an outer flat rim 28 that lies against the outer face of the flange 24. It is desirable to press said flange with spring pressure against the platen head. This may be done in any one of a number of ways, but as here shown, said flange is cut out by slots 29 to form spring tongues 30 which are bent as shown in Fig. 4 out of the general plane of the flange 28. When the plate 25 is placed in position on the platen head these spring tongues 30 are placed under tension, pressing against the flange 24 and placing the scale 20 under frictional restraint against turning relative to the platen but allowing said scale to be turned by hand.

A pointer 31 is arranged to cooperate with the scale 20, said pointer, as shown in the present instance, consisting of the pointed end of a suitably bent arm 32 which is secured by a screw 33 to the left-hand end piece of the platen frame 6. The pointer 31 may be disposed in any suitable position about the scale 20, the only essential thing being that it be where it is plainly visible to the operator.

The paper table 15 is ruled with a series of parallel lines 34 extending transversely of the machine and parallel to the platen and spaced apart a distance equal to the distance that the paper is fed when the platen is turned one tooth space of the line space wheel. As here shown these lines are near the left-hand side of the paper table and they are made of some length so as to cooperate with pieces of paper of different widths. These lines are numbered consecutively with numerals 35, the top line being numbered "33," the next one "32" and so on in order as far as the lines are sufficiently visible to the operator to be of service. In the present instance the numbering runs from "33" to "20" inclusive. The lines 34 and numerals 35 are so disposed that, when the bottom of a sheet of paper stands opposite one of said lines 34, the corresponding numeral 35 shows the number of lines that it is still possible to write on the paper with single spacing. For example, when the bottom of the paper is at "30" it is possible to write thirty lines more with single spacing, or fifteen lines with double spacing, before the bottom of the paper is reached. The scale consisting of the lines

34 and the numbers 35, constitutes means by reference to which the scale 20 may be set as will presently appear.

The operation of my invention will now be described.

When a piece of paper 36, shown in Fig. 1 and represented by a heavy broken line in Fig. 2, is being written on and when this piece of paper has reached any point in its feeding through the machine where its bottom edge lies adjacent one of the lines 34, the operator can set the scale 20 by reference to the scale 34, 35. This may be done whenever the operator happens to think of it, provided the bottom of the sheet is over the scale 34. As shown in Fig. 1 the lower end of the paper has reached the line on the scale 34 marked "30". Observing this the operator will set the scale 20 so that the number "30" is opposite the pointer 31; this being done, the writing is proceeded with. It will be noted that when the bottom of the paper reaches line "29" the numeral "29" on the scale 20 will stand opposite the point 21. When the bottom of the paper reaches "25" on the scale 34 the numeral "25" of the scale 20 will then be opposite the pointer 21, and so on. It will thus be seen that at any time when the bottom of the paper is opposite any part of the scale 34, the operator noting this fact may set the scale 20 to correspond, and that from that time on said scale 20 will indicate the number of single line spaces remaining on the sheet. The device thus indicates what line is being written on, and it also indicates the approach of the end of the page. If the operator wishes to stop the writing at four single line spaces from the bottom, she will remove the paper from the machine when the numeral "4" on the scale 20 reaches the pointer 31. It will, of course, be understood that the device can be used to indicate any other point on the paper, as well as the end of the page, if desired.

So far as I am aware it is broadly new to provide an adjustable line indicator in combination with a separate device or means cooperating with the paper and by reference to which said line indicator may be set or adjusted.

If during the feed of the paper from line to line as the writing is done, the operator neglects to set the scale 20 until after the bottom of the sheet has passed off of the scale 34, she can turn the platen backward until the bottom of the sheet appears somewhere on the scale 34. She may then set the scale 20 to the number determined by an inspection of the scale 34 and turn the platen forward again to the writing line and proceed with her work.

It will be seen that both the scale 34, 35 and the scale 20, constitute line indicators and page-end indicators; that one of these

moves with the paper roller and the other is relatively stationary; and that one of them is set by the other.

It will be obvious that various changes may be made in the details of construction and arrangement without departing from my invention.

What I claim as new and desire to secure by Letters Patent, is:—

10 1. In a typewriting machine, the combination of a paper roller, a fixed scale in position to cooperate with the bottom end of a sheet of paper and having numerals designating line space distances, and a second
15 scale adjustably mounted on said paper roller and having numerals corresponding with the numerals on the fixed scale so that the said adjustable scale can be set in harmony with the fixed scale and will continue
20 in harmony therewith as the paper roller is turned.

2. In a typewriting machine, the combination of a paper roller, a paper table over which the paper is fed toward the paper
25 roller, a scale connected with said paper table and having numerals designating line spacing distances, and a second scale adjustably mounted on said paper roller and having numerals corresponding with those on
30 the fixed scale so that said adjustable scale can be set in harmony with said fixed scale and will continue in harmony with the fixed scale as the paper roller is turned.

3. In a typewriting machine, the combination with a paper roller, of a line indicator adjustably connected with said paper
35 roller and having designations corresponding to line space distances and arranged in order so that said designations diminish in value as the paper is fed in line space direction, a pointer for said scale, and a fixed
40 scale in position to cooperate with the end of the sheet of paper and having designations each of which indicates the number of
45 lines that can still be written on the paper.

4. In a typewriting machine, the combination with a paper roller, of a line indicator comprising a scale adjustably connected with said paper roller and having

designations corresponding to line space distances and arranged in order so that said designations diminish in value as the paper is fed in line space direction, a pointer for said scale, and a fixed scale on the paper table in position to cooperate with the bottom of the sheet of paper and having designations each of which indicates the number of lines that can still be written on the paper.

5. In a writing machine, the combination with a paper roller, of an annular scale frictionally mounted on said paper roller, a pointer cooperating with said scale, a stationary scale cooperating with the paper, said scales being spaced alike and designated by corresponding numerals, and so disposed that when said frictionally mounted scale is adjusted to the same indication as that with which the paper cooperates on the stationary scale, the two scales will continue in harmony as the paper roller is turned.

6. In a writing machine, the combination with a paper roller, of an annular scale adjustably mounted on said paper roller, a paper table, and a line scale on said paper table in position to cooperate with an end of a sheet of paper, the two scales having their designations so disposed that when the annular scale is once adjusted to the same designation as is indicated by the paper on the other scale, the two scales will continue to harmonize as the paper roller is turned.

7. In a typewriting machine, the combination of a rotary platen, an annular scale mounted on said platen, and a retaining plate for said scale comprising spring tongues struck out of said plate and engaging said scale, whereby said scale is frictionally connected with said platen.

Signed at Cochranton in the county of Crawford and State of Pennsylvania this twenty-third day of January, A. D. 1909.

WILLIAM J. ROCHE.

Witnesses:

C. V. DAUBENSPECK,
LOUIS J. BEUCHAT.