

No. 630,725.

Patented Aug. 8, 1899.

R. J. MINER.

SPACING ATTACHMENT FOR TYPE WRITERS.

(Application filed Mar. 8, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

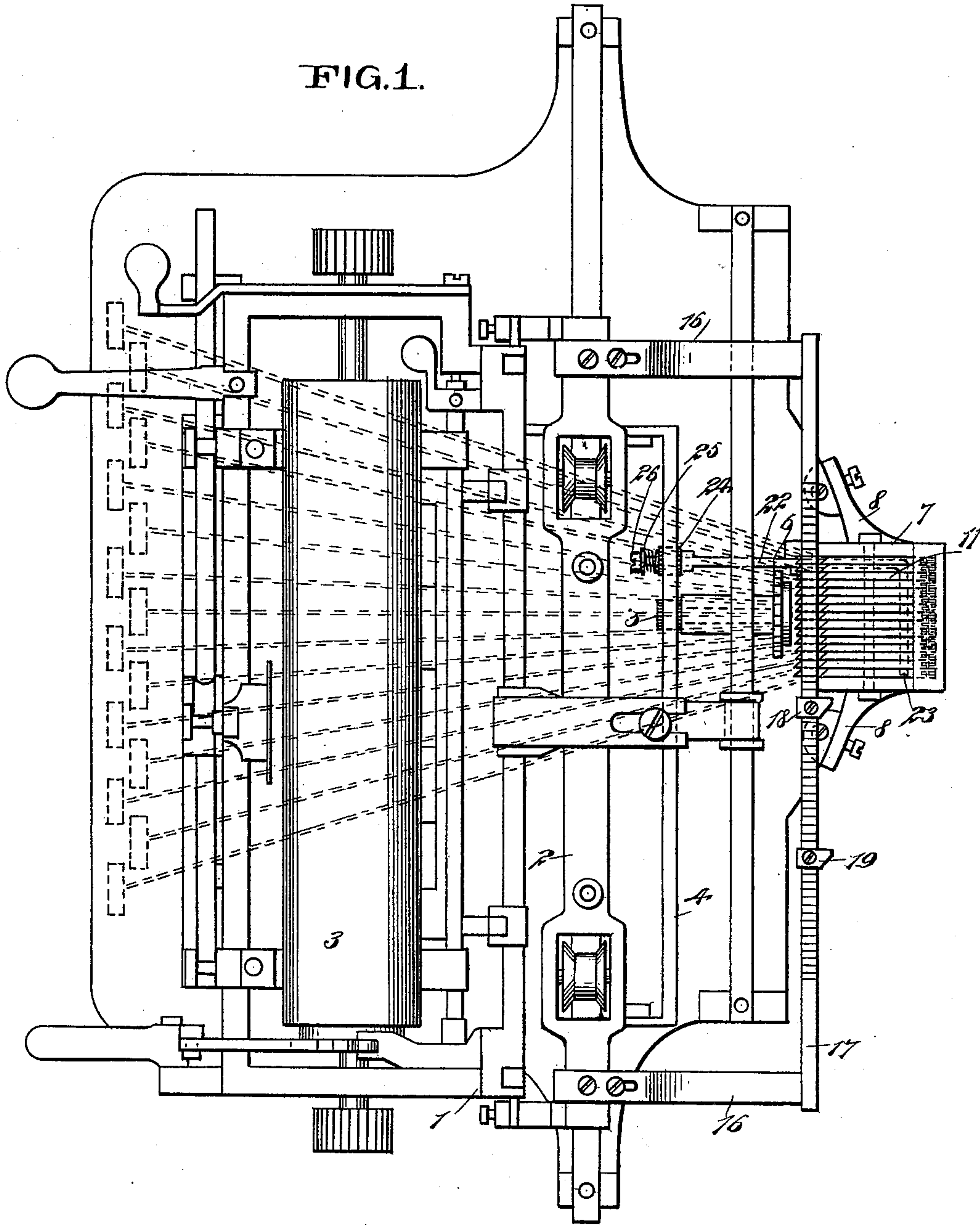


FIG. 2.

WITNESSES:

Donn Twitchell
C. A. Ferguson

20	30
1,000	500
100	50

INVENTOR
R. J. Miner
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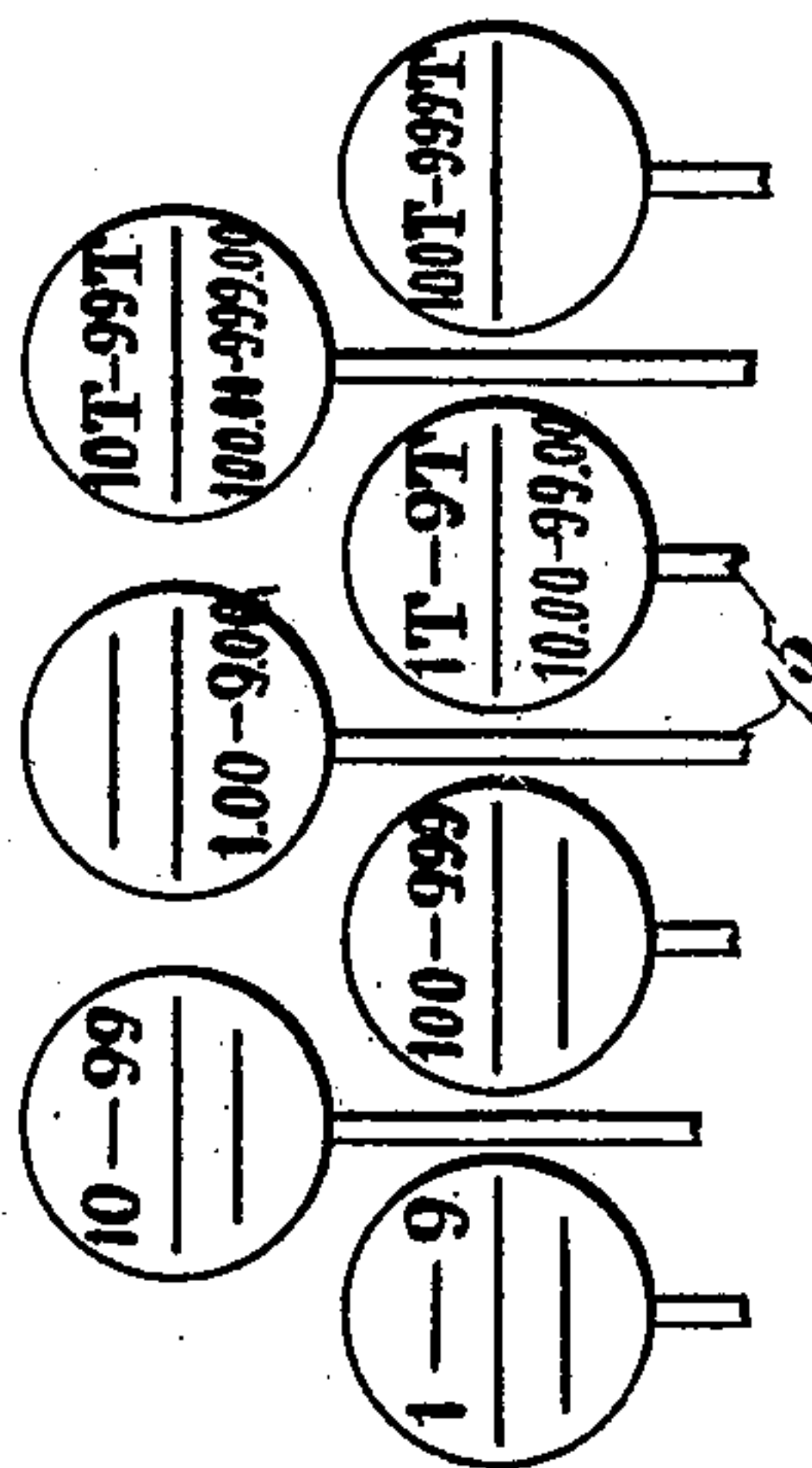
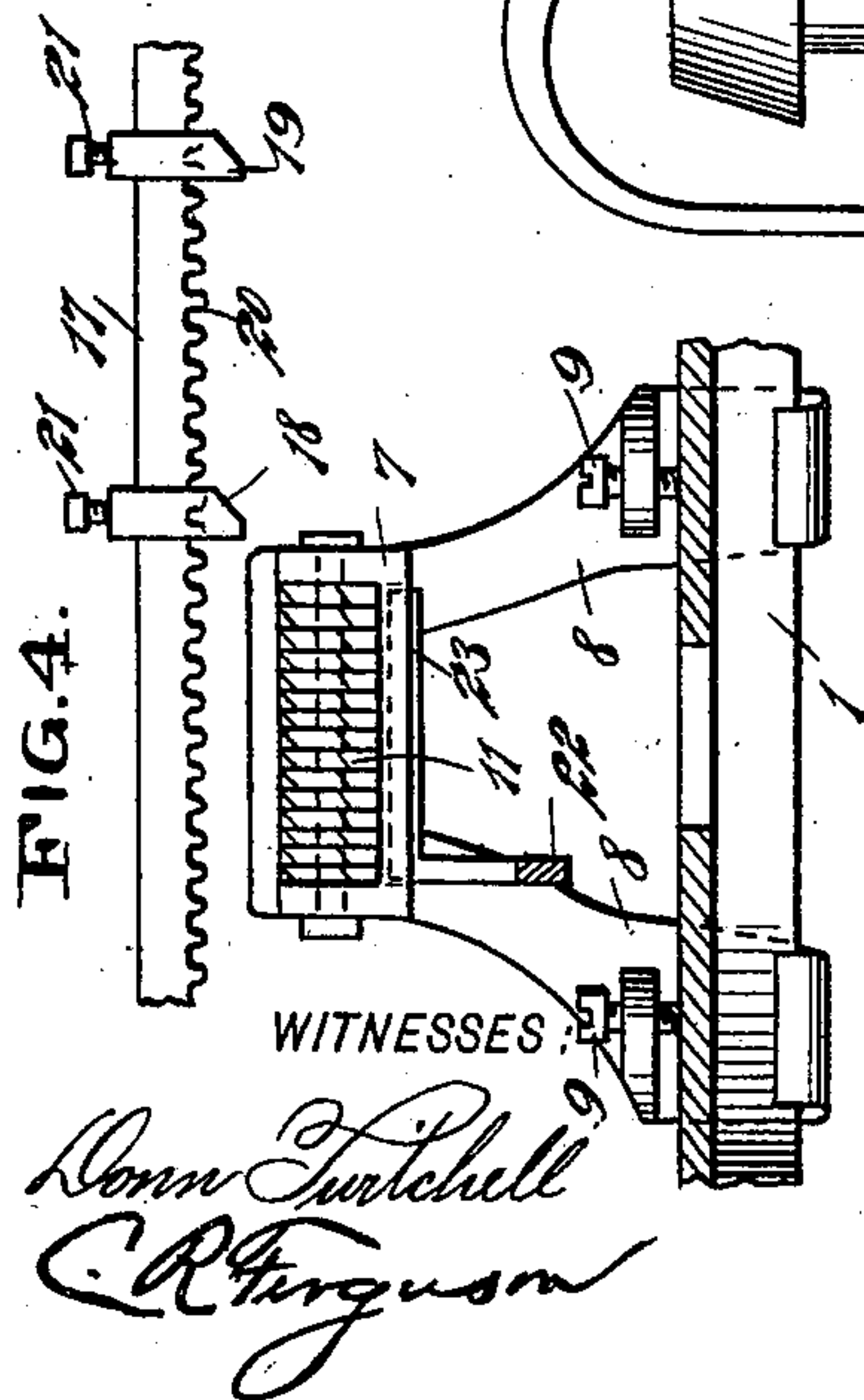
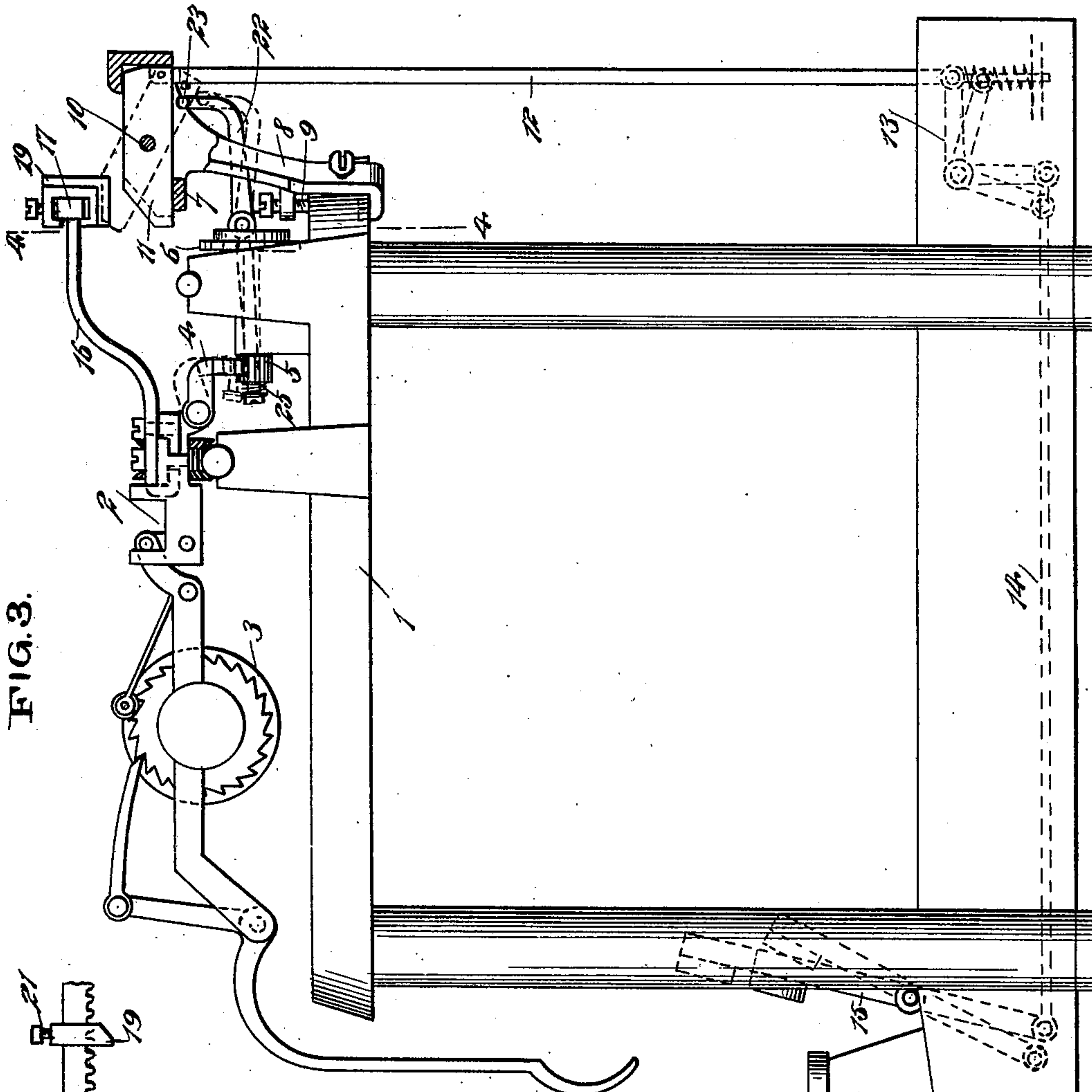
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2 Sheets—Sheet 2.



INVENTOR
R. J. Miner
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UNITED STATES PATENT OFFICE.

ROBERT J. MINER, OF GREENWICH, CONNECTICUT.

SPACING ATTACHMENT FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 630,725, dated August 8, 1899.

Application filed March 8, 1899. Serial No. 708,197. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. MINER, of Greenwich, in the county of Fairfield and State of Connecticut, have invented a new and Improved Spacing Attachment for Type-Writers, of which the following is a full, clear, and exact description.

This invention relates to automatic spacing attachments for type-writers, devised for the purpose of economizing time, saving the eyes, and lessening the nervous strain upon the operator.

Valuable time is lost in tabulating work under the ordinary method on account of the operator being obliged to adjust the carriage to accommodate each different number inserted—that is, when there are one or more columns of figures and the operator desires to place ten cents under one million dollars, or vice versa, as the case may be, it is in the usual method of type-writing necessary to count the number of spaces required and move the carriage to a corresponding position, as shown in the scale of the machine, before the amount or number can be written. When employing a spacing attachment, this delay is obviated. The operator by merely pressing one of the keys with which the attachment is provided instantaneously and accurately spaces the machine, so as to write any desired number of figures or amounts in dollars or cents in perfect alinement one under another. The attachment is further provided with means to regulate the speed of the carriage in moving it from space to space, thus eliminating all banging and straining of the machine and at the same time rendering the work of the apparatus practically noiseless.

I will describe a spacing attachment for type-writers embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a top plan view of a type-writer, showing my attachment as applied thereto. Fig. 2 is a fragmentary plan showing tabulated work. Fig. 3 is an end view of the machine. Fig. 4 is a section on the line 4-4 of Fig. 3, and Fig. 5 is a plan of some of the keys employed.

Referring to the drawings, 1 designates the top frame of a type-writer of any construction and upon which the carriage 2 is movable in the ordinary manner, and supported in this carriage is the usual impression-roller 3. A rack-bar 4 is mounted to swing vertically on the carriage, and it is normally in engagement with a pinion 5, on the shaft of which is the escapement-wheel 6, with which the carriage-moving device engages.

Removably mounted on the frame 1 is the spacing-block-supporting frame 7. This frame 7 has downwardly-extended arms 8, terminating in hook portions to engage underneath the edge of the frame 1, and it has clamping-screws 9, passing through lugs on the arms and engaging with the top of said frame 1.

Fulcrumed on a rod 10 in the frame 7 is a series of space-controlling blocks 11. These space-controlling blocks are arranged side by side and close together, and obviously there may be any desired number of these space-controlling blocks. From the rear end of each block 11 a draw-rod 12 extends downward and connects with one arm of an angle-lever 13, and from the other arm of said angle-lever 13 a key-rod 14 extends to a connection with a key 15. The several keys 15 are arranged at the front of the machine, rearward of the ordinary bank of keys, and the several keys 15 stand substantially in a vertical position. The finger-pieces of the keys are differently numbered to indicate different spaces, either for numbers or for dollars. For instance, the finger-piece of the first key will have marked in its upper portion "1" to "9," indicating that this key is to be pressed when printing is to be done in the units-column, as will be hereinafter described.

Arms 16 extend rearward from the carriage 2, and in these arms is supported a graduated bar 17, on which is mounted to slide a tappet or tappets 18 19. The bar 17 is graduated on its upper side so as to indicate the proper position for the tappets, and to rigidly hold the tappets in position I make them in the form of clamps, each having a tooth to engage in a rack 20, formed on the lower side of the bar 17, and the tappets are held in position by a set-screw 21. The extra tappet 19 may be used when it is desired to print two columns on a sheet.

Pivoted to a standard on the frame 1 is a lever 22, and on the rear end of this lever 22 is a cross-bar 23, which engages the under side of the several space-controlling blocks 10 near their rear ends. The forward end of the lever 22 has a pinion 24 loosely mounted on it and adapted for engagement with the rack 4, although it is normally out of engagement with said rack. A spring 25 surrounds an extended portion of the lever 22 and engages at one end with the pinion 24 and at the other end with an adjusting-screw 26. By manipulating this screw 26 the tension of the spring against the pinion may be regulated, so as to regulate the movement of the type-writer carriage when the said pinion 24 is in engagement with the rack.

It will be noted that the first key of the series—that is, the one bearing the figures “1” to “9”—is in connection with the first block 11 at the left-hand end of said series of blocks, and the next key of the series will be connected to the next block, and this will be carried out to the highest number.

In operation should it be desired to place a numeral first in the units-column the first key 15 of the series is to be pressed inward, and this will rock the first block 11 of the series to the position indicated in dotted lines in Fig. 3, thus bringing the inner end of said block within the line of movement of the tappet 18. During this movement of the block 11 the lever 22 will be rocked to engage its pinion 24 with the rack 4, moving said rack out of engagement with the pinion 5, and at this time the type-writer carriage will be moved to the left by its ordinary mechanism until the tappet 18 engages with the first block 11 of the series. When the carriage is in this position, the type-writer key is to be operated to impress the desired figure in the units-column.

Should it be desired to print, say, “523” in the column of tabulated work, the third key 15 of the series will be pressed to operate or swing upward the third block 11 of the series, and then the type-writer carriage will be moved, as before described, until the tappet 18 engages with said third block of the series. Then the type-writer key is to be operated to impress the figure “5” in the hundreds-column. Then the key having been released will move to the left in the ordinary manner and through the usual spaces while printing the “2” and “3,” respectively, in the tens and units columns. This operation may of course be carried out to any extent, and as the figure having the highest place is first printed in every instance it is obvious that a perfect alinement of a column will be insured. The figures on the upper portion of the finger-piece of the keys represent the numbers controlled by said keys, and the figures on the lower half represent the dollars and cents controlled by the keys.

This attachment is small and compactly

constructed, and as it fits into the framework of the type-writer very closely does not change the appearance or interfere with the mechanism of the machine in any respect, nor is there any complex mechanism to get out of order.

While I have shown the device as detachably connected with the machine, it is obvious that the frame portion of the device may be cast or made integral with the frame of the type-writer.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A spacing attachment for a type-writer, comprising a series of fulcrumed space-controlling blocks, keys for actuating said blocks, a tappet supported on the type-writer carriage and adapted to engage with the blocks, a swinging rack on the carriage, and means for lifting said rack from feeding devices of the carriage, the said means consisting of a lever for engaging with the rack and having a portion extended underneath the several blocks and engaging with said blocks rearward of their pivotal points, substantially as specified.

2. A spacing attachment for a type-writer, comprising a series of fulcrumed blocks, keys for rocking the blocks, means carried by the type-writer carriage for engaging with the blocks, a feeding mechanism for the carriage comprising a swinging rack-bar, and a lifting device for the rack-bar consisting of a lever having a portion extended underneath the several blocks and carrying a pinion for engaging with the rack, substantially as specified.

3. A spacing attachment for a type-writer, comprising a series of fulcrumed blocks, a tappet carried by the carriage of the type-writer for engaging with said blocks, a rod extending downward from each block rearward of its pivotal point, an angle-lever with one arm of which said rod connects, a horizontally-disposed rod connecting with the other member to the angle-lever, and key-levers pivoted to the forward ends of the horizontally-disposed rods and having finger-pieces above the keyboard rearward of the type-writer keys, substantially as specified.

4. A spacing attachment for a type-writer, comprising a series of key-actuated blocks, a carriage for the type-writer, a swinging rack on said carriage, a lever operated by a movement of either one of the blocks, a pinion loosely mounted on said lever and adapted for engaging with the carriage-rack, means for governing the speed of rotation of said pinion, and a tappet mounted on the type-writer carriage for engagement with the blocks, substantially as specified.

ROBERT J. MINER.

Witnesses:

JAS. H. REILLY,
GEO. M. BANKS, Jr.