

No. 713,434.

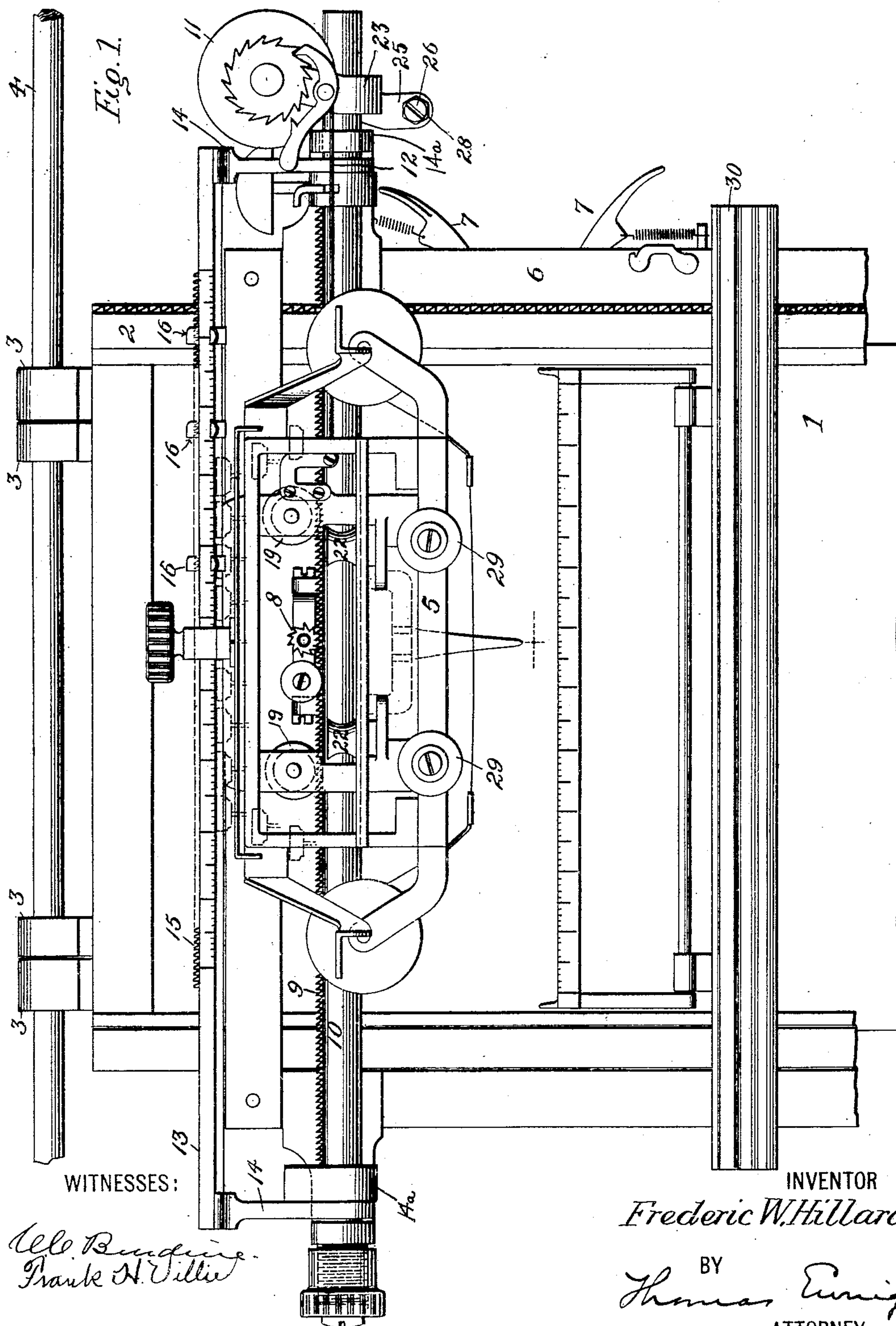
Patented Nov. 11, 1902.

F. W. HILLARD.
TYPE WRITING MACHINE.

(Application filed Aug. 25, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

W. B. Bingham
Frank H. Villie

INVENTOR

Frederic W. Hillard

BY

BY
Thomas E. Emig, Jr.
ATTORNEY

ATTORNEY

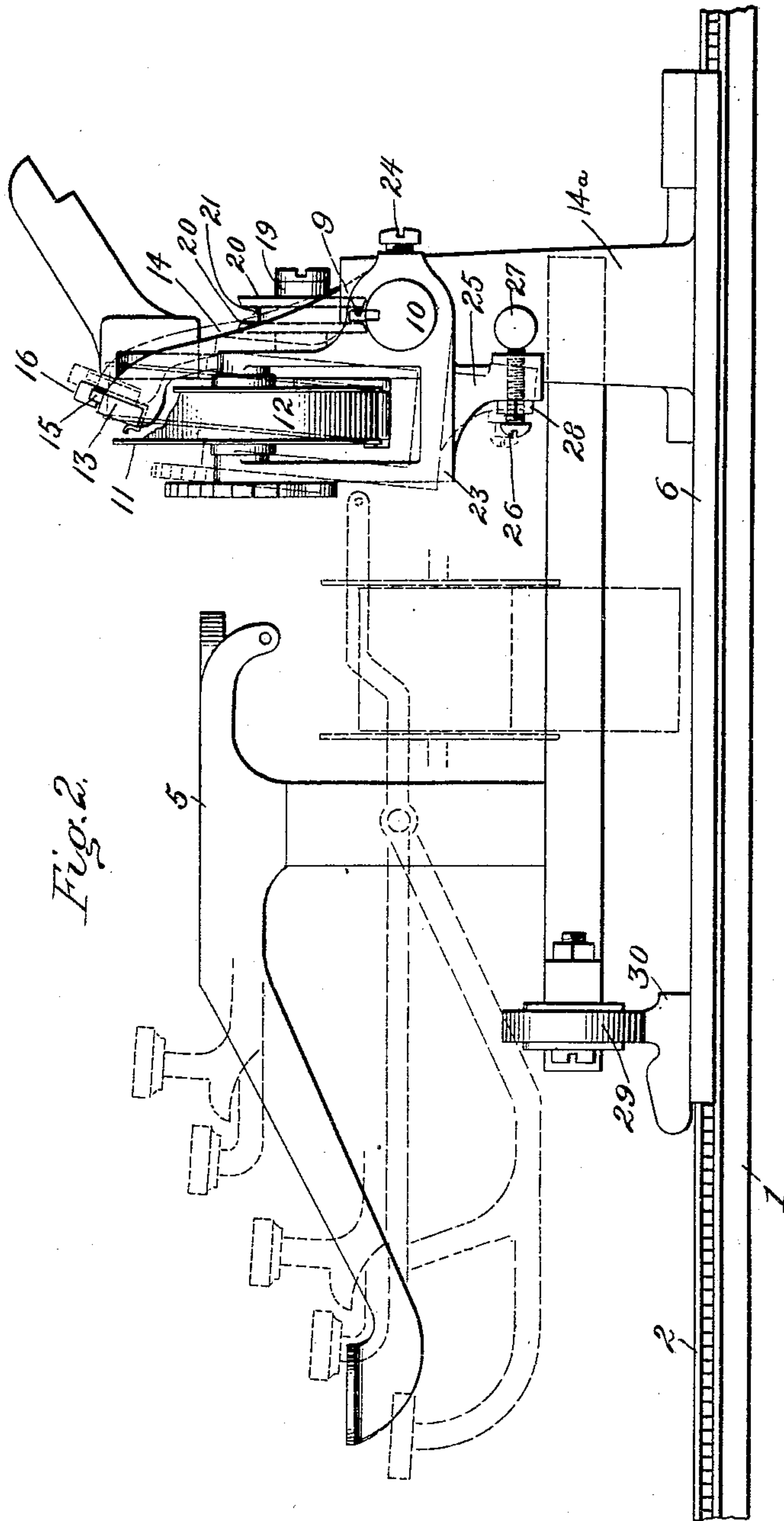
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WITNESSES:

W. C. Bendine
Frank N. Villie

INVENTOR

Frederic W. Hillard.

BY

Thomas Ewing, Jr.
ATTORNEY

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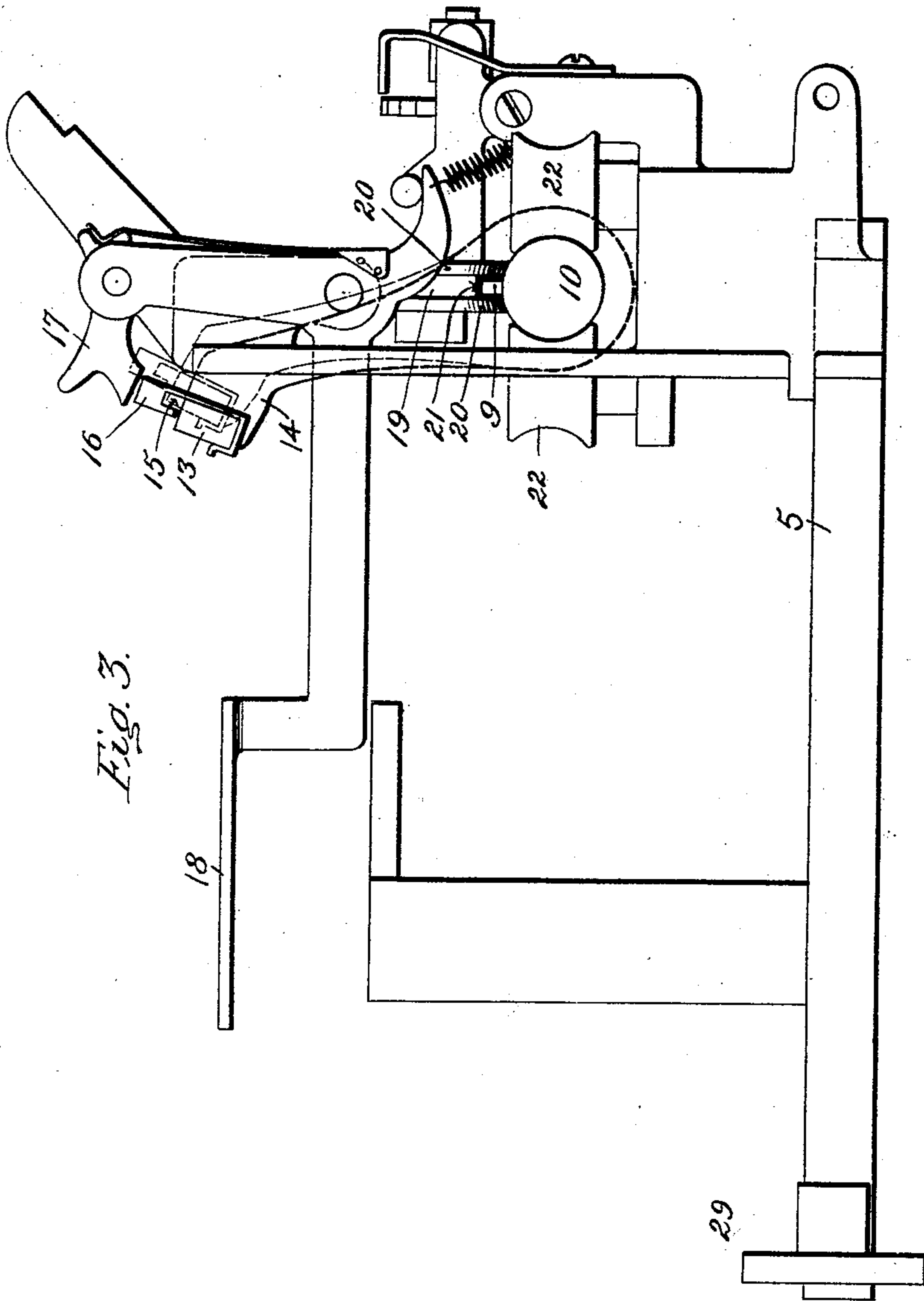
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WITNESSES:

W. C. Burdine
Frank H. Villie

INVENTOR

Frederic W. Hillard.

BY

Thomas Ewing, Jr.,
ATTORNEY

UNITED STATES PATENT OFFICE.

FREDERIC W. HILLARD, OF TOTTENVILLE, NEW YORK, ASSIGNOR TO THE ELLIOTT & HATCH BOOK TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 713,434, dated November 11, 1902.

Application filed August 25, 1900. Serial No. 27,976. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC W. HILLARD, a resident of Tottenville, in the county of Richmond, and city and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention is applicable to type-writers generally, but herein shown and described as applied to the style known as "book typewriters," manufactured by The Elliott & Hatch Book Typewriter Company.

In the accompanying three sheets of drawings, which form a part of this specification, Figure 1 is a plan view showing the writing-machine turned up to expose the writing. Fig. 2 is a side view showing parts of the machine, the mainspring-barrel being partly broken away. Fig. 3 is a side view showing particularly the tabulator-stop lever, the tabulator-key, and the tabulator-bar, and a tabulator-stop thereon.

The general features of the machine will be only briefly described, because the machine already is well known to those skilled in the art.

The platen 1 and base-frame 2 are supported at one end by lugs 3 on a back rod 4, upon which they may both be turned upwardly and back when it is desirable to clear the table-top. The writing mechanism is mounted upon a type-carriage 5 in a carriage-frame 6, which frame is mounted on the base-frame 2, and is provided with a line-spacing mechanism 7, whereby it can be spaced down the page for line-spacing, as is well understood. The type-carriage moves across the page for letter-spacing and word-spacing and can be lifted into an upright position to clear the work, so that the writing can be examined, as is also well understood. It is shown in this position in Fig. 1. The escapement shown is a wheel-escapement. In Fig. 1 a pinion 8 is shown engaging with the spacing-rack 9 upon the carriage guide-rail or rack-rod 10. The type-carriage is moved for letter-spacing and word-spacing by the pull of the usual mainspring, which is wound up in the mainspring-barrel 11 and connected to the carriage by barrel-band 12. In addition

to the letter-spacing and word-spacing escapement there is a tabulator, comprising a tabulator-bar 13, mounted on the carriage guide-rail and rigidly connected therewith by supports 14, pinned to the guide-rail, to which supports are clamped the tabulator-bar 13, with its tabulator-rack 15, on which can be set tabulator-stops 16. These tabulator-stops are clips which can be slipped onto the tabulator-bar and have teeth which engage with the rack 15. As the teeth of the tabulator-rack 15 are properly alined with the teeth of the escapement-rack 9, the stops 16 are thus set necessarily and readily in line, so that the tabulating shall be accurate. On the type-carriage is a tabulator-stop lever 17, which can be brought into alinement with the tabulator-stops 16 by operation of the tabulator-key 18, as is clearly shown in Fig. 3.

One feature of the invention is shown more clearly in Fig. 2. It is particularly in the adjustment of the guides for the carriage. As shown, the type-carriage is supported at its guide-rail 10 upon two guide-wheels 19, which are each provided with two rims or flanges 20 20, that run along the guide-rail and lie one on one side and one on the other side of the escapement-rack 9. They are faced to fit the rail and are provided with groove 21, wider than the rack 9, so as not to bind on the rack. In order to permit an adjustment, so that the guide-wheels 19 shall run throughout the entire length of the guide-rail 10 without binding on the rack 9, I have mounted the type-carriage upon the guide-rail 10, so as to permit a slight movement of the rail in respect to the carriage, and have arranged an adjustable stop for the rail. The rail 10 is mounted upon the carriage-frame in the two upwardly-extending standards 14^a. The type-carriage is fastened to this rail by means of the support-rollers 19 and by four guide-rollers 22, which fit on opposite sides of the rail, two on each side, and are grooved or concaved upon their faces to secure proper engagement therewith. These guide-rollers when the machine is in writing position are in a horizontal plane. To the guide-rail 10, at one end, is attached the mainspring-barrel 11. This is mounted in an overhanging

bracket 23, which is on the side toward the type-carriage. This bracket is set in proper position on the guide-rail by set-screw 24. Extending from the lower end of the bracket 5 23 and below the mainspring-barrel 11 is a lug 25, through which is passed an adjusting-screw 26 to engage with a stop 27 on the standard 14^a at that end of the machine. A lock-nut 28 is provided for screw 26 to lock 10 the screw into lug 25 at any desired adjustment.

It will be obvious that the range of rotation of the guide-rail 10 in its bearings in the standards 14^a will be limited by the adjusting-screw 26. The type-carriage 5, however, 15 is provided with front rollers 29, which run upon front rail 30 on the carriage-frame. Therefore the printing position of the carriage is fixed independently of the rotation 20 of the guide-rail 10, and the guide-rail can adjust itself in accordance with the state of the adjusting-screw 26, so that the rack 9 shall be positioned between and spaced away from the flanges 20 20 of the guide-wheels 19 25 to clear the same in all writing positions of the type-carriage. The tabulator-rack 15 is rigidly attached to the guide-rail 10, as above stated, and moves therewith. Therefore the tabulator-rack is adjusted by the adjusting-screw 26 and the stop 27 just as is the escapement-rack 9, and this insures the stop 16 on 30 the tabulator-rack being brought down below the tabulator-stop lever 17 when the machine is lowered to writing position. We have 35 therefore an adjustment of the escapement-rack and the tabulator-rack, both accomplished by the same mechanism, and that mechanism consists in the form shown of a weight and an adjustable stop, the mainspring-barrel being used as the weight. 40

Without limiting myself to the details shown, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a type-writing machine, the combination of a guide-rail, a guide upon the carriage engaging therewith, one of said guides 45 having a portion entering a groove of the other, and means for adjusting and spacing one of said guides away from the other so that 50 there can be no binding between said portions during the travel of the carriage, substantially as described.

2. In a type-writing machine, the combination

of a longitudinal guide upon the frame and a guide upon the carriage engaging therewith, and an axial adjustment for the longitudinal guide for spacing it away from the guide upon the carriage, substantially as described. 55

3. In a type-writing machine, the combination of a longitudinal rack, a guide upon the carriage engaging therewith, and means for adjusting and spacing one of said parts away from the other, substantially as described. 60

4. In a type-writing machine, the combination of a longitudinal rack upon the frame, a guide upon the carriage engaging therewith and an adjustment for the longitudinal rack for spacing it away from the guide upon the carriage, substantially as described. 65 70

5. In a type-writing machine, a longitudinal rod mounted to rotate in suitable bearings and a weight and adjusting-stop therefor independent of the carriage, substantially as described. 75

6. In a type-writing machine, the combination of a rod mounted to rotate in suitable bearings, a weight and adjusting-stop therefor, the weight being the spring-barrel, substantially as described. 80

7. In a type-writing machine, the combination of a rack-rod, a carriage-guide engaging therewith, and a weight and adjustable stop independent of the carriage to bring the rack-rod to proper position, substantially as described. 85

8. In a type-writing machine, the combination of a rack-rod, a carriage-guide engaging therewith, and a weight and adjustable stop to bring the rack-rod to proper position, the weight being the mainspring-barrel, substantially as described. 90

9. In a type-writing machine, the combination of two racks, mounted on bearings so that they can be rotated together and a weight and stop to bring them into proper position, the weight being the spring-barrel, substantially as described. 95

Signed by me in New York city this 24th day of August, 1900. 100

FREDERIC W. HILLARD.

Witnesses:

HAMPTON D. EWING,
GEORGE H. GILMAN.