

(No Model.)

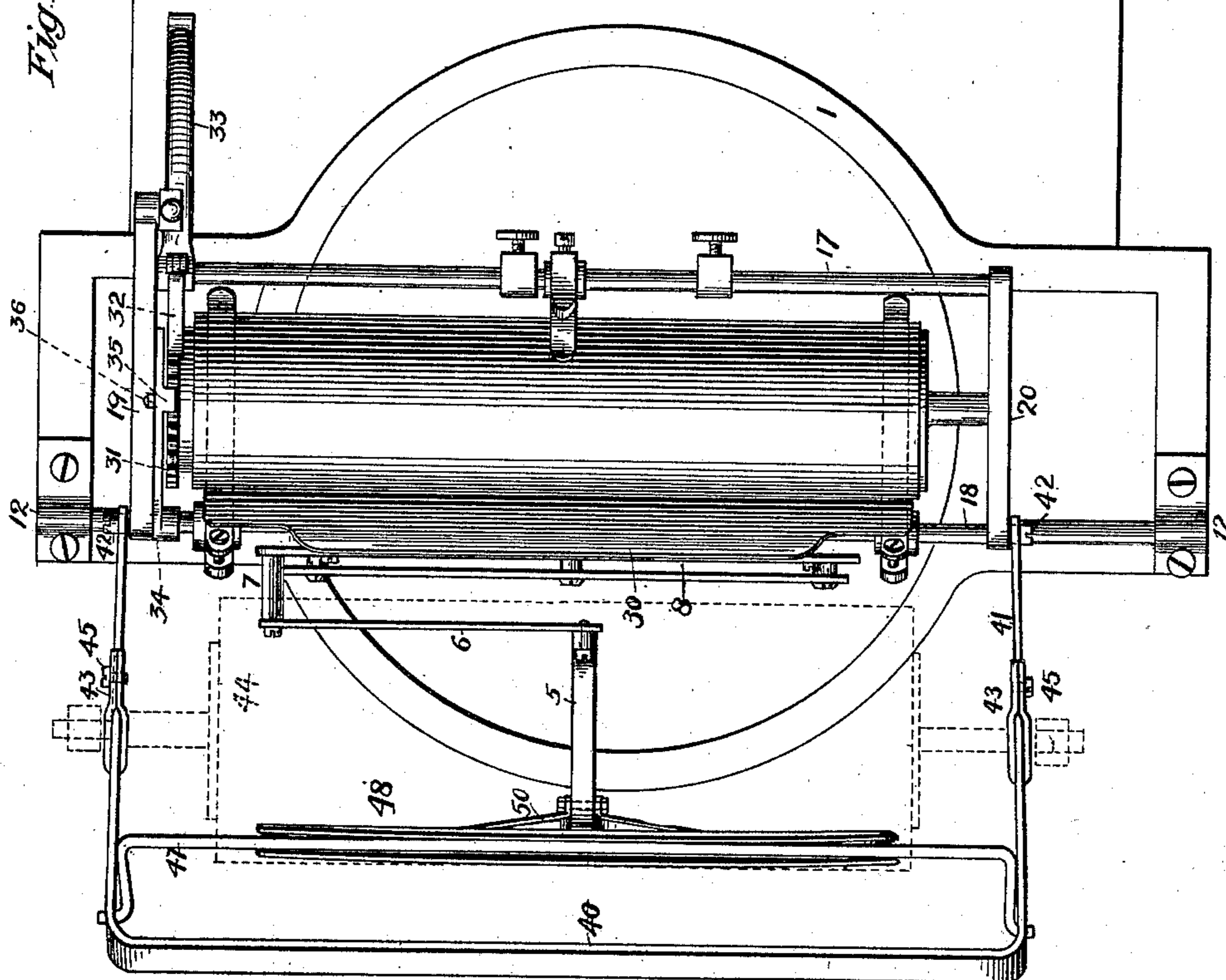
3 Sheets—Sheet 1.

J. V. HULSE, Jr.
TYPE WRITING MACHINE.

No. 470,429.

Patented Mar. 8, 1892.

Fig. 1.



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(No Model.)

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Fig. 6

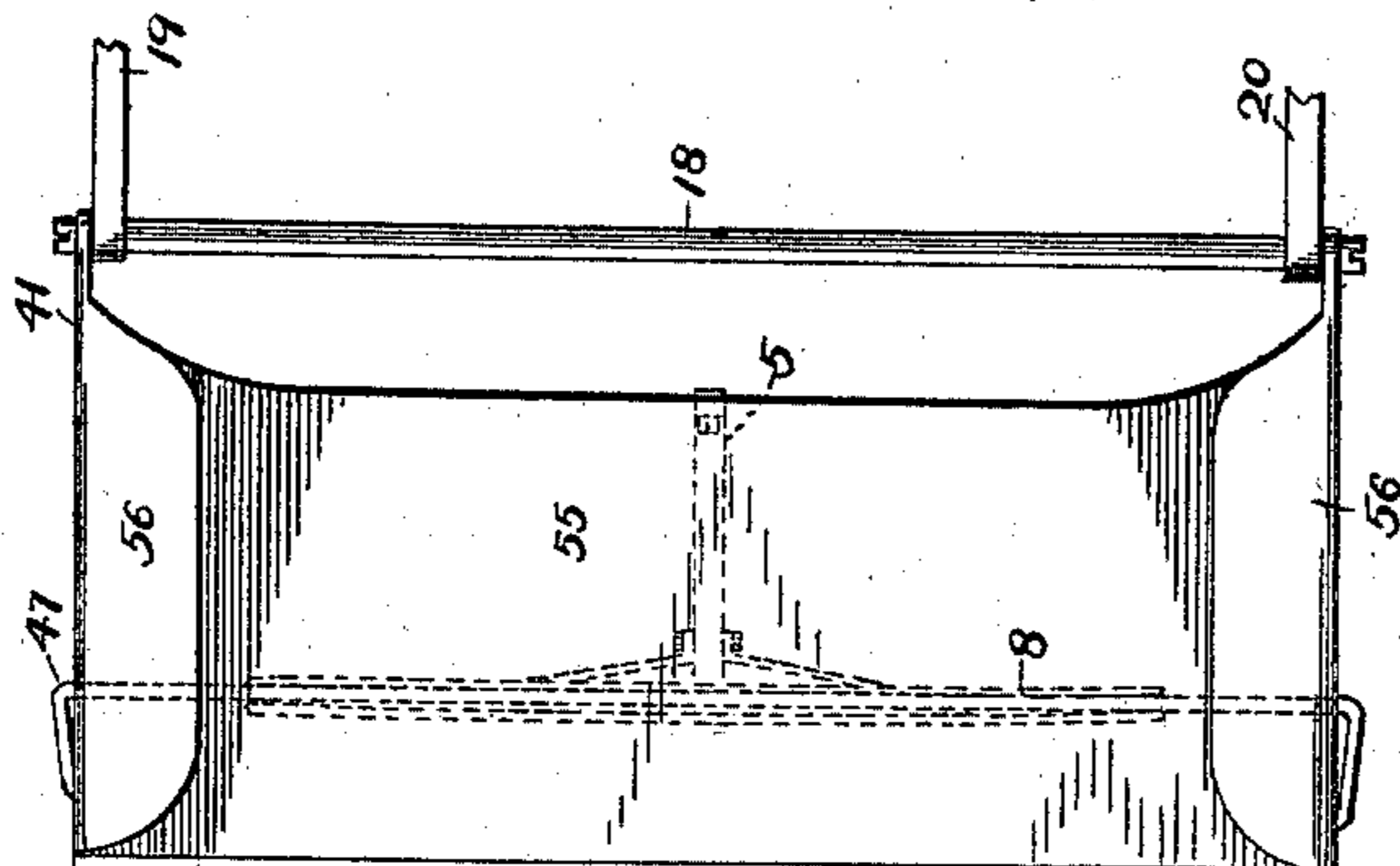
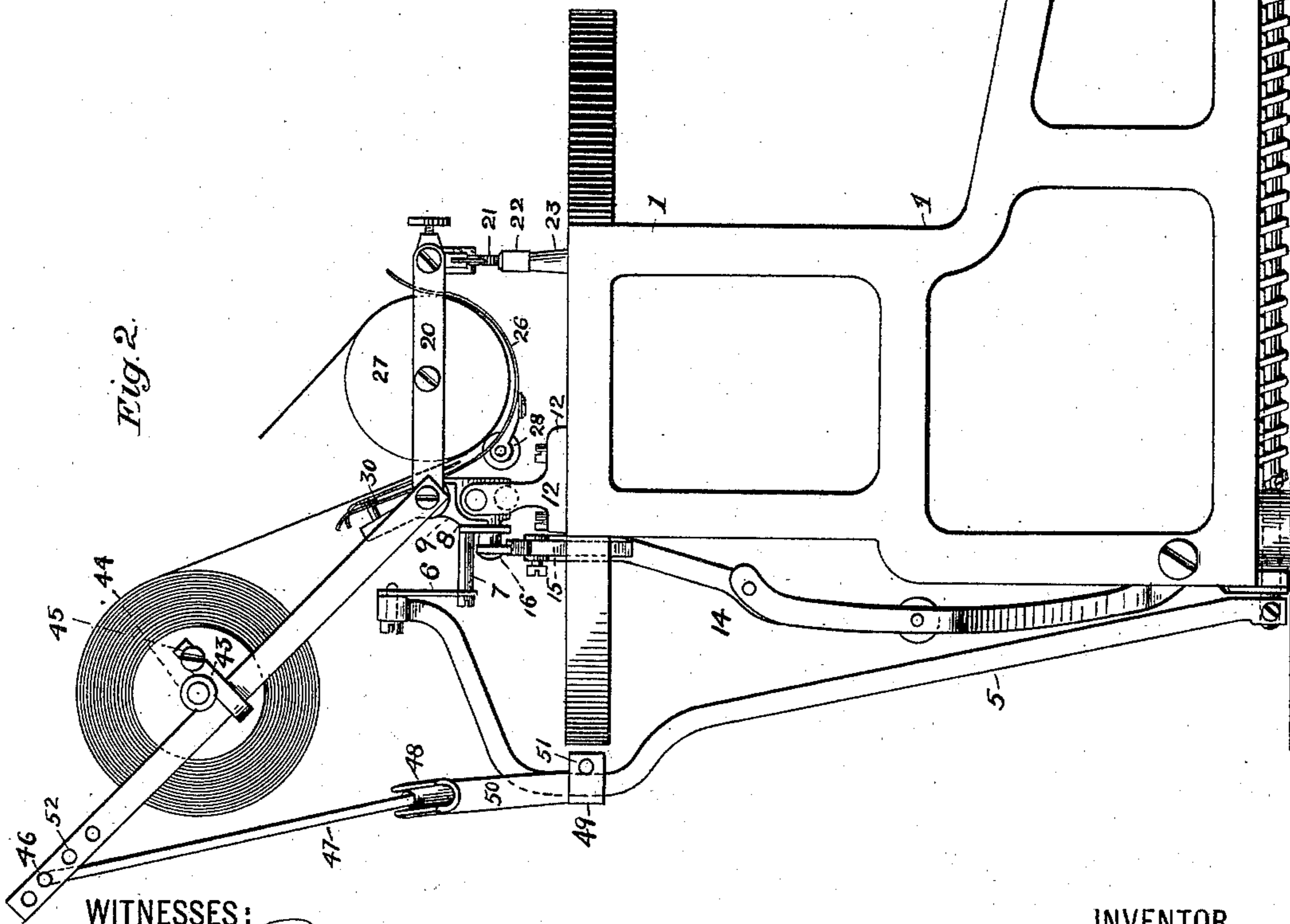


Fig. 2



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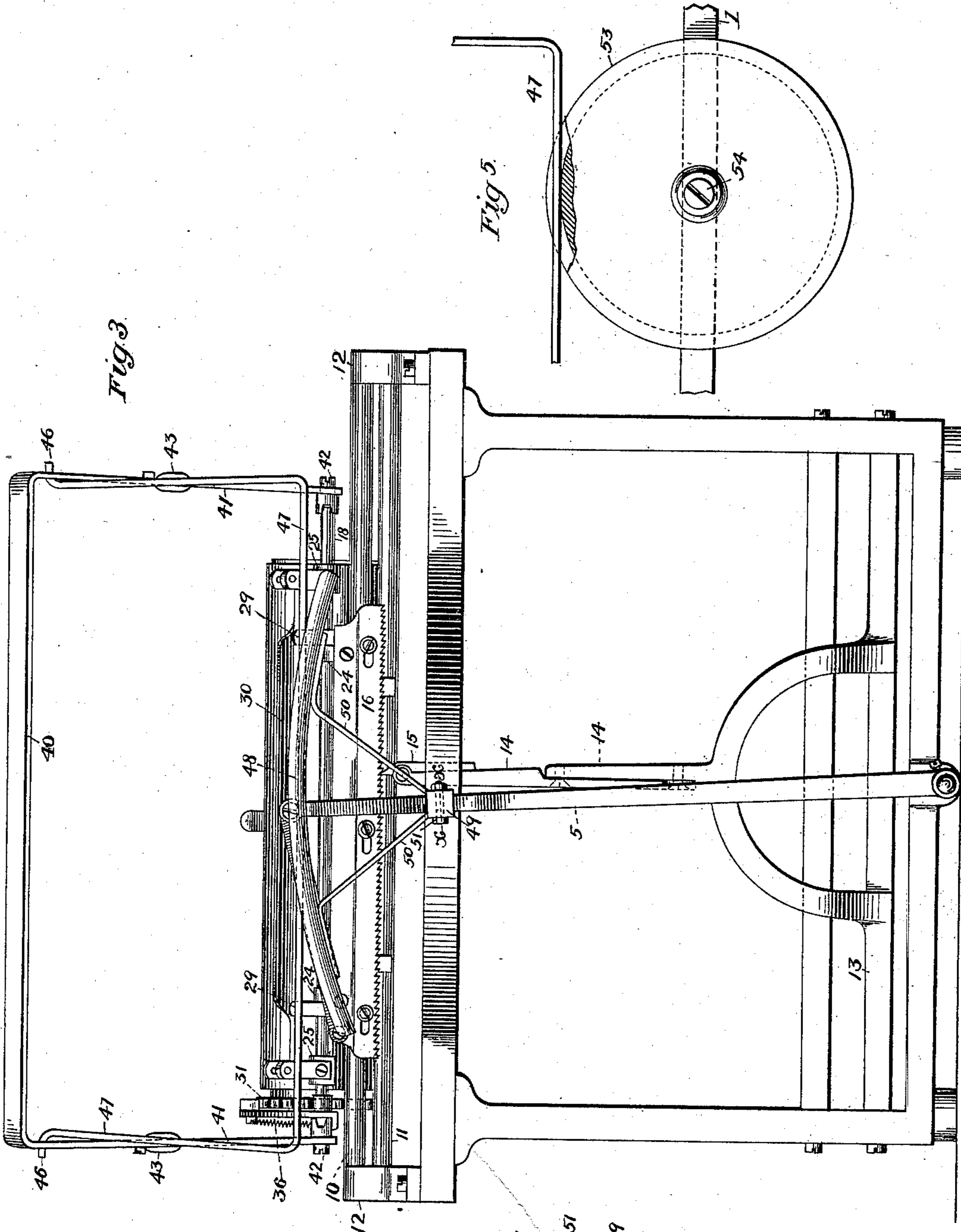
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J. V. HULSE, Jr.
TYPE WRITING MACHINE.

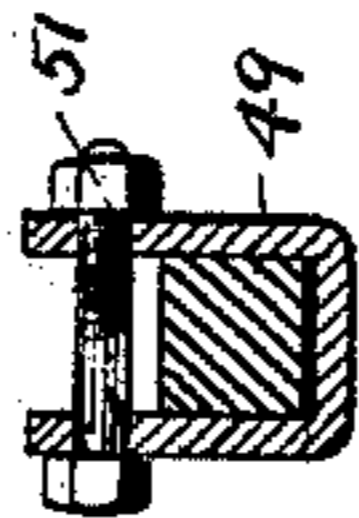
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Fig. 4.



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UNITED STATES PATENT OFFICE.

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TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 470,429, dated March 8, 1892.

Application filed June 30, 1891. Serial No. 397,966. (No model.)

To all whom it may concern:

Be it known that I, JAMES V. HULSE, Jr., a citizen of the United States, and a resident of Brooklyn, in the county of Kings 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 has for its main object to provide means for supporting a roll of paper in rear of the paper-platen of a type-writing machine in a manner such that the paper may be fed continuously to the platen as the writing progresses and without destroying the balance of the paper-carriage, or in any way interfering with its hinge or vibratory movements; and my invention has for further objects simplicity of construction and adaptability of the means for speedy attachment and detachment.

To these main ends my invention consists in the features of construction and combinations of devices hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view of a type-writing machine embodying my improvements, the roll of paper being shown in position in dotted lines. Fig. 2 is a side elevation of the machine shown at Fig. 1. Fig. 3 is a rear elevation of the same. Fig. 4 is a horizontal section taken at the line *x x* of Fig. 3. Fig. 5 is a sectional elevation of a modification of my invention; and Fig. 6 is a top plan view of a further modification.

In the several views the same part will be found designated by the same numeral of reference.

The type-writing machine illustrated in the accompanying drawings is that known as the "Caligraph," and said machine has been selected merely to show the application of my invention to type-writing machines, which of course may be applied to Remington or other constructions of type-writing machines.

1 designates the frame-work beneath which and centrally of the machine is arranged a horizontal shaft 2, provided with a driving-spring 3 and winding devices 4. At the rear end of said shaft is attached a vertical driving-arm 5, whose upper end is connected by

a link 6 to a pin 7, projecting rearwardly from the fixed rack 8 of the letter-space mechanism, said rack being secured to a yoke 9, mounted to slide on two parallel rods 10 and 11, fixed in brackets 12 mounted on the frame-work. At or near the bottom of the machine is pivoted a rocking or spacing frame 13, having a vertical portion 14, which carries at its upper end a pivoted dog 15 to engage with the fixed rack 8 and a loose rack 16 in the usual manner.

The paper-carriage is composed of a front rod 17, a back rod 18, and end bars 19 and 20. The front rod 17 carries an anti-friction roller 21, which rides on a track 22, supported by posts 23 on the frame-work, and the rear rod 18 is hinged or pivoted in ears or lugs 24, extending up from the yoke 9. Upon the rear rod 18 near each end is secured a bracket 25, to which is attached a spring 26, which is curved to pass around the under side of the platen 27, journaled to rotate between the end bars 19 and 20 to guide the paper and provide a support for one end of a pressure-roller 28. Attached to said rear rod 18 are two brackets 29, to which is affixed a paper table or shelf 30. The right-hand end of the platen is provided with a ratchet-wheel 31 for the engagement of a driving-pawl 32, pivoted to a line-space lever 33, mounted on the front rod 17. An arm 34 is pivoted on the rear rod 18, and is provided with a tooth or platen-check 35 and a spring 36 to prevent accidental rotation of the platen.

The above is a brief general description of the construction of the Caligraph type-writing machine, and I shall now proceed to describe my improvements as applied to a machine of this construction.

Referring to Figs. 1, 2, 3, and 4 of the drawings, 40 represents a roll-supporting frame, the side arms 41 of which are perforated at their lower free ends to slip or spring onto the ends of the rear carriage-rod 18 or upon pins or screws 42, forming prolongations of said rod. Upon said arms are attached lugs or stops 43 to hold the axle of the paper-roll 44. The lugs or arms are bent to surround the side arms 41, and are provided each with a set-screw 45, in order to permit of their adjustment upon said arms and the roll to be

supported at the desired locality. Near the upper end of the frame 40 is pivoted at 46 another depending frame 47, formed, like the frame 40, of three sides. The lower horizontal bar of the frame 47 is adapted to rest in a grooved segment 48, secured to the upper end of the spring-actuated driving-arm 5. The frame 40, being pivoted to the rear carriage-rod 18 and inclined rearwardly, and the frame 47 depending from the frame 40 and resting on the segment 48, the carriage driving-arm 5 is caused to bear practically the entire weight of said frames in addition to the roll of paper which is placed upon the frame 40 in the use of the contrivance, and hence the paper-carriage, although arranged in operative connection with the roll-carrying devices, is not burdened with the weight of the same and its proper balance in any way disturbed in consequence. By pivoting the frame 40 at the axis of vibration of the paper-carriage the latter may be turned up and down independent of the roll-carrying devices as freely as if said devices were not connected with said carriage, and by reason of this construction the carriage is adapted to travel properly upon its ways or guides uninfluenced by the roll-carrying devices.

I prefer to mount the supporting-segment 48 detachably upon the driving-arm 5, in order that this device, as well as the two frames 40 and 47, may be removed from the machine speedily when it may be desired to use the machine in the ordinary way for separate sheets of paper, and to provide for this detachability I employ a clamping-plate 49 at the lower ends of the stays 50 of the segment, which plate partially surrounds the driving-arm 5, and is held thereupon by a bolt and nut 51. (Shown more particularly at Figs. 3 and 4.)

In the use of the machine, with the paper-roll attachment connected thereto, the leading end of the paper is passed down over the paper-table in between the pressure-roller and the platen and between the guiding-springs and the platen up past the impression-point, as indicated at Fig. 2. When the paper has been thus adjusted, the writing may be proceeded with in the usual way continuously until the roll has been exhausted, or it may be interrupted at intervals to detach written parts of the roll of paper, as may be desired. The roll may consist of a continuous series of telegraph-blanks, which may be separated as each message has been written. As the carriage travels from right to left in the usual way under the influence of the spring-actuated driving-arm and escapement mechanism, the roll-carrying and supporting frames are caused to travel with the carriage and maintain the roll always in a given relation to the paper-platen. This relationship is of course also preserved when the carriage is returned to the right for the commencement of a new line. The inclination of the frame 40

may be varied by pivoting the frame 47 at different points along the side bars 41, as indicated by the pivot-holes 52 at Fig. 2.

Referring to Fig. 5, the supporting-frame 47 rests upon a flanged wheel 53, mounted to rotate freely on a pivot 54 of the frame-work of the machine, and this construction is designed for a Remington or other machine unprovided with a driving-arm, such as 5, and said wheel is adapted to serve the same function as the vibratory segment 48.

At Fig. 6 are shown my improved supporting means adapted for use for what is known as the "Thomas" feed-guide, which consists of a long or high supporting table or surface 55, having side flanges 56, adapted to receive a pile of separate sheets of paper and feed them to the platen, the arrangement being such that before the writing of the first pile has been completed another pile may be placed in the trough-like feed-guide to follow along after the first pile by gravity and enter the carriage automatically, so that the feed may be practically continuous.

In prior constructions and arrangements, the Thomas feed-guide has been rigidly attached to the paper-carriage and moved therewith in turning up and down the carriage to inspect or correct the work on the under side of the platen. This movement of the feed-guide with the carriage when turned up is objectionable, and by attaching the feed-guide rigidly to the carriage the balancing of the carriage is destroyed, the tendency of the feed-guide being to lift the carriage about its hinge-joint with the yoke.

As will be seen at Fig. 6, I propose to use my supporting devices in connection with the Thomas feed-guide. The said feed-guide is practically the same as the open frame 40, the only difference being that the latter is provided with a table-surface between the side arms and with flanges to guide a flat pile of paper. The side arms 41 are fitted or sprung over the ends of the rear hinge-rod 18 of the paper-carriage, as in Fig. 3, and to said side arms is pivoted the supplemental supporting-frame 47, which, as in the other case, rests in the grooved segment 48, attached to the carriage-driving arm 5. By this construction the weight of the feed-guide is removed from the carriage and is supported by the segment or wheel in the manner hereinbefore described where the devices are constructed or arranged for supporting a roll of paper.

The construction shown at Fig. 6 admits of the carriage being turned up and down freely without in any wise affecting the feed-guide.

My improvements may of course be embodied in any style or construction of type-writing machines, and numerous variations in detail construction may be made without departing from the gist of my invention.

The rotatory or pivoted segment and flanged wheel are arranged centrally of the machine widthwise and are the equivalents of each

other, since they both perform the office of sustaining the weight of the paper-support, be it adapted for a roll or for a flat pile of sheets, instead of causing the paper-carriage to bear such weight.

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

1. In a type-writing machine, the combination, with a hinged paper-carriage, of a paper-support pivoted to or connected loosely with said paper-carriage and a pivoted support in rear of the paper-carriage and arranged to sustain the weight of the paper-support and its load, substantially as described.

2. In a type-writing machine, the combination, with a hinged paper-carriage, of an inclined paper-support pivoted to or connected loosely with said paper-carriage, a frame depending from said paper-support, and a pivoted device arranged to support said frame and paper-support, substantially as described.

3. In a type-writing machine, the combination, with a hinged paper-carriage, of an inclined paper-support pivoted to or connected loosely with said paper-carriage, a depending frame pivoted to said support, and a pivoted device arranged to sustain said frame or support, substantially as described.

4. In a type-writing machine, the combination, with a hinged paper-carriage, of an inclined frame pivoted to or loosely connected with said paper-carriage, adapted to support a roll of paper, a supplemental frame depending from said paper-supporting frame, and a pivoted device adapted to support said frame, substantially as described.

5. In a type-writing machine, the combination, with a hinged paper-carriage, of an inclined frame pivoted to or loosely connected with said paper-carriage, adapted to support a roll of paper, a supplemental frame depending from said paper-supporting frame, and a pivoted driving-arm carrying a segment adapted to support said frames, substantially as described.

6. In a type-writing machine, the combination, with a hinged paper-carriage, of a paper-

support pivoted to or connected loosely with said paper-carriage, a supplemental frame depending from said paper-support, and a movable segment or its described equivalent for supporting the paper-supporting devices, substantially as described.

7. In a type-writing machine, the combination, with a paper-carriage, of an inclined paper-support, a depending frame, and a supporting-segment or its described equivalent, substantially as described.

8. In a type-writing machine, the combination, with a hinged paper-carriage, of an inclined frame pivoted to said carriage and having adjustable supports for a roll of paper, and means, substantially as described, for supporting said frame, substantially as described.

9. In a type-writing machine, the combination, with a paper-carriage and a supporting-segment or its described equivalent, of a paper-support consisting of two frames, one connected to the paper-carriage and the other resting on said segment or its equivalent, substantially as described.

10. In a type-writing machine, the combination, with a hinged paper-carriage, of a paper-support connected to said carriage to remain stationary when the latter is turned up and down, and a pivoted support arranged to sustain the weight of the paper-support and its load, substantially as described.

11. In a type-writing machine, the combination, with a hinged paper-carriage, of a paper-support connected to said carriage to remain stationary when the latter is turned up and down, a frame depending from said support, and a segment or its described equivalent, substantially as described.

Signed at New York city, in the county of New York and State of New York, this 2d day of June, A. D. 1891.

JAMES V. HULSE, JR.

Witnesses:

JACOB FELBEL,

LULLIE BROWNING.