

(No Model.)

3 Sheets—Sheet 1.

C. E. SARGENT.
TYPE WRITING MACHINE.

No. 405,606.

Patented June 18, 1889.

Fig. 2.

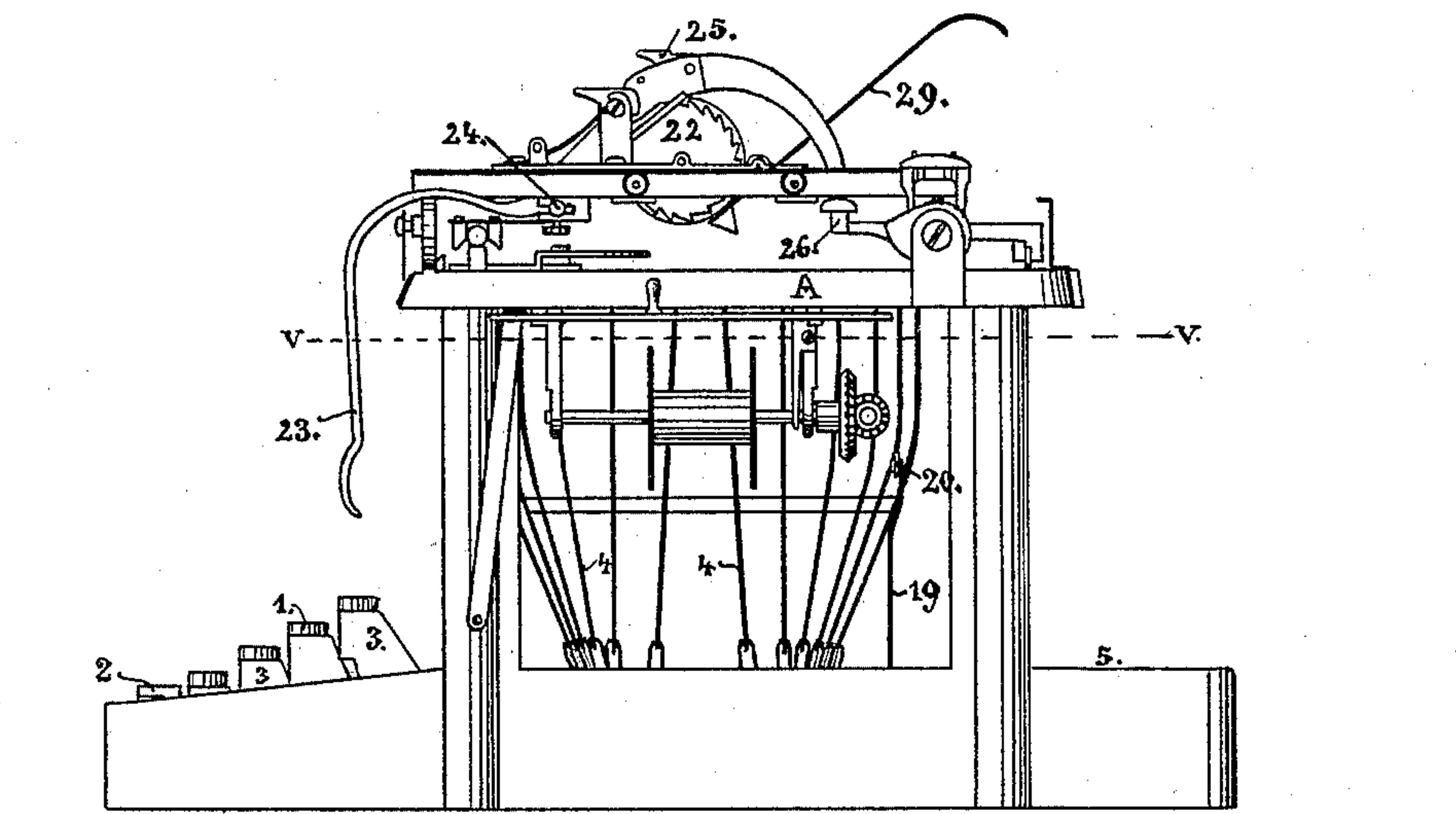


Fig. 1.

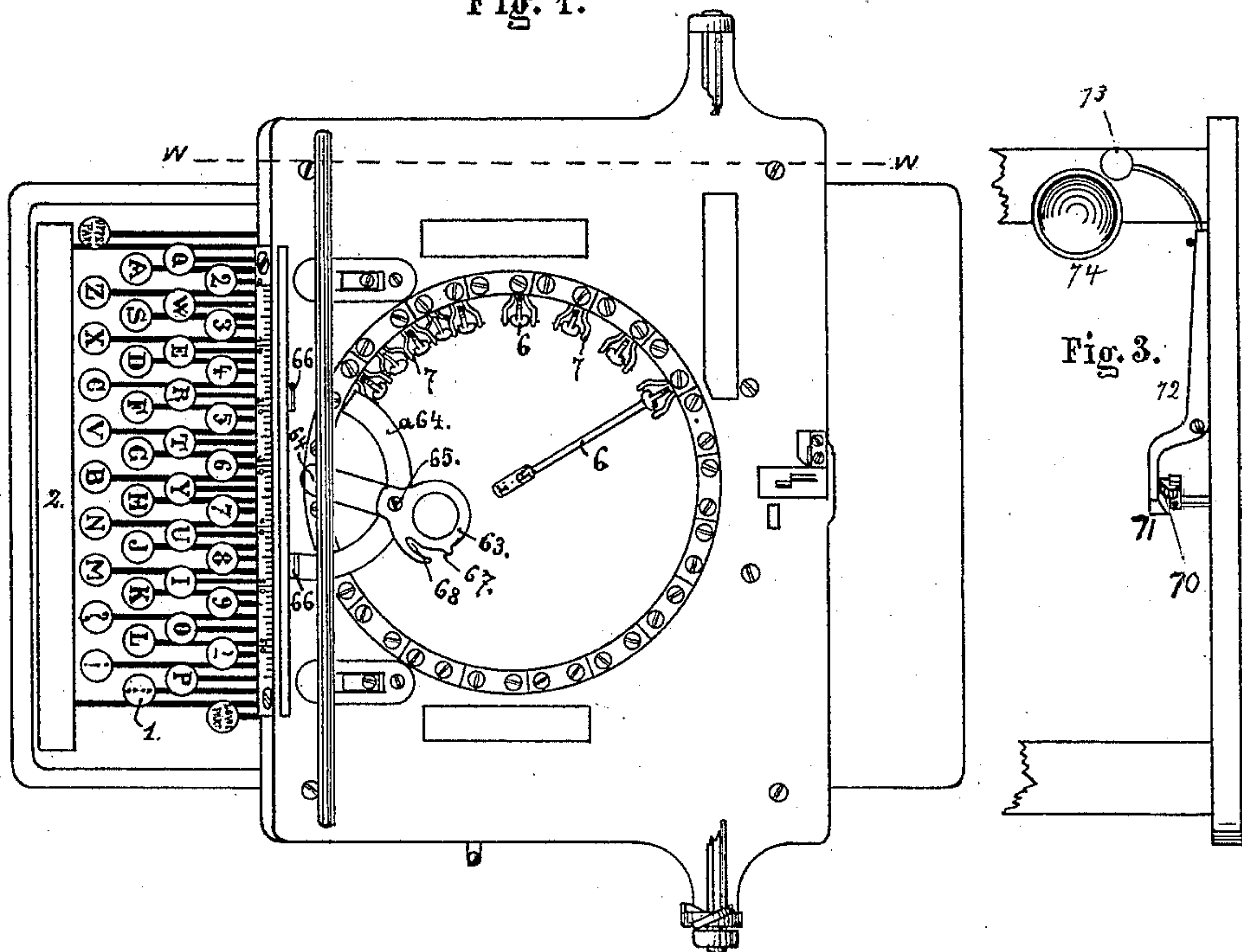
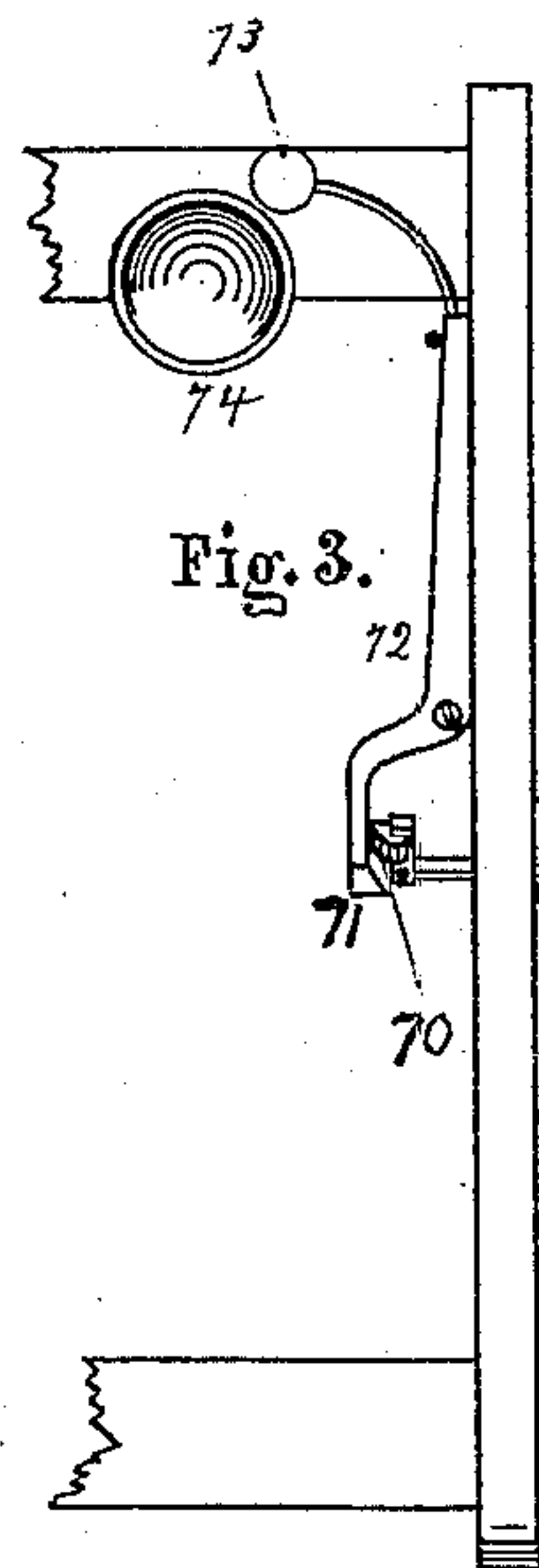


Fig. 3.



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Fig. 4.

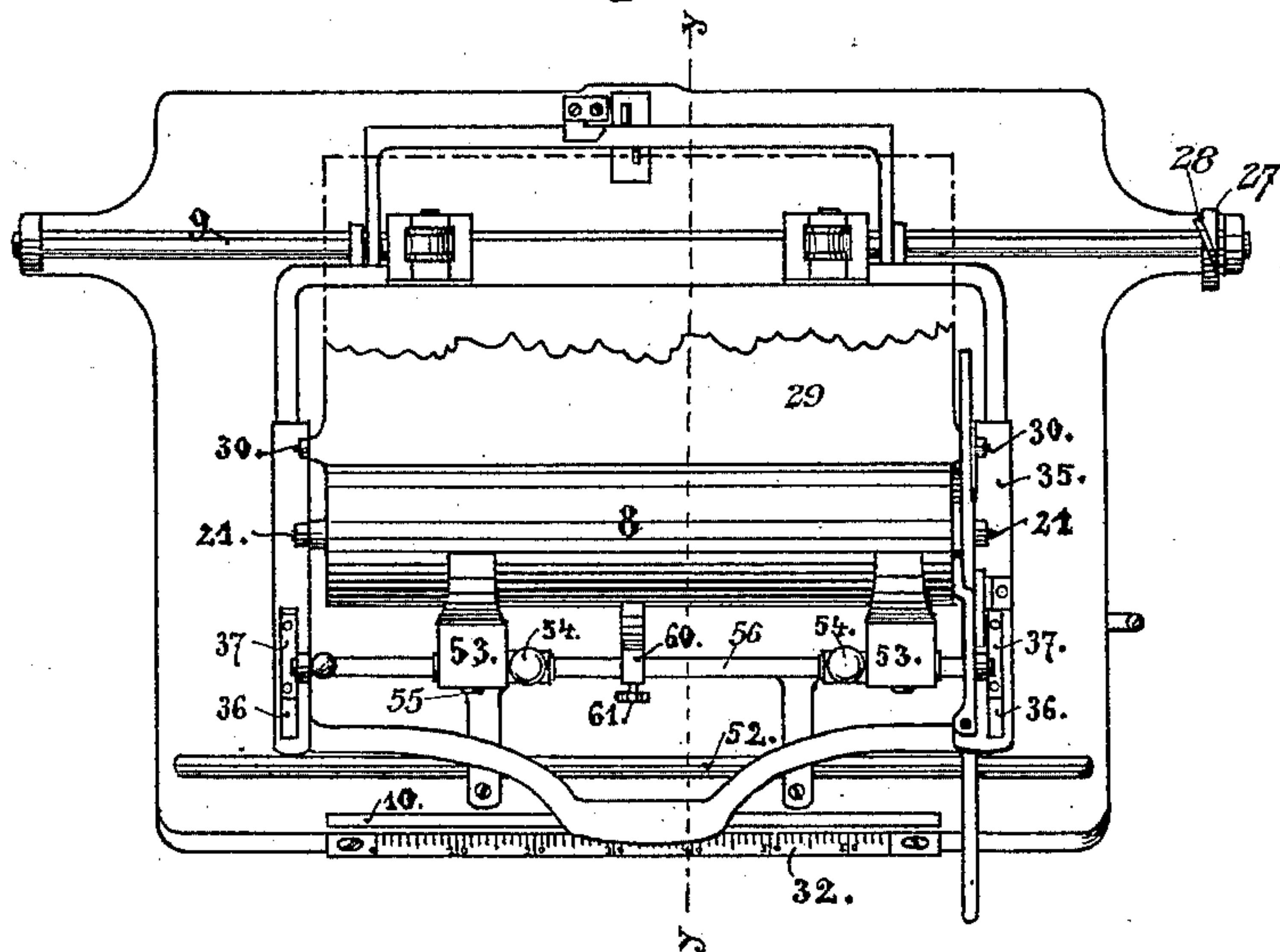
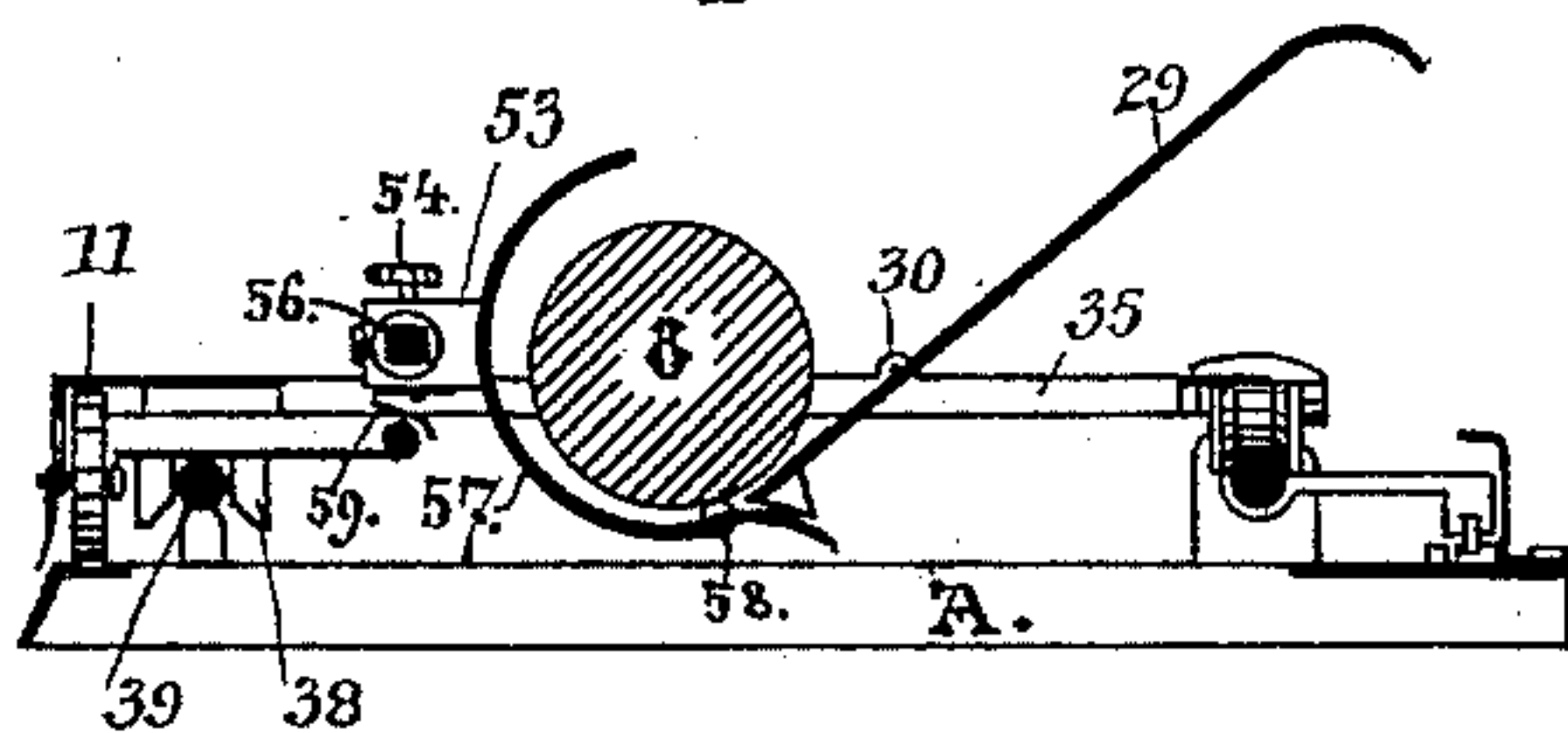


Fig. 5.



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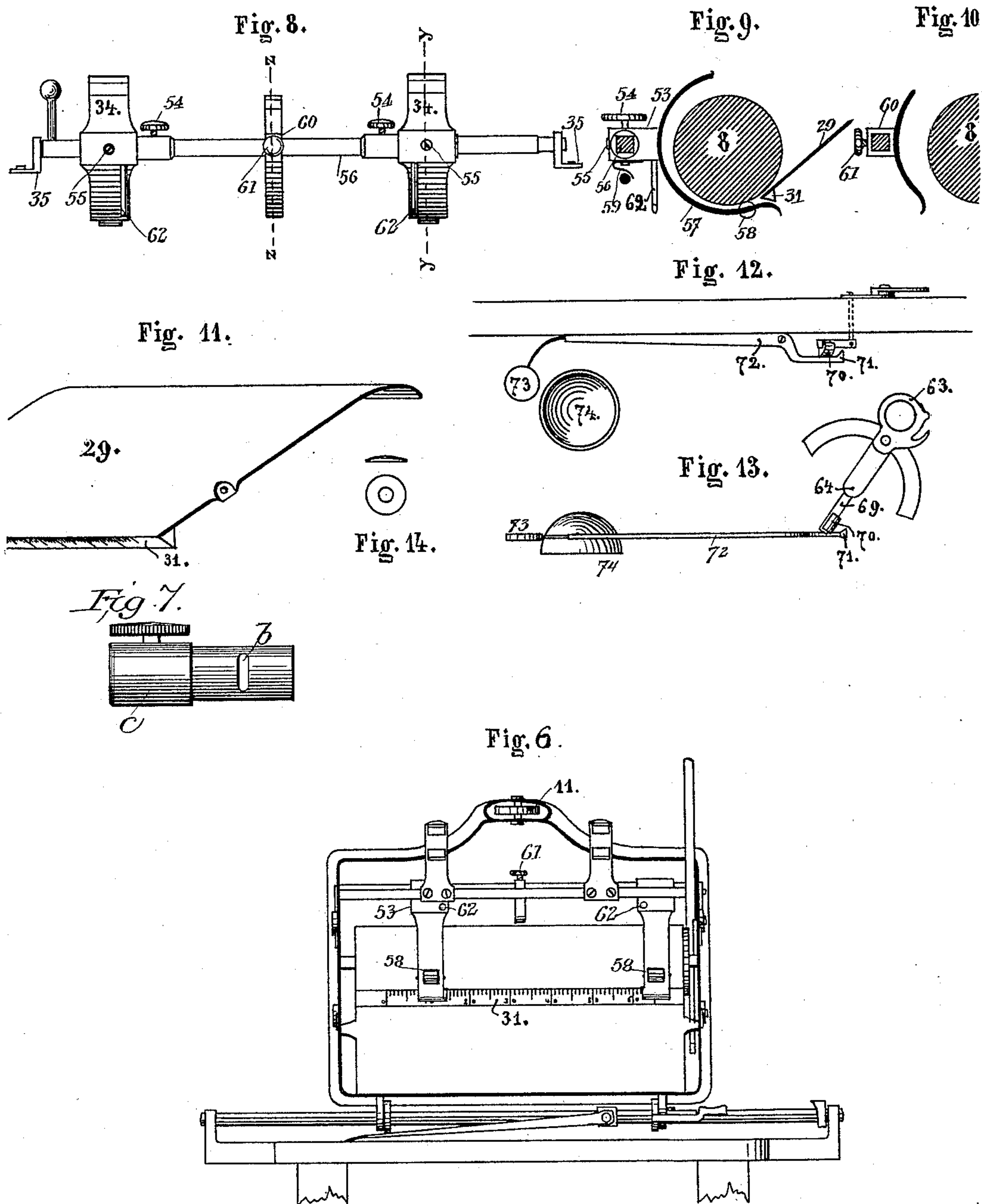
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3 Sheets—Sheet 3.

C. E. SARGENT.
TYPE WRITING MACHINE.

No. 405,606.

Patented June 18, 1889.



WITNESSES.

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UNITED STATES PATENT OFFICE.

CHARLES E. SARGENT, OF UTICA, NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 405,606, dated June 18, 1889.

Application filed March 26, 1886. Serial No. 196,720. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SARGENT, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to an improvement in type-writing machines; and it consists in the mechanism hereinafter pointed out and claimed.

Figure 1 is a plan view of the machine with the carriage removed. Fig. 2 is a right-hand end view of the machine. Fig. 3 represents a portion of the frame and details of mechanical construction mounted thereon. Fig. 4 is a top view of the machine and carriage mounted thereon. Broken lines indicate the portion of the pivoted paper-holding device removed. Fig. 5 is a cross-section of the carriage on line Y Y, Fig. 4. Fig. 6 is a reverse view of the carriage from that shown in Fig. 4, representing the carriage as raised to enable the operator to inspect the work at its projection. Fig. 7 represents a front view of the thimble. Fig. 8 is a front view of an adjustable stop device for accommodating paper varying in width and to limit the length of the printed line. Fig. 9 is a cross-section of Fig. 8 on line Y Y and a cross-section of the platen and pivoted paper-holding device. Fig. 10 is a cross-section on line Z Z, Fig. 8, and a cross-section of a portion of the platen. Fig. 11 is a perspective view of the pivoted paper-holding device. Fig. 12 is a front view of the automatic alarm and a section of the frame. Fig. 13 is a plan view of the automatic alarm. Fig. 14 is a plan and an edge view of a spring.

In the accompanying drawings similar letters of reference refer to corresponding parts throughout the several views.

My invention relates to an improvement in what is known as the "E. Remington & Sons Type-Writer," a well-known machine.

In constructing a type-writer with my im-

provements applied I use key-board 1, Fig. 1, and spacer 2. Each key is mounted on a pivoted lever 3. Levers 3 are fulcrumed in the frame at 5. Connecting-rods 4 connect the levers 3 with the short bell-crank of arm 6, carrying the type. Type-arm 6 is pivoted at 7.

8 indicates the platen, mounted on the carriage.

9 and 10 are the ways on which the carriage moves.

11, Fig. 6, is one of the wheels which help to support and carry the carriage.

21 21, Fig. 4, indicate the bearings of the platen on the carriage.

22 indicates the ratchet-wheel upon the end of the platen, through which the platen is rotated by means of lever 23, pivoted to the carriage at 24, which lever 23 carries spring-actuated dog 25, which engages the teeth of ratchet-wheel 22.

26 indicates a lever or handle for operating the rack by means of which the carriage is caused to move intermittently forward.

The foregoing-mentioned parts are those ordinarily used in a Remington type-writer, and for that reason are not further described.

Of course the ordinary means for causing the carriage to move intermittently forward and to move the inked ribbon are used in the machine having my improvements.

I dispense with the feeding-roll operated by rubber bands passing over pulleys operated by lever 23, as heretofore constructed, by providing a pivoted gravity paper-holding device 29, Fig. 11, which is pivoted in the carrier at 30 30, Fig. 4, and is free to be tilted up or down. By this device the paper, whether single or manifold, is held on the surface of the platen in such manner that the manifold sheets and carbons are free to pass between the lower surface of the gravity paper-holding device and the platen, where the same are held under uniform pressure without reference to the number of manifolds being produced. On the lower surface of the paper-holding device I provide scale-board 31, Figs. 6 and 11, corresponding to scale-board 32 on the front of the machine. These scale-boards are provided for adjusting the carriage to enable the operator

to insert or strike out a letter in a written line. The operator raises the rear of the pivoted paper-holding device and places a sheet of paper between it and the platen and moves
5 the same down until it comes in contact with anti-friction rollers 58, provided in the adjustable stops 53 53, Fig. 9.

By the use of my pivoted paper-holding device constructed as described I dispense with
10 the stationary scale-board heretofore used on the under side of the carriage by providing the scale-board on the lower surface of my pivoted paper-holding device, and I also dispense with the feed-roll of the same length
15 as the platen and the mechanism heretofore used for operating the feed-roll, my feeding device consisting in the paper-holding device and the anti-friction rollers supported in the adjustable slots, whereby paper varying in
20 width may be used.

My paper-holding device is pivoted in reciprocating carrier 35, mounted on the carriage to be moved with it from right to left. The carrier is constructed to be moved from
25 front to rear, and is at the extreme front of the travel, as shown in Fig. 5. This carrier consists of a flat piece of metal with a right-angle flange or projection, in which the paper-holding device, the platen, and the track on
30 which the adjustable stops are mounted are pivoted, so as to be simultaneously moved. Lever 23 and the mechanism therewith connected are also pivoted thereto and are movable therewith. I provide slots 36 36, Fig. 5, which fit over
35 stationary projections 37 37 on the carriage for limiting the movement of the carrier. This carrier is moved back and forth from front to rear of the machine on the carriage, at the will of the operator, by a key in the
40 key-board and connecting mechanism, which is the duplicate of that ordinarily used in the Remington machine for moving the platen back and forth from front to rear.

Another feature involved in my invention
45 consists in providing adjustable stops for accommodating different widths of paper and to regulate the length of the printed line and for feeding and conducting the paper during the operation of printing thereon, and a movable device for limiting the travel of the carriage according to the width of the paper
50 used and to automatically operate an alarm before the end of each printed line is reached. I accomplish this by providing a track 56, mounted at each end in movable carrier 35 on the top of the carriage, and constructed to simultaneously move from front to rear therewith in fixed relation to the platen. On this
55 track I mount adjustable stops 53 53, fitted loosely on the track to be horizontally adjustable thereon by thumb-screws 54 54, Fig. 4. These adjustable stops have a slight vertical movement by means of slot *b*, provided in thimble *c*, in which the set-screws are provided, Fig.
60 7, the stops being fitted over the thimble, having each a short slot for engaging screws 55 in the front of the adjustable stop. This slight

independent motion for each adjustable stop is provided for accommodating paper of unequal thickness which may be used in the
70 type-writer. A cross-section of the thimble on the track is shown at 56, Fig. 5. The adjustable stops are curved in form, constructed to conform, essentially, to the contour of the platen, as shown at 57, Fig. 5. In each ad-
75 justable stop I provide anti-friction roller 58, Figs. 5 and 6, of suitable material, which roller is continually kept in contact with the platen for holding the paper during the printing operation and for guiding the same around
80 the platen. The arm or end of each adjustable stop is held to its work by spring 59, of the required tension. This spring fits under the shoulder of the adjustable stop, and the lower surface of the spring rests upon a rod so
85 located and mounted in the carrier as to form a bearing by which the spring operates against the shoulder back of the rod on which the same is mounted, whereby the arm is at all
90 times kept in contact with the platen, substantially as shown in Fig. 5.

Another important result is obtained by the combination of the curved guides 57 with the pivoted paper-holding device, viz: The paper may be quickly and easily removed
95 from the machine without the trouble of rolling it through by simply lifting the pivoted paper-holding device 29, which lifts the small roller off the platen, and so relieves the paper. I provide the curved guide 57, Fig. 5, with curved ends engaging slightly the piv-
100 oted tilting paper-holding device for guiding the paper between the platen 8 and anti-friction roller 58. By this device it will be seen the paper is always guided to its upper posi-
105 tion. The adjustable stops are adjustable horizontally on the track to accommodate paper of different widths. I provide and mount on the track with the adjustable stop paper-
110 guide 60, Figs. 4, 8, and 10, fitting substantially the contour of the platen and adjustable horizontally by set-screw 61. This device, however, may be omitted without de-
115 parting from the spirit of my invention. On the under side of each adjustable stop I provide a lug or projection 62, Figs. 8 and 9. This is provided for engaging the movable
120 pivoted stop 63, Figs. 1 and 13. This movable pivoted stop is pivoted to the frame at the top of the type-writer at 64, Fig. 1, the swinging motion being limited by semicircle 64^a, which is rigidly held to the pivoted movable device by screw or rivet 65, and constructed to move therewith. It is quite ob-
125 vious that in practice the two may be formed in one piece. The ends of this semicircle, when moved from right to left or from left to right, come in contact with projecting studs 66 66 in the frame, whereby the motion or travel of the pivoted movable device is limited.
130 It is quite obvious that changes may be made in this construction without departing from the spirit of my invention. I do not, how-
ever, intend to limit myself in the construc-

tion or operation or location of this pivoted stopping device, so long as the same is constructed to engage lugs or projections made adjustable to engage therewith for regulating the travel of the carriage for accommodating paper of different width, as it will be readily seen that a great variety of these devices might be made to accomplish the same end.

10 The carriage being at the right of the machine, the pivoted stop will be in the position shown in Fig. 1. For engaging and moving the pivoted stop I employ lug 62 in the adjustable stop 53, Figs. 8 and 9. The lug or
15 lugs enter slot 68, Fig. 1, in the pivoted stop, which is carried or moved with the carriage to the left of the machine until the semicircle 64^a, Fig. 1, engages stud 66 in the frame, thereby bringing the carriage to a stop.
20 When the carriage is moved from the left to the right to begin the printing of a new line, the projecting lug fitting slot 68 engages the same and moves the pivoted stop and semicircle in the opposite direction. A projection
25 is also provided in the under side of the movable stop at the left, which engages the side of the pivoted stop opposite to the slot. The shape of this pivoted stop may be varied so long as a movable projection is provided
30 for engaging adjustable mechanism for regulating the travel of the carriage to accommodate paper of different widths or giving an automatic alarm at the end of each printed line. I provide an extension-arm 69, Fig. 13,
35 which is rigidly held to a rivet or shaft forming fulcrum 64 of the pivoted stop. On the end of this adjustable arm I provide pivoted cam 70, Fig. 12, which engages with projection 71 on the end of the lever 72, pivoted to the
40 frame, carrying bell-hammer 73 for engaging alarm-bell 74. When pivoted cam 70 passes over projection 71, the bell-hammer 73 is raised and instantly dropped by gravity on the alarm-bell, the several parts being con-
45 structed to give the alarm shortly preceding the last letter of each printed line.

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

1. In a type-writing machine having a carriage and a platen, the combination, with the
50 platen, of the gravity pivoted paper-holding device pivoted in the carriage back of the platen substantially on the same horizontal plane, the lower portion of the paper-holding device falling under the platen, the rear of
55 the paper-holding device forming an extended lever-plate, whereby its lower edge is always held by gravity under uniform pressure against the paper between it and the platen, substantially as set forth, for the purposes
60 stated.

2. The combination, with the platen, of the independently-adjustable stops mounted in front thereof, each stop having a curved end underneath the platen, and the tilting pivoted
65 gravity paper-holding device pivoted back of the platen, the lower edge thereof resting below the platen, substantially as set forth.

3. The combination of the independently-adjustable stops mounted in front of the
70 platen, each stop having a downward-projecting lug, with the pivoted stop for engaging the lug, substantially as set forth, whereby the travel of the carriage may be limited.

4. The combination, with the adjustable
75 stops mounted in front of the platen, each stop having a downward projection, of the slotted pivoted stop pivoted to the frame, with means, substantially as described, for limiting its movement, whereby the travel of
80 the carriage is limited, substantially as set forth.

5. The combination, with the carriage, of the adjustable stops having projections, the pivoted stop pivoted to the frame to engage
85 the projections, the extension-arm carrying a pivoted cam, the pivoted bell-arm for engaging the cam, and the bell, arranged substantially as set forth, for the purposes stated.

In witness whereof I have affixed my signature in presence of two witnesses.

CHARLES E. SARGENT.

Witnesses:

EDWIN H. RISLEY,
DANIEL MCGUCKEN.