

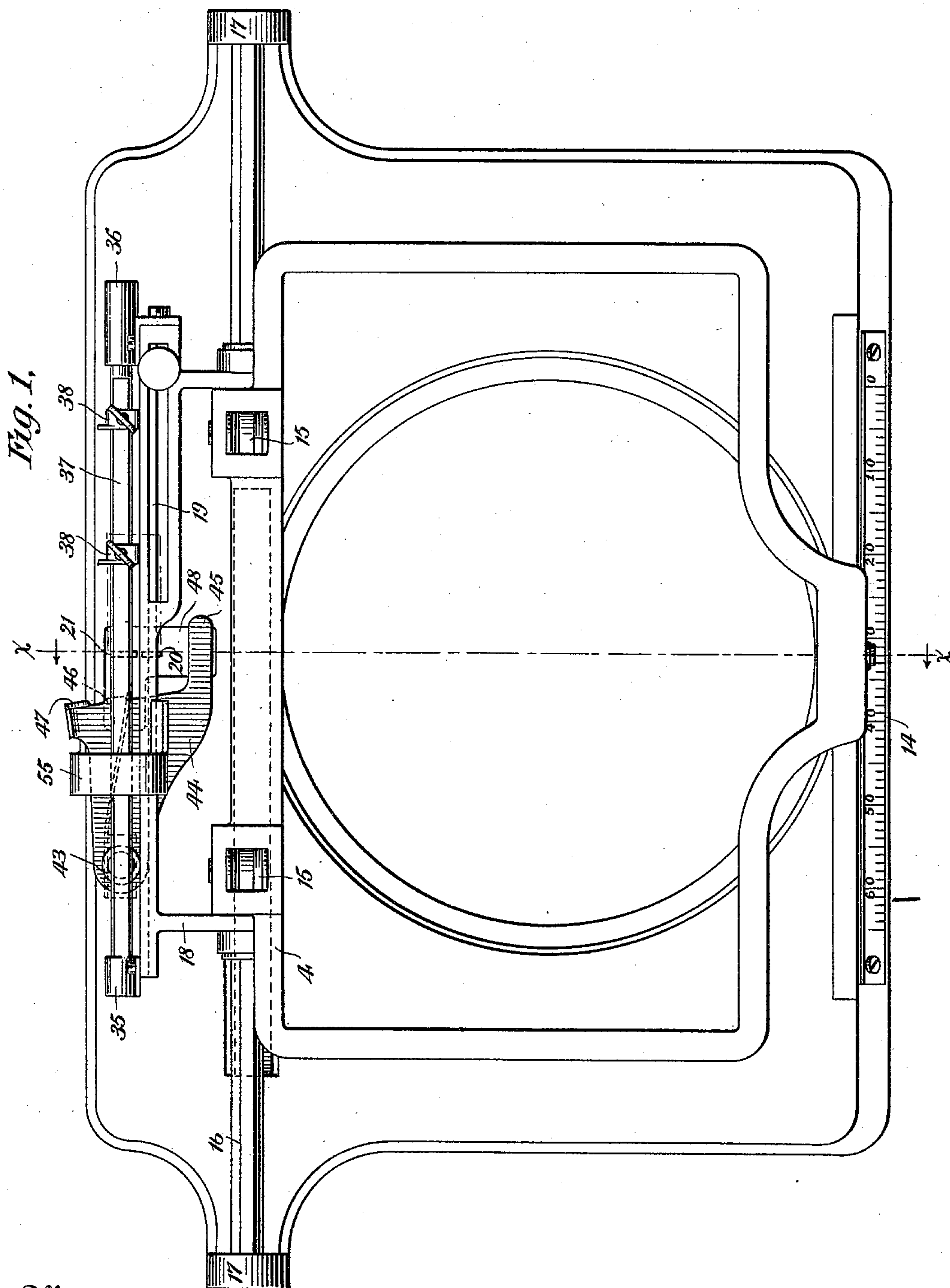
(No Model.)

3 Sheets—Sheet 1.

C. G. WARRINER.  
TYPE WRITING MACHINE.

No. 543,117.

Patented July 23, 1895.



Witnesses  
C. E. Ashley  
J. W. Lloyd.

Inventor  
Chester G. Warriner  
By his Attorney  
Jacob Felbel

3 Sheets—Sheet 2.

Patented July 23, 1895.



By his Attorney *Chester G. Warriner*  
*Jacob Felbel.*

(No Model.)

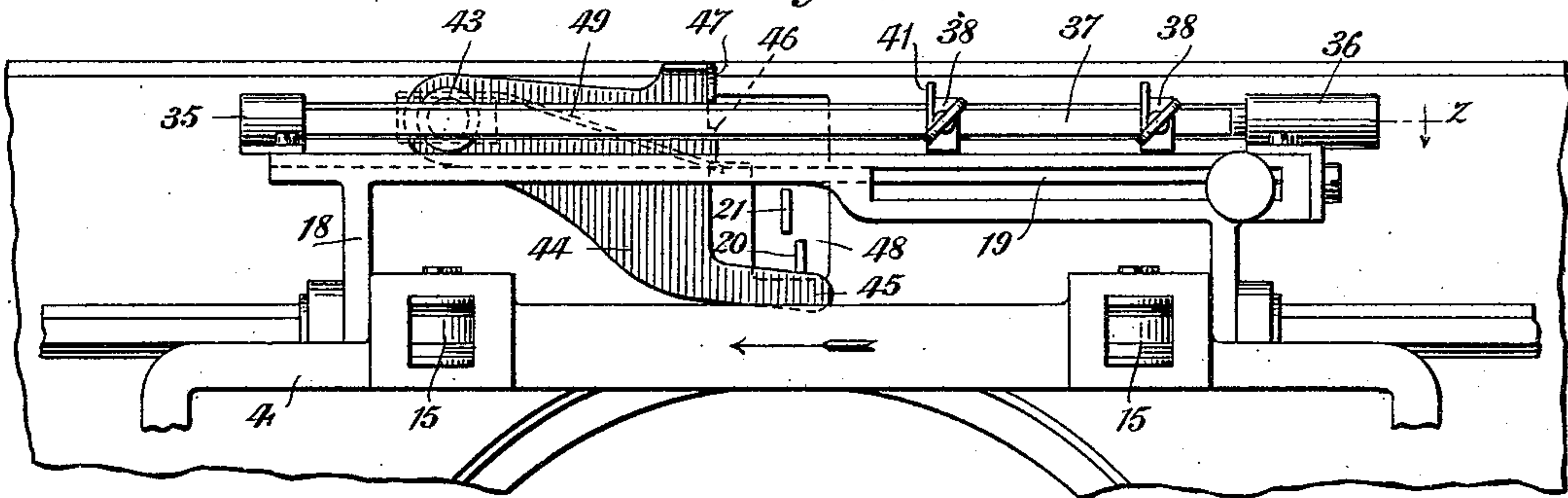
3 Sheets—Sheet 3.

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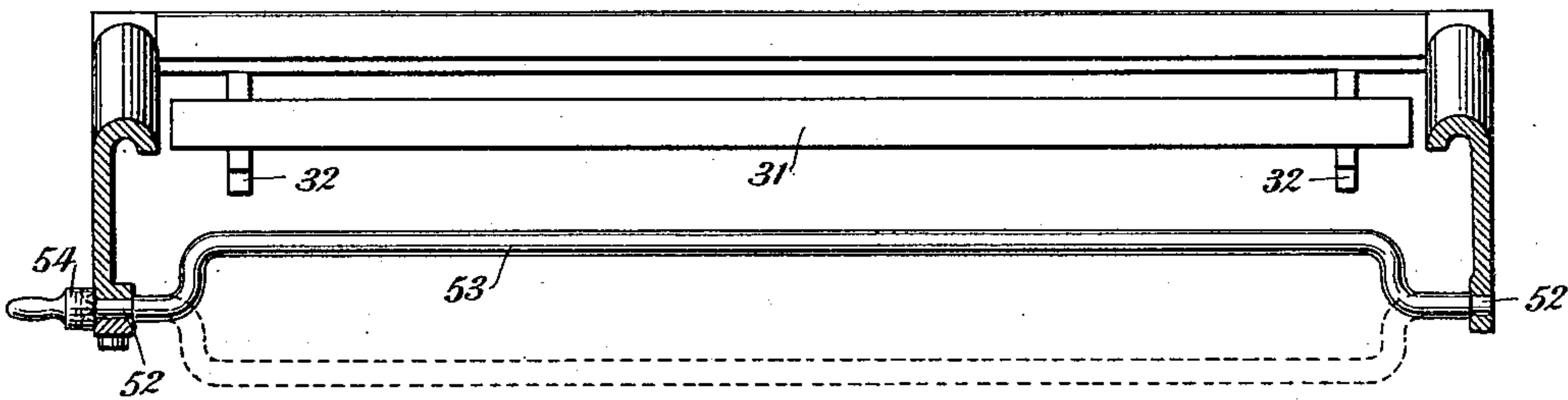
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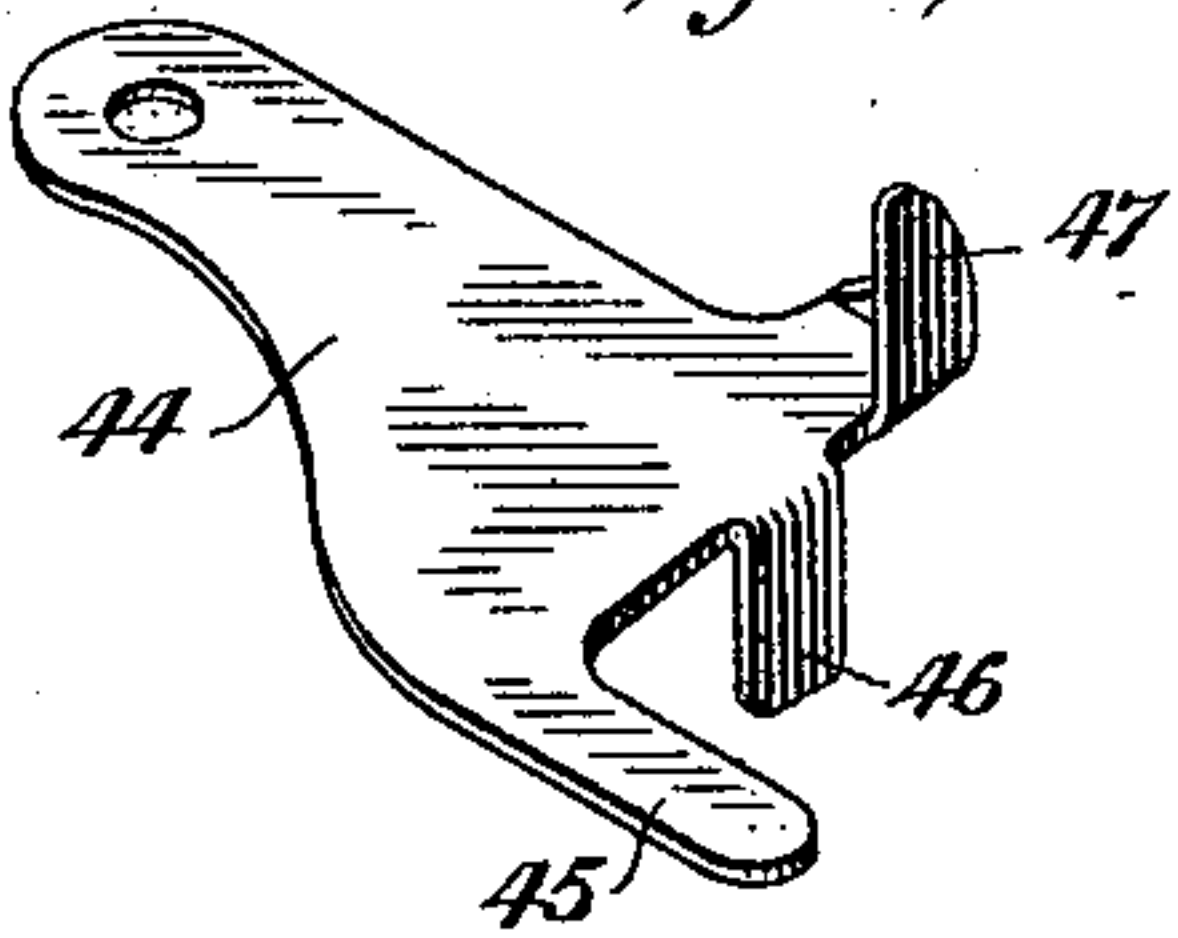
*Fig. 3,*



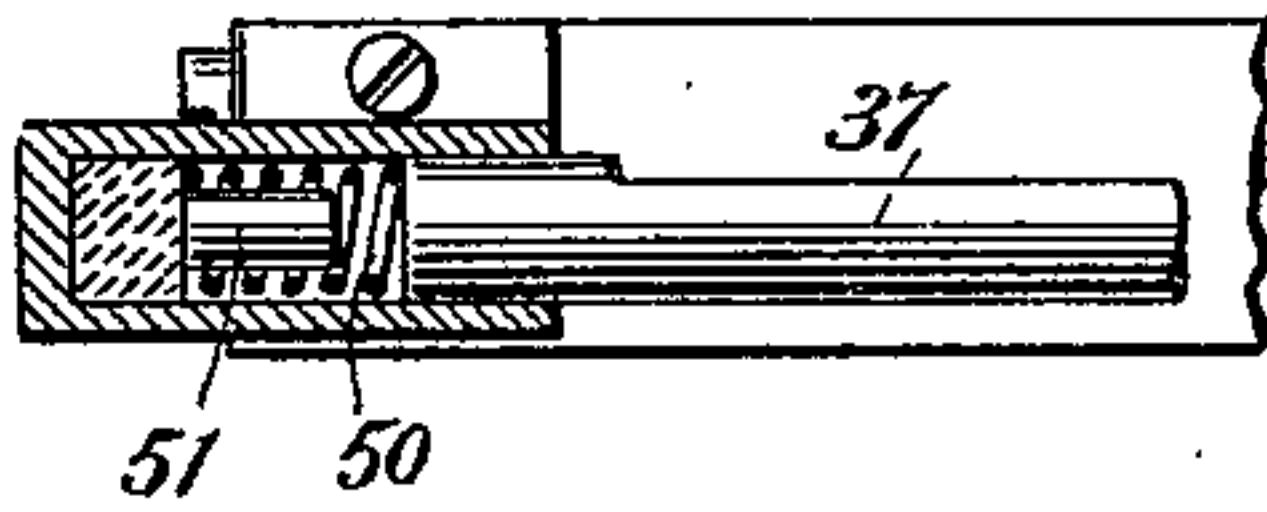
*Fig. 4.*



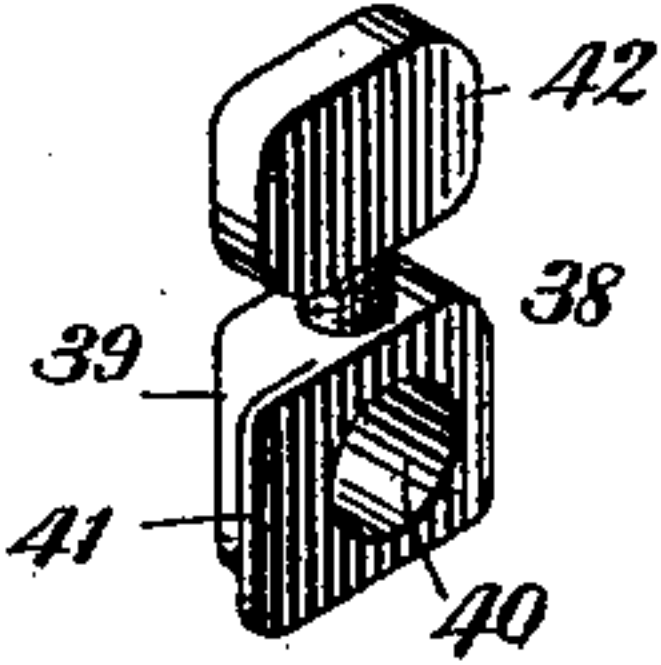
*Fig. 5,*



*Fig. 6,*



*Fig. 7,*



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C. E. Ashley  
H. W. Lloyd.

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Chester G. Warriner  
By his Attorney  
Jacob Felbel.



# UNITED STATES PATENT OFFICE.

CHESTER G. WARRINER, OF ARLINGTON, NEW JERSEY, ASSIGNOR TO THE  
WYCKOFF, SEAMANS & BENEDICT, OF NEW YORK, N. Y.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 543,117, dated July 23, 1895.

Application filed November 13, 1894. Serial No. 528,613. (No model.)

*To all whom it may concern:*

Be it known that I, CHESTER G. WARRINER, a citizen of the United States, and a resident of Arlington, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

The main object of my invention is to provide simple and effective means for doing column or tabular work; and to this end my invention consists in various devices, features of construction, and combinations of parts, all as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view of so much of a type-writing machine as is necessary to illustrate my improvements. Fig. 2 is a central vertical section thereof taken at the line *x x* of Fig. 1. Fig. 3 is a partial top plan similar to Fig. 1, but with some of the working parts in different positions. Fig. 4 is a vertical section taken at the line *y y* of Fig. 2. Fig. 5 is a perspective view of the vibratory abutment or stop device. Fig. 6 is a central vertical section taken at the line *z z* of Fig. 3 to illustrate the mode of mounting the stop-rod to provide against shocks, and Fig. 7 is a perspective view of one of the column-stops detached.

In the several views the same parts will be found designated by the same numerals of reference.

I have shown my improvements embodied in that description of type-writing machine known as the "Remington No. 2 Typewriter;" but I have embodied the same in other types of machines—such, for instance, as the "Caligraph"—and inasmuch as the invention is applicable to type-writers generally I do not wish to be considered as limiting myself hereinafter to the employment thereof in the particular construction of machine illustrated.

1 designates the base of the machine; 2, the uprights or posts; 3, the top plate; 4, the paper-carriage; 5, the shifting platen-carrier; 6, the platen; 7, the feed-roller; 8, the feed-band roller; 9, the shift-yoke; 10, the shifter-bar, and 11 the shifter-lever. The front side of

the carriage is provided with a wheel 12, which travels upon a track upon the top plate, and at the axis of this wheel is affixed a pointer 13, adapted to co-operate with a stationary scale 14 on the front side of the top plate, as usual. The rear side of the carriage is provided with grooved rollers 15, which travel upon a hinge and guide-rod 16 mounted in brackets 17. Projecting rearwardly from said rod 16 and hinged thereupon is a frame 18, which is provided with a vertical feed-rack 19, with which co-operate a feeding-dog 20 and a holding-dog 21. The feeding-dog is pivoted at 22 in a vibratory dog holder or rocker 23 and is provided with a spring to throw it toward the right (viewed from the front of the machine) when said dog is rocked forward out of the feed-rack, and the said holding-dog is mounted immovably upon said dog holder or rocker, which has a horizontal pivot at 24 in the framework and an actuating-arm 25, to a transverse bar 26 of which are attached the upper ends of connecting-rods 27, one at each side of the machine, the lower ends of which are attached to the universal bar 28. Suitable stops 29 are provided for the feeding-dog, and a returning-spring 30 for the dog holder or rocker, all in substantially the manner common to the Remington machine aforesaid.

31 designates the spacing-bar which extends transversely of the machine and in front of the bank of key-levers, the ends of said spacing-bar being attached to levers 32, one at each side of the machine, which levers bear upon the universal bar and are fulcrumed at 33 at the rear of the machine and have the usual spring 34 to return them and the spacing-bar after depression.

It will be understood, of course, that when the spacing bar or key is depressed for letter or word spacing the feeding-dog is rocked forward out of the rack and the holding-dog into the rack to arrest the carriage and that when the pressure upon the spacing-bar is released the feeding-dog returns into engagement with the rack, but into the next notch thereof, and simultaneously the carriage moves forward one letter-space.

In the carrying out of my invention I prefer to use the said spacing-bar and in the



manner and in connection with the devices which will now be described. At the left-hand end of the rack-bar frame is attached a tubular bracket 35, and at the right-hand end thereof another tubular bracket 36, which brackets support the cylindrical ends of a slightly-longitudinally-movable rod 37, bearing one or more column-stops 38, two of which I have shown. As constructed these devices consist of a block 39, perforated transversely, as at 40, to receive the rod 37, a stop or flange 41 projecting rearwardly, and a set-screw 42 passing vertically down through a threaded hole in the block to bear at its point upon the flat upper side of the column-stop rod 37. Pivoted vertically at 43 upon the top plate is a plate 44, provided at its front end with an arm 45, arranged in the plane of the plate, a downwardly-bent finger 46, and an upwardly-bent lug, stop, or abutment 47.

The top plate of the machine is provided with an opening, as at 48, extending forward a distance sufficient to enable both dogs to be vibrated forward entirely out of the feed-rack and to enable the foremost dog to act upon the horizontally-arranged arm 45, so as to vibrate said plate 44 during such forward movement of said dogs, so as to carry the lug, stop, or abutment 47 forward into the path of movement of the flange 41 of the column-stop device. The said plate is returned to its normal position when the dogs are moved back into the rack by a flat spring 49, secured at one end under the top plate and operated upon at its free end by the downwardly-bent finger 46. When the abutment 47 is vibrated forward it is struck by the flange 41 of the column-stop device and the carriage is thereby arrested. In order to relieve shock or jar occasioned by the contact of these two devices, the right-hand tubular bracket 36 is elongated and provided interiorly with a spiral spring 50, which at one end abuts against the end of the longitudinally-movable column-stop rod, and said tubular bracket is provided also with a supplemental soft-rubber cushion 51 to further absorb or relieve the shock, and especially when the jump or movement of the carriage is long and the momentum or striking force consequently great.

As stated, the escapement-dogs are vibrated forwardly entirely out of the rack to release the carriage, preferably by means of the spacer-bar and the intermediate connections, and to enable this to be accomplished the spacer-bar is arranged to be depressed farther than usual and to a greater extent than is necessary for spacing between words.

When it is not desired to use the machine for column work the following means may be employed to prevent an accidental depression of the spacing bar or key sufficient to entirely disengage the escapement mechanism during the act of spacing between words, &c.

In the side bars of the base of the machine is pivoted, at 52, a cranked or bent stop-bar 53 extending horizontally beneath the spac-

ing-levers 32 and in the path of depression thereof, as shown by the full lines at Figs. 2 and 4. One pivotal end of the stop-bar 53 may be provided with an outwardly-projecting or exteriorly-arranged handpiece 54, by which the stop-bar may be given a half-turn or brought down to the dotted-line position shown at said figures, and a spring or catch may be provided to hold said bar in both of its two positions. In the position in which it is shown by full lines the space-key is prevented from being depressed far enough to disengage the escapement mechanism, and hence the stop-bar is arranged in this position when the machine is employed for ordinary work only; but when the stop-bar is turned down to the dotted-line position the spacing-bar may be farther depressed to entirely disengage the members of the escapement mechanism, and hence when column work is to be done the stop-bar is turned down to the said dotted-line position.

The column-stop devices 38 are capable of adjustment upon the rod 37 to various localities in order that the carriage may be checked at various points, according to the nature of the work in hand. These adjustments may be quickly and accurately made in connection with the pointer 13 and scale 14, although, if desired, the column-stop rod itself may be graduated and marked in correspondence with the machine-scale. Owing to the peculiar construction of the feeding-dog in that form of escapement mechanism shown the column-stop device 38 is set one letter-space to the right of the point at which it is desired to stop the carriage. For instance, if it be desired to stop the carriage at "20" to begin the writing of a column, the column-stop is set with its flange touching the abutment 47 when the pointer stands in register with the nineteenth graduation on the machine-scale. This is so because when the spacing-bar is depressed and the feeding-dog escapes from the rack under the action of its spring it flies to the right one letter-space distance, and when the spacing-bar is released and the feeding-dog re-engages the rack the carriage feeds one letter-space distance, so that the pointer comes to "20" and the carriage commences to print from this locality. Of course in a feeding mechanism of different construction where there is an instantaneous take-up or no movement of the carriage upon the release of the spacer-bar or actuating-key this mode of setting the column-stop need not be followed, and instead the column-stop may be set at the point on the column-stop rod at which it is desired to commence the writing of the column, or, in the instance illustrated, the column-stop may be set in a position corresponding with "20" on the machine-scale.

From what has already been said the following brief description of the mode of operation will enable those skilled in the art to readily understand how the mechanism is to be used: Suppose one column-stop is set to



stop the carriage at "30" and another at "60" and the writing to be commenced at "0." The writing in the first column consumes fifteen spaces, say, and it is desired now to have the carriage jump or move quickly to "30" on the scale, in order that the second column may be begun. This quick movement of the carriage is effected by depressing the spacer-bar to its full extent, thus carrying the dogs entirely out of the rack and causing them to vibrate the stop-plate 44 to the position shown at Fig. 3, thereby bringing the abutment 47 into the path of movement of the flange 41. As soon as the dogs are freed from the rack the usual spring driving power (not shown) propels the carriage swiftly toward the left until the said flange 41 strikes the said abutment 47, whereby the carriage is arrested. Upon releasing the spacing-bar the dogs and the vibratory stop-plate return to their first positions, (shown at Fig. 1,) whereupon the writing may be resumed, and in the second predetermined column. Upon the completion of this writing the spacing-bar may be depressed, as before, and the carriage thus caused to jump or move quickly to the sixtieth position, where it is again arrested in the manner explained, and the matter to be written in the third column may then be proceeded with. In order to limit the upward hinge movement of the rack-bar frame, an arm 55 is attached by a screw 56 to the back edge of the top plate, and, rising therefrom, extends over the column-stops into the plane of the hinged rack-bar frame, as illustrated at Figs. 1 and 2.

It will be apparent that various changes in details of construction and arrangement will have to be made for different machines, and hence I do not wish to be limited to the precise construction and arrangement herein shown as adapted for the Remington No. 2 machine. It will also be understood that my invention may be employed in machines in which there is a differently-constructed carriage-feeding mechanism—as, for instance, in the Caligraph, where there is a single dog and a compound feed-rack instead of a single rack and a compound feed-dog, as in the Remington machine; and it will be further understood that, in so far as the main feature of my invention is concerned, the key for disengaging the carriage-feeding mechanism and throwing into operation the abutment 47 may be a key other than the spacing-bar, which, however, I prefer to use.

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

1. In a type writing machine, the combination of a power-driven paper carriage having one or more column stops, a feeding-mechanism, the parts of which are adapted to be entirely disengaged, one part being on the carriage and the other mounted in the frame work, and a movable abutment on the frame work adapted to be brought into the line of movement of the column stop by that part of

the escapement mechanism mounted in the frame work.

2. In a type writing machine, the combination of a power-driven paper carriage having one or more column stops and a feed rack, a vibratory dog to co-operate with said rack, and a movable abutment adapted to be brought into the line of movement of the column stop by said dog when the feed rack is released.

3. In a type writing machine, the combination of a power-driven paper carriage having one or more column stops and a feed rack, a vibratory dog to co-operate with said rack, and a vibratory abutment actuated in one direction by said dog and in the opposite direction by a spring.

4. In a type writing machine, the combination of a power-driven paper carriage having one or more column stops and a feed rack, a vibratory spring-pressed plate connected to be actuated by said dog and carrying an abutment adapted to engage the column stops on the carriage.

5. In a type writing machine, the combination of a power-driven paper carriage having a feed rack and one or more column stops, a vibratory dog to co-operate with said rack, a vibratory spring-pressed plate having an arm in the path of vibration of said dog, and an abutment adapted to be brought into the line of movement of the column stop.

6. In a type writing machine, the combination of a power-driven paper carriage having a feed rack and one or more column stops, a vibratory dog to co-operate with said rack, a vertically pivoted plate having the arm 45, the finger 46 and the abutment 47 and actuated by said dog, and a returning spring.

7. In a type writing machine, the combination of a power-driven paper carriage having a feed rack and a column stop consisting of a perforated block having a flange, a column stop rod on said carriage, means for securing said column stop to said rod, a vibratory dog to co-operate with said rack, and a movable abutment actuated by said dog.

8. In a type writing machine, the combination of a power-driven paper carriage having a feed rack and a column stop rod, a column stop mounted adjustably upon said rod and consisting of a perforated block, a flange and a set screw, a vibratory dog to co-operate with said rack, and a vibratory plate connected to be actuated by said dog and provided with an abutment.

9. In a type writing machine, the combination of a power-driven paper carriage having a feed rack and an endwise movable cushioned column stop rod, a column stop mounted upon said rod, and a movable abutment connected to be operated by the escapement dog.

10. In a type writing machine, the combination of a power-driven paper-carriage having a feed rack, tubular brackets, a column stop rod mounted to move endwise in said bracket-



ets and provided at one end with cushioning means, a column stop mounted on said rod, and a movable abutment connected to be operated by the escapement dog.

5 11. In a type writing machine, and in a column stop mechanism, the combination of a rod mounted to move endwise in tubular brackets, a coiled spring, and a supplemental cushion arranged in one of said brackets to  
10 oppose the right hand end thrust of the said column stop rod.

12. In a type writing machine, the combination of a power-driven paper carriage having one or more column stops and a feed rack, a  
15 vibratory escapement dog, a spacer bar, and a movable abutment connected to be actuated by said escapement dog.

13. In a type writing machine, the combination of a power-driven paper carriage having  
20 one or more column stops and a feed rack, a vibratory dog, a spacer bar connected thereto, and a vibratory spring-actuated abutment connected to be actuated by said escapement dog.

25 14. In a type writing machine, the combination of a power-driven paper carriage having one or more column stops and a feed rack, an escapement dog, a movable abutment connected to be actuated thereby, and a key for  
30 rocking said dog out of engagement with the rack and simultaneously moving the abutment into the line of movement of the column stop.

15. In a type writing machine, and in a  
35 column stop mechanism connected to the spacing bar of the machine, in substantially the manner shown and described, a stop rod mounted in the frame work and adapted to be turned to a position to limit the depression of said spacing bar and thereby throw  
40 out of action the column stop mechanism.

16. In a type writing machine, and in a column stop mechanism connected to the spacer bar of the machine, in substantially the manner shown and described, a cranked  
45 stop rod pivoted in the frame work and provided with a hand piece, as and for the purposes set forth.

17. In a typewriting machine, the combination with a separable escapement mechanism,  
50 and a power driven paper carriage having a column stop or stops, of a movable abutment to engage said column stop or stops, a spacing key for actuating the escapement mechanism and spacing normally between words,  
55 and a means for limiting the depression of said key for word-spacing, and movable to permit a further depression thereof for column stop action.

18. In a typewriting machine, the combination with a separable letter-space escapement, and a column stop mechanism, of a single spacing key, and a movable stop thereunder; the combination operating in substantially the manner described for the purposes  
65 set forth.

19. In a typewriting machine, the combination with a power driven carriage having a column stop, a feed rack, a feed dog, a column stop abutment moving with and controlled by  
70 said dog, and a spacing key having a variable depression to either cause the abutment to co-operate with said stop or effectuate merely the letter-spacing between words.

Signed at New York, in the county of New  
York and State of New York, this 12th day  
of November, A. D. 1894.

CHESTER G. WARRINER.

Witnesses:

JACOB FELBEL,  
I. MACDONALD.