

(No Model.)

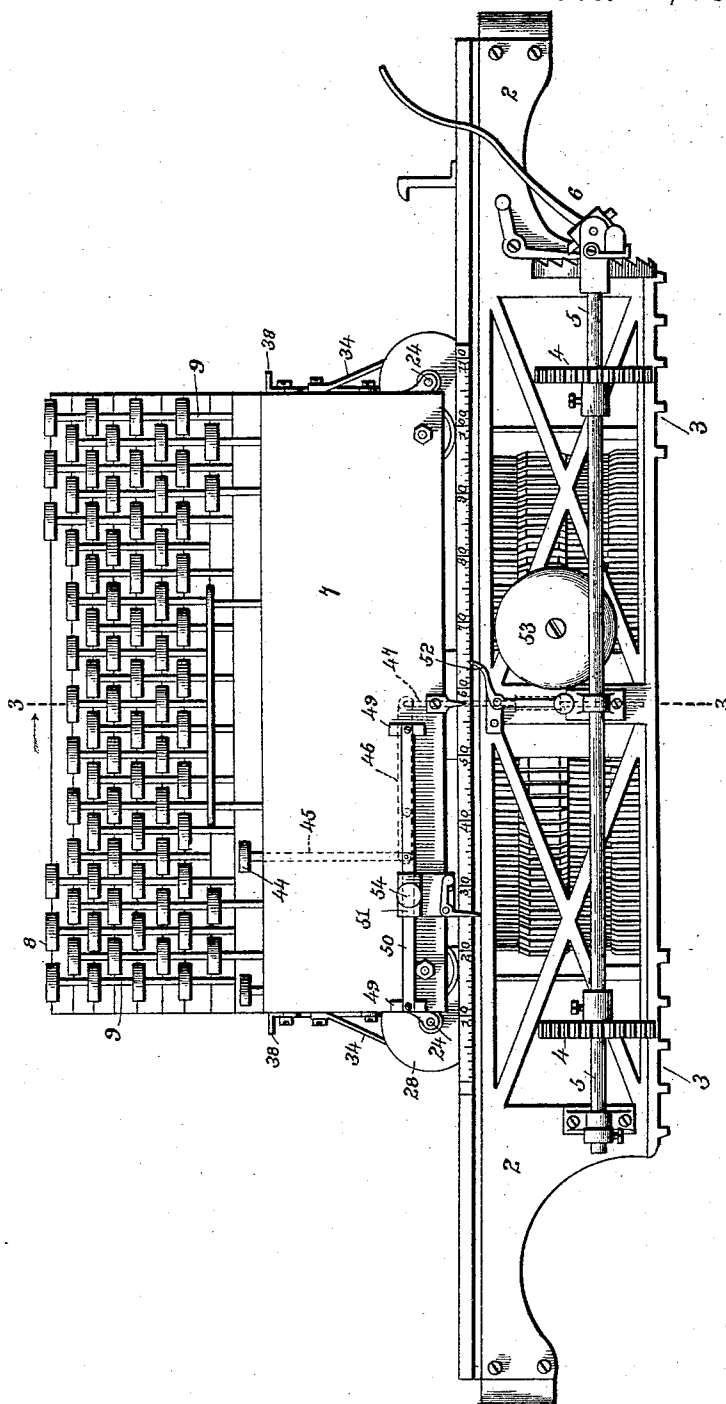
3 Sheets—Sheet 1.

R. J. FISHER.
TYPE WRITING MACHINE.

No. 569,491.

Patented Oct. 13, 1896.

FIG. 1.



Inventor

Witnesses

Jas. H. McLaughlin
[Signature]

By *His* Attorneys.

Robert J. Fisher

C. A. Snow & Co.

(No Model.)

3 Sheets—Sheet 2.

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FIG. 2.

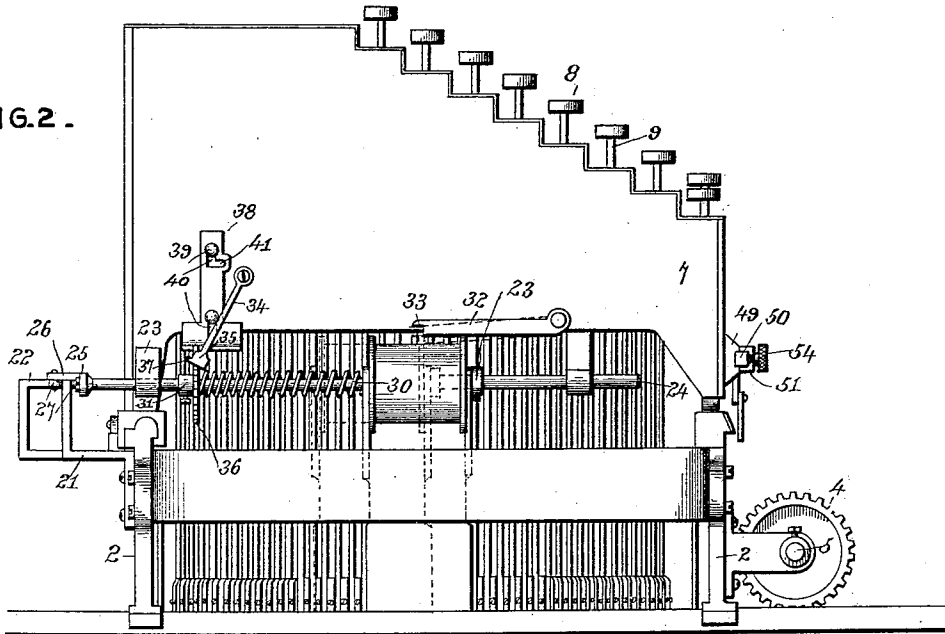
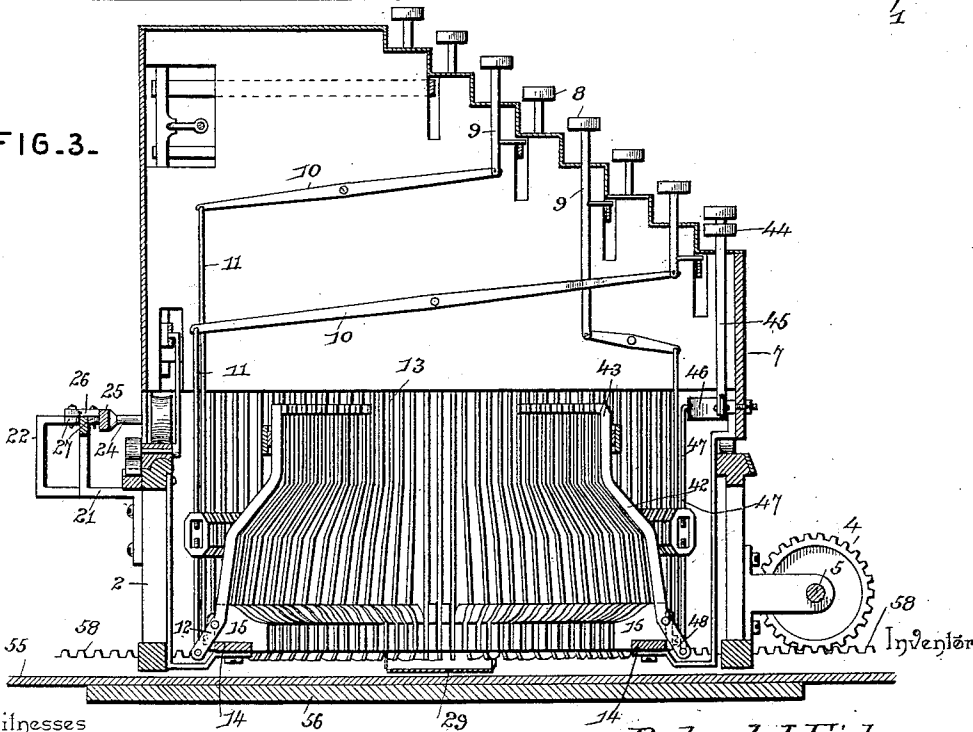


FIG. 3.



Witnesses

Jas. K. McElhannon

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By his Attorneys.

Robert J. Fisher

Carroll & Co.

(No Model.)

3 Sheets—Sheet 3.

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FIG. 4.

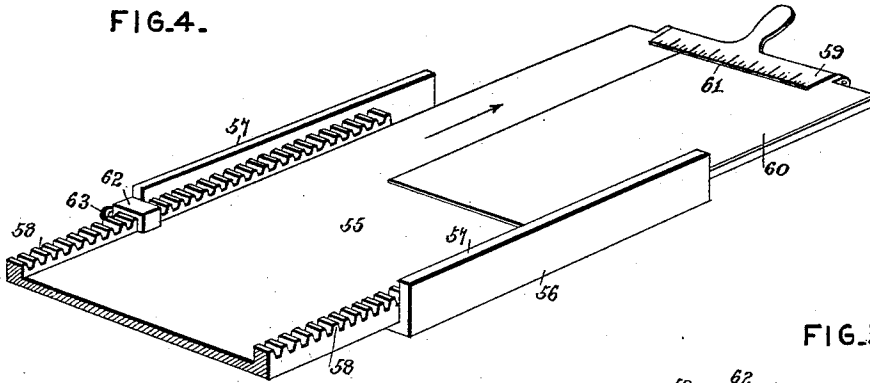


FIG. 5.

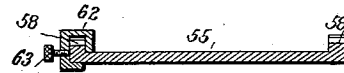


FIG. 6.

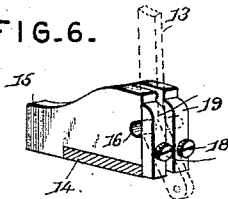


FIG. 7.

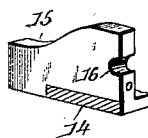


FIG. 9.

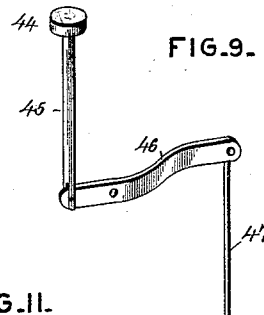


FIG. 12.

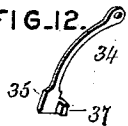


FIG. 10.

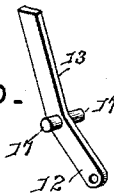
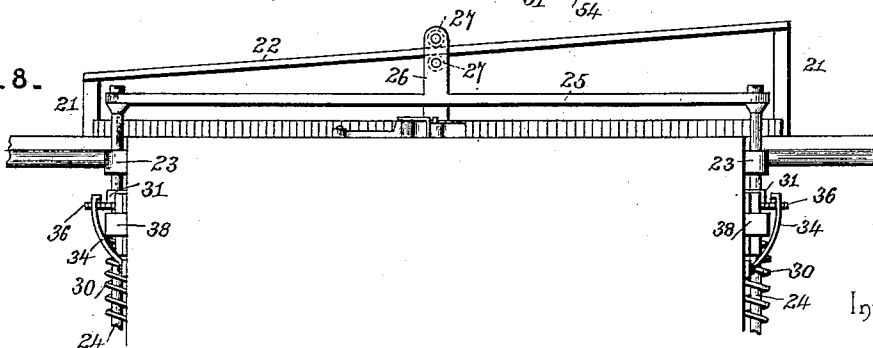


FIG. 11.



FIG. 8.



Inventor

Robert J. Fisher

Witnesses

Jas. K. McLaughlin
[Signature]

By his Attorneys.

Cashow & Co.

UNITED STATES PATENT OFFICE.

ROBERT JOSEPH FISHER, OF ATHENS, TENNESSEE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 569,491, dated October 13, 1896.

Application filed July 12, 1894. Serial No. 517,324. (No model.)

To all whom it may concern:

Be it known that I, ROBERT JOSEPH FISHER, a citizen of the United States, residing at Athens, in the county of McMinn and State of Tennessee, have invented a new and useful Type-Writing Machine, of which the following is a specification.

My invention relates to type-writing machines, and particularly to improvements upon the construction set forth in my application, Serial No. 489,634, filed October 31, 1893, the objects in view being to improve the construction of the type-bar-supporting ring, to provide improved means for feeding the ribbon-rolls longitudinally at the ends of the path of the carriage, and to provide means for locking the ribbon-rolls in such position as to expose the line of writing when viewing the same for the purpose of adjusting the carriage to make a correction, change, or interlineation.

A further object of my invention is to provide simple means for indicating a point in the line of writing at which the next letter will be imprinted.

A further object of my invention is to provide an improved form of a removable platen or tablet for use in letter-writing.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

In the drawings, Figure 1 is a front view of a machine embodying my invention. Fig. 2 is a side view of the same. Fig. 3 is a vertical central section on the line 3 3 of Fig. 1. Fig. 4 is a detail view in perspective of a platen or tablet for use in letter-writing. Fig. 5 is a transverse section of the same to show the adjustable stop. Fig. 6 is a detail view of a portion of the type-bar-supporting ring to show the parallel ears carried thereby for guiding the type-bars. Fig. 7 is a similar view of one of said ears with the bearing-block omitted. Fig. 8 is a plan view partly broken away to show the means for operating the ribbon-spools. Fig. 9 is a detail view in perspective of the means for operating the indicator or pointer. Fig. 10 is a detail view in perspective of the lower or pivotal end of one of the type-bars. Fig. 11 is a plan view in detail of the adjustable trip for operating the bell-hammer. Fig. 12 is a detail view in

perspective of one of the swinging arms for actuating the ribbon-spool ratchets.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The general construction of the machine forming the subject-matter of the present invention is similar to that embodied in the above-mentioned previous application, and therefore it will be necessary herein to describe the same only briefly.

1 designates the track-rails upon which the machine is mounted; 2, the frame, which is notched, as shown at 3, to fit slidably upon said track-rails; 4, pinions meshing with the rack-teeth upon said track-rails and carried by a common spindle 5, and 6 the mechanism for operating said spindle to feed the machine forward upon the track-rails.

7 represents the carriage, upon which are mounted the vertically-slidable keys 8, the stems 9 thereof being connected at their lower ends to the intermediately-pivoted levers 10, and the said levers being in turn connected by draw-wires 11 to the offset-arms 12 of the type-bars 13. The means for supporting the type-bars consist of a supporting-ring 14, provided at suitable intervals with vertical ears 15, which extend inward beyond the body portion of the ring and are provided at their outer ends with bearings 16, in which are fitted the trunnions 17 of the type-bars. Secured by means of screws 18 to the outer ends of these ears are the bearing-blocks 19, which hold the trunnions of the type-bars properly in place.

Attached by means of brackets 21 to the rear side of the framework is an inclined guide or way 22, and slidably mounted at opposite sides of the carriage in suitable bearings 23 are the ribbon-spool spindles 24, connected at their rear ends by a cross-bar 25, which is provided at an intermediate point with a shoe or traveler 26, having spaced antifriction-rolls 27 to bear, respectively, upon the front and rear sides of the guide or way 22. Feathered upon these spindles 24 are the ribbon-spools 28, having the ribbon 29, which passes downward and below the plane of the type-bar-supporting ring, said spools being normally held in their operative positions by means of return-springs 30, which

are coiled upon the spindles 24 between the rear ends of the spools and fixed collars 31. When it is desired to expose the line of writing, the ribbon-spools may be pushed back upon their spindles and against the tension of the springs 30, and when they have reached a point sufficient to withdraw the ribbon from the line of writing the spools are engaged by the gravity-catches 32, having notches 33 to fit the peripheries of the disks or flanges at the ends of the spools. These catches are pivotally connected to the side walls of the carriage and may be disengaged when it is desired to resume writing by raising their free ends.

The means for feeding the ribbon longitudinally at the end of each longitudinal movement of the carriage consists of swinging arms 34, pivoted to the sides of the carriage and terminating at their lower free ends in heads 35, which engage the peripheral teeth of the ratchet-wheels 36, fixed, respectively, to the ribbon-spool spindles 24. These heads 35 are provided with ears or projections 37 to prevent the disengagement of the swinging arms from the ratchet-wheels. Each of these swinging arms is pivoted to one side of the plane of the ratchet-wheel with which it engages when said ratchet-wheel is in its normal position, and therefore as the ratchet-wheel is carried forward with the spindle by the operation of the shoe or traveler on the guide or way it is brought closer to the vertical plane embracing the pivotal point of the arms, and hence a rotary movement is imparted to the wheel, advancing the latter a distance equal to the space between two of the teeth on its periphery.

In connection with the above device I also employ a gravity-catch or stop-pawl 38, mounted slidably upon headed pins 39 on the side of the carriage by means of the vertical slots 40, the upper of said slots being provided with an offset 41, whereby when the catch or stop-pawl is elevated out of engagement with the teeth of the ratchet-wheel and the upper edge thereof is pushed rearward to engage the offset portion 41 of the upper slot with the pin 39 the pawl is held in its elevated or inoperative position. When the catch or stop-pawl is in its operative position, its lower edge is in engagement with the teeth of the ratchet-wheel and return or backward movement of such wheel is prevented. Hence the catch or stop-pawl at one end of the carriage is adjusted to engage the contiguous ratchet-wheel, while the other is elevated and held out of engagement with its ratchet-wheel.

The pointer or indicator 42 is pivotally connected to the type-bar-supporting ring in a manner similar to the type-bar, and this construction substantially has a type-bar, the free end of the same being reduced to a point, as shown at 43, whereby when lowered the precise point at which the next letter will be printed will be indicated. Said pointer or indicator is operated by means of a key 44,

the shank 45 of which is connected to one arm of the lever 46, while the other arm of said lever is connected by a draw-wire 47 with the offset-arm 48 of the pointer or indicator.

Attached to the front side of the carriage by means of suitable brackets 49 is a cross-sectionally angular gage-bar 50, supporting a trip 51, which is adapted to engage the arm 52 to sound the alarm-bell 53. The bar 50 is provided with graduations to enable the trip to be accurately adjusted, and said trip is provided with a thumb-screw 54 to enable it to be locked at the desired adjustment.

For use in letter and similar writing I employ a platen or tablet such as I have illustrated in Fig. 4, in which the platen or tablet proper (shown at 55) is mounted slidably in a base 56, having lateral flanges 57, the said platen or tablet proper being provided at its side edges with racks 58, with which engage the pinions 4. When this platen or tablet is used in connection with the machine, the frame of the latter rests upon a stationary support, and the platen or tablet is moved forward or rearward by the operation of the pinions 4. Attached to the rear edge of this platen or tablet is a clip 59 to engage the upper edge of a sheet of paper, such as shown at 60, said clip having a straight clamping edge 61, which is provided with a scale to engage the width of the paper which is being used, in order that the alarm-trip 51 may be set to agree with the width of the paper and thus ring at the proper point.

Attached to one edge of the platen or tablet is an adjustable stop 62, having a locking-screw 63, and the function of this stop is as follows: During the writing upon a sheet of paper, such as that shown in connection with the improved platen or tablet, if it becomes necessary to view the result of the work so far as has been completed the stop 62, which is loosely or slidably mounted upon said platen, is moved backward until it comes in contact with the front edge of the base 56, when the thumb-screw 63 is tightened to lock the same in place. The platen or tablet may then be drawn out independently of the base 56, and after the necessary perusal of the work upon the sheet of paper said platen or tablet may be returned and should be pushed back until the stop 62 again comes in contact with the front edge of the device. The thumb-screw 63 should then be loosened to allow free movement of the platen or tablet. It will be obvious that inasmuch as the movement of the tablet or platen during operation is rearward, or in the direction indicated by the arrow in Fig. 4, the adjustable stop 62 will normally maintain the position in contact with the front end of the base, and thus in order to view the work thus far completed it is simply necessary to grasp and turn the thumb-screw 63 in order to secure the stop and indicate the position to which it must be returned.

It will be understood that in practice vari-

ous changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having described my invention, what I claim is—

1. In a type-writing machine, the combination with a frame, a carriage mounted thereon, means for feeding the carriage on the frame, type-bars, keys and operating connections, of ribbon-spool spindles slidably mounted upon the carriage for movement transverse to the line of writing, means for moving said spindles longitudinally during the movement of the carriage, ribbon-spools carried by said spindles, ratchet-wheels fixed to the spindles, and pivotal arms supported by the carriage and arranged in operative relation at their free ends with said ratchet-wheels, the pivotal points of the swinging arms being out of the vertical planes of the ratchet-wheels, substantially as specified.

2. The combination with a framework, a carriage mounted thereon, feeding devices for the carriage, type-bars, keys, and operating connections, of ribbon-spool spindles slidably mounted upon the carriage for movement transverse to the line of writing, means for moving said spindles longitudinally, ribbon-spools carried by the spindles, ratchet-wheels fixed to said spindles, swinging arms pivotally connected to the carriage and arranged at their free ends in operative relation with the ratchet-wheels, catches or stop-pawls mounted upon the carriage to engage the teeth of the ratchet-wheels and prevent backward or return movement thereof, and means for locking said catches or stop-pawls out of operative relation with the ratchet-wheels, substantially as specified.

3. The combination with a frame, a carriage mounted thereon, feeding mechanism for the carriage, type-bars, keys, and operating connections, of ribbon-spool spindles mounted upon the carriage, means for rotating the spindles, ribbon-spools slidably mounted upon said spindles, springs coiled upon the spindles and bearing against the spools to maintain them in their normal positions, and catches pivoted to and supported by the carriage adjacent to the spindles to engage the spools when moved out of their normal positions, substantially as specified.

4. The combination with a frame, a carriage mounted thereon, feeding mechanism for the carriage, type-bars, keys, and operating connections, of ribbon-spool spindles mounted upon the carriage, means for rotating said spindles, ribbon-spools feathered upon the spindles, springs for normally holding the spools in their normal positions, and gravity-catches normally bearing upon the peripheries of the ribbon-spools and provided with catches to engage the same when the spools are pressed backward against the tension of

their actuating-springs to expose the line of writing, substantially as specified.

5. In a type-writing machine, the combination with a framework, a carriage and printing mechanism, of a ribbon-spool, means for imparting axial movement to the spool to feed the ribbon transversely, and a pivotal arm having a fixed pivot on the carriage and adapted to swing parallel with the plane of the axis of the spool, the free end of the arm being held by gravity in permanent engagement with a ratchet fixed to the spindle of the spool and being provided with a lateral ear or projection in contact with the side of the ratchet to prevent disengagement, substantially as specified.

6. The combination with a frame, a carriage mounted thereon, feeding mechanism for the carriage, a type-bar-supporting ring depending from the carriage, type-bars, keys, and operating connections, of a pointer or indicator pivotally mounted upon the type-bar-supporting ring and having a reduced or pointed free extremity adapted when depressed to indicate the point of impression of the next printing-character, said pointer being shorter than the type-bars to terminate short of the point of impression, a key arranged contiguous to the keyboard, and connections between the key and the pointer, substantially as described.

7. The combination with a frame, a carriage mounted thereon, feeding mechanism for the carriage, type-bars, keys, and operating connections, of a stationary base, a platen or tablet mounted in said base for movement transverse to the line of writing, means for securing paper upon the upper surface of the platen or tablet, and an adjustable stop carried by and movable parallel with one of the side edges of the platen or tablet and adapted to engage a fixed part of the base to indicate the position of the platen or tablet when returned after displacement, substantially as specified.

8. The combination with a frame, a carriage mounted thereon, feeding mechanism for the carriage, type-bars, keys, and operating connections, of a platen or tablet mounted for movement transverse to the line of writing, means for securing paper upon the surface of the platen or tablet, and a stop device comprising a clamp adjustably mounted upon the side edge of the platen or tablet and adapted to engage a stationary object to indicate the position of the platen or tablet when returned after displacement, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT JOSEPH FISHER.

Witnesses:

DANIEL M. OWEN,
JOHN H. LUSK.