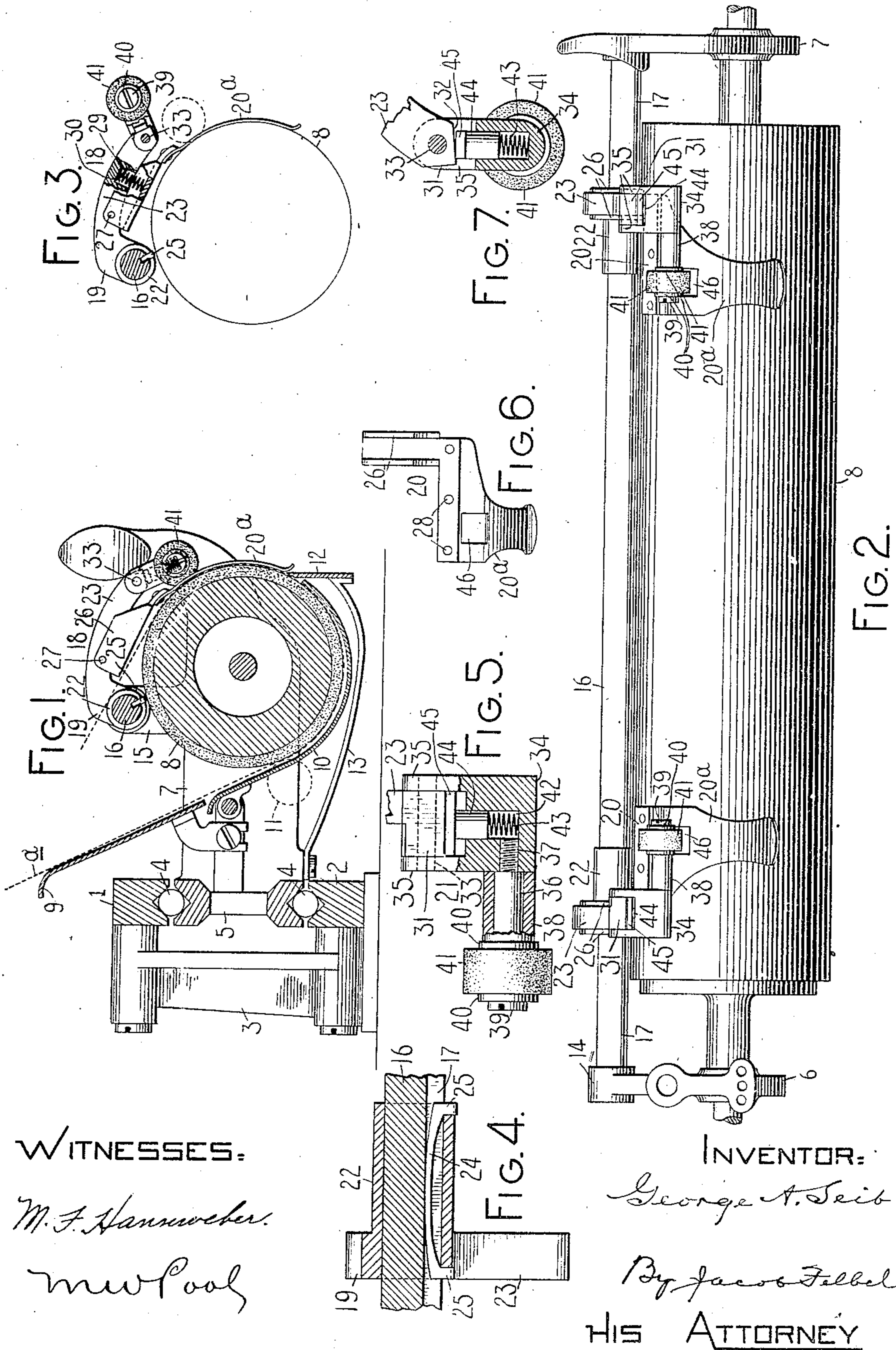


G. A. SEIB.
TYPE WRITING MACHINE.
APPLICATION FILED SEPT. 6, 1905.

921,745.

Patented May 18, 1909.



WITNESSES:

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GEORGE A. SEIB, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 921,745.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed September 6, 1905. Serial No. 277,209.

To all whom it may concern:

Be it known that I, GEORGE A. SEIB, citizen of the United States, and resident of Syracuse, in the county of Onondaga 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 relates more especially to the paper feeding mechanism of typewriting machines and has for its chief object to provide an improved paper feeding device of the kind commonly known in the art as a "paper finger".

To this and other ends my invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical front-to-rear sectional view of the upper portion of a typewriting machine and showing so much of the structure as is necessary to a clear understanding of my invention. Fig. 2 is a front elevation of the same, parts being omitted. Fig. 3 is a detail side elevation of the paper feeding device showing the feed or pressure roller in inoperative position. Figs. 4, 5, 6 and 7 are detail views of various parts of the paper feeding device.

My invention is shown as applied to the Monarch typewriter but it is to be understood that it may be adapted to other forms of writing machines.

In the drawings, grooved guide rails 1 and 2 are secured to brackets 3 fixed to the top plate of the machine. Anti-friction balls 4 cooperate with the guide rails and also with the grooved back bar 5 of a platen carrier which comprises, besides said back bar, side bars 6 and 7 extending forwardly therefrom and supporting a cylindrical platen 8. A paper table 9 is suitably secured to the platen carrier and directs the paper *a* to a paper apron 10 supported in the carrier and formed with openings for the main paper feed rollers 11 which are diagrammatically shown in Fig. 1. A platen scale 12 is fixed to the forward ends of spring arms 13, the rear ends whereof are secured to the platen carrier. The side bars 6 and 7 of the platen carrier are provided with upwardly extending portions 14 and 15 which are apertured to re-

ceive a rod or bar 16 which is suitably secured in place. The bar 16 extends longitudinally of the platen and is situated above the latter and slightly to the rear of its axis as best seen in Fig. 1. The parts thus far described generally resemble those found in the Monarch machine.

The bar 16 is provided with a longitudinal groove 17 and serves as a support for one or more paper feeding devices or paper fingers designated as a whole by the reference number 18. The paper fingers comprise a carrier 19 for both the paper guide and paper feed roll, a paper guide 20 and a paper feed roll or pressure device 21. The carrier 19 comprises a hub portion 22 which embraces the rod or bar 16, and an arm 23 integral with the hub 22 and extending forwardly over the platen. A U-shaped bar spring 24 is contained within the hub 22 and enters the groove 17 in the bar 16 as best seen in Fig. 4. The spring 24 is confined within the hub 22 of the carrier, the ends 25 of said spring engaging notches formed in the ends of said hub and preventing said spring from being displaced by accident. The body or bar portion of the spring enters the groove 17 and presses against the bottom thereof with sufficient force to prevent accidental displacement of the carrier 19 longitudinally of the bar 16. The bar spring 24 is of sufficient width to fit snugly in the groove 17 and prevent rotary movement of the carrier 19 about the bar 16, said spring serving in effect as a tongue cooperating with the groove 17.

The paper guide 20 is formed at its upper end with ears 26 which are perforated to receive a pivot pin 27 which is driven through a hole formed in the arm 23 of the carrier 19 a short distance in front of the bearing bar 16. The guide 20 turns on the pin 27 as a pivot and has a guide portion proper 20^a which may be integral with the body portion of said guide but which is preferably made in a separate piece and secured to said body portion by rivets 28 as best shown in Fig. 6. The guide portion proper extends downwardly and forwardly, conforming to the surface of the platen and terminating near the top of the platen scale 12. The paper guide 20 is normally pressed against the platen by a coiled spring 29, one end of

which abuts against the bottom of the paper guide between the ears 26 and the other end of which is received in a recess or depression 30 formed in the under side of the carrier arm 23. The ears 26 extend far enough forward of the pin 27 to conceal the spring 30 and serve in effect as a housing for said spring, the latter always being hidden from view. The spring 29, it will be noted, is arranged wholly at one side of the pivot of the guide 20 and is compressible and expansible in the direction of its own length.

The forward end of the carrier arm 23 is formed with faces 31 and 32 at right angles to each other, and fixed in said forward end is a pin 33 which serves as a pivot for the feed roll device 21, the latter comprising a body portion 34 formed with bifurcations 35 through which the pivot pin 33 freely passes, said bifurcations embracing the end of the carrier arm 23 as best shown in Fig. 5. A short rod or spindle 36 is reduced and threaded at one end, said end being received in a tapped hole in the side of the body portion 34, and mounted to turn freely on the spindle 36 is a sleeve 38 which is kept in place by a headed screw 39 which screws into the other end of the spindle 36. The portion of the sleeve 38 farthest from the part 34 is provided with flanges 40 between which a sheath or covering 41 of rubber or the like is confined, the latter constituting a feed roll. Between the bifurcations or ears 35 the body portion 34 of the feed roll device is provided with a recess or depression 42 which receives a coiled spring 43, the upper end whereof abuts against the bottom of a plunger 44 and presses the head 45 of said plunger against the end of the carrier arm 23. When the feed roll device is in normal or operative position the head of the plunger 45 engages with the face 32 at the end of the carrier arm, the parts being so related that the feed roll 41 is then pressed toward the platen through an opening 46 formed in the paper guide 20. When it is desired to render the feed roll device inoperative, it is swung upward about its pivot until the head of the plunger disengages from the face 32 and is brought into contact with the face 31 of the carrier arm against which it will be maintained by the spring 43. The inoperative position is illustrated in Fig. 3 wherein it will be noted the feed roll 41 is maintained at some distance from the platen; the relation of the parts in operative position is best seen in Fig. 7.

While a single paper feeding device or paper finger of the character described may be employed I prefer to make use of two paper fingers which cooperate with the paper near its opposite side edges, said paper fingers being adjustable toward and away from each other along the support or bar 16. It will be noted from an inspection of Fig. 2,

wherein both paper fingers are shown, that the hub portions 22, the paper guides 20 and the feed roll devices 21 of the two paper fingers are all off-set from the carrier arm 23 inwardly or toward the center of the machine so that the carrier arms may be moved outwardly beyond the ends of the platen and yet the paper fingers will still be in position to guide and control the paper.

The paper fingers are adjusted likewise of the support 16 until they are in position to cooperate properly with the side edges of the work sheet *a* whether the latter be in a form of paper, envelopes, cards or the like, and said work sheet being introduced into the machine at the back, is guided over the paper table 9, thence passing between the platen and the main feed roll 11, the paper apron 10 and the scale 12. Immediately after passing above the scale 12 the top edge of the work sheet passes into the control of the lower ends of the paper fingers by which it is guided and fed upwardly and rearwardly over the support 16 and out of the machine.

The paper guide and feed rolls are outside the printing field of the work sheet or paper *a*, and cooperate with the margin thereof to guide and feed the work sheet over the bar or support 16 so that there is no obstruction to the operator's view of the writing as the sheet is fed beyond the printing line.

It will be noted that the paper guides 20 are independently spring pressed, that the marginal feed rolls or rollers 41 are independently spring pressed, and that said guides 20 are independent of each other as well as of their associate feed rollers, while the feed rollers are likewise independent of each other. This construction enables each paper guide and feed roller to cooperate with the work sheet independently so that any inequality in said work sheet encountered by one guide or feed roller will not affect the other parts. The springs may be regulated so that different degrees of pressure may be applied to the feed roller 41 or to the paper guide 20; and furthermore the margin feed rollers being movable to inoperative position independently of their associate guides, the operator is enabled to release the paper sufficiently to effect its adjustment without entirely freeing it from the control of the paper fingers.

By my construction I provide a paper finger or paper feeding device which is simple in construction, efficient in operation and slightly in appearance, the paper guide and the feed roller which are mounted on said paper finger being pressed by springs which are concealed from the view of the operator.

It is to be understood, of course, that I do not desire to be limited to the precise construction shown and that various changes may be made within the scope of my invention.

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

1. In a typewriting machine, the combination of a platen carrier, a platen, a bar on said platen carrier, said bar being grooved longitudinally, a paper feeding device having a hub portion embracing said bar, and a U-shaped bar spring confined within said hub portion, the body of said bar spring entering the groove in said bar and said spring having bent end portions which engage notches in the ends of said hub portion of the paper feeding device, the construction being such that the spring prevents rotary movement of said paper feeding device and also maintains said device in position longitudinally of said bar.

2. In a typewriting machine, the combination of a platen carrier, a platen, a support on said platen carrier, a paper guide carrier on said support, a paper guide pivoted to said guide carrier, and a coiled spring interposed between said guide carrier and said paper guide wholly at one side of the pivot of the latter and having its ends abutting against said guide carrier and said paper guide.

3. In a typewriting machine, the combination of a platen carrier, a platen, a bar on said platen carrier, a paper guide carrier supported on said bar, a paper guide pivoted to said guide carrier, and a coiled spring interposed between said guide carrier and said paper guide wholly at one side of the pivot of the latter and having its ends abutting against said guide carrier and said paper guide.

4. In a typewriting machine, the combination of a platen carrier, a platen, a support on said platen carrier, a paper guide carrier on said support, a paper guide pivoted to said guide carrier, a coiled spring interposed between and having its ends abutting against said guide carrier and said paper guide, said spring being so arranged as to be hidden from view.

5. In a typewriting machine, the combination of a platen carrier, a platen, a bar on said platen carrier, a paper guide carrier supported on said bar, a paper guide pivoted to said guide carrier, a coiled spring interposed between and having its ends abutting against said guide carrier and said paper guide, said spring being so arranged as to be hidden from view.

6. In a typewriting machine, the combination of a platen carrier, a platen, a support on said platen carrier, a paper guide carrier on said support, a paper guide pivoted to said guide carrier, a spring adapted to press said paper guide towards the platen, and a housing which conceals said spring from view.

7. In a typewriting machine, the combination of a platen carrier, a platen, a bar on said platen carrier, a paper guide carrier sup-

ported on said bar, a paper guide pivoted to said guide carrier, a spring adapted to press said paper guide toward the platen, and a housing which conceals said spring from view.

8. In a typewriting machine, the combination of a platen carrier, a platen, a bar on said platen carrier, a paper guide carrier supported on said bar, a paper guide pivoted to said guide carrier, and a coiled spring interposed between said guide carrier and said paper guide, said spring entering a depression in said guide carrier and being further concealed from view by a housing integral with said paper guide.

9. In a typewriting machine, the combination of a platen carrier, a platen, a longitudinally grooved support on said platen carrier, a paper guide carrier provided with a spring tongue cooperating with the groove in said support, a paper guide pivoted to said guide carrier, and a coiled spring interposed between said guide carrier and said guide wholly at one side of the pivot of the latter and having its ends abutting against said guide carrier and said paper guide.

10. In a typewriting machine, the combination of a platen carrier, a platen, a longitudinally grooved support on said platen carrier, a paper guide carrier provided with a spring tongue cooperating with the groove in said support, a paper guide pivoted to said guide carrier, a coiled spring interposed between said guide carrier and said guide wholly at one side of the pivot of the latter and having its ends abutting against said guide carrier and said paper guide, and a feed roller device pivoted to said guide carrier and supporting an independently spring-pressed feed roller.

11. In a visible writing machine, the combination of a platen carrier, a platen, a bar mounted on the platen carrier above the platen, said bar being formed with a longitudinal groove, a paper finger having a hub portion embracing said bar, said paper finger being provided within its hub with a spring tongue which cooperates with the groove in said bar, and said paper finger comprising an independently spring-pressed paper guide, the spring whereof is concealed from view, and an independently spring pressed paper feed roller, the spring whereof is also concealed from view.

12. In a typewriting machine, the combination of a platen carrier, a platen, a support on the platen carrier, said support being formed with a longitudinal groove, a paper feeding device, a bar spring cooperative therewith, the body or bar portion of said spring being seated in the groove in the support and pressing against the bottom of the groove so as to prevent accidental displacement of the paper feeding device lengthwise of said support, the sides of said bar spring

being coöperative with the sides of the groove to prevent rotary movements of said paper feeding device on said support and the ends of said bar spring being angularly disposed to the body thereof and coöperating with notches in said device to prevent accidental displacement of said spring.

Signed at Syracuse, in the county of Onondaga, and State of New York, this 30th day of August A. D. 1905.

GEORGE A. SEIB.

Witnesses:

H. A. DERMENT,
JOHN S. MITCHELL.