No. 821,382. PATENTED MAY 22, 1906.

G. A. SEIB.

TYPE WRITING MACHINE.

APPLICATION FILED JULY 24, 1905.

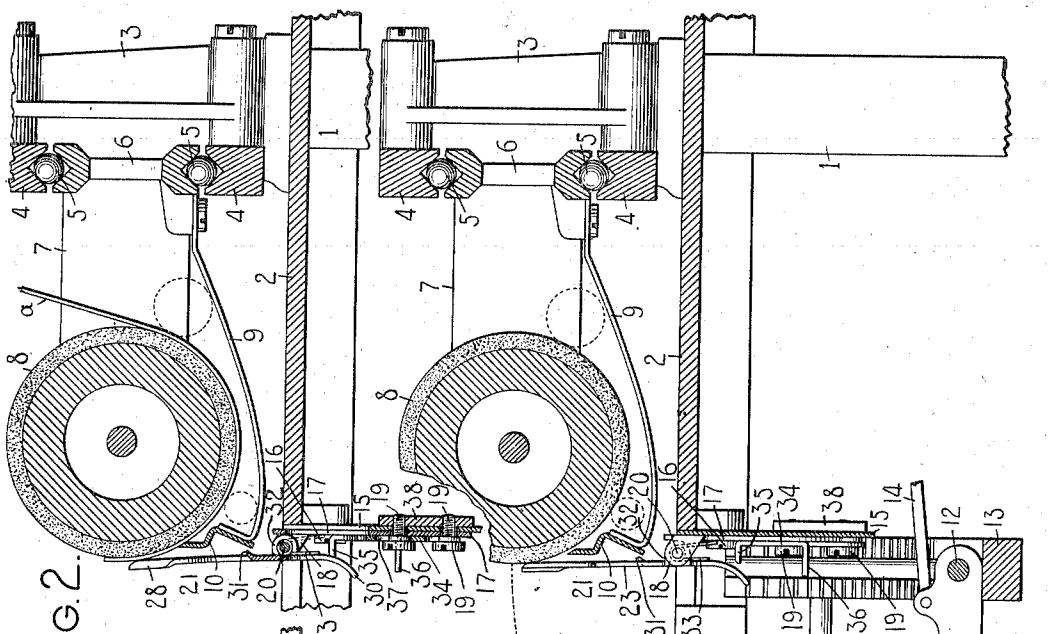


FIG. 2.

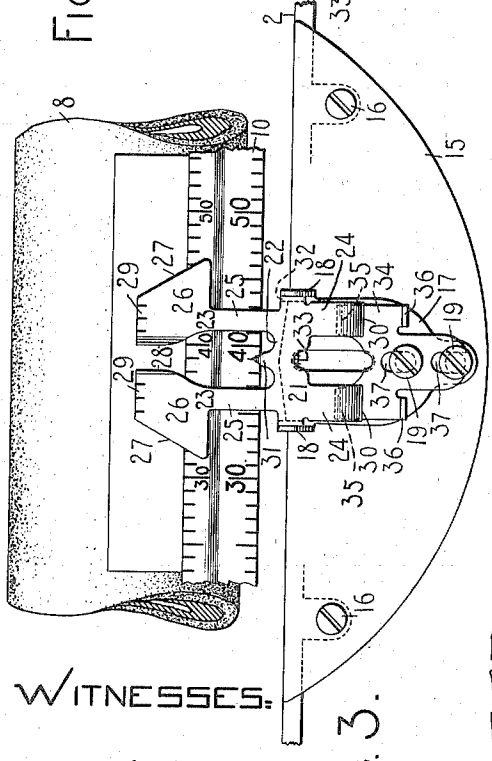


FIG. 3.

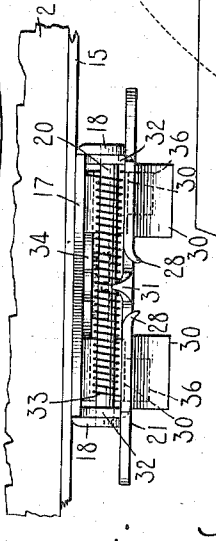


FIG. 4.



FIG. 1.

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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. 821,382. Specification of Letters Patent. Patented May 22, 1906.

Application filed July 24, 1905. Serial No. 270,987.

*To all whom it may concern:*

Be it known that I, GEORGE A. SEIB, a citizen of the United States, and a 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 type-writing machines, and has for one of its objects to provide a device whereby cards or other forms of paper may be properly held in the machine against the platen and may be written upon close to the top and bottom edges.

Another object is to provide improved indicating devices, including a printing-point indicator, a printing-line indicator, a platen-scale, and a carriage-scale indicator.

To the above and other ends the invention consists in the features of construction, arrangements of parts, and combinations of devices hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a fragmentary central sectional view taken from front to rear of the machine and showing so much of the latter as is requisite for a clear understanding of my invention. Fig. 2 is a view similar to Fig. 1, but omitting some of the parts illustrated in said Fig. 1 and showing other parts in different relations from those in which they appear in said figure. Fig. 3 is a fragmentary front elevation showing the upper part of the machine and corresponding to Fig. 2. Fig. 4 is an enlarged top plan view of the pressure and indicating means and the method of mounting the same in the machine.

My invention is shown as applied to a structure resembling generally the machine commercially known as the "Monarch" type-writer; but it is of course to be understood that my invention may be adapted to other forms of writing-machines.

Like characters of reference indicate corresponding parts in the various views, wherein corner-posts 1 support a top plate 2, on which is mounted standards 3, to which are fixed grooved carriage-rails 4. Antifriction-balls 5 coact with the rails 4 and with the grooved back bar 6 of a carriage 7, supporting a platen 8, which may be moved step by step in the printing direction and line-spaced and returned in a known manner. At the front of the platen, secured to arms 9, is a scale-bar 10, formed at its top and bottom portions with scales, the upper scale serving as a platen-scale and the lower as a carriage-scale. A type-bar 11 is pivoted below the platen at 12 in a support 13 and is connected by a link 14 with a known form of type-bar-actuating mechanism, by which said type-bar is caused to swing upwardly and rearwardly to coöperate with the front face of the platen 8. The type-bar 11, it is to be understood, is one of a segmentally-arranged series, which may be supported in any suitable manner on the segmental type-bar support 14.

The card-guide or pressure device and its support are secured to a vertically-disposed segmental frame-plate 15, fixed to the frame of the machine by screws 16. A supporting-bracket 17, formed at each side near its top with a forwardly-turned ear 18, is fixedly attached to the frame-plate 15 by two shoulder-screws 19. The ears 18 are perforated to receive a short rod 20, which is fixed in the bracket 17 and serves to pivotally support the pressure and indicating devices, which are represented as a whole by the numeral 21 and will for convenience be generally referred to hereinafter as a "pressure device" or "card-guide." The card-guide 21 is preferably formed of sheet metal in one piece and generally resembles in shape the capital letter **H**, having a cross-bar 22, two upwardly-extending fingers 23, and two downwardly-extending arms 24. Each of the upwardly-extending fingers 23 comprises a narrow resilient portion 25 and a side or wing-like portion 26. The outer part of each side portion 26 is inclined or sloped upwardly to provide a cam-like edge 27, and the inner edge of each of the portions 26 is bent toward the front of the machine to form a cam 28. The upper edge of each finger 23 is elongated and provided with a scale 29. The lower end of each of the downwardly-projecting arms 24 is bent toward the front of the machine, forming at the under side a cam 30.

The cross-bar 22 is provided centrally with an indicator or pointer 31, which is adapted to coöperate with the lower or carriage-scale on the scale-bar 10, and the ends of said cross-bar, which project laterally somewhat beyond the arms 24, are bent rearwardly, forming tabs or ears 32, which are perforated to

permit of the free passage of the short rod 20, which serves to pivotally support the card-guide. A wire spring 33 is coiled around the rod 20, one end of said spring abutting the bracket 17 and the other end pressing against the rear surface of one of the arms 24 below the pivot 20, the arrangement being such that said spring tends to exert a constant pressure on the card-guide and so that the tops of the fingers 23 are pressed lightly against the front of the platen.

A locking-plate 34, preferably formed of sheet metal and having forwardly turned or bent contact portions 35 and finger pieces or portions 36, is slidably and frictionally mounted on the bracket 17 below the card-guide proper, being secured to said bracket by the shoulder-screws 19. The locking-plate 34 is provided with slots 37, through which the shouldered screws pass, the shoulder portions of said screws abutting against the front face of the bracket 17 and the threaded portions of said screws passing freely through perforations in said bracket 17 and in the frame-plate 15 and entering threaded holes in a backing plate or nut 38. The arrangement is best seen in Fig. 2, wherein it will be noted that the bracket 17 and the frame-plate 15 are pressed between the backing-plate 38 and the shoulders of the screws 19 when said screws are screwed in tight, while the locking-plate 34 is frictionally held in desired position between the under side of the heads of the screws and the front face of the bracket 17. The slots 37 in the locking-plate are of sufficient length to permit of an up-and-down movement of said plate, the limits of movement being indicated in Figs. 1 and 2.

The card-guide, it will be understood, is fixed centrally of the machine and pivoted on the rod 25 in such a way that the fingers 23 as they rest against the platen have a slight forward inclination. When the locking-plate 34 is in the position shown in Fig. 1, the pressure device or card-guide is pressed against the platen only by the force exerted by the spring 33 and serves to exert a gentle pressure sufficient for properly controlling ordinary paper or the like when it is fed through the machine in the usual manner. When it is desired to write upon cards, envelops, thick paper, or the like, the locking-plate 34 is slid upward by means of the finger-pieces 36 to the position indicated in Figs. 2 and 3, with the lower end of the upper slot 37 contacting with the shouldered portion of the upper shoulder-screw 19. As the locking-plate 34 is slid upward the contact portions 35 will engage the cams 30 on the arms 24, camming said arms toward the operator and forcing the fingers 23 into positive engagement with the platen.

The work sheet or card *a* is introduced into the machine and fed around the platen in the ordinary way, the card being preferably guided near its side edges by the usual margin-guides or paper-fingers. (Not shown.) There is a tendency of the card to stand away from the platen or "buckle," as it is called, between the margin-guides, this tendency being accentuated when the top or bottom of a card is at or near the printing-point. The central pressure or card-guide serves to prevent buckling and to hold the card firmly against the platen, there being sufficient spring or give in the device to permit of the passage of the card between the platen and the device, while at the same time the positive maintenance of the device locked in engagement with the platen by means of the locking-plate forces the card close against said platen and causes it to conform to the surface of the platen. The result is that though the card be quite thick and resilient it may be written upon very close to the top and bottom edges. The scale-bar 10 serves to hold the card against the platen, and after the bottom of the card escapes from said scale-bar it would spring away from the surface of the platen but for the restraining influence of the card-guide.

If not controlled by the usual margin-guides, the side edges of the work-sheet or card *a* tend to spring away from the face of the platen. During the longitudinal movement of the platen, however, the side edges of the card will be forced close against the surface of the platen by the inner and outer camming edges 27 and 28 of the central guide. The outstanding edge of the card after contacting with one of the outer edges 27 will as the longitudinal movement of the platen is continued be forced against said platen by the camming action exerted by the edge 27, so that the card will finally pass between the finger 23 and the platen without being torn or injured. After passing one of the fingers 23 if the card should again spring away from the platen the side edge will be caught by the forwardly-projecting edge 28 of the other finger 23 and will be guided back against the face of the platen, so that at the printing-point the card is always smoothly and closely held against the platen.

The tops of the fingers 23 are arranged at the bottom of the printing-line and are of sufficient breadth to serve as an accurate line-indicator, while the scale 29, which registers with the platen-scale on the scale-bar 10, may serve as a platen-scale. The narrow space between the edges 28 is convenient for finding the printing-point and serves, in effect, as a printing-point indicator. These indicating devices are especially convenient in making corrections and alterations, and it will be noted that in one aspect of the invention it may be considered apart from the paper guiding or feeding aspects thereof and regarded solely as an indicating member.

When margin paper-guides are employed which travel with the platen during the longitudinal movement of the latter, they may be arranged to pass the fixed central guide or pressure device, the fingers 23, integral with the cross-bar 22, being sufficiently resilient to be independently movable.

Various changes in the details of construction and arrangements of parts may be effected within the scope of my invention.

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

1. In a type-writing machine, the combination of a platen; a pressure device pivoted on a stationary part of the machine and provided with a part adapted to engage the platen and also with a cam; and a locking-plate slidably mounted on a stationary part of the machine, said locking-plate being adapted to coact with the cam on said pressure device to bring said pressure device into positive engagement with the platen and to maintain it in said positive engagement.

2. In a type-writing machine, the combination of a platen; a pressure device pivotally mounted on a stationary part of the machine, one end of said pressure device being adapted to contact with the platen and the opposite end being formed with a cam; and a locking-plate slidably mounted and frictionally held on a stationary part of the machine and adapted to act on the cam of said pressure device to bring said pressure device into positive engagement with the platen and to maintain said pressure device locked in said engagement.

3. In a type-writing machine, the combination of a pressure device pivotally mounted on a stationary part of the machine, one end of said pressure device being adapted to engage with the platen and the other end being formed with a cam; a spring constantly tending to press said pressure device against the platen; and a locking-plate frictionally mounted on a stationary part of the machine and adapted to coöperate with the cam on the pressure device to force the latter into positive engagement with the platen and to maintain it in said engagement.

4. In a type-writing machine, the combination of a sheet-metal pressure device formed with a pair of resilient paper-fingers and a cam; a bracket fixedly secured to a stationary part of the machine and supporting a pivot-rod on which said pressure device is pivoted; and a locking-plate slidable on said bracket and frictionally held thereagainst, said plate being provided with a part adapted to engage the cam on said pressure device and being further provided with a finger-piece by which said engagement may be brought about to cause the paper-fingers of said pressure device to enter into and be maintained in positive engagement with said platen.

5. In a front-strike type-writing machine, the combination of a platen; a vertical supporting-bracket detachably secured at the front and center of the machine to a fixed part and having forwardly-turned ears; a pivot-rod secured in said ears; a vertical pressure device pivoted on said rod, said pressure device being adapted to contact with the platen and being provided with a cam; a coiled spring surrounding said pivot-rod and adapted to constantly press the pressure device against the platen; and a locking-plate slidably mounted on said supporting-bracket and adapted to coöperate with the cam on said pressure device to force said pressure device into a locked engagement with the platen.

6. In a front-strike type-writing machine, the combination of a platen; a vertical supporting-bracket arranged at the front and center of the machine and detachably secured to a fixed part, said bracket being provided with forwardly-turned ears; a pivot-rod secured in said ears; and a device pivoted on said pivot-rod and constantly spring-pressed toward the platen, said device being adapted to serve as a line-guide, a platen-scale and a printing-point indicator.

7. In a type-writing machine, the combination of an H-shaped pressure device mounted at the front of the machine and provided with upwardly-extending resilient arms which are constantly spring-pressed toward the platen and with downwardly-extending cam-shaped arms; a locking-plate having contact portions adapted to coact with said cam-shaped arms in such wise as to lock said upwardly-extending resilient arms in positive engagement with the platen.

8. In a type-writing machine, the combination of an H-shaped pressure device, two of the arms of said H-shaped device being resilient and adapted to guide and control the paper at or near the printing-point, the other two arms of said H-shaped device being provided with cams which are adapted to be acted on to force the first-named arms into a positive and locked engagement with the platen.

9. In a type-writing machine, the combination of an H-shaped pressure device, two of the arms of said H-shaped device being resilient and adapted to guide and control the paper at or near the printing-point, the other two arms of said H-shaped device being provided with cams which are adapted to be acted on to force the first-named arms into a positive and locked engagement with the platen, said first-named arms being formed with elongated tops which serve as a line-guide and being further provided with a platen-scale, and the space between said arms being adapted to serve as a printing-point indicator.

10. In a front-strike type-writing ma-

chine, the combination of a platen, an H-shaped pressure device pivotally secured at the front of said platen to a fixed part of the machine, two of the arms of said pressure device being adapted to contact with the platen and the other two arms of said pressure device being adapted to be cammed forward to lock the first-named arms against the platen, said first-named arms being provided at their inner and outer portions with lateral cam-like edges adapted to control the side edges of the paper.

11. In a front-strike type-writing machine, the combination of a platen; an H-shaped pressure device pivotally secured at the front of said platen to a fixed part of the machine, two of the arms of said pressure device being adapted to contact with the platen and the other two arms of said pressure device being adapted to be cammed forward to lock the first-named arms against the platen, said first-named arms being provided at their inner and outer edges with lateral cam-like portions adapted to control the side edges of the paper, and being further provided with a line-guide, a platen-scale and a printing-point indicator.

12. In a type-writing machine, the combination of a platen, a pressure device pivoted on a stationary part of the machine and provided with a part adapted to engage the platen; and a locking-plate slidably mounted on a stationary part of the machine, said locking-plate being adapted to coact with said pressure device to force the latter into positive engagement with the platen.

13. In a type-writing machine, the combination of a platen; a pressure device pivoted on a stationary part of the machine and provided with a part adapted to engage the platen; and a locking-plate slidably mounted on a stationary part of the machine, one of the two last-mentioned elements being provided with a cam which coacts with the other element, the result of the coaction being to force the pressure device into positive engagement with the platen.

Signed at Syracuse, in the county of Onondaga and State of New York, this 20th day of July, A. D. 1905.

GEORGE A. SEIB.

Witnesses:
JOHN S. MITCHELL,
H. A. AUNIENT.