A. G. F. KUROWSKI.

TYPE WRITING MACHINE.

APPLICATION FILED APR. 27, 1917.

1,256,485.

Patented Feb. 12, 1918.

2 SHEETS—SHEET 1.

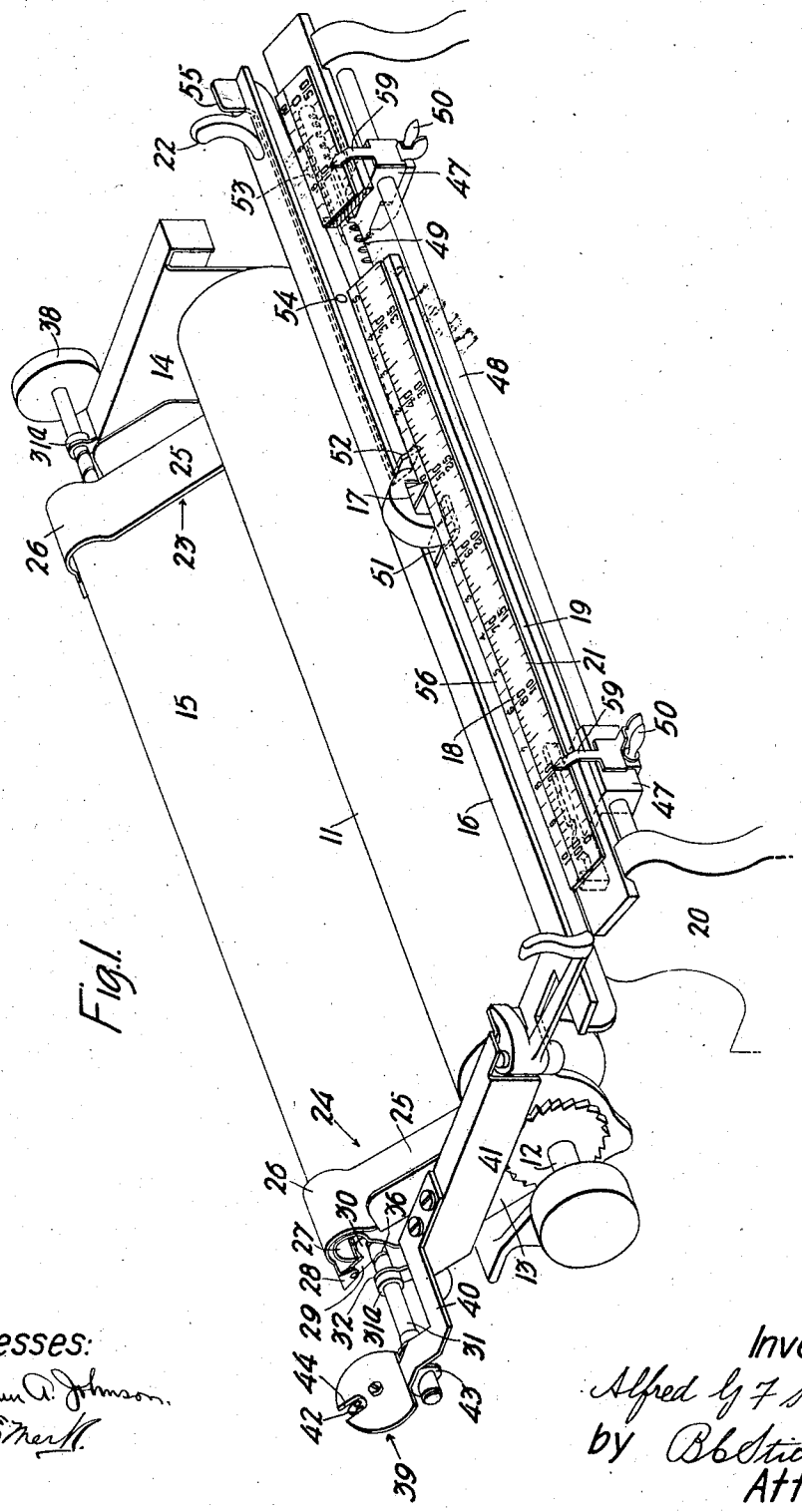


Fig. 1.

Witnesses:

Arthur A. Johnson.

W. G. Merrill.

Inventor:

Alfred G. F. Kurowski

by B. B. Stickney

Attorney

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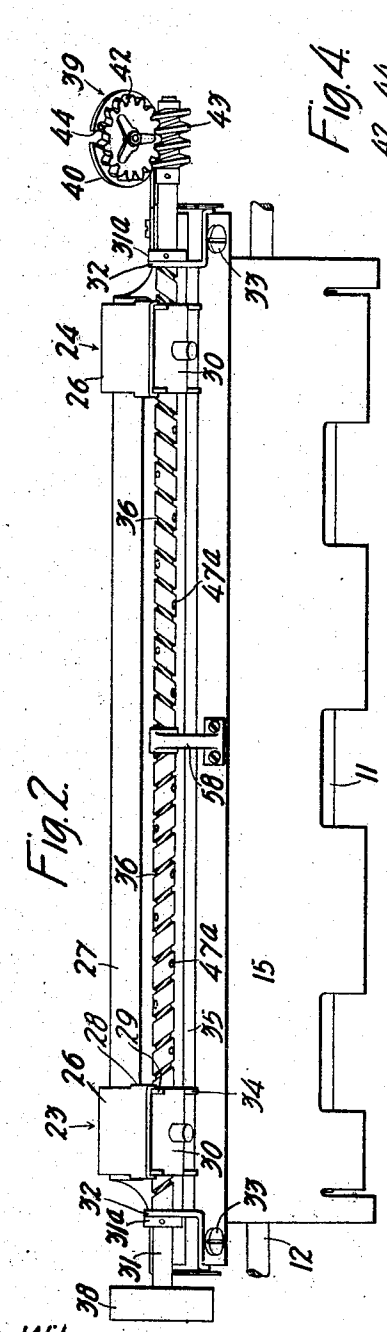


Fig. 2.

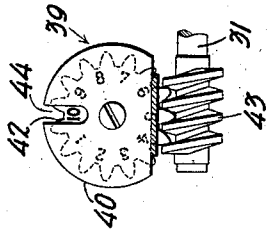


Fig. 4.

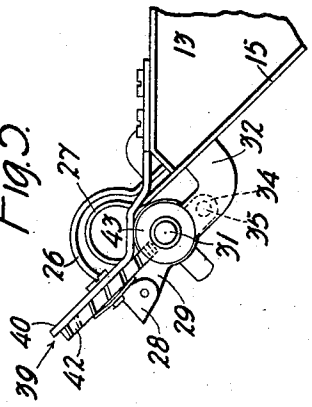


Fig. 5.

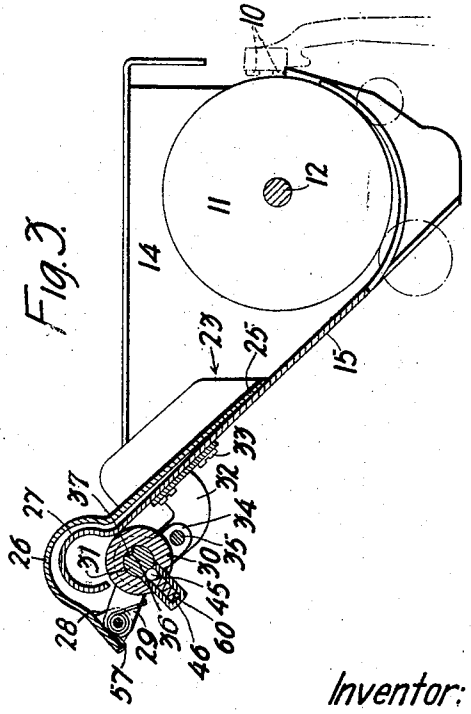


Fig. 3.

Witnesses:

Inventor:

Alfred G. F. Kurowski

by R. B. Stickney

Attorney

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UNITED STATES PATENT OFFICE.

ALFRED G. F. KUROWSKI, OF BROOKLYN, NEW YORK, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

1,256,485. Specification of Letters Patent. **Patented Feb. 12, 1918.**

Application filed April 27, 1917. Serial No. 164,836.

To all whom it may concern:

Be it known that I, ALFRED G. F. KUROWSKI, a subject of the Emperor of Germany, but having taken out United States naturalization papers, residing in Brooklyn borough, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to typewriting machines, and more particularly to means for facilitating the insertion of the sheets into the machine.

A typewriting machine is usually provided with a scale which coöperates with a pointer or indicator for indicating the letter-space positions of the typewriter carriage. This scale is also usually provided with indications which may be used for determining the position at which the printing should start, when it is desired to have the printing centrally located on a sheet, as for instance, when writing headings, etc.

To obtain the best results with this scale, machines have been provided with guides for the side edges of the sheet, which may be adjusted so that each sheet is guided into the machine with the center thereof at the printing point of the machine when the indicator is at the center of the scale. One of these guides is provided for each side of the work sheet. Each of these guides has usually been mounted so as to be independently adjustable along the paper table of the machine.

In order to facilitate their coöperation, the side gages are connected so that there is the same distance from the center of the machine to each of the gages. The gages may be simultaneously adjusted toward or away from each other, and always maintain an equal distance from the center of the machine. With this arrangement, sheets will always be properly guided into the machine no matter what size sheet is used.

The present invention further provides means whereby the operator may adjust the guides to position to coöperate with certain standard size sheets without having to first try the sheet in the machine. For this purpose an indicator is connected with the means for adjusting the gages. This indicator is provided with numerals representing the various standard widths of work sheets which are commonly used, such as, ten inch, nine inch, eight inch, etc.

In connection with the indicator a detent is provided which yieldingly engages the mechanism when the gages are exactly adjusted to any one of the standard positions.

The means provided by the present invention also aids in the proper positioning of the usual carriage margin gages. For instance, should the operator desire to use a particular work sheet of a certain unknown width, the sheet is placed on the paper table and the lateral paper gages are simultaneously adjusted until they are located at the side edges of the sheet. The dial connected therewith then indicates the width of the paper. For example, if the sheet is eight inches in width, the dial wheel will read eight inches. The pointer on the usual carriage margin gage is then moved past the eight inch indication on a scale provided adjacent the usual letter-space scale, an amount which is equal to the width of the margin desired on the sheet.

Taken alone, the gage mechanism is advantageous in that with the one movement the two gages may be properly adjusted to various predetermined positions.

I combine with the connected gages a centering scale which is always in proper relation to the printing field on the platen, and hence is always usable for sheets of any width, since the sheets are always guided to their true central positions in the machine.

The means for bringing about the above results may comprise a shaft having a pair of oppositely directed spiral grooves which commence at the opposite extremities of the shaft, and extend to the center of the machine. The lateral guides may be mounted upon collars which slide along the said shaft. Each collar my be provided with a spline which extends into the groove. The shaft is provided with a finger piece by means of which it may be rotated in either direction.

To indicate the positions of the lateral guides, the shaft may be provided with a worm gear which rotates a gear bearing indications which are visible through a sight opening.

In order that the paper gages may be finely adjusted, each of the lateral guides is provided with a detent which engages with notches on the rod when the gages are

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in proper position for guiding work sheets of a standard size into the machine.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a fragmentary perspective view of part of the Underwood typewriting machine, showing my invention as applied thereto.

Fig. 2 is a rear elevation of a carriage in an Underwood typewriting machine, showing my invention as applied thereto.

Fig. 3 is a sectional side elevation of the machine, showing the mounting of the lateral guides.

Fig. 4 is a face view, showing the dial for indicating the positions of the lateral guides.

Fig. 5 is a side elevation of the same.

In the Underwood typewriting machine, types 10 strike upwardly and rearwardly against a platen 11 mounted upon a shaft 12 having bearings in side plates 13 and 14, forming part of a platen frame which also comprises a paper table 15. The platen frame is mounted in a step-by-step moving carriage having a transverse bar 16 arranged at the front thereof.

To indicate the letter-space positions of the platen, a pointer 17 is secured to the transverse bar 16 on the carriage. This pointer 17 coöperates with a scale 18 on a scale bar 19 secured to the machine frame 20. The scale 18 is provided with an indication for each letter-space movement of the typewriter carriage, and is numbered at each tenth letter-space.

In order to indicate to the operator at what letter-space the carriage should be positioned, when it is desired to write a word in the center of the sheet, a centering scale 21 is provided and arranged adjacent the letter-space scale 18. To center a particular word upon the work sheet, the operator moves the carriage by means of a finger piece 22 until the pointer 17 thereon is located opposite the extreme right-hand indication upon the centering scale 21. The usual carriage-feeding space bar is then struck once for each letter in the word. The operator then notes the indication on the centering scale opposite the pointer on the carriage, and then moves the carriage until the pointer 17 is located opposite an indication on the usual letter-space scale which corresponds to the indication noted on the centering scale 21. For instance, if a word is to be "centered," the carriage will be moved to the extreme right-hand indication on the centering scale, which, in this case, is marked "50," and if the word comprises ten letters, the space bar will be operated ten times, thus feeding the typewriter carriage ten spaces, the pointer 17 would then be located opposite the indication "45" on the centering scale, because each indication on the centering scale 21 is equal to two indications on the letter-space scale 18. The typewriter carriage is then moved to bring the pointer 17 thereon opposite the indication "45" on the letter-space scale 18, and the typewriting of the word should commence from that point.

From the foregoing, it will be seen that to get the proper results from this scale, the work sheet should be centrally located upon the platen with respect to the scales. To properly guide the sheets into the machine, for this and other purposes, the present invention provides paper guides, which in many respects are similar to those on the usual Underwood machine.

According to the present invention a pair of lateral guides 23 and 24 are arranged so as to be adjustably mounted along the paper table 15; and each of these guides are provided with a body portion 25 which is bent at 26, so as to extend over a rolled rim 27 of the paper table. To the rear of the rolled rim 27, each lateral guide is pivotally mounted by means of ears 28 to arms 29 on collars 30. The collar 30 of each lateral guide is mounted on a shaft or rod 31 carried by brackets 32 secured to the paper table by screws 33. The rod 31 is held against lateral movement in the brackets by collars 31^a secured to the rod 31.

In order to hold the collar 30 and arms 29 on each lateral guide against rotary movement, each of the arms 29 is provided with an ear 34 through which extends a rod 35 fixed to the brackets 32. The lateral guides 23 and 24 are mounted so as to always be at equal distances from the center of the machine, and means are provided so that this equal distance is maintained during adjustment of the guides. Thus, it will be seen, that if a great variety of different sized sheets are used in the machine, it is a comparatively simple matter to adjust the lateral guides so that the sheets are properly guided, because each of the lateral guides moves to or from the center of the machine in unison.

To accomplish this and also other advantageous results, the rod 31, upon which the guides 23, 24 are mounted, is provided with a pair of oppositely disposed spiral grooves 36. These grooves 36 are cut in the rod 31, so as to extend from both outer ends of the rod to the center of the machine. Each of the collars 30 of the lateral guides is provided with a feather or spline 37 which extends into the spiral groove 36.

When the grooved rod 31 is rotated by a handle 38 provided at one end of the rod 31, the collar 30 of each lateral guide being held against rotary movement by the rod 35, and by reason of its splined connection with the rod 31, is moved along the rod by following the groove and thus moves the lateral guides

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along the paper table toward or from each other, according to the direction in which the handle 38 and rod 31 are rotated.

An indicator 39, pivotally mounted upon a bracket 40 secured to a cover plate 41 of the typewriter carriage, comprises a gear portion 42 which meshes with a worm gear 43 secured to the right-hand extremity of the grooved rod 31. When it is desired to adjust the gages, for example, for inserting ten inch paper, the operator rotates the handle 38 until the numeral "10" on the indicator appears through a sight opening 44 in the bracket 40. As the handle is rotated the lateral guides are moved and the worm gear is revolved, thus rotating the indicator.

In order that the operator may determine exactly when the lateral guides are in proper position, each guide is provided with a detent ball 45 mounted in a housing 46 and normally pressed against the outer surface of the grooved rod 31 by a spring 60 within said housing. The grooved rod 31 is provided upon its surface between the grooves at various positions with detent notches 47ª. The ball 45 on the lateral guide enters this detent notch when the lateral guide is in exact position for the guiding of a sheet, the width of which is shown by the indicator 39. In addition to this the ball 45 yieldingly holds the lateral guides in this position.

The indicator 39 for the lateral guide is not only advantageous in connection with the centering scale, but also for the purpose of aiding the operator in locating the proper position for the lateral guides. For instance, instead of having to place the sheet in the machine and move the lateral guides up against the side edges of the work sheet, the operator with the present device knowing the width of the paper, simply adjusts the lateral guides by rotating the handle 38 until the proper indication appears in the sight opening 44.

It will be understood that this indicator 39 need not necessarily indicate the width of the sheets but may be provided with indications designating the various forms used.

The usual carriage margin gages each comprise a block 47 slidable upon rods 48 and 49 mounted in the machine frame and held in position on said rod by a suitable locking means. This locking means may be released when it is desired to adjust the gages by means of a finger piece 50. The margin gage at the right-hand side of the machine is adapted to coöperate with a tappet 51 mounted on the transverse bar 16 of the typewriter carriage, and the gage at the left-hand side of the machine is adapted to coöperate with a lug 52 also on the transverse bar 16 of the typewriter carriage. When the carriage is returned, the lug 52 strikes against a lug 53 carried by said margin gage 47 and thus stops the movement of the carriage. In order that the carriage may be moved past said lug 53 on the margin gage 47 at the right-hand side of the machine, the lug 52 on the carriage is mounted upon a lever which is pivoted at 54 and which is provided with a finger piece 55. Both these right and left-hand gages are adjustable to limit the movement of the typewriter carriage in both directions, and are usually set so as to provide a margin on the work sheet.

In addition to the foregoing uses and advantages, the present invention may be used in connection with the carriage margin gages. For instance, if a work sheet of unknown width is placed in the machine, the lateral guides 23 and 24 are adjusted by the handle 38 until they engage with the side edges of the work sheet. The reading on the dial of the indicator 39 is then noted and this notation is taken in connection with a scale 56 which I provide adjacent the usual letter-space scale 18. This scale is stepped off commencing from the center of the machine in both directions and extending to the outside of the machine to indicate inches and fractions thereof. For example the indicator discloses the numeral "10," which may signify ten inches, and let it be assumed that a margin of one inch is required at each side of the paper leaving eight inches for writing space. The pointers 59 on the carriage gages are then moved to the numeral "8" on the scale 56. The lateral guides may be held against the paper table by means of a spring 57 connected to the arm 29 and bearing against the rear portion of the lateral guides. This flexible connection of the lateral guides with their support aids in attaching the device to the machine.

The center of the grooved rod 31 may be supported by means of a bracket 58 secured to the rear of the typewriter carriage.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a paper table, of lateral guides for engaging the side edges of a work-sheet while the sheet is supported by the table, means for simultaneously adjusting the guides along the paper table, and means individual to each guide for indicating to the operative when the said guides are located at predetermined positions.

2. In a typewriting machine, the combination with a platen and a paper table therefor, of a guide for the paper adjustable along said table, a rod upon which said guide is supported, said rod being provided with a spirally-arranged groove, means connected to said guide to engage said groove,

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whereby rotation of said rod may adjust said guide, and means on said rod coöperating with said guide to locate the same at various predetermined positions.

3. In a typewriting machine, the combination with a platen and a paper table therefor, of lateral guides adjustable along said table, a rod upon which said guides are supported, said rod being provided with a pair of oppositely-disposed spiral grooves, and means for yieldingly detaining said guides at different predetermined positions along said grooves.

4. In a typewriting machine, the combination with a platen and a paper-table therefor, of lateral guides adjustable along said paper-table, a rod upon which said lateral guides are supported, said rod being provided with oppositely-disposed spiral grooves, and means connected to said lateral guides engaging with said grooves, whereby, when said rod is rotated, said lateral guides will be moved toward or from each other.

5. In a typewriting machine, the combination with a platen and a paper-table therefor, of supporting rods connected to said paper-table, lateral guides slidably mounted on said supporting rods, one of said rods being provided with oppositely-disposed spiral grooves into which a portion of each of the guides extends, and a finger-piece for rotating said spirally-grooved rod, whereby said lateral guides are moved toward or from each other.

6. In a typewriting machine, the combination with a platen and a paper-table therefor, of supporting rods connected to said paper-table, lateral guides slidably mounted on said supporting rods, one of said rods being provided with oppositely-disposed spiral grooves into which a portion of each of the guides extends, a finger-piece for rotating said spirally-grooved rod, whereby said lateral guides are moved toward or from each other, and means carried by said rod for indicating the position of said lateral guides.

7. In a typewriting machine, the combination with a platen and a paper-table therefor, of supporting rods connected to said paper-table, lateral guides slidably mounted on said supporting rods, one of said rods being provided with oppositely-disposed spiral grooves into which a portion of each of the guides extends, a finger-piece for rotating said spirally-grooved rod, whereby said lateral guides are moved toward or from each other, and means carried by said rod for indicating the position of said lateral guides, said means comprising a worm-gear on said rod engaging a gear mounted on the carriage comprising a dial provided with indications.

8. In a typewriting machine, the combination with a platen and a paper-table therefor, of a rod extending across the paper-table, said rod being provided with a pair of oppositely-disposed spiral grooves, a lateral guide connected to said rod at each spirally-grooved portion, said lateral guides being equidistantly disposed from the center of the machine, a finger-piece connected to said rod, and a dial connected to said rod to indicate the position of each of the lateral guides.

9. In a typewriting machine, the combination with a platen and a paper-table therefor, of a rod extending across the paper-table, said rod being provided with a pair of oppositely-disposed spiral grooves, a lateral guide connected to said rod at each spirally-grooved portion, said lateral guides being equi-distantly disposed from the center of the machine, a finger-piece connected to said rod, a dial connected to said rod to indicate the position of each of the lateral guides, and a detent for yieldingly holding said lateral guides adjusted at predetermined positions.

10. In a typewriting machine, the combination with a platen, of a paper-table therefor, lateral guides mounted on said paper-table in position to engage the side edges of a work-sheet while the sheet is supported directly on the table, means for adjusting said lateral guides to bring the lateral guides to the side edges of the work-sheet, means for indicating the width of the work-sheet, means for regulating the margin on the work-sheet, and a linear scale coöperating with the width-determining indicator for aiding the operator in positioning the marginal regulators.

11. In a typewriting machine, the combination with a traveling typewriter carriage, of a letter-space scale coöperating with a pointer on said carriage and coöperating with marginal regulating devices, a centering scale for coöperating with said pointer on the carriage and with said letter-space scale, and a measuring device to cooperate with said marginal regulators.

ALFRED G. F. KUROWSKI.

Witnesses:

ARTHUR A. JOHNSON,

EDITH B. LIBBEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."