Nov. 2, 1937. J. S. WHEELER 2,098,020

COPY HOLDER FOR USE IN CONNECTION WITH TYPEWRITING MACHINES

Filed May 19, 1936 2 Sheets-Sheet 1

FIG. 1

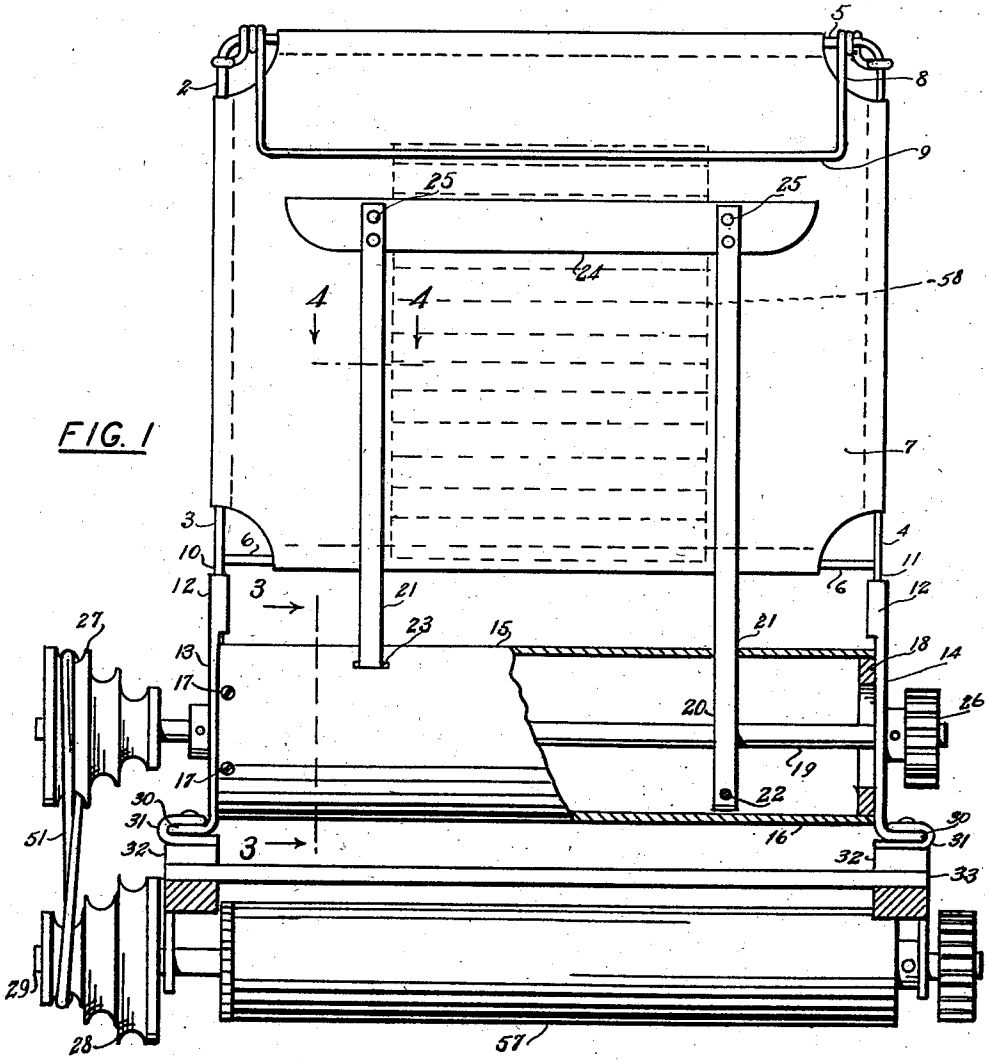


FIG. 3

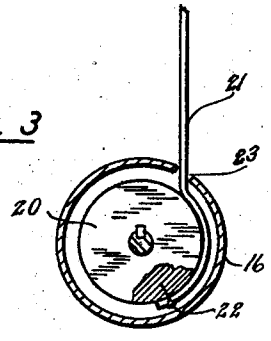


FIG. 4



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COPY HOLDER FOR USE IN CONNECTION WITH TYPEWRITING MACHINES

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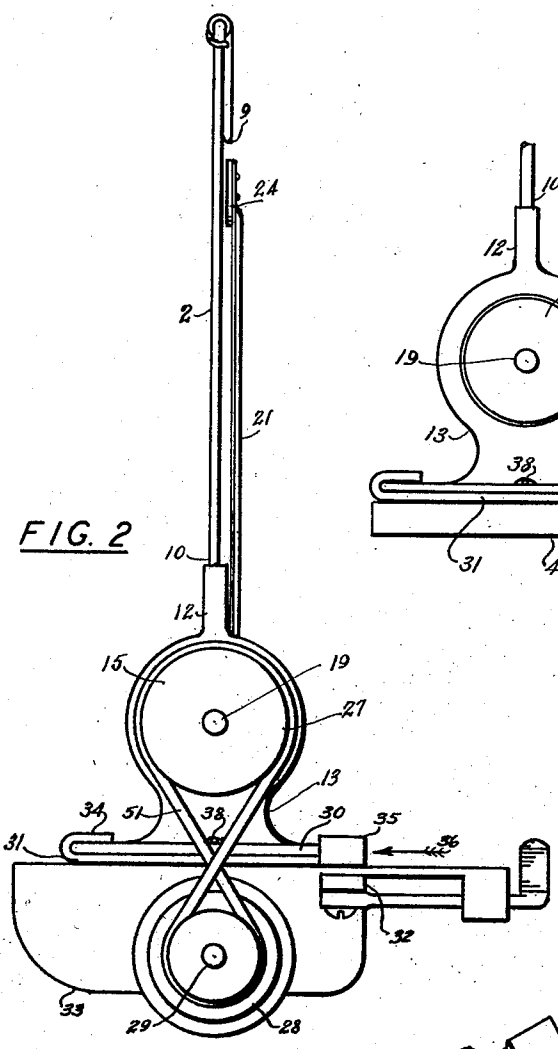


FIG. 2

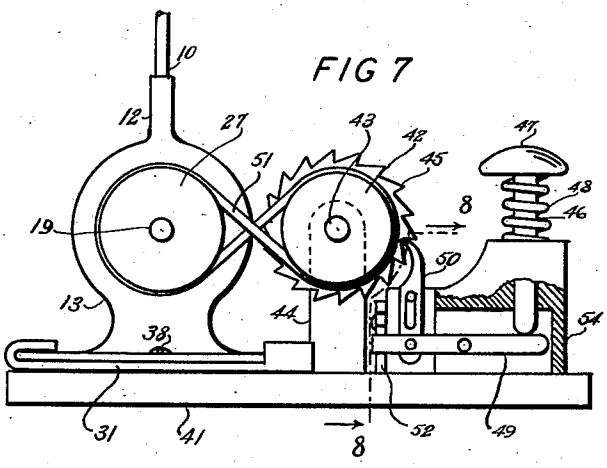


FIG 7

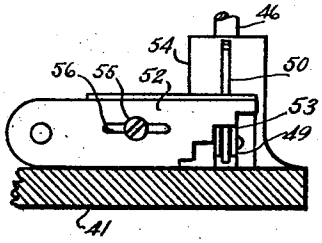


FIG. 8

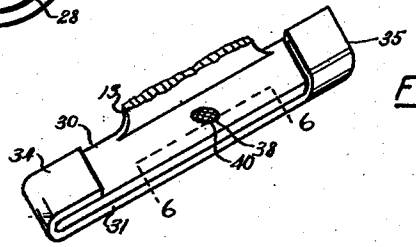


FIG. 5

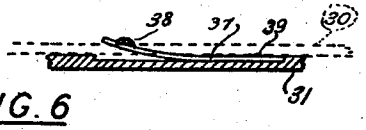


FIG. 6

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COPY HOLDER FOR USE IN CONNECTION WITH TYPEWRITING MACHINES

James S. Wheeler, Phoenix, Ariz.

Application May 19, 1936, Serial No. 80,524

5 Claims. (Cl. 120—34)

My invention relates to copy holders wherein means is provided for the holding of a copy or note book which is read and at the same time transcribed on a typewriting machine to which it is attached or with which it is conjunctively operated; and the objects of my improvements are, first, to provide a frame work provided with means for supporting and holding the copy book, together with means whereby it may be easily attached to or removed from the typewriter carriage; second, to provide a means for holding the leaf of the book being copied in a flat readable position and at the same time marking or indicating the lines to be copied; third, to provide a means for selectively or progressively shifting the line marker throughout the vertical extent of the copy book page; and fourth, to provide means for automatically operating the line marker as the writing thereon is transcribed on the typewriter to which it is attached. Other objects will appear hereinafter.

I attain these objects by the structures and mechanism illustrated in the accompanying drawings, in which—

Fig. 1 is a front elevation of my device as mounted on a typewriter carriage; Fig. 2 is a side elevation of the same; Fig. 3 is a section of the cylindrical portion of the frame work taken on line 3—3, Fig. 1; Fig. 4 is a section of one of the flexible vertical line marker supports taken on line 4—4, Fig. 1; Fig. 5 is a perspective view of one of the attachment pieces showing the means of retention of the end plates; Fig. 6 is a fragmentary sectional elevation thereof, taken on lines 6—6, Fig. 5; Fig. 7 is a side elevation of a modified form of the copy holder when used on a separate base, independent of the typewriter, and including a modified form of line marker operating mechanism; and Fig. 8 is a section taken on line 8—8, Fig. 7, to show the means for adjusting the feed in this modified form.

Similar numerals refer to similar parts in the several views.

The copy holder consists primarily of a rectangular frame 2, composed of a frame in the shape of an inverted U the two legs of which, 3 and 4, are joined by the horizontal portion 5 forming a top bar and a cross bar 6 near the bottom. To provide a flat surface, a thin sheet of aluminum or similar material is stretched between all four members of this framework to form a diaphragm-like back 7. At the top, a spring clip 8 having a horizontal bar 9 is capable of retaining a copy book upon said frame work by clamping it against the back 7. The legs 3 and 4 extend downward beyond bar 6 a sufficient distance to form prongs 10 and 11, which fit into guide channels 12 shaped to receive and removably retain them. These guide channels are made as a part of end plates 13 and 14. The entire supporting base is designated generally by numeral 15. This supporting base consists of a tube 16 attached by screws 17 to collars 18 on the inner face of end plates 13 and 14. The shaft 19 is journaled in end plates 13 and 14 to turn axially within cylinder 16 and supports therein two drums 20, keyed at points equidistantly spaced from the inner faces of said plates. Flexible steel ribbons 21, having an arcuate section as shown in Fig. 4, are wound on these drums, the lower ends being held in position by small screws 22. Each of the ribbons 21 extend out through slots 23 in the walls of cylinder 16 and thence upward at a pre-determined distance to the line marker bar 24, to which they are attached by rivets 25. The flexible steel ribbons 21 are formed so that they are normally longitudinally straight, but are pliantly flexible and, therefore, capable of being wound around drums 20. It will be understood that in making this flexure, the arcuate section shown in Fig. 4 is flattened in proportion to the degree of the bend.

Shaft 19 is provided with a hand knob 26 at the right hand end and a multi-grooved conical pulley 27 at the left hand end, adapted to receive a round belt 51 and by co-operation there-through with a counter-positioned multi-grooved conical pulley 28, to form a speed changing device between shaft 19 and platen shaft 29.

End plates 13 and 14 are provided with feet 30 formed by bending their lower portions outward at right angles. These feet fit within attaching clasps 31, which in turn are attached to the end bars 32 of the typewriter platen carriage 33. These clasps, 31, are provided with forwardly bent flat hooks 34, at the rear, and flat hooks 35, bent over from the outside toward the inside, so that the feet of the end plates may be slipped under them by sliding from the front rearwardly as indicated by the arrow 36, Fig. 2. To hold the feet in position, a flat spring 37 having a knurled boss 38 is attached within a recess 39 in each clasp, so that the boss is in register with a hole 40 in each of the feet 30 when they are in proper position on the clasp 31. Each boss is formed with a rounded top so that it is yieldably retained within hole 40 and a slight downward pressure will release it and permit the feet to be slid forward and thus the device removed.

Clasps 31 may be affixed to the end bars of

platen carriage 33 in any convenient manner, such as with screws or by welding, or the like, and it is to be understood that in this respect their exact structure must be altered to suit the particular carriage to which they are attached. It should be further understood that the left hand platen hand knob is removed and supplanted by the pulley 28.

In the modified form shown in Figs. 7 and 8, the base clasps 31 are attached to a separate base board 41, rather than the platen carriage of the typewriter. Pulley 28 is supplanted by a pulley 42 which may be either a single or a multi-groove pulley. This operates on an independent shaft 43 supported on brackets 44, and carries, at a convenient place along its length, a ratchet wheel 45. Mechanism to operate the ratchet comprises a plunger 46, having an operative hand knob 47 retained in position by a spring 48. This plunger communicates motion to lever 49, which in turn operates the pawl 50. In order to adjust the motion communicated between pulleys 42 and 27 through the cross belt 51, the stroke of lever 49 is made adjustable by a sliding step-stop bar 52, which has the step notches 53 cut in its right hand end (Fig. 8), whereby the upward motion of the inner end of lever 49 is limited. This stop bar is slidable against the top of base board 41, and is held in position against the framework 54 of the ratchet mechanism by a screw 55 inserted through slot 56. The stop bar may thus be slid from left to right and the various notches brought into operative position.

In this modified form the device may be operated as a unit separate from the typewriting machine and the base board 41 may be placed either at the side of, or in back of, the typewriting machine being used.

In operation a note or copy book, the position of which is indicated by dotted lines 58, Fig. 1, is placed on the diaphragm back 7 and held in place by clamp 8, the bar 9 being inserted between the leaves of the book as they are folded down. Shaft 19 is then rotated manually by means of knob 26, in a counter-clock-wise direction, as shown in Fig. 2, so that marker bar 24 is extended, as shown, to the line at the top of the page to be copied. Belt 51 is then adjusted between the conical multi-groove pulleys 27 and 28, so that as the platen 57 on the typewriter carriage 33 is turned, pursuant to line spacing operation, the proper relative rotative motion is communicated to shaft 19 in a clock-wise direction. This consequently lowers the position of marker bar 24 to keep pace with the material being copied. It is to be understood that the conical multi-groove pulleys 27 and 28 may have any desired number of grooves to provide the proper differential speed. When the end of a page on the copy book is reached, the marker bar is re-set at the top as before.

In the modified form shown in Figs. 7 and 8, the setting of the marker bar on the work to be copied is the same. In this form, instead of the marker being moved by the rotation of the typewriter platen shaft, it is operated through the means of the plunger knob 47 which communicates motion to shaft 19 through the ratchet, pawl and lever mechanism above described, the stroke of lever 49 being adjusted by the stop bar 52 so that the marker bar is moved exactly the space between lines with each operation of the plunger.

Having now fully described my device and its operation I realize that, to those familiar with the art, the mechanism here described is subject to many modifications which would still remain within the spirit of my invention. Therefore, I do not wish to be limited to the apparatus specifically described, but make the following claims.

I claim:

1. A copy holder for use in connection with a typewriting machine including in combination a base comprising a horizontally positioned cylinder having end plates, means for removably attaching said end plates to the platen carriage of the typewriter, drums carried on an axially positioned shaft within said cylinder adapted to carry flexible steel ribbons having a normally arcuate section to provide longitudinal stiffness, said cylinder being provided with slots whereby said ribbons protrude vertically therefrom, a horizontal marker bar affixed at the ends of said protruding ribbons, means, including a framework provided with a diaphragm-like back and a horizontal cross bar yieldably attached thereto, to hold work to be copied, and means for communicating rotary motion at a pre-determined relative rate between the platen shaft and the shaft carrying said drums whereby said ribbons may be wound upon said drums by the operation of the platen on said typewriting machine.

2. A copy holder for use in connection with a typewriting machine including, in combination, a typewriter platen carriage having a rotating platen thereon, a supporting base removably attached to said carriage and including two end plates held together by a cylinder, a shaft axially journalled within said cylinder, supporting drums keyed thereon at pre-determined positions, flexible metallic ribbons having an arcuate section to provide stiffness attached to said drums and adapted to be wound thereon, the said cylinder portion of said supporting base being provided with slots whereby said ribbons issue therefrom in a vertical direction parallel to the face of the back of the copy book holder, a horizontally extending marker bar attached to the ends of said ribbons, a copy book support including horizontal and cross members forming a framework and a diaphragm-like back carried thereon, said back being vertically supported so that said marker bar yieldably bears against the face thereof by reason of the flexure of said steel ribbons, means for communicating rotary motion between the shaft carrying said drums and the shaft carrying the platen on said platen carriage including counter-positioned multi-grooved conical pulleys and a belt operative there-between so that the said shaft carrying said drums is rotated in a direction opposite to that of the platen shaft and means for manually operating said shaft carrying said drums.

3. A copy book holder comprising in combination a base board, a supporting base attached thereto, the said supporting base including a cylinder having end plates providing said means of support, a shaft axially operated within said cylinder carrying drums keyed thereon and having attached thereto flexible steel ribbons adapted to be wound thereon, said cylinder being provided with slots to permit said steel ribbons to extend vertically there-through, a marker bar horizontally positioned and joining the protruding ends of said steel ribbons, means of support for the work to be copied including a vertically positioned framework and a diaphragm-like back carried thereon positioned so that said marker bar yield-

ably bears against the face of said back, means for operating the said shaft within said cylinder including a shaft driven by ratchet and pawl mechanism adapted to be manually operated at a predetermined rate and means for communicating the rotary motion from said shaft to the shaft carrying said drums within said supporting base cylinder.

4. A copy holder for typewriters having a platen carriage supporting a rotary platen, including in combination, a supporting frame having a vertically extending back adapted to receive and support work to be copied and a base portion provided with means for attachment to the typewriter platen carriage, a rotary member mounted on a shaft journaled in said supporting frame base parallel to the axis of the platen, a marker bar supporting member including a resilient metallic tape having its lower end operatively attached to said rotary member and adapted to be wound thereon, a horizontal marker bar attached to the upper end of said marker bar supporting member, directive means adapted to hold said marker bar supporting means so that said marker bar resiliently bears on the face of the work to be copied as supported on said frame, and means for yieldably communicating rotary motion from the platen on said typewriter carriage to said rotary member at a predetermined relative speed, said means including mechanism whereby said rotary member automatically follows the rotation of the platen both clockwise and counter-clockwise.

5. A copy holder for typewriters having a platen carriage supporting a rotary platen, including in combination, a supporting frame having a vertically extending back adapted to receive and support work to be copied and a base portion provided with means for attachment to the typewriter platen carriage, a rotary member mounted on a shaft journaled in said supporting frame base parallel to the axis of the platen, a marker bar supporting member including a resilient metallic tape having its lower end operatively attached to said rotary member and adapted to be wound thereon, a horizontal marker bar attached to the upper end of said marker bar supporting member, directive means adapted to hold said marker bar supporting means so that said marker bar resiliently bears on the face of the work to be copied as supported on said frame, and means for communicating rotary motion from the platen on said carriage to said rotary member including an elastic belt operatively connecting variable speed step pulleys attached to the platen and said rotary member respectively.

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