Z. HSIEH AND G. CHOW.

TYPE WRITER ATTACHMENT.

APPLICATION FILED FEB. 1, 1919.

1,326,346. Patented Dec. 30, 1919.

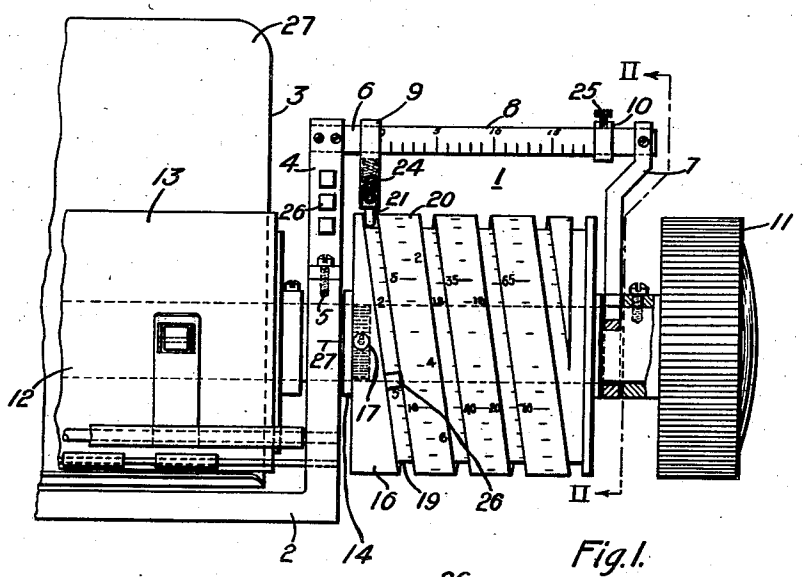

Fig. 1.

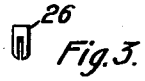

Fig. 3.

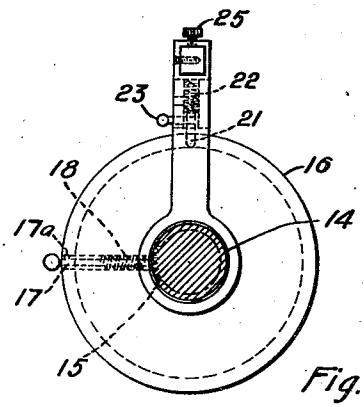

Fig. 2.

INVENTORS
Zen Hsieh
George Chow
BY
J. A. Procter
ATTORNEY

UNITED STATES PATENT OFFICE.

ZEN HSIEH AND GEORGE CHOW, OF WILKINSBURG, PENNSYLVANIA.

TYPE-WRITER ATTACHMENT.

1,326,346. Specification of Letters Patent. Patented Dec. 30, 1919.

Application filed February 1, 1919. Serial No. 274,453.

To all whom it may concern:

Be it known that we, ZEN HSIEH, a citizen of the Republic of China, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, and GEORGE CHOW, a citizen of the Republic of China, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Type-Writer Attachments, of which the following is a specification.

Our invention relates to typewriting machines and particularly to attachments therefor.

One object of our invention is to provide an attachment for a typewriter that shall be adapted to indicate the number of lines typed, the number of inches of paper used, and that shall have means for preventing advancement of the paper when the sheet has been typed to a definite vertical margin.

Another object of our invention is to provide an attachment, of the above indicated character, that shall have a relatively long scale, be simple and inexpensive to construct, easily applied to existing typewriters and effective in its operation.

In practising our invention, we provide a worm screw that is adapted to be secured to the shaft of the typewriter platen. A guiding member upon which is marked a scale is secured to the carriage of the typewriter and a pointer and a stop member are slidably mounted thereon. The pointer is adapted to engage the grooves of the worm screw and is thus advanced in accordance with the advance of the platen to indicate in coöperation with scales, that are marked on the worm screw, the number of lines typed and in coöperation with the scale on the guiding member the number of inches of paper typed. The stop member may be set at any desired distance from one end of the guiding member to thus limit the lower vertical margin on the sheet to be typed. Pins may be disposed in the grooves of the worm screw for stopping the further advance of the platen when a definite predetermined number of lines have been typed and means may be provided for turning the worm screw relative to the shaft of the platen to return the same to its initial position.

Figure 1 of the accompanying drawings is a front view, partially in section and partially in elevation, of a typewriter embodying our invention; Fig. 2 is a view taken along the line II—II of Fig. 1 and Fig. 3 is a detail view of a pin that may be used in our invention.

An attachment 1, embodying our invention, may be applied to the carriage 2 of an ordinary typewriter 3 without altering the structure of the same.

A guiding member 4 is secured to the carriage 2 of the typewriter by screws 5 and comprises a polygonal bar member 6 and a supporting member 7. A scale 8 is marked on the member 6 and members 9 and 10 are slidably disposed thereon. A knob member 11 that is usually mounted on the shaft 12 that carries the platen 13 of an ordinary typewriter is removed, and a sleeve 14 having notches 15 along one edge thereof is disposed at the end of the shaft 12. The knob 11 is secured to the sleeve 14 by any suitable means for the purpose of turning the platen 13. A worm screw 16 is disposed around the sleeve 14 and is provided with a pin 17 that is pressed against the notch portion 15 of the sleeve 14 by a spring 18. By withdrawing the pin 17, the worm screw 16 may be turned relatively to the shaft 12 and the platen 13 to thus return it to its initial position. The pin 17 is provided with a shoulder 17ª that may engage the outer edge of the pin slot to hold the pin out of engagement with the portion 15 on the sleeve 14 when desired. The worm screw 16 is provided with a plurality of scales 19 and 20 representing the number of lines typed with single, double or triple spacing. A pin 21 is disposed in the groove of the worm screw 16 and is carried by the member 9. A spring 22 is adapted to hold the pin 21 in engagement with the worm screw 16 and a knob 23 is provided for lifting the pin 21 against the action of the spring 22. A slot 24, in one side of the member 9, is provided for receiving or holding the knob 23 in such position that the pin can be held out of engagement with the worm screw 16. The member 10 is provided with a set screw 25 for the purpose of clamping the same in any desired position in accordance with the vertical margin desired at the lower edge of the paper or sheet to be typed.

If it is desired to more accurately determine the vertical margin, pins 26 having resilient gripping portions, are disposed in the groove of the worm screw 16 at the point corresponding to the exact number of

lines desired to be typed. Openings are provided in the member 4 to receive the pins 26 when they are not in use.

When a sheet of paper is inserted between the platen 13 and the guide member 27 of the typewriter, the pin 17 is raised and the worm screw 16 is turned until the pin 21 engages with the zero marking on the scales 19 and 20 or until the pin 17 is adjacent a mark 27 on the carriage 2. This, of course, may also be done by simply holding the paper and turning the knob 11. However, for convenience, the worm screw 16 is relatively movable with respect to the paper when desired. The stop member 10 is disposed in such position that, as the paper is advanced by reason of the turning of the platen 13, the member 9 will be advanced along the guiding member 6 until it engages the member 10. When this obtains, the pin 21 will wedge between the member 10 and the grooves of the worm screw 16 and preclude further movement of the paper, thus insuring any desired vertical margin at the bottom of the sheet. If it is desired to type a predetermined number of lines, the pin 26 may be disposed in the groove of the worm screw 16 at the position corresponding to this exact number of lines on the scales 19 and 20. When the pin 21 engages the pin 26, further movement of the platen 13 will be precluded. Since the scales marked on the worm screw are relatively longer than the scale that is marked on the guiding member, relatively greater accuracy may be obtained by the use of the pins 26, also the reading of the scales is greatly facilitated.

The essential features of our invention are that it provides a relatively long scale, it may be attached to any ordinary typewriter without the use of auxiliary gear wheels, belts, pulleys and other kindred devices, and the attachment of the same to typewriters may be accomplished in a minimum period of time by simply securing a supporting member to the carriage of the typewriter, removing the actuating knob of the platen and providing a sleeve for the shaft of the platen that will receive the operating mechanism without requiring any machining of the typewriter itself.

Our invention is not limited to the structural details illustrated, as it may be variously modified without departing from the spirit and scope of the invention, as set forth in the appended claims.

We claim as our invention:

1. In a typewriter, the combination with a carriage, a platen thereon and a knob for turning the platen, of a worm screw loosely disposed on the shaft of the platen independent of the turning knob, a movable pin for securing the worm screw in position on the shaft, a mark on the carriage for cooperating with the pin to indicate the proper position of the worm screw and an indicating member actuated by the worm screw.

2. In a typewriter, the combination with a carriage, a platen thereon and a knob for turning the platen, of a worm screw loosely disposed on the platen shaft independent of the knob, a spring-pressed pin for securing the worm screw on the shaft, means for coöperating with the pin to indicate the correct position of the worm screw, and an indicating member actuated by the worm screw.

3. In a typewriter, the combination with a platen shaft and a worm screw loosely disposed therearound, of a spring-pressed pin for operatively connecting the worm screw to the platen shaft, an indicating member actuated by the worm screw, and means for coöperating with the pin to determine the correct relative position of the worm screw.

In testimony whereof, we have hereunto subscribed our names this 29th day of Jan., 1919.

ZEN HSIEH.
GEORGE CHOW.