No. 644,502. Patented Feb. 27, 1900.

# W. S. CRAIG.

## TYPE WRITER.

(Application filed July 27, 1898.)

(No Model.)

*Fig. 1.*

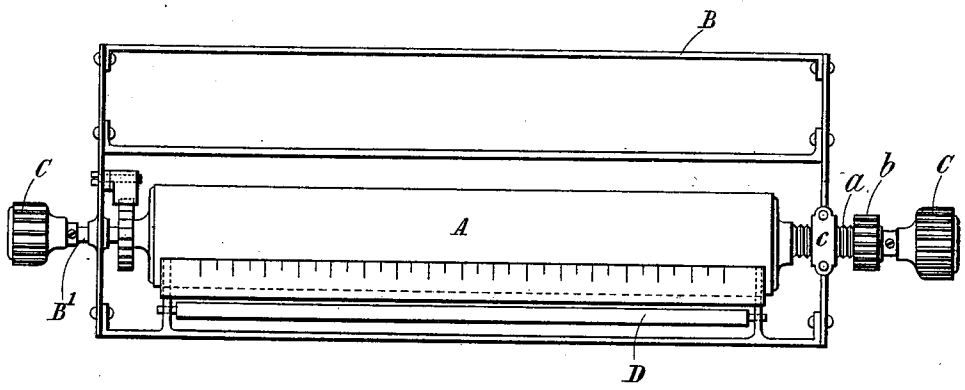
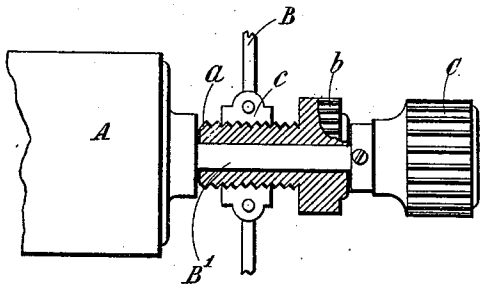



*Fig. 2.*




Witnesses
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# UNITED STATES PATENT OFFICE.

WILLIAM S. CRAIG, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF TO CHARLES CHASE WHITACRE, OF SAME PLACE.

## TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 644,502, dated February 27, 1900.

Application filed July 27, 1898. Serial No. 687,030. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. CRAIG, engineer, a citizen of the United States, residing in London, England, have invented certain new and useful Improvements in and Connected with Type-Writers, of which the following is a specification.

This invention relates to improvements in and connected with type-writers, and has reference more particularly to an arrangement whereby the paper-roller can be adjusted longitudinally with very great accuracy in or relatively to its carriage or frame to bring any particular point—say, for example, an erased letter—into the exact position for printing.

According to the said invention, while the roller is provided with the ordinary knobs or heads for rotating it, one end of its spindle is mounted in an adjustable bearing or sleeve, which bearing forms the essential part of the adjusting device and is provided with means for imparting to it and from it to the roller the requisite fine degree of movement. For the purpose of giving the required adjustment the bearing is screw-threaded and works in a fixed nut or block on the roller-carriage.

In order that the invention may be clearly understood, I will proceed to describe the same fully by aid of the accompanying drawings, in which—

Figure 1 is a diagrammatic plan showing the paper-roller and the carriage provided with the adjusting device. Fig. 2 is an enlarged view of the said device, partly in section.

In the drawings the letter A is the paper-roller, B is its carriage, and C C are the ordinary knobs or heads for rotating the roller.

*a* is the adjustable bearing, which is externally screw-threaded and has a head *b* for rotating it. The said bearing is free to turn relatively to the spindle B′ of the roller, so that its rotation does not impart any rotary motion, but only longitudinal movement to the latter.

*c* is the nut or block in which the bearing *a* is mounted and which is secured to the end of the roller-carriage.

It will be seen that the bearing *a* forms an accurate fit between the roller A and the adjacent knob C, as any looseness or play at this part would interfere with the adjustment. At the opposite end of the carriage, however, the spindle of the roller can slide through its bearing. By this arrangement it will be seen that the position of the roller in the carriage can be adjusted longitudinally simply by turning the head *b* of the bearing *a*. The extent of such motion is of course only small, being only such as required to bring any particular point into exact register after it has been adjusted as near as possible by the movement of the carriage.

The presser roller or rollers, as at D, Fig. 1, are mounted, as shown, so as to be capable of a lateral movement to correspond with the lateral movement of the paper-roller in its frame when necessary.

I claim—

1. In a type-writing machine, the combination with the paper-roller, the paper-roller spindle, the fixed knobs at the extremities of the said spindle, and the paper-carriage frame, of a rotary sleeve for longitudinally adjusting the paper-roller, said sleeve forming the bearing of the roller-spindle at one end, substantially as described for the purpose specified.

2. In a type-writing machine, the combination with the paper-roller, the paper-roller spindle, the fixed knobs at the extremities of said spindle, and paper-carriage frame, of an externally-screw-threaded rotary sleeve forming the bearing of the roller-spindle at one end and accurately fitting between one end of the said roller and the knob fixed to that end of the said spindle, substantially as described for the purpose specified.

3. In a type-writing machine, the combination with the paper-roller, the paper-roller spindle, the fixed knobs at the extremities of the said spindle, and the paper-carriage frame, of an externally-screw-threaded rotary sleeve forming the bearing of the said spindle at one end, and accurately fitting between one end of the said roller and the knob fixed to that end of the spindle, and a fixed nut on the frame of the paper-carriage, which nut forms a bearing in which the said sleeve can

turn to carry the paper-roller longitudinally in its carriage in either direction, substantially as described for the purpose specified.

4. In a type-writing machine, the combination with the paper-roller, the paper-roller spindle, the fixed knobs at the extremities of the said spindle, and the paper-carriage frame, of an externally-screw-threaded sleeve forming the bearing of the said spindle at one end, and accurately fitting between one end of the said roller and the knob fixed to that end of the spindle, a fixed nut on the frame of the paper-carriage, which nut forms a bearing in which said screw-threaded sleeve can turn to carry the paper-roller longitudinally in its carriage in either direction, a head fixed to said sleeve for turning the same, an extension on the spindle at the opposite end of the paper-roller, a presser-roller and means for enabling the presser-roller to move laterally in its bearings to a limited extent, substantially as described for the purpose specified.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 12th day of July, 1898.

WILLIAM S. CRAIG.

Witnesses:
FRED C. HARRIS,
WALTER J. SKERTEN.