(No Model.)

# A. E. WYNN.

## TYPE WRITING MACHINE.

No. 437,959. Patented Oct. 7, 1890.

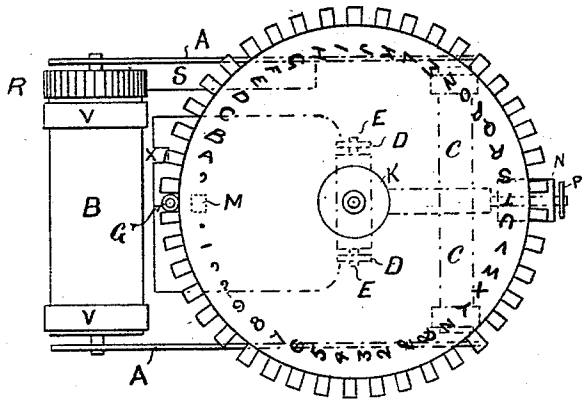



FIG. 1

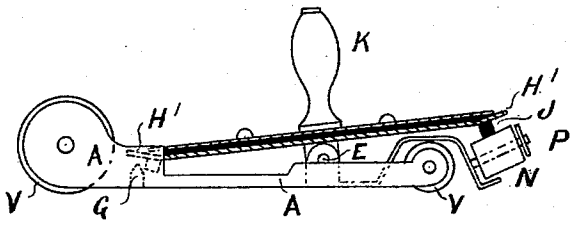



FIG. 2

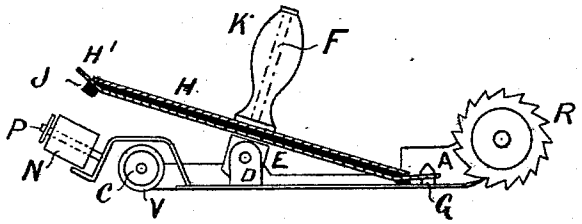



FIG. 3

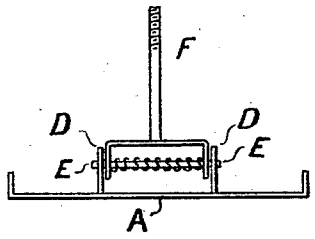



FIG. 4.

Witnesses:
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George Baumann.

Inventor:
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By his attorneys
Howson and Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ARTHUR ERNEST WYNN, OF ILKLEY, ENGLAND, ASSIGNOR OF THREE-FOURTHS TO ARCHIE BAILEY BALFOUR, OF SAME PLACE, AND JOHN RICHARD ROBINSON, OF HEADINGLEY, AND JOHN WAUGH, OF BRADFORD, ENGLAND.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 437,959, dated October 7, 1890.

Application filed February 23, 1889. Serial No. 300,963. (No model.) Patented in England September 9, 1887, No. 12,245; in France November 3, 1887, No. 186,756, and in Belgium November 4, 1887, No. 79,415.

*To all whom it may concern:*

Be it known that I, ARTHUR ERNEST WYNN, a subject of the Queen of Great Britain and Ireland, and residing at Ilkley, in the county of York, England, have invented certain Improvements in Type-Writing Machines, (for which I, along with my assignee, HENRY DOBSON, have obtained Letters Patent in England, No. 12,245, dated September 9, 1887; in Belgium, No. 79,415, dated November 4, 1887, and in France, No. 186,756, dated November 3, 1887,) of which the following is a specification.

This invention has reference to type-writers; and the object of my improvement is to construct and arrange a simple, cheap, and effective form of machine.

In my improved type-writer a carriage is provided, which when in use is placed upon the sheet of paper or other substance to be printed, lying flat upon a table or other level surface.

The machine is so constructed that when pushed by the hand it will trend in a straight line across the sheet of paper or other substance, and for this purpose it is provided with broad wheels or rollers at both ends. These rollers, or one of them, are preferably covered with rings of vulcanized india-rubber, and upon one of the rollers ratchet-teeth are provided, and a pawl is attached to the carriage to drop into the teeth. The ratchet and pawl aid the operator in moving the carriage forward step by step for a specific measured distance over the paper. A disk is mounted upon the carriage, and the edge of the said disk is beveled or inclined, the type being fixed around the beveled edge of the disk, the periphery of which is notched, such notches corresponding to the number of the type. The type-disk is placed upon an axis or peg projecting approximately vertically, and which is mounted upon studs or pivots, which allow such axis or peg to rock to and fro in the direction in which the carriage travels. A spring is provided which normally holds the axis or peg when at rest in a vertical or nearly vertical position. On the upper surface of the disk a central handle is provided, and the axis passes up into this handle. On using the apparatus the type-disk is turned by means of the handle to bring the required type on its under side into position to be impressed upon the paper, and while the wheel is being so turned it revolves in contact with a roller, which inks the type. When the type-disk has been brought into position, the printing is effected by rotating and rocking the type-disk, so as to bring the selected type on one side of it into contact with the paper. Accuracy of position at the time of printing is insured by a conical guide-pin projection or tooth upon the carriage, which enters one or other of the notches in the periphery of the type-disk, and after a letter is printed the carriage is moved forward a step, and then another type is similarly brought into position and impressed upon the paper, and so on until a line is completed. Then the machine is moved across the paper to commence a new line.

In further describing my apparatus reference is made to the accompanying drawings, wherein—

Figure 1 represents a plan view of a type-writer constructed and arranged according to my invention. Fig. 2 is a side view of the same; Fig. 3, a view of the opposite side with the side frame of the carriage removed in order to better show the interior, the type-disk being in position as when printing; Fig. 4, a detail of the base-plate of the apparatus and the manner in which the type-disk, axis, or peg is mounted.

The letter A indicates the carriage of the machine, supported on the pivots or axles of the two rollers B and C. On the bottom of the carriage are formed two small upright brackets D, for the purpose of receiving the horizontal pin E of the axis or peg F. This axis F is pivoted to the uprights D on the carriage by the pin E to allow the axis F to rock to and fro in the direction in which the carriage travels. A spring, (see Fig. 4,) one

end of which is secured to the axis F and the other end to the pin E, tends to hold the axis when at rest in a vertical or nearly vertical position. Upon the axis is mounted the type-disk H, composed of two thin sheets of metal, one of the sheets being beveled at H'. The object of having the disk beveled at its outer edge is to enable such inclined edge to become parallel with the paper receiving the impression, the said disk having secured between the plates a ring of india-rubber, on which is formed the type J, each letter or figure projecting for some distance through a space in the serrated or notched periphery, the notches corresponding in number with the number of letters and figures of the type, such notches being employed to insure that such letters and figures follow one another in a straight line, the vertical guide-pin G on a part of the base-blate of the carriage entering a notch as the operator selects his letters and inclines the disk, so that the type impresses the paper.

A central pin or peg F, projecting upward, has mounted thereon the type-disk H, to which is secured a handle K, for the purpose of the operator turning the disk around and enabling him to tilt it sidewise, which takes place every time a letter is impressed upon the paper. A square or other form of hole is shown at M in dotted lines in plan view, which hole is made through the carriage base-plate and is for the purpose of allowing one of the type-letters to pass through when marking a letter upon the paper, by which means it is impossible to mark more than one letter at a time.

An inking-roller for supplying ink to the type is shown at N, which works on a horizontal pivot P, secured to a light bracket attached to or forming part of the carriage, which pivot is by preference made rather longer than the depth of the said roller for the purpose of allowing the roller some motion in the direction of its axis, by which means the type is more evenly inked.

In order to determine the distance between each letter or figure, I fix a ratchet-wheel R at one end of the roller B, and into this ratchet-wheel drops one end of a pawl or lever S, so that as the carriage is caused to travel in the direction of the arrow the pawl S will take into the teeth, and not only determine the distance between the letters or figures printed, but prevent the carriage moving in the wrong direction.

In order to determine or fix the distance between one line of writing and another, I form a notch at X in the base-plate of the carriage, and when one line is completed the machine is removed to the left hand of the paper and placed in such a position that the line last written is visible through the said notch, whereby equidistance between the lines is accurately determined.

For the purpose of making the rollers sufficiently adhere to the paper to prevent slipping, one or both of the rollers B and C may be encircled with india-rubber bands, as at V V.

The *modus operandi* is as follows: The operator, after placing the apparatus on the paper, turns the type-disk H until the selected letter is opposite the guide-pin G, when the disk is tilted, causing the guide-pin to enter the corresponding notch and the selected letter to protrude through the hole M in carriage base-plate, and thereby to impress the letter on the paper. The disk is then elevated by the operator and the roller B pushed forward a distance represented by one of the teeth on the ratchet-wheel R in order to form the space between the letters, and on revolving the disk in selecting another letter the type is brought into contact with the inking-roller N, thus constantly inking the type when the machine is in use. In order to give the necessary space between each word, it is necessary to push the roller B forward a distance represented by two of the catches or teeth of the ratchet-wheel R and another letter selected and impressed as before described, the machine traveling bodily along the paper as the writing proceeds.

What I claim is—

1. A type-writer consisting of a carriage mounted on rollers, a revolving disk having a serrated rim and provided with raised type on its lower side near the periphery and corresponding characters on the upper side, a handle to rotate the disk, a pivoted axis for the disk to permit the disk to be rocked, a spring to return the axis to its upright position, a guide-pin, and an inking-roller, the said carriage being provided with an opening to allow the type to pass through and a notch to aid in spacing between the lines, substantially as described.

2. A type-writer consisting of a carriage mounted on rollers, one of the said rollers having ratchet-teeth and the carriage having a pawl therefor, a revolving disk having a serrated rim and provided with raised type on its lower side near the periphery and corresponding characters on the upper side, a handle to rotate the disk, a pivoted axis for the disk to permit the disk to be rocked, a spring to return the axis to its upright position, a guide-pin, and an inking-roller, the said carriage being provided with an opening to allow the type to pass through and a notch to aid in spacing between the lines, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR ERNEST WYNN.

Witnesses:

JNO. GILL,

FRED. CLEPSTON.