

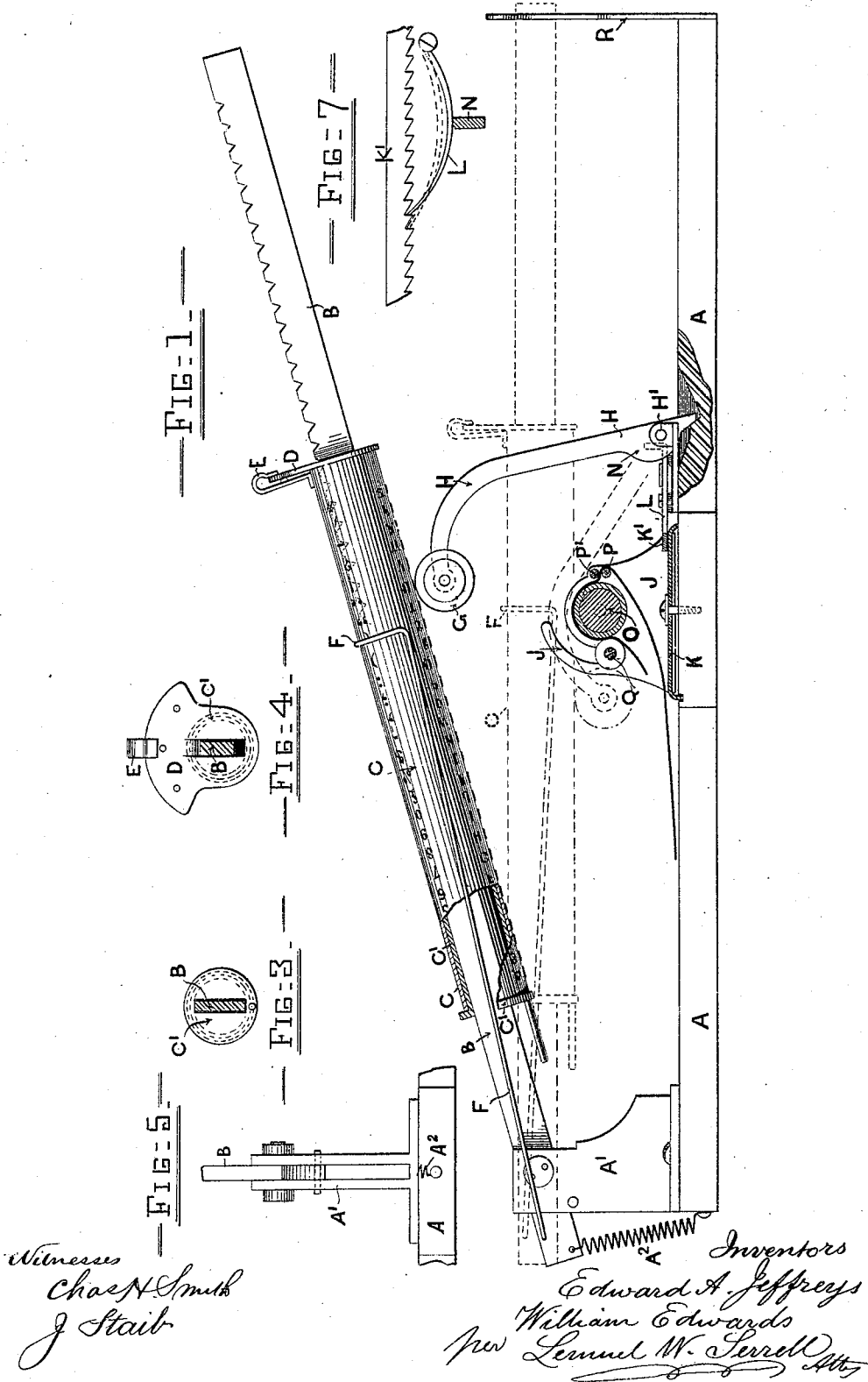
(No Model.)

2 Sheets—Sheet 1.

E. A. JEFFREYS & W. EDWARDS.
TYPE WRITING MACHINE.

No. 552,374.

Patented Dec. 31, 1895.



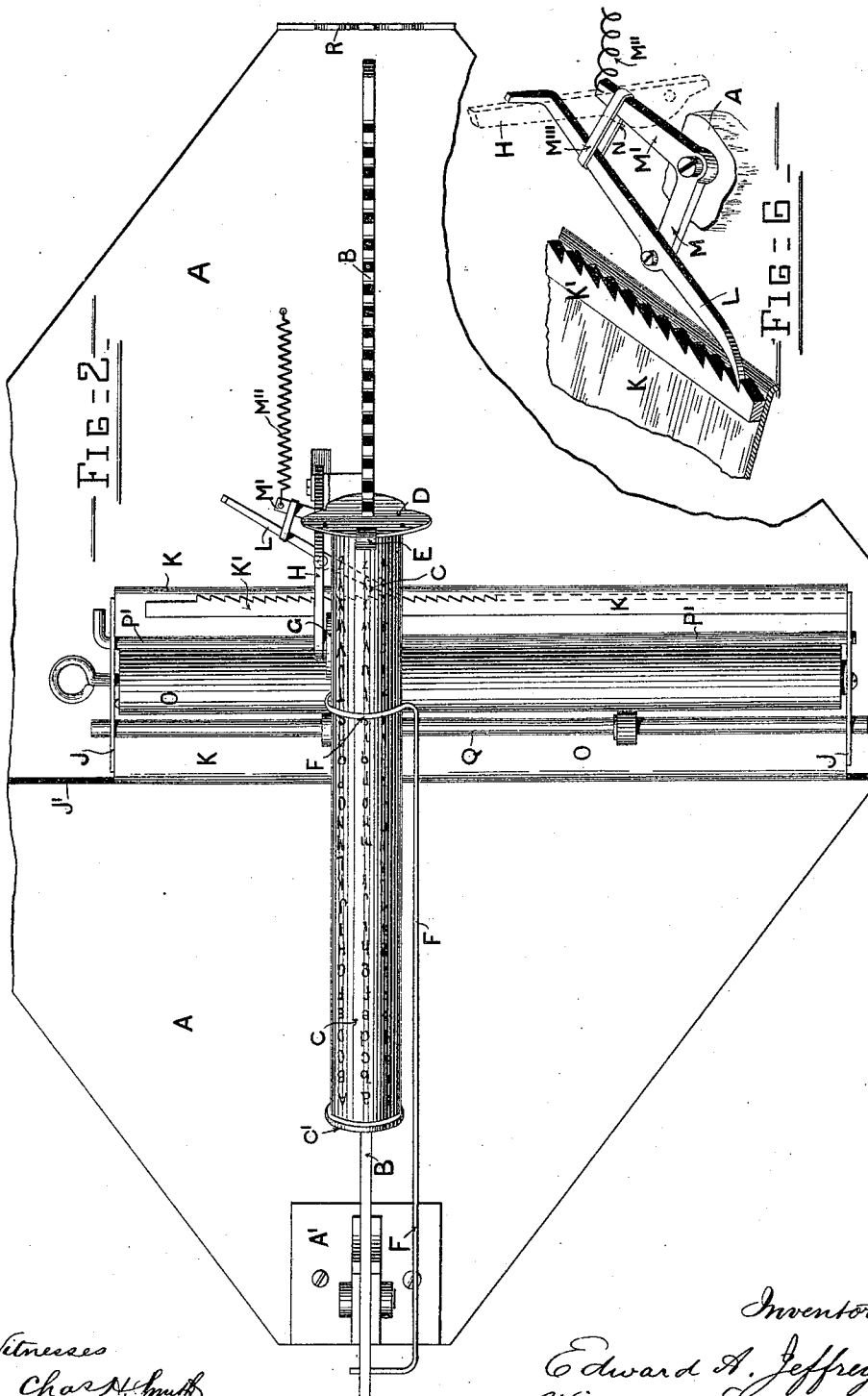
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Witnesses
Chas N Smith
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Edward A. Jeffreys
William Edwards
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UNITED STATES PATENT OFFICE.

EDWARD A. JEFFREYS AND WILLIAM EDWARDS, OF LONDON, ENGLAND.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 552,374, dated December 31, 1895.

Application filed May 17, 1895. Serial No. 549,630. (No model.) Patented in England October 19, 1894, No. 19,974.

To all whom it may concern:

Be it known that we, EDWARD AUGUSTUS JEFFREYS and WILLIAM EDWARDS, subjects of the Queen of Great Britain, residing at Hatton Garden, London, in the county of London, England, have invented a new and Improved Type-Writing Machine, (for which a patent has been granted to us in England, dated October 19, 1894, No. 19,974,) of which the following is a specification.

The object of this invention is to provide type-writing machines or apparatus of very simple construction, cheap to manufacture, easy to operate, and particularly suitable for use by people requiring a cheap machine, but not great speed, as distinguished from those machines usually used for commercial purposes where speed is considered a desideratum.

In the accompanying drawings, Figure 1 is a sectional side elevation, and Fig. 2 is a top plan, of the machine or apparatus forming the subject of this invention; and Figs. 3, 4, 5, 6, and 7 are views of detail parts herein-after referred to.

Upon one end of a base A we fix a standard A', in or to which a metal bar or strip B is pivoted, one end of the strip being connected to the base A by a spiral or other suitable spring A², which always tends to keep the tail end of the strip B down and the other end up, and in a sloping direction, as shown. The standard A' may be conveniently made in two L-shaped parts placed back to back with sufficient space between them to allow for the passage of the strip B, the head of the standards being held together by a pin, the latter also acting as the axis or fulcrum of the strip B, or the standard is made in one piece, as shown at Fig. 5.

The strip B is made with teeth or is notched, as shown, to about one-half of its length opposite the fulcrum end, and these notches or rack are spaced to correspond with the distance apart of each of the letters of the alphabet or the characters to be written, and these latter are on the upper visible surface of a tube C, while the types are on the opposite side or under surface of the same tube C. The types are arranged in columns, and so also are the visible characters, and each type

is diametrically opposite to its corresponding visible character. The capital letters are in one column, the small letters are in another line or column and the figures and other characters in a third line or column, the visible characters being on the upper surface of the tube C, and the corresponding types being on the under side and diametrically opposite. The tube C is carried on a frame C', being free to rotate thereon. The frame C' is free to slide on the strip B, as shown, also, in end views of the frame, Figs. 3 and 4. The position of this type-carrying tube is adjusted on the strip B longitudinally by means of an end plate D, also forming a handle for operating the tube C. This tube C must have a limited rotary motion to bring either line of type into position for use, and for this purpose there is connected to the end of the tube C and where the latter abuts against the end plate D of the frame C' a link-piece E hooking at its other end to, and free to be moved to or fro on, the top edge of the plate D, and secured in each position by a catch, the central position of the loop showing and being in alignment with the small letters on the cylinder, and either side of the center being in alignment with the large letters or other characters, respectively.

F is a wire rod secured at one end to the strip B and at the other it bridges the tube C, so that as the latter is traversed to and fro on the strip B to the position of the character to be written the bridge of the wire rod F covers the letter to be printed, and this bridge thus acts as a perfect guide for the operator.

The inking of the type is effected by a roller-pad G arranged immediately below the type and over or along which the type-carrying tube C passes as it is moved to the type required. This inking-roller G is carried by a curved arm H, pivoted at its other end to a plate H', secured to the base A, and the arrangement of this roller with its carrying-arm is such that the pad after inking the type and the strip B is depressed to make an impression that the roller-pad G moves out of the way of the descending type, while at the same time the movement of the arm H causes the necessary transverse movement of the paper after the impression has been made ready for

the next impression, all as hereinafter described.

The paper-carrying roller O is mounted in and carried by standards J J, arranged on a frame K, the latter free to move transversely across the base in a groove J' immediately below the type-carrier and at right angles thereto.

K' is a rack on the edge of the frame K, the teeth of which are arranged at a distance apart to correspond with the space that is desired should exist between the letters of the writing. Into the teeth of the rack K' a pawl L takes, which latter is operated by the depression and rising of the strip B in the following manner, and as more clearly shown by the detached perspective view, Fig. 6.

M M' is a bell-crank lever, one arm, M, being jointed to the pawl L and the other arm, M', connected to a spiral spring M'', secured at its opposite end to the base-plate A. On the lower end of the arm H there is a cam-shaped projection N, Fig. 1, so that as the strip B is depressed so is the inking-roller, and the latter being carried by the arm H working about its center H' the cam projection N acting on the arm M' of the bell-crank lever forces the other arm, M, in the contrary direction, advancing the pawl L, and with it the rack K', until the strip B is allowed to rise, when the cam N releases the arm M' of the bell-crank, and aided by the rubber spring M''' the pawl comes out of its tooth of the rack and falls into its adjacent tooth, thereby advancing the paper-carrying roller O the required distance or space between each letter. Sometimes the bell-crank may not be necessary if a spring-pawl is used such as is shown at Fig. 7 in plan, when the cam N can act directly on the spring.

The paper-carrying roller O is mounted on an axis passing through the end supports J. One end of this axis carries a handle for turning the roller O and with it the paper for regulating the spacing of the lines.

P is a rod connecting the supports, and P' is another rod for removal to allow the paper to be passed around the roller.

Q is an adjustable rod on the front of the roller O carrying rubber washers, between which and the roller O the paper passes. The rod Q is carried in guide-bearings from which it can be removed and replaced as required.

R is a forked bracket fixed to the base-plate to receive the bar B when depressed and insure accuracy of position.

The action is as follows: The paper is placed on the roller O by first removing the two rods P' and Q. The paper is then fed beneath the large roller, leaving the part to write on at the top. The rods are then passed through holes and into the curved guides on the end of the carriage to keep the paper in place. The type-writer is then ready for use. Beginning with a capital letter the operator must bring the capitals in alignment with the correspond-

ing type beneath by rotating the tube C. He then draws to the bridge a letter corresponding with the letter to be written. In the drawings the letter "S" is supposed to be printed. The tube is then depressed onto the paper, as shown by the dotted lines, Fig. 1, and an impression of the letter is made thereon. The small letters must be brought in alignment as are the capitals, and so on.

When the machine is not required for use the strip B is depressed into the fork in the bracket R at the back of the base-plate, as shown by dotted lines in Fig. 1, and there held by any suitable means, such as a hook or string.

We claim—

1. In a type writing machine, the combination with a cylinder C having index letters on its upper surface and corresponding type on its lower surface, a lever B fulcrumed at one end to a fixed bracket, upon which lever B the cylinder C is located and adapted to be slid, and an index bridge F fixed to the lever B and overlying the cylinder C for setting any required position of the type cylinder; of a paper-carrying roller located beneath the type cylinder and at right angles thereto, mechanism for traversing the paper cylinder in the direction of its length by a step-by-step motion, and an inking roller located beneath the type cylinder, an arm fulcrumed to a fixed bracket to carry the inking roller whereby the latter after inking the type upon the depression of the cylinder, is brought over and beyond the paper carrier, and springs for returning the lever B and the inking roller arm to position substantially as set forth.

2. In a type writing machine, the combination with a cylinder C having index letters on its upper surface and corresponding type on its lower surface, a frame C' upon which the cylinder C may receive rotary adjustment, a lever B fulcrumed at one end to a fixed bracket, upon which lever the cylinder-frame C' is carried and adapted to be slid, and an index bridge F fixed to the lever B and overlying the cylinder C for setting the latter; of a paper-carrying mechanism located beneath the type cylinder and at right angles thereto, and a rack K' on the paper-carrying frame, an inking roller G located beneath the type cylinder; an arm H fulcrumed to the base to carry the inking roller, a pawl L and co-acting lever mechanism for giving the paper carrying rack K' a step-by-step traverse, and a cam N on the ink roller arm H to operate the pawl L at each depression of the type cylinder and its carrying lever substantially as set forth.

3. In a type writing machine, the combination with a cylinder C having index letters or figures arranged in rows longitudinally on its upper surface and corresponding longitudinal rows of type on the lower part of surface, a frame C' upon which the cylinder C may receive rotary adjustment to bring any particu-

lar row of type into vertical alignment, a
handle E for rotating the type cylinder on its
frame, and a segment D on the frame C' for
locating the position of handle E, a lever B
5 fulcrumed at one end to a fixed bracket, and
upon which the frame C' may be slid and ad-
justed according to the letter required, an in-
dex arm F carried by the lever B for insuring
accuracy of position of the type cylinder lon-
10 gitudinally, an inking roller for inking the

type, and a paper carrying roller and mech-
anism for giving the latter a step-by-step mo-
tion, substantially as set forth.

Signed by us this 18th day of March, 1895.

EDWD. A. JEFFREYS.

WM. EDWARDS.

Witnesses:

WM. A. MARSHALL,

E. W. ECAILLE.