

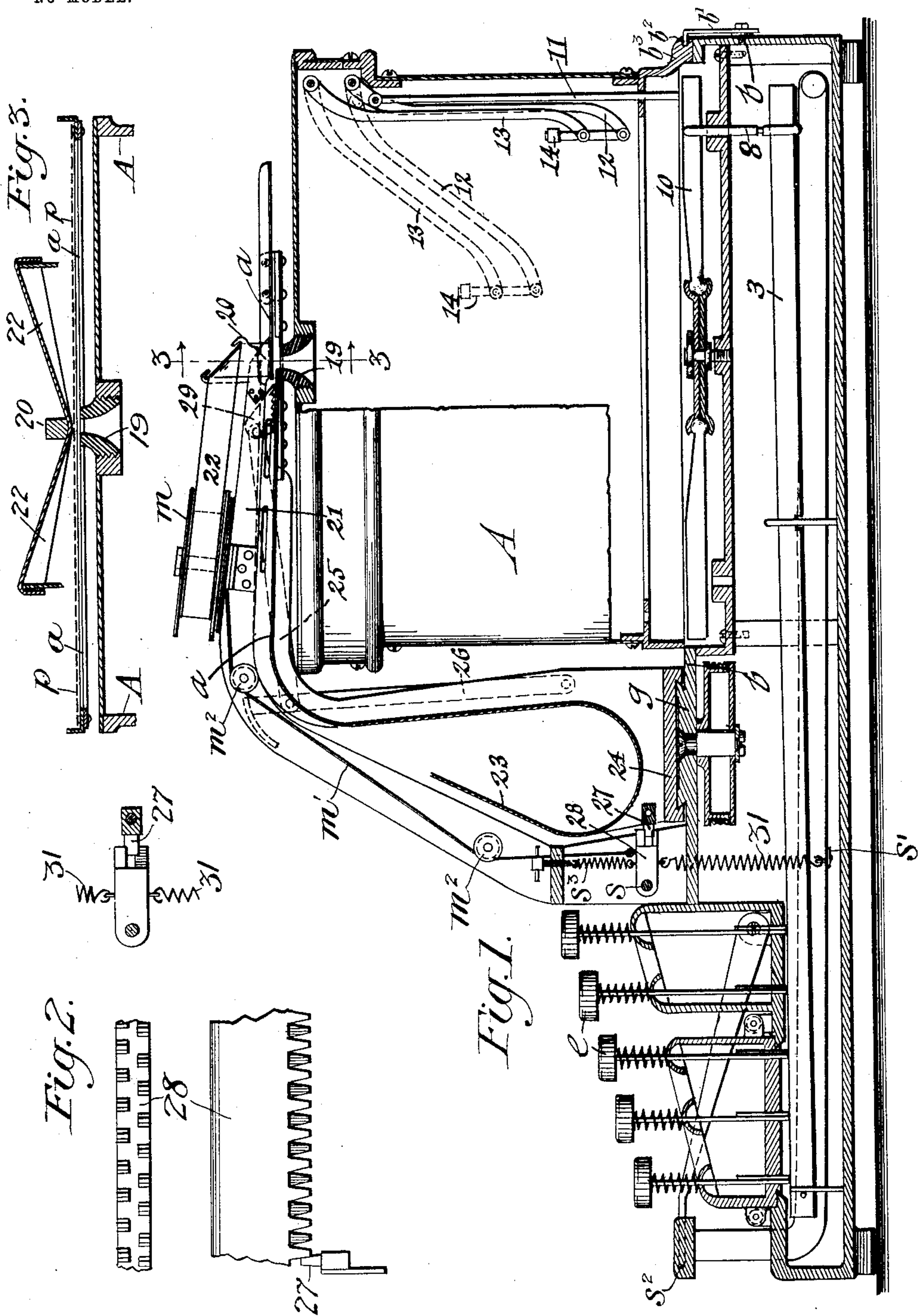
No. 750,573.

PATENTED JAN. 26, 1904.

A. BEYERLEN.
TYPE WRITER.

APPLICATION FILED JULY 18, 1903.

NO MODEL.



Witnesses
Henry J. Sukher
Fred Holman

Angelo Beyerlen, Inventor
By his Attorneys, Goepfert & Niles

UNITED STATES PATENT OFFICE.

ANGELO BEYERLEN, OF STUTTGART, GERMANY.

TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 750,573, dated January 26, 1904.

Application filed July 18, 1903. Serial No. 166,067. (No model.)

To all whom it may concern:

Be it known that I, ANGELO BEYERLEN, a citizen of the Empire of Germany, residing in Stuttgart, Germany, have invented certain new and useful Improvements in Type-Writers, of which the following is a specification.

The object of this invention is to provide a type-writing machine in which the type-lever basket may be readily and conveniently removed from the remaining portion of the machine for repair or for substitution by a basket having type of a different character or face.

For this purpose the invention consists in the combination, in a type-writer with a removable type-lever basket, of a keyboard in front of the same, levers in said basket pivoted to strike from below at an impression-point, a paper-carriage between the keyboard and the type-lever basket, a carriage-operating device between the keyboard and the basket, a rigid arm between the keyboard and basket and extending over the latter, a stationary anvil supported by said arm, a ribbon-operating device supported by said arm, key-levers and push-rods, one for each type-lever, extending from the same opposite the key-levers, but not connected with the latter.

The invention consists, further, in certain other combinations of operative parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal section, partly in elevation, through a type-writer constructed according to my invention. Fig. 2 shows a form of carriage-escapement mechanism; and Fig. 3 is a vertical transverse section centrally through the upper portion of the basket, the paper-carriage, paper, ribbon, and anvil on line 3 3, Fig. 1.

Similar characters of reference indicate corresponding parts.

Referring to the drawings, *g* indicates a guide-block supported on the frame of the machine between the keys *e* and the type-lever basket A. Upon this guide-block is supported a carriage 24.

The escapement mechanism consists of a stationary tooth 27 on the carriage 24, adapted

to be engaged by a vertically-oscillating rack 28. The rack 28 is pivoted, by means of a suitable transverse shaft *s*, to the machine-frame and is provided with two rows of teeth placed alternately. A spring 31 connects the rack with a cross-bar *s'*, extending beneath the space-bar *s*² and the key-levers. The rack is thereby moved in downward direction when the space-bar or key-levers are depressed. Upon release of the space-bar or key-levers a return-spring *s*³, extending in upward direction from the rack 28, draws the same upwardly, depression and release of the keys thereby causing oscillation of the escapement-rack 28 and the alternate engagement of the upper and lower rows of teeth with the tooth 27 on the carriage, whereby the carriage is permitted to progress step by step in the manner customary in type-writing machines.

A paper-receptacle 23 is carried by the carriage 24. Said receptacle is curved in a suitable manner for retaining the paper, as indicated in the drawings, and extends at its upper portion over the type-lever basket and beyond the impression-point of the type, thereby forming a table for supporting the paper being retained. For moving the paper in a forward direction upon the table a claw 29 is provided adjacent the table *a*, said claw being operated by a lever mechanism 25 26, the lever 26 being a vertical lever and the arm 25 horizontal and extending rearwardly and supporting the claw 29 over the table. The claw, as shown in Fig. 1, is provided with teeth at its lower face. Said teeth are inclined, so as to engage the paper when the claw is moved to advance the paper, but to release therefrom and pass over the paper when the claw is moved in the opposite direction.

The table *a* is provided with a lateral transverse slot in line with the impression-point of the type. On the type-basket is located a suitable guide 19 for the type. The type-levers 12 13 are actuated by intermediate levers 10, which are operated by fingers 8, connected with the levers 3. Push-rods 11, one for each type-lever, extend from the type-levers into position at their lower ends opposite the levers 10, but are not connected with said le-

vers. By this means the key-levers are rendered independent of the basket, so that the latter may be readily removed.

The anvil 20 and also the ink-ribbon 22 and its operating device are supported by a lateral arm or arms 21, arranged in front of the type-basket and extending over the same, as shown in the drawings, so as to support said anvil immovably immediately above the slot in the table and above the guide 19. The ribbon 22 passes beneath the anvil and between the same and the table. It is moved forward by means of a suitable pawl-and-ratchet mechanism (not shown) connected with the ribbon-wheels *m* and actuated by a cord *m'*, passing over suitable guide-pulleys *m''* and connected at its lower end with the rack 28. Each oscillation of the rack imparts a pulling action to the cord, whereby the pawl-and-ratchet mechanism is operated.

The succession of parts when printing is as follows: anvil 20, ink-ribbon 22, paper, and type 14. The type 14 are positive type. They strike the paper *p* (indicated in Fig. 3) against the ribbon and both together against the anvil.

From the foregoing description it will be perceived that all mechanisms which heretofore were arranged in or upon the type-lever basket and connected therewith whereby the removal of the basket was prevented are now so arranged and constructed that the type-lever basket is free from the same and may be easily removed from the frame *b* of the machine for the purpose of repair or substitution. The basket is secured to the bottom frame *b* of the machine by means of suitable spring-clips *b'*, which are secured at one end to the bottom frame and provided at the opposite end with a hook *b''*, adapted to engage a corresponding recess in the frame of the type-lever basket, as indicated in Fig. 1. Only one of these spring-clips (that at the rear) is shown. Similar clips are employed at the sides of the type-lever basket. The basket is removed by springing these clips away from the basket and turning the same on their pivots so as to be out of the way of the basket and then bodily withdrawing the basket horizontally in rearward direction away from the bottom frame and remaining parts of the ma-

chine. When replacing the basket these operations are reversed. The basket is inserted horizontally in the position shown, so that it rests upon the bottom frame *b*. The clips *b'* are then swung upwardly upon their pivots, so that the hook *b''* of the same engages the recesses of the basket-frame *b'''*.

It is obvious that any other suitable means may be employed for securing the basket removably in position in the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a type-writer, the combination, with a removable type-lever basket, of a keyboard in front of the same, levers in said basket pivoted to strike from below at an impression-point, a paper-carriage between the keyboard and type-lever basket, an escapement mechanism between the keyboard and the basket, a rigid arm between the keyboard and the basket, and extending over the latter, a stationary anvil supported by said arm, a ribbon-operating device supported by said arm, and key-levers and push-rods, one for each type-lever extending from the same, opposite the key-levers, but not connected with the latter, substantially as set forth.

2. In a type-writer, the combination, with a removable type-lever basket provided with upwardly-moving type-levers carrying positive type, of a rigid arm projecting over said type-lever basket and connected to the bottom frame of the machine, an anvil carried by said arm, a ribbon-operating device carried by said arm, a ribbon below the anvil, means guiding the paper to be imprinted below the ribbon, means in said basket for actuating said type against the paper, the latter against the ribbon, and both together against the anvil, and key-levers independent of said basket and of said actuating means, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ANGELO BEYERLEN.

Witnesses:

KONRAD ZEISIG,
ERNST ENTERNARD.