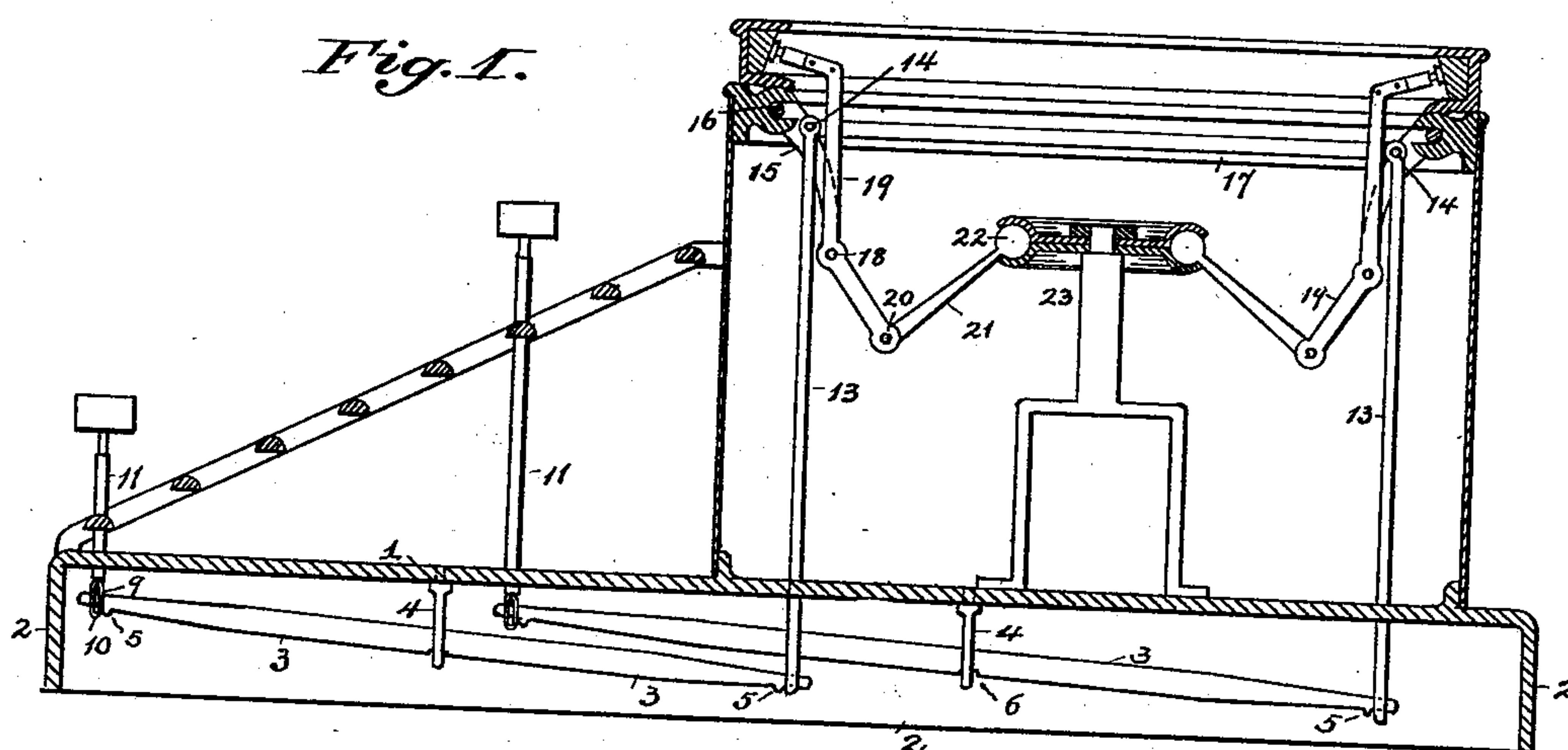


(No Model.)

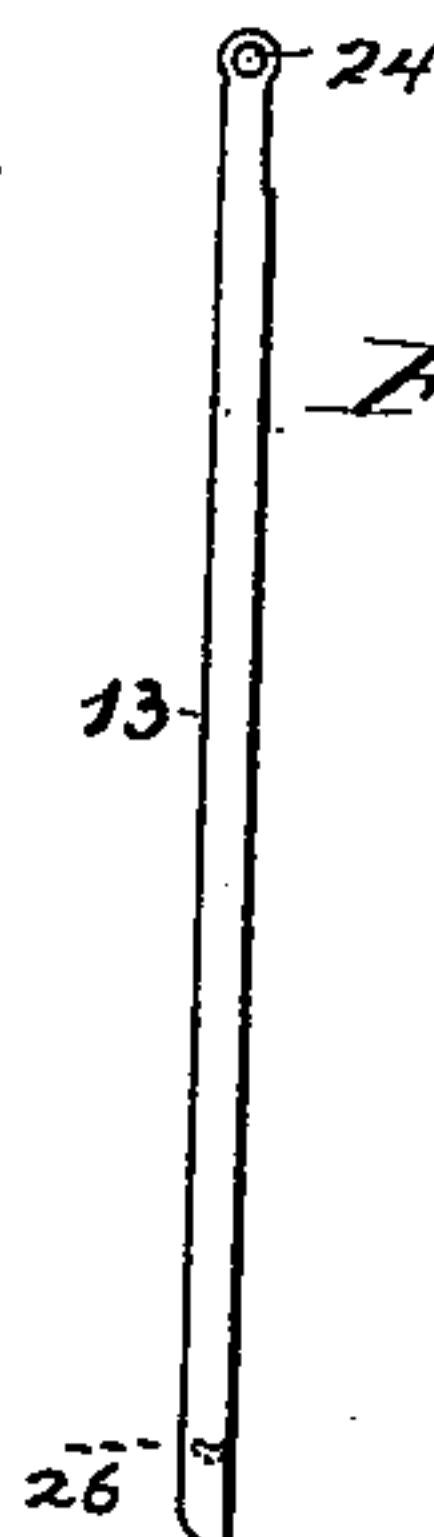
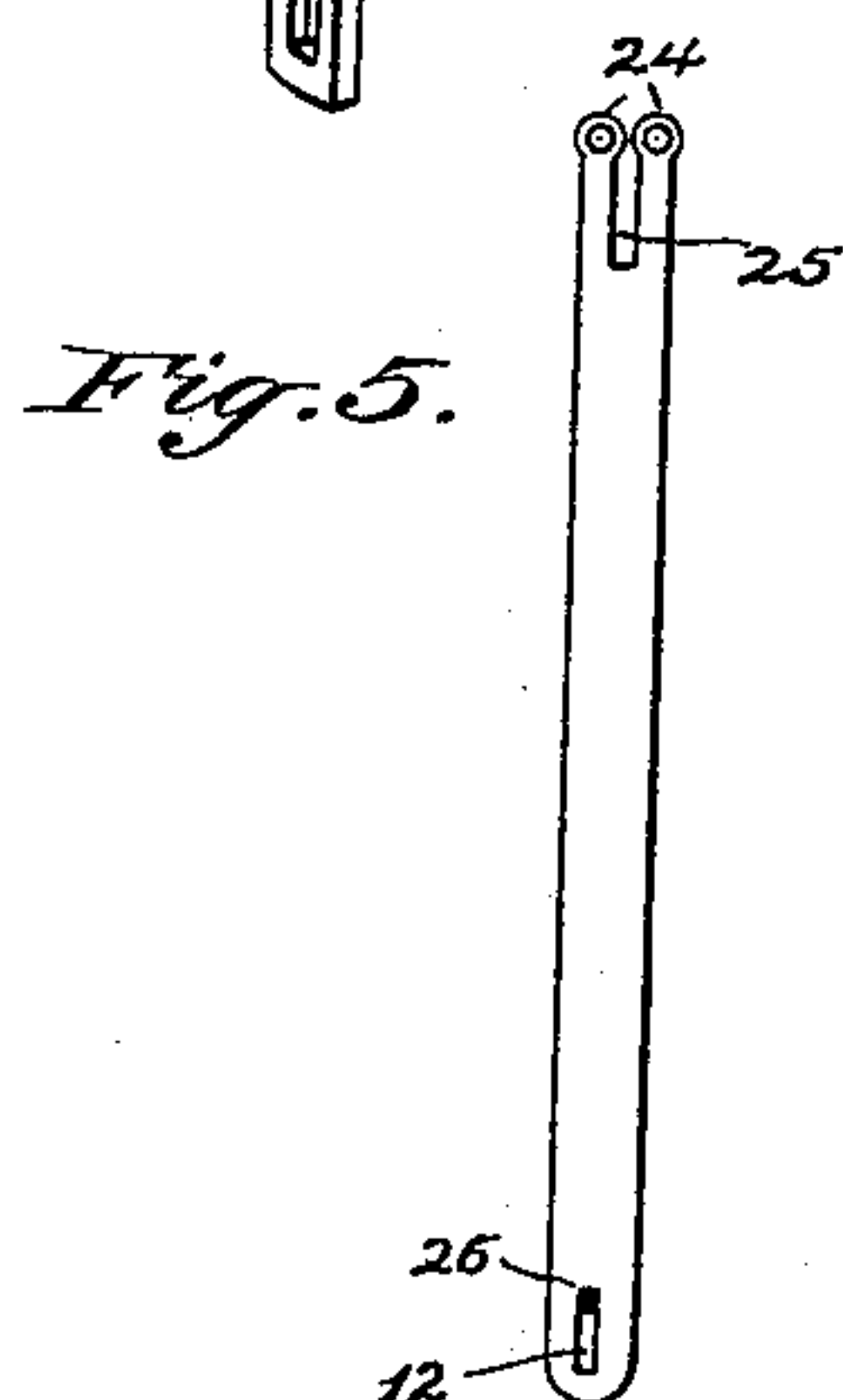
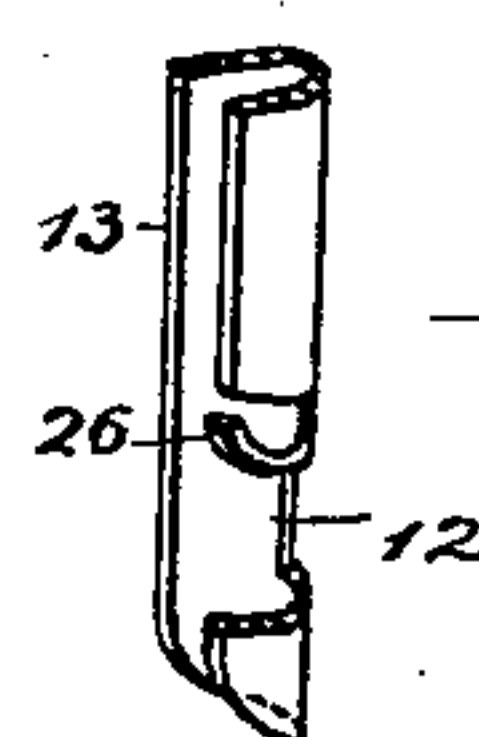
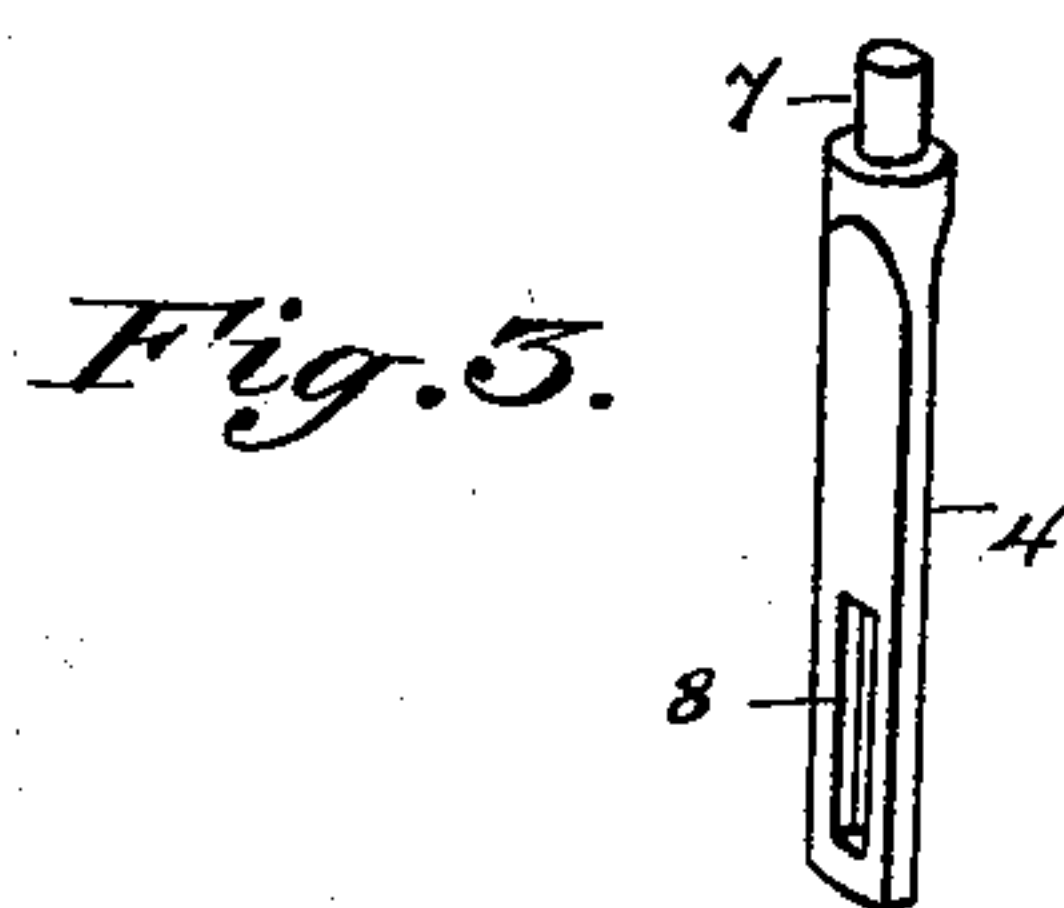
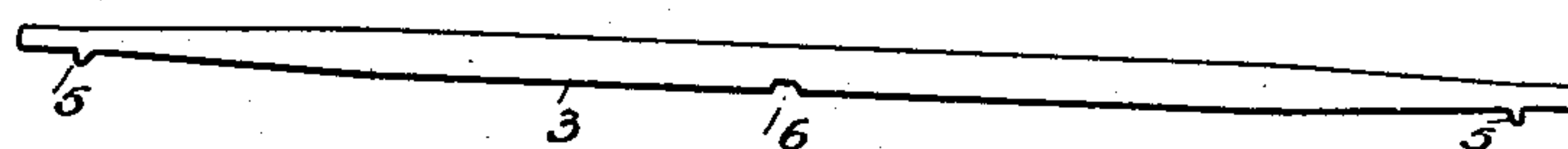
G. W. N. YOST.  
TYPE WRITING MACHINE.

No. 506,965.

Patented Oct. 17, 1893.



*Fig. 2.*



*Attest:*

Andrew W. Steiger.

Lillie Browning.

*Inventor:*

George W. N. Yost.

By Jacob Felbel.

Att'y:

# UNITED STATES PATENT OFFICE.

GEORGE W. N. YOST, OF NEW YORK, N. Y., ASSIGNOR TO THE DAVIDSON  
WRITING MACHINE COMPANY, OF SAME PLACE.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 506,965, dated October 17, 1893.

Application filed January 5, 1891. Serial No. 376,688. (No model.) Patented in England March 26, 1889, No. 5,136; in France March 26, 1889, No. 196,984; in Belgium March 26, 1889, No. 85,548; in Germany March 27, 1889, No. 51,365; in Italy March 30, 1889, No. 25,137, and in Spain May 11, 1889, No. 9,399.

*To all whom it may concern:*

Be it known that I, GEORGE W. N. YOST, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification:

My invention has been patented to me in the following foreign countries, to wit: Great Britain, March 26, 1889, No. 5,136; France, March 26, 1889, No. 196,984; Belgium, March 26, 1889, No. 85,548; Italy, March 30, 1889, No. 25,137; Spain, May 11, 1889, No. 9,399, and Germany, March 27, 1889, No. 51,365.

My present invention has for its main object to simplify and improve the construction of the connecting-rods and key-levers of type-writing machines and consists in the features of construction and combinations of devices hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a central vertical section of a type-writing machine embodying my improvements. Fig. 2 is a side elevation of one of the key-levers. Fig. 3 is a perspective view of one of the fulcrum-posts or supports. Fig. 4 is a similar view of the lower end of one of the connecting rods, the same being broken away to more clearly exhibit the construction. Fig. 5 is a plain view of a blank from which the connecting-rod is formed, and Fig. 6 is a side elevation of a connecting-rod made from a blank such as shown at Fig. 5.

In the several views the same part will be found designated by the same numeral of reference.

1 designates the base-plate or bed of the machine, which is provided with side or end depending flanges 2, forming a housing for the key-levers 3 and the fulcrum-posts or supports 4. The key-levers are levers of the first order and are provided each near each end with a downwardly projecting lug 5 and with a centrally arranged notch 6. The fulcrum posts or supports are provided each with a stud 7, which is inserted into the bed-

plate from below and securely riveted, and are also provided each with a slot 8 through which the key-lever passes and at the bottom of which the notch 6 is seated. The forward end of each lever is preferably inserted in slots 9 in a stirrup 10 at the lower end of a finger-key 11, after the construction more fully shown in the Letters Patent to G. G. Prentice, May 13, 1890, No. 427,609. The rear end of each key-lever is inserted in an eye or opening 12, formed at the lower end of a vertically arranged connecting-rod 13, which at its upper end is pivoted at 14 to a lever 15, fulcrumed at 16 in a type-ring or top-plate 17. The lower end of the lever 15 is connected at 18 to a type-bar 19 which at 20 is also connected to the lower end of a link 21 pivoted at 22 in a stand or support 23 rising from the bed-plate. The connecting-rod is preferably formed from a piece of sheet metal cut or blanked out to the shape shown at Fig. 5. At the upper end of the blank are formed holes 24 by which a completed connecting-rod may be pivoted to the lever 15. And at the said upper portion of the blank is formed a slot or cut away 25 to accommodate the lever 15 in the completed device and to permit of its hanging normally in the required position. At the lower end of the blank is formed the slot or eye 12, the metal cut out to form the same being bent backwardly or inwardly to provide a lip or bearing 26 for the key-lever. The blank is folded lengthwise centrally to bring the two holes 24 into line or register and to form a connecting-rod U-shaped in cross-section as shown at Figs. 4 and 6. The lower ends of the connecting-rods pass down through perforations in the bed-plate and the rear ends of the key-levers are fitted or slid into the slots 12 thereof until their lugs or projections 5 abut against the ends of the said connecting-rods as shown. There being a similar lug or projection at the forward end of the lever which abuts against the stirrup 10 or the lowermost end of the finger-key, it will be seen that the key-lever is thus prevented from being moved endwise in either direction and that there is no possibility of



derangement or casual displacement of the parts. The lever 3 being of the first order is designed to lift the connecting-rod 13, and I have found in practice that after much use of the machine, if a plain slot 12 be used the upper end of said slot is apt to become worn and elongated to an extent to permit the lug 5 to pass through the slot and the lever to move rearwardly. By cutting the slot 12 on three sides only and bending back the metal severed to form said slot to provide a lip 26 at the upper end of said slot, a smooth, comparatively broad surface is provided for the upper edge of the lever 3 to work or bear against and hence there is never any liability of the hole becoming worn sufficiently to permit the lug 5 to pass through and the key-lever to be moved lengthwise out of operative position.

By making the connecting-rods of sheet-metal and of the U-shape shown, the manufacture is considerably cheapened, and a much stronger and suitable device is provided.

Of course in lieu of the peculiar jointed or flexible type-movement or type-carriers shown a type-bar or carrier of other form or construction may be employed if desired.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination of a type-carrier, a vertical U-shaped sheet-metal connecting-rod, having an eye at its lower end, and a horizontally arranged key-lever fitted thereto at its rear end and provided with a lug or projection, substantially as set forth.

2. In a type-writing machine, the combination of a type-carrier, a vertical U-shaped sheet-metal connecting-rod having an eye at its lower end, a horizontally arranged key-lever of the first order, a depending fulcrum-post therefor, a lug or projection on said lever abutting against the lower end of the connecting-rod; substantially as set forth.

3. In a type-writing machine, the combination of a type-carrier, a vertical U-shaped sheet-metal connecting-rod having an eye at its lower end and a lip or bearing, formed substantially as described and a horizontally arranged key-lever having at its rear end a lug or projection; substantially as set forth.

4. In a type-writing machine, the combination of a type-carrier, a vertically-arranged connecting-rod formed of sheet metal and U-shape in cross-section, having at its lower end an eye and a lip or bearing, formed substantially as described and a horizontally-arranged key-lever having a lug or abutment; substantially as set forth.

5. In a type-writing machine, the combination of a type-carrier, a vertically arranged connecting-rod, formed of sheet metal and U-shape in cross-section, having at its upper end pivot holes 24 and a slot 25 and at its lower end an eye 12, and a horizontally-arranged key-lever; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 3d day of January, A. D. 1891.

G. W. N. YOST.

Witnesses:

JACOB FELBEL,

GEO. W. WEIFFENBACH.