

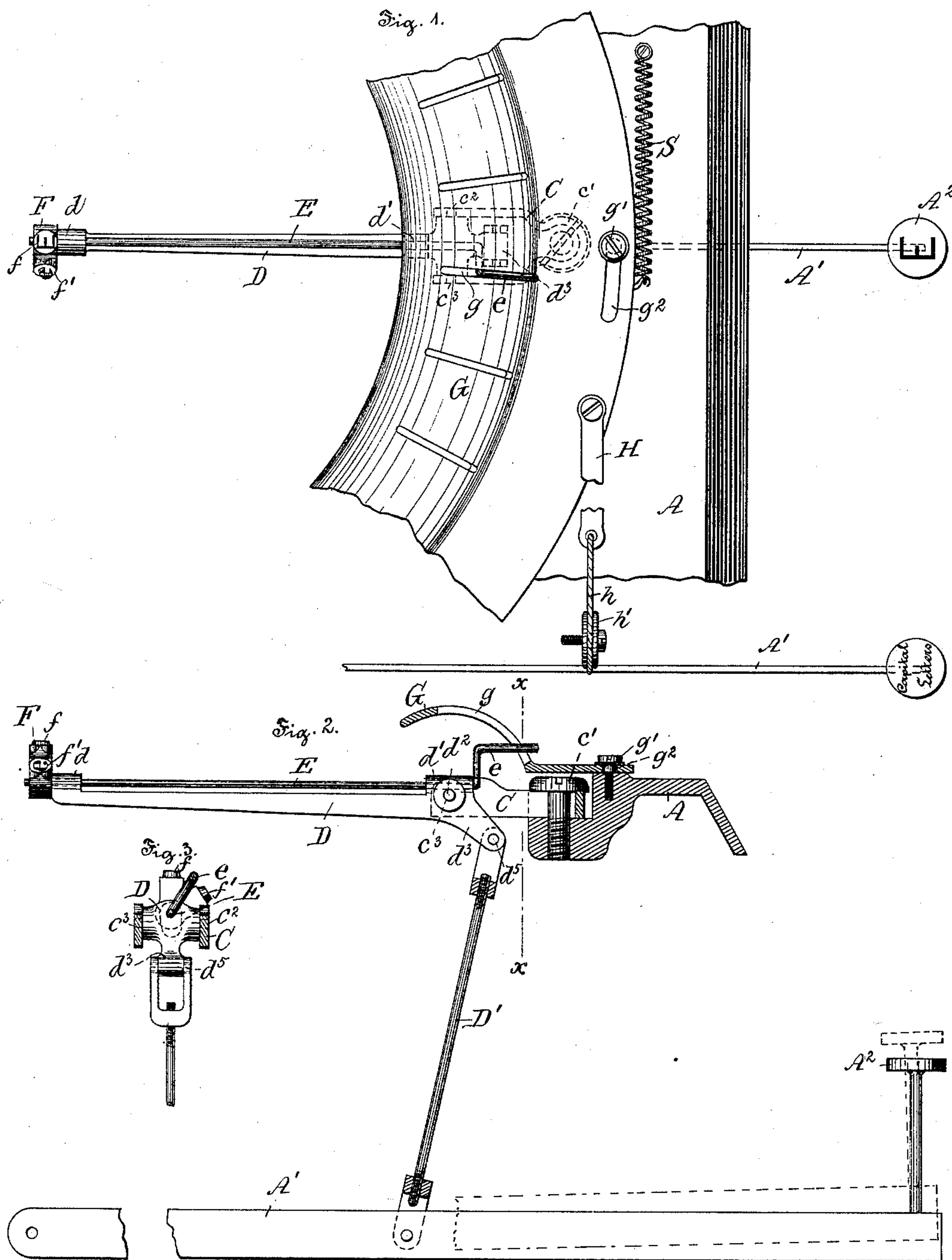
(No Model.)

2 Sheets—Sheet 1.

C. A. CONKLE & J. A. McCULLOCH.
TYPE WRITING MACHINE.

No. 436,338.

Patented Sept. 16, 1890.



Witnesses:
Kumam Bormann.
Thomas M. Smith.

Inventors:
Charles A. Conkle,
and John A. McCulloch,
by J. Walter Douglas.
Att'y.

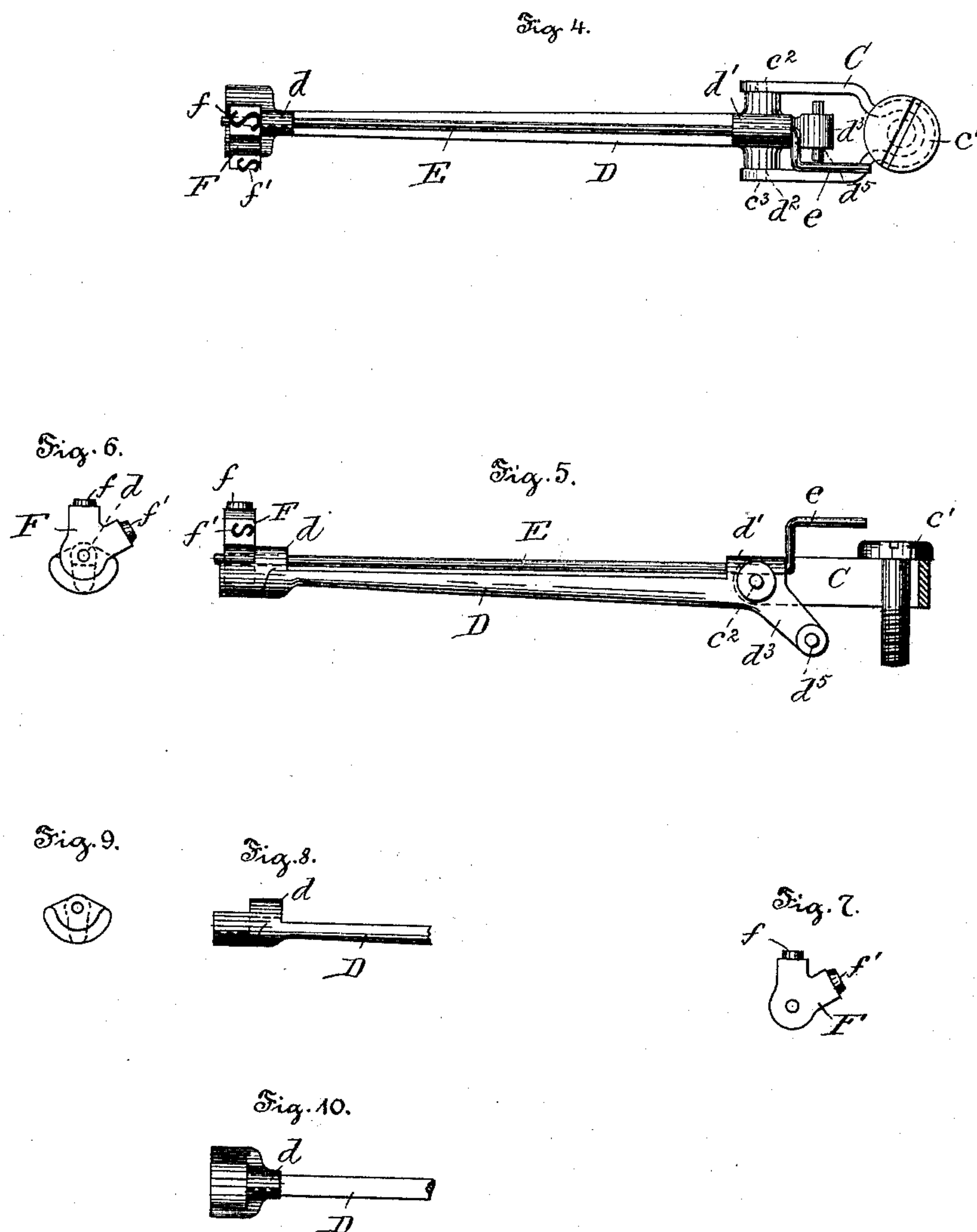
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2 Sheets—Sheet 2.

C. A. CONKLE & J. A. McCULLOCH.
TYPE WRITING MACHINE.

No. 436,338.

Patented Sept. 16, 1890.



Witnesses:
Hermann Bormann.
Thomas M. Smith.

Inventors:
Charles A. Conkle,
and John A. M. Cullock,
J. Walter Douglass.
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UNITED STATES PATENT OFFICE.

CHARLES A. CONKLE AND JOHN AUSTEN McCULLOCH, OF PHILADELPHIA,
PENNSYLVANIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 436,338, dated September 16, 1890.

Application filed May 22, 1890. Serial No. 352,793. (No model.)

To all whom it may concern:

Be it known that we, CHARLES A. CONKLE and JOHN AUSTEN McCULLOCH, both citizens of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

Our invention in general relates to that class of type-writing machines having finger-keys adapted to alternately and successively actuate two type connected with a single bar or rod to cause an impression to be made by the shifting movement of the type-block, constructed and arranged in the manner to be hereinafter particularly described.

The principal object of our invention is to provide simple, inexpensive, and durable mechanism to cause each finger-key to alternately and successively actuate two type.

Our invention consists of a compound type-bar, the same comprising a type-bar provided with journals, a rock-shaft provided with a crank and pivotally supported in the journals, and a type-block attached to said rock-shaft and having two printing-surfaces at intersecting planes.

Our invention further consists of type-blocks having printing-surfaces in intersecting planes and attached, respectively, to a rock-shaft provided with cranks and pivotally mounted on the type-bars, and means for actuating said cranks and rotating said rock-shaft and type-blocks.

Our invention further consists of a slotted ring or cap-piece susceptible of being rotated, and located above the basket of type and adapted to rotate the cranks attached to the rock-shaft carrying the type-blocks.

Our invention further consists in the combination of the compound type-bar, the slotted ring or cap, and means for actuating the type-bar and ring, as is hereinafter more fully described.

The nature and characteristic features of our invention will be more particularly understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a top or plan view of a portion of a basket of type, showing a compound type-bar, a slotted ring or cap superposed upon said basket of type, and also showing means for rotating said ring or cap in order to turn the type-blocks. Fig. 2 is a vertical section showing a type-block attached to one extremity of a rock-shaft, which engages in a slot formed in a ring or cap susceptible of being rotated in order to turn the type-block, and also a key and toggle-joint for throwing the type against the paper. Fig. 3 is a section on the line *xx* of Fig. 2, showing the position of the parts of a compound type-bar, and especially of the type-block when contacting with the paper. Fig. 4 is a top or plan view of a compound type-bar detached or removed from the basket of type and embodying a modified form of our invention, and also showing the type-block attached to a rock-shaft journaled in the type-bar and pivotally supported in a cavity or recess formed in the extremity of said type-bar. Fig. 5 is an elevation of Fig. 4, showing a portion of the device for pivotally supporting the type-bar removed, and also showing the type-block pivotally supported in a cavity or recess formed in the extremity of said bar. Fig. 6 is an end elevation of Fig. 5. Fig. 7 is a detached view of the type-block, showing the printing-faces thereof located at intersecting planes, and also showing the lower rounded or curved surface thereof. Fig. 8 is a side elevation of the extremity of the type-bar, showing a recess formed therein for the reception of the type-block; also the journal for supporting the rock-shaft to which the type-block is attached. Fig. 9 is an end elevation thereof, and Fig. 10 is a top or plan view of Fig. 8.

In the drawings, A is a portion of the upper plate of a type-writing machine, having a central circular aperture formed therein for the reception of the basket of type.

A' is a key-lever pivotally attached at one extremity to the housing of the machine, and provided at the opposite extremity with a finger-key A².

C, Fig. 4, is a bifurcated bearing, provided with apertures *c*² and *c*³ and adapted for the

reception of a type-bar. These bearings C, constituting the top of the basket of type, are arranged around the periphery of the circular aperture formed in the plate A and are secured to place by means of set-screws c' .

D, Figs. 1, 2, 3, 4, and 5, is a type-bar provided with bearings d and d' for the rock-shaft E and with an outwardly-arranged lug d^3 , provided with an opening d^5 , for connection with the link D' for actuating said type-bar. The type-bar D is pivotally attached to the bifurcated bearing C by means of a pin or pivots d^2 , engaging in the openings c^2 and c^3 , as illustrated in Figs. 1, 2, 4, and 5.

D' is a link pivotally attached at one extremity thereof to the key-lever A' and at the opposite extremity to the outwardly-arranged lug d^3 , so that when the finger-key A² is struck or otherwise depressed the type-bar will be elevated, as shown in Figs. 1 and 2.

E is a rock-shaft journaled in the bearings d and d' and provided with a crank e .

F is a type-block having printing-surfaces f and f' located at intersecting planes. This type-block F is attached to the shaft E and is located at or near the extremity of the type-bar D.

G is a ring or cap provided with a slot g for engaging the crank e of the rock-shaft E. This ring G is superposed upon the basket of type and is attached to the plate A by means of screws g' passing through circular slots g^2 formed at suitable points in the edge of the cap or ring, so that the ring G is susceptible of being rotated about a central point of the basket of type as a center, and the rotary motion of the ring or cap G is limited or controlled by the length of the slots g^2 , as will be readily understood.

H is a link attached to the ring G and to a cord, band, or belt h passing over a pulley h' and adapted to be shifted by means of a key-lever A'. A bell-crank lever and link may, if desired, be employed instead of a cord; but preference is given to the employment of a cord, because it is more positive in action.

S is a spiral or other suitable spring for returning the ring G to its normal position when the link H is released. It will be readily understood that the motion of the ring G turns the crank e , and with it the shaft E and type-block F, while at the same time the cranks e , sliding freely in the slots, afford the type-bar D a freedom of motion about the bifurcated bearing C.

In use the two printing-surfaces of the type-blocks F are provided with different characters—for example, with a capital letter "E" and with a small letter "e," so that the operator by striking the key A² causes a small letter "e" to be printed upon the paper carried by the paper-cylinder, mounted upon a suitable carriage, (not shown,) and when the operator wishes to print a capital letter "E" he accomplishes this result by depressing the key which actuates the ring G, whereby the latter is shifted and the type-blocks are ro-

tated and elevated while the ring G is held in such position. A small letter "e" is brought into contact with the paper and printed as soon as the key which actuates the ring G is released and the spring S returns the latter to its normal position.

Although the above description has been confined to one type-bar, still it will be obvious to those skilled in the art to which the invention relates that the key-board may be arranged to form an upper and lower case in the usual or in any preferred manner by providing each type-bar with two characters.

The construction and operation of the modification of the invention illustrated in Figs. 4, 5, 6, 7, 8, and 9 are the same as that above described with reference to Figs. 1, 2, and 3, with the following exceptions: The lower portion of the type-block F is of circular form, Fig. 7, and the extremity of the type-bar D is provided with a circular concavity or recess adapted for the reception of the convex portions of the type-block F, so that the latter is easily turned in the manner above described, while at the same time it is supported so as to prevent injury due to impact against the paper-cylinder.

Having thus described the nature and objects of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a type-writing machine, of a type-bar provided with journals, a rock-shaft provided with a crank supported in said journals, a type-block having two printing-surfaces attached to said rock-shaft, and means for rotating said crank and actuating said type-bar, substantially as and for the purposes set forth.

2. The combination, in a type-writing machine, of a type-bar having a recess formed therein, a rock-shaft provided with a crank and pivotally attached to said type-bar, a type-block attached to said shaft and fitting into said recess, and means for actuating said type-bar and rock-shaft, substantially as and for the purposes set forth.

3. The combination of a pivotally-supported type-bar, a rock-shaft pivotally attached to said type-bar and provided with a crank, a type-block attached to said rock-shaft, a slotted ring engaging said crank, and means for shifting said ring and actuating said type-bar, substantially as and for the purposes set forth.

4. The combination of pivotally-supported type-bars, finger-keys for actuating the same, rock-shafts pivotally attached to each of said type-bars and provided with cranks, type-blocks having two printing-surfaces and attached to said rock-shafts, a ring having slots engaging said cranks, and a finger-key for shifting said ring, substantially as and for the purposes set forth.

5. The combination of pivotally-supported type-bars, finger-keys, links attached to said keys and type-bars, rock-shafts pivotally attached to said type-bars, cranks attached to

said rock-shafts, a slotted ring engaging said cranks, a finger-key, a cord-pulley, and link attached thereto and to said slotted ring for shifting said ring, substantially as and for
5 the purposes set forth.

6. The herein-described compound bar, comprising a type-bar provided with journals and a toggle-joint, a rock-shaft provided with a type-block having two printing-surfaces, a
10 crank, and a slotted ring, substantially as and for the purposes set forth.

7. The herein-described compound type-bar, comprising a type-bar having a recess and a toggle-joint, a rock-shaft pivoted thereto, a
15 crank attached to said rock-shaft, a type-block adjustably or movably supported in said recess and attached to said rock-shaft,

and means for actuating said crank, substantially as and for the purposes set forth.

8. The combination, in a type-writing machine, of a type-block provided with a curved surface and two printing-faces, a recessed type-bar, and means for actuating said block and bar, substantially as and for the purposes
20 set forth.

25 In witness whereof we have hereunto set our signatures in the presence of two subscribing witnesses.

CHAS. A. CONKLE.

JNO. AUSTEN McCULLOCH.

Witnesses:

THOMAS M. SMITH,

RICHARD C. MAXWELL.