

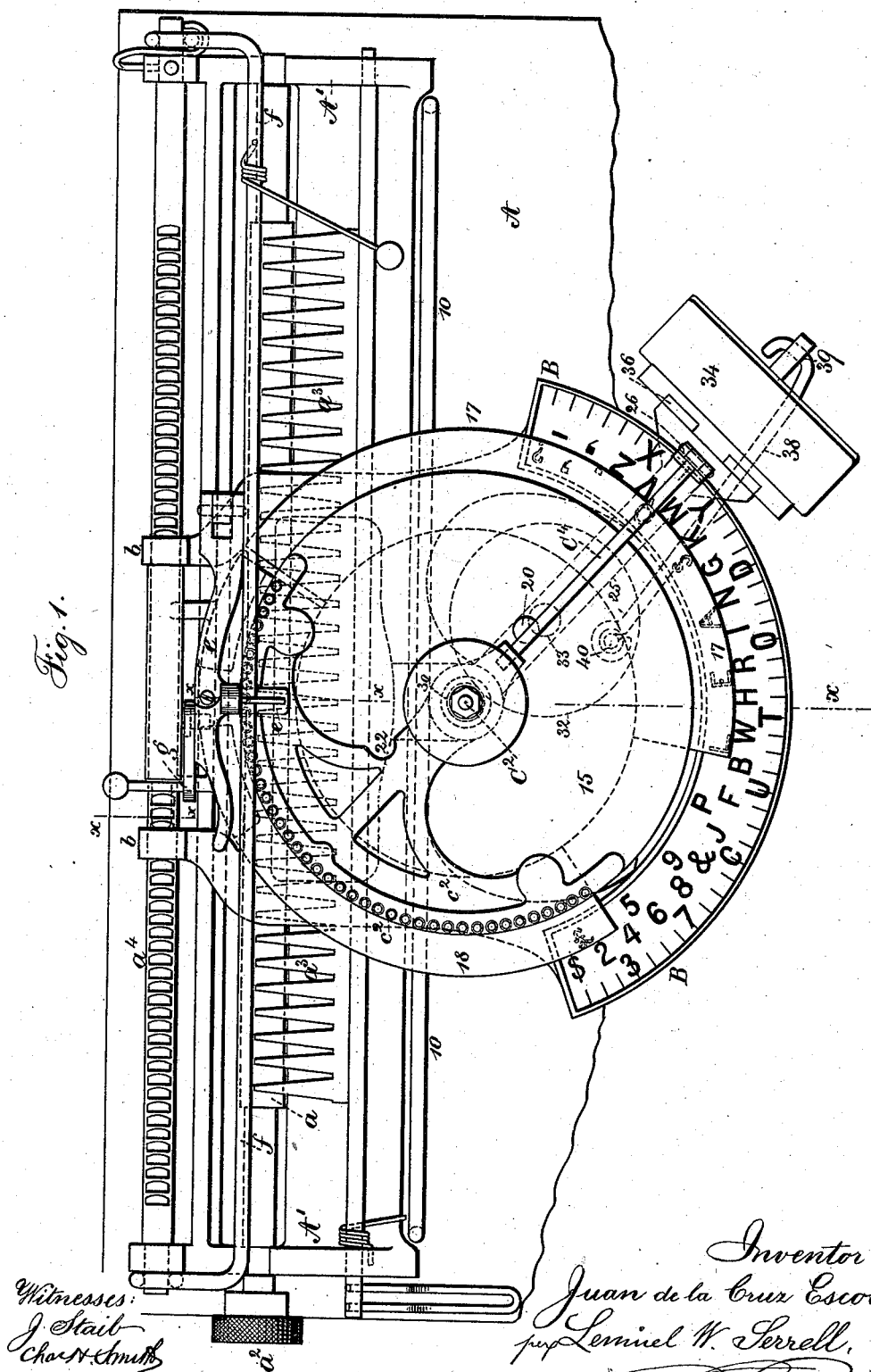
(No Model.)

2 Sheets—Sheet 1.

J. DE LA CRUZ ESCOBAR.
TYPE WRITING MACHINE.

No. 382,146.

Patented May 1, 1888.



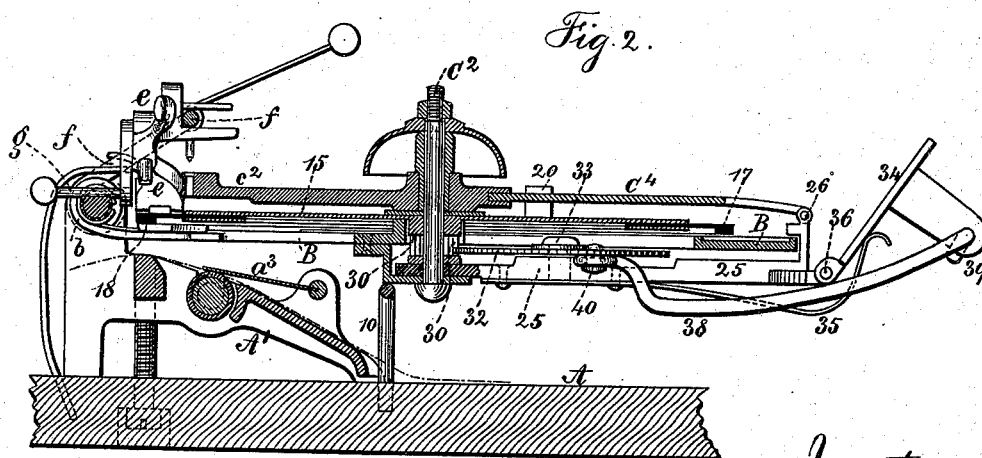
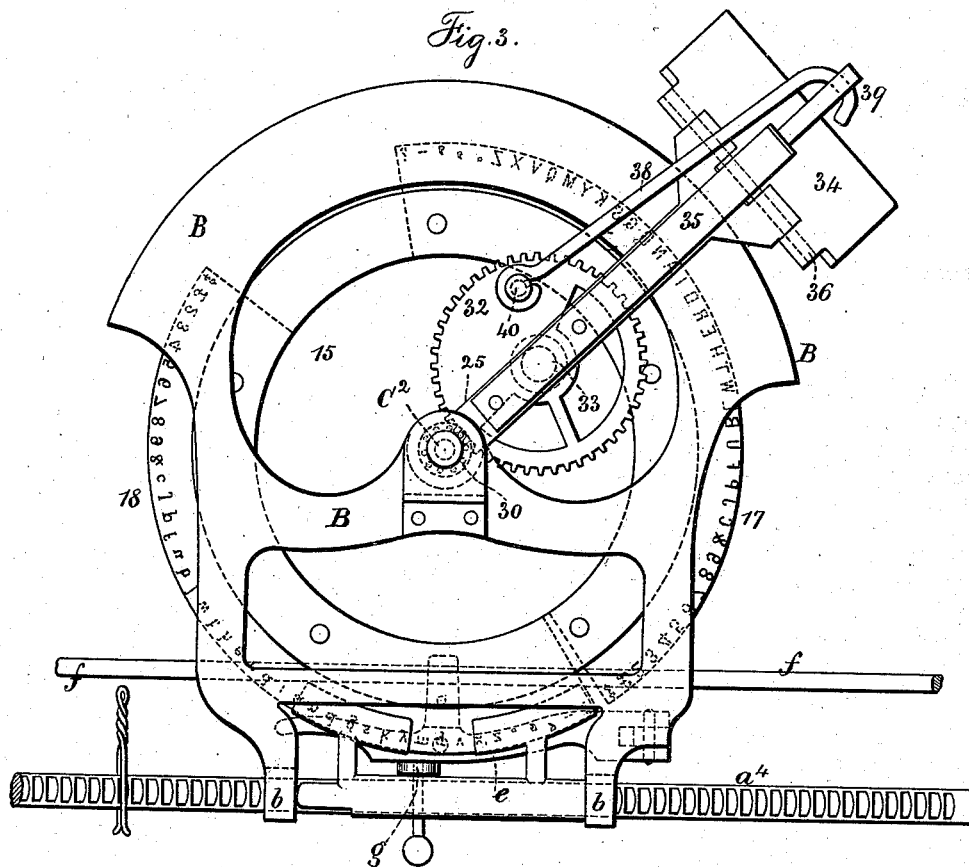
(No Model.)

2 Sheets—Sheet 2.

J. DE LA CRUZ ESCOBÁR.
TYPE WRITING MACHINE.

No. 382,146.

Patented May 1, 1888.



Witnesses:
J. Stait
Charles Smith

Inventor:
Juan de la Cruz Escobar,
per Lemuel W. Ferrell. atty

UNITED STATES PATENT OFFICE.

JUAN DE LA CRUZ ESCOBAR, OF MATANZAS, CUBA, ASSIGNOR TO FRED G. TILTON, OF NEWARK, NEW JERSEY.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 382,146, dated May 1, 1888.

Application filed October 17, 1887. Serial No. 252,594. (No model.)

To all whom it may concern:

Be it known that I, JUAN DE LA CRUZ ESCOBAR, of Matanzas, in the Island of Cuba, temporarily residing in South Bethlehem, in the State of Pennsylvania, have invented an Improvement in Type-Writing Machines, of which the following is a specification.

A type-writer has heretofore been made in which the types are of india-rubber upon a flexible sheet and arranged in an arc of a circle, as seen in Letters Patent No. 350,717, granted October 12, 1886, to J. Becker.

My invention is an improvement upon the same, whereby one index-segment and one centering-arc are made use of with two sets of different types—such as capital and small letters—and the change is made from one case to the other by a partial rotary movement derived from the depression of a finger-plate connected with the pointer-lever, thus increasing the capacity of the machine at a small expense.

In the drawings, Figure 1 is a plan view of the machine complete. Fig. 2 is a cross-section on the line *x x*, and Fig. 3 is an inverted plan of the plate and the type-disk mechanism.

There is a suitable bed, A, upon which is received the frame A', that supports the paper-feeding roll *a*, which is to be turned by the hand or thumb wheel *a'*, and there is a stationary rack-bar, *a''*, upon which the sleeves or eyes *b* of the index-plate B slide, and the pivoted printing-lever *e*, rocking bar or lever *f*, for moving the printing-lever, and the feed-dog *g* are similar to those in the aforesaid patent, and a reference is hereby made to the same for a more full description of the construction and mode of operation of these parts.

The paper is held to the feeding-roll *a* by a range of spring-fingers, *a'*, and there is a longitudinal bar, 10, upon which the index-plate B rests, and over which it slides as the rocking bar *f* is depressed to bring the feed-dog *g* into action before the impression is made.

The index-plate B is provided with a center pivot, C', upon which the pointer-arm C' swings, together with the centering-arc *c'*, connected therewith, and which arc has holes in it for a point on the printing-lever *e* to enter in centering or bringing exactly to position the type to be printed as in aforesaid patent; but instead

of the flexible segment of type being connected directly to the centering-arc I provide a type-disk, 15, preferably of metal and turning upon the pivot or center C', between the index-plate and the centering-arc *c'*, and upon this disk 15 the two flexible type segments 17 and 18 are attached, and these type segments are alike, so far as the position and relative arrangements of the letters or other characters, but one set or case of letters is different in size or style of characters from the other; hence I am able to use one centering-arc and one index upon the surface of the plate B for printing from either segment by giving to the disk 15 a partial rotation to take one set of characters out of action and bring the other set of characters into action.

I make use of the stop 20 to limit the motion of the disk 15. When this stop 20 is in contact with the arm C', as seen in Fig. 1, one set of types is in place beneath the centering-arc *c'*, and when the disk 15 is rotated to bring the stop 20 into contact with one arm of the centering-arc at 22, then the other set of types is in position for printing below the centering-arc *c'*.

There is an arm, 25, below the index-plate, pivoted upon the stud C' and having at its outer end a connection, 26, for the end of the arm C', so that the arms 25 and C' and the centering-arc can all be swung together, and there is a pinion, 30, upon the under side of the disk 15, and a wheel, 32, upon a stud, 33, upon the arm 25, and the finger-plate 34 is hinged at 36 to the outer end of the arm 25, and the spring 35 tends to swing this finger-plate up into an inclined position, and there is a connecting-rod, 38, pivoted at 39 to the under side of this finger-plate and at 40 to the gear-wheel 32, and in the normal position the spring 35, tending to lift the hinged finger-plate 34, acts by the connecting-rod 38 to turn the gear-wheel 32 and pinion 30 of the disk 15 and hold the stop 20 firmly against the arm C', and in this position the type and disk and the centering-arc and arm are held firmly in their proper relative positions, and can be swung around upon the pivot C' to bring any letter or character of the ordinary case of types under the printing-pad, and the printing is performed as in the

previously-patented machine; but when the finger-plate 34 is depressed it acts through the connecting-rod 38 to partially revolve the gear-wheel 32 and pinion 30, and thereby turn the disk 15 around until the stop 20 is in contact with 22, and the second set or case of letters is thereby brought into position to be printed from in a similar manner to the first set of letters, and it is only necessary to keep the finger on the plate 34 while thus employing the second set of letters, and as soon as the finger is released and the finger-plate restored to its normal position the type-disk is partially revolved back again to bring the ordinary type into position for use.

The shape and position of the stop 20 and the relative sizes of the pinion 30 and gear-wheel 32 and the means for rotating the same may be varied without departing from my invention.

I claim as my invention—

1. The type-disk having two sets of flexible types at its edge, a pivot for such type-disk, and the index-plate, in combination with the printing mechanism, the centering-arc and arm for moving the same and the type disk, the pinion, gear-wheel, connecting-rod, finger-

plate and spring for moving the disk in relation to the centering-arc, and a stop for limiting the motion in either direction, substantially as set forth.

2. The combination, in a type-writing machine, with the means for moving the paper and giving the impression, of a type-disk having two sets of characters, an index-plate and pivot for supporting the disk, a centering-arc and arm above the type-disk, and an arm below the type-disk, the two arms being connected outside the edge of the index-plate, so as to move together, gearing below the type-disk and finger-plate, and connecting mechanism supported by the arm and serving to turn the type-disk in one direction or the other relatively to the centering-arc, and a stop to limit the motion and cause either one set or the other of the type to occupy the correct position relatively to the centering-disk, substantially as set forth.

Signed by me this 6th day of October, 1887.

JUAN DE LA CRUZ ESCOBÁR.

Witnesses:

J. DAVIS BRODHEAD,
CHAS. H. NEISSER.