

D. A. JOHNSTON.
PRINTING APPARATUS FOR THE BLIND.

No. 62,206.

Patented Feb. 19, 1867.

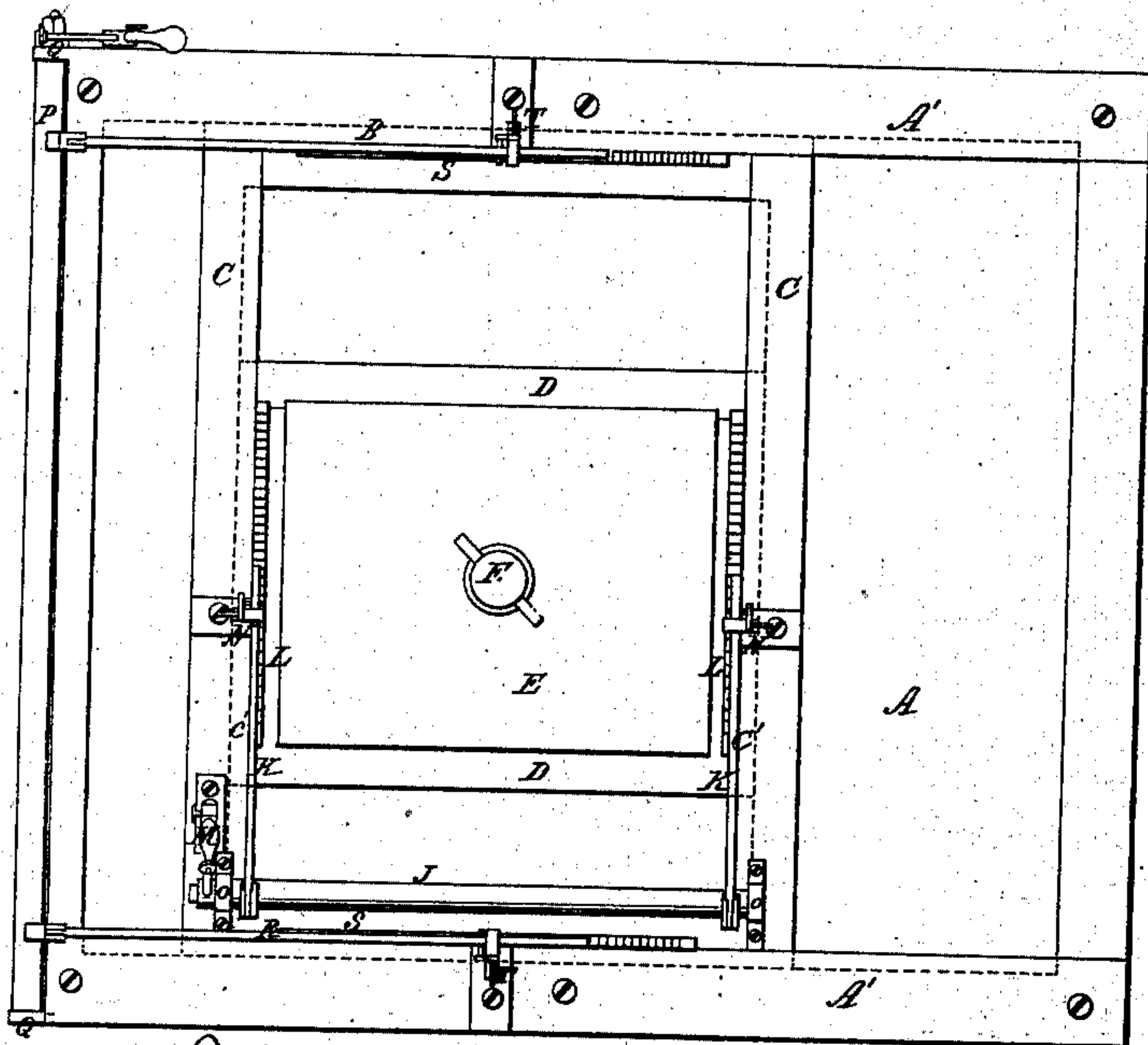
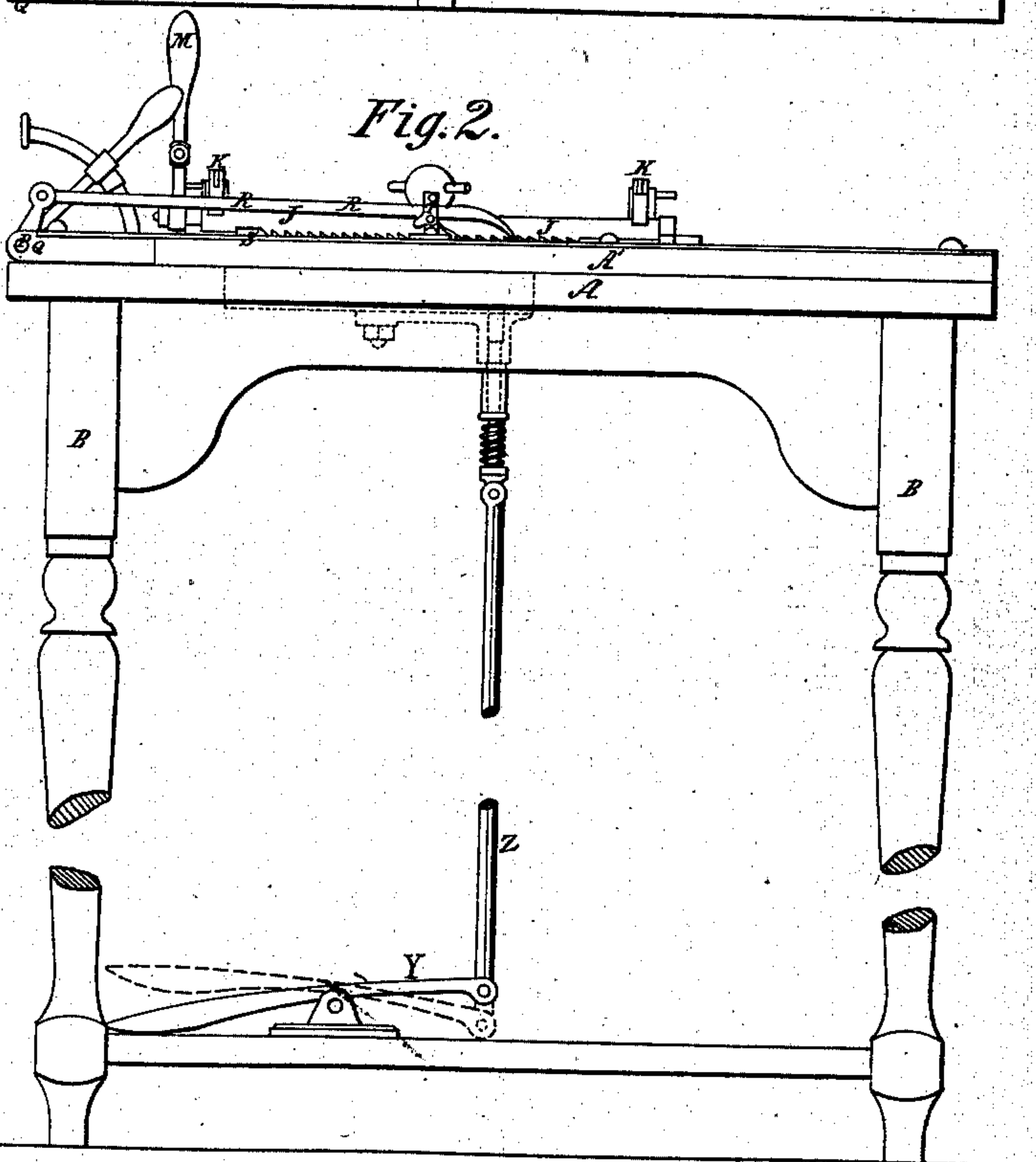


Fig. 2.



Witnesses;
C. A. Bitts
W. C. Humphreys

Inventor;
D. A. Johnston
By Humphreys
att'y

D. A. JOHNSTON.
PRINTING APPARATUS FOR THE BLIND.

No. 62,206.

Patented Feb. 19, 1867.

Fig. 3.

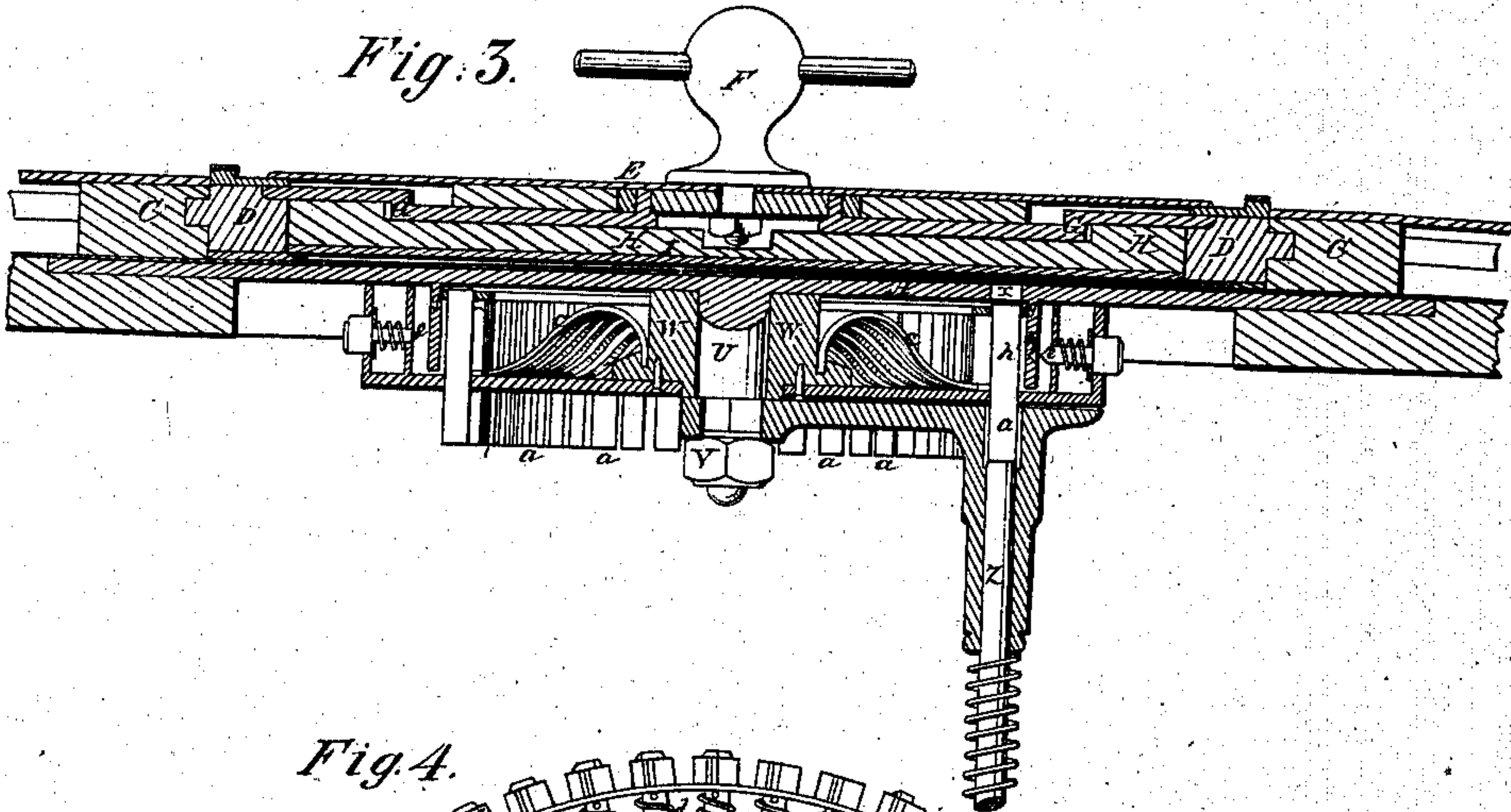


Fig. 4.

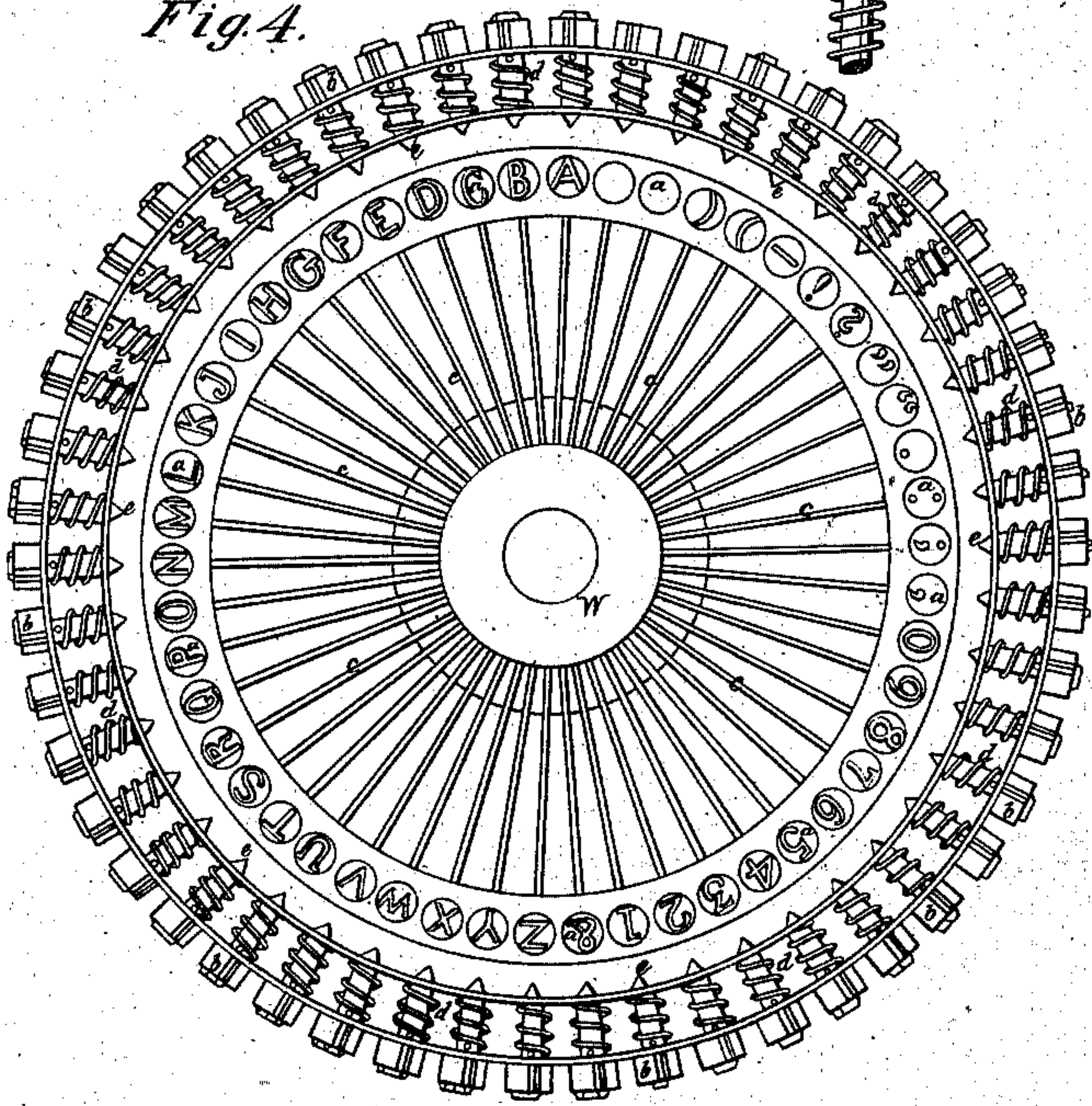
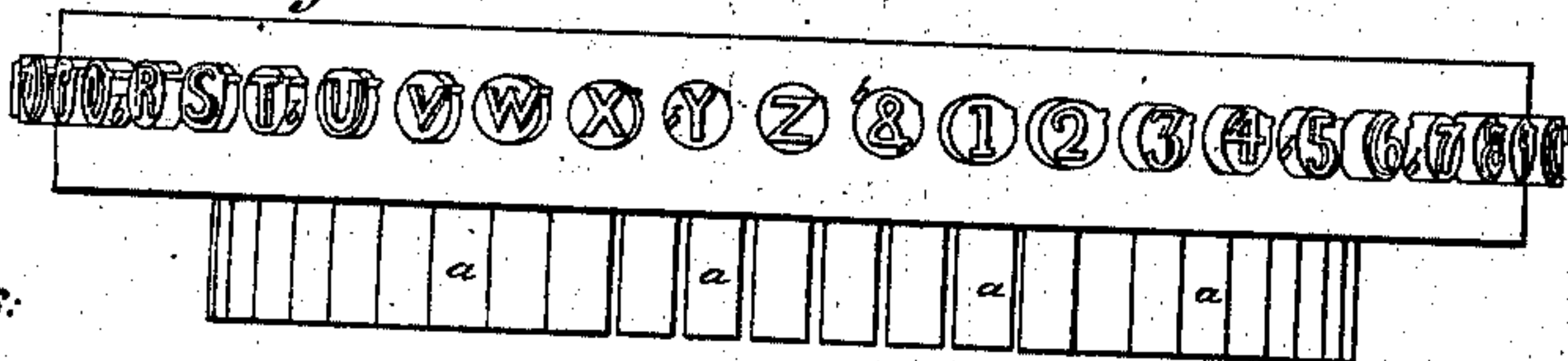


Fig. 5.



Witnesses:

G. A. Pett
G. C. Humphreys

Inventor:
D. A. Johnston

By M. W. C. Co.

United States Patent Office.

DANIEL A. JOHNSTON, OF MEMPHIS, TENNESSEE.

Letters Patent No. 62,206, dated February 19, 1867.

PRINTING APPARATUS FOR THE BLIND.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, DANIEL A. JOHNSTON, of Memphis, in the county of Shelby, and State of Tennessee, have made a new and useful improved Printing Apparatus for the Blind; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, sufficient to enable one skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, which are made part of this specification, and in which—

Figure 1 is a top view or plan.

Figure 2 is a side elevation.

Figure 3 is a vertical section through the revolving disk and platen.

Figure 4 is a plan of the revolving disk.

Figure 5 is an elevation of the revolving disk.

The machine is intended to enable the blind to print letters or communications which may be read by those similarly afflicted.

It consists of a disk, having a series of vertical plungers whose faces are provided with salient-edged letters. Any selected letter, being brought to a given point, is projected through an opening in the bed against the surface of paper on the platen, which is capable of two adjustments in a horizontal plane, one to make the spaces between the letters, and the other at right angles to the former to make the spaces between the lines.

Corresponding with the circular series of vertical plungers, or stamps, are a series of horizontally moving plungers, each of which has a cameo stamp upon its face, the series being presented on the periphery of the movable disk. The blind person, selecting the required letter on the periphery, presses upon it, and by rotation of the disk, brings it to a stopping-place, at which a vertical impulse is given to the stamp which makes an impression upon the paper.

In the drawings, A is the bed and B the legs of the table. Fig. 1 shows the plan and fig. 3 the section of the frame C D, the former of which has an adjustment in guides A' A', upon the bed A, while the frame D, which carries the platen E H, is adjustable in guides C C' upon the frame C. The platen E H is secured in the frame D by the rotation of the handle F, which projects the latches G G into grooves in the frame D. The lower surface of the platen is provided with an elastic face, I, upon which the paper is placed. The frame D, carrying the platen, is adjusted on the frame C by means of the rock-shaft J and the pawl K K, which engage with racks L L on the frame D. The rock-shaft is journaled in the bearings O O, and is moved by the handle M. When it is required to move the frame D back again, the pawls K are temporarily retained by hooks on the standards N. The frame C is adjustable on the bed A by a similar arrangement, consisting of the shaft P, which is journaled in the bearings Q on the bed A, and operates the pawls R R, which engage with the racks S S in the bed C C. The pawls can be held from engagement with the racks S S by means of hooks on the standards T. In the bed A is an aperture, X, through which the plunger stamps *a a* are projected; as may be required, the letters required being consecutively brought to this aperture and elevated by means of the pivoted treadle Y and plunger-rod Z. The wheel W, which carries the letters, rotates upon the spindle U, which projects downwardly from the bed A, and the wheel is retained upon the spindle by the nut V. The wheel W is shown on a somewhat enlarged scale in figs. 4 and 5, and is provided with two full sets of letters and figures, one of them on plungers *b* to be manipulated by the fingers of the blind, and another set on plungers *a a*, corresponding with the former, and operated by the treadle and plunger as they arrive at the opening X, in the order required by the word or sentence to be spelt. Each plunger *a* has a spring, *c*, which tends to keep it down, and each plunger *b* has a spring, *d*, which tends to keep it out.

The mode of operating is as follows: The first letter of the word required (say, for instance, the word "BLIND,") is felt for by the fingers of the writer on the periphery of the wheel. B, being found, is pressed upon, causing the pointed end *e* to press against the circular plate *g*; the wheel W is then revolved until the end *e* of the plunger *b* enters the hole *h*, which brings the required letter B on the plunger *a* underneath the hole X in the bed A. The treadle is then pressed, and the rod Z rising, the plunger *a* is elevated and the raised impression made upon the paper. For the purpose of moving the paper to bring the next impression in the proper sequence as to place, the platen E H and its frame D are moved a short distance by the pawls K K, operated from the axis J, and engaging with the racks L L. The consecutive letters or numerals and spaces

having filled a given line, it becomes necessary to move up the paper a sufficient distance to commence another line. This is accomplished by moving the frame C, containing frame D and platen E H, by means of the racks S, pawls R, and rotating axis P. The printing on the new line then commences and the operation proceeds as before.

What I claim as new, is—

The wheel W, provided with the circular series of plungers *a* provided with impressional characters on their faces, and the plungers *b* provided with characters for the touch of the operator.

I also claim the stationary ring *g* provided with the depression *h*, in combination with the plungers *b b*, as and for the purpose set forth.

Witnesses:

CHARLES A. PETTIT,
JOHN A. WIEDERSHEIM.

DAN. A. JOHNSTON.