(No Model.)

H. H. UNZ.

TYPE WRITING MACHINE.

No. 472,836. Patented Apr. 12, 1892.

Fig. 4.

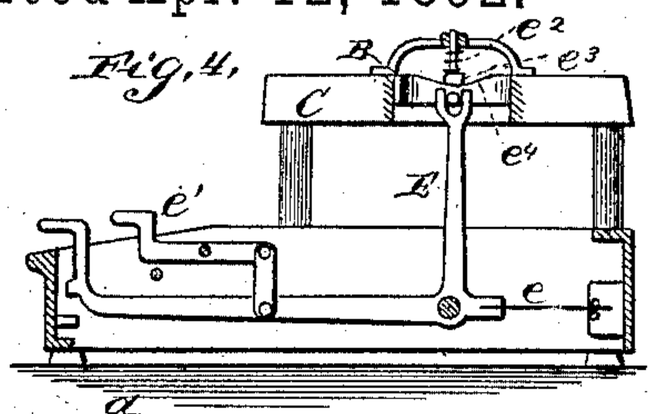


Fig. 3.

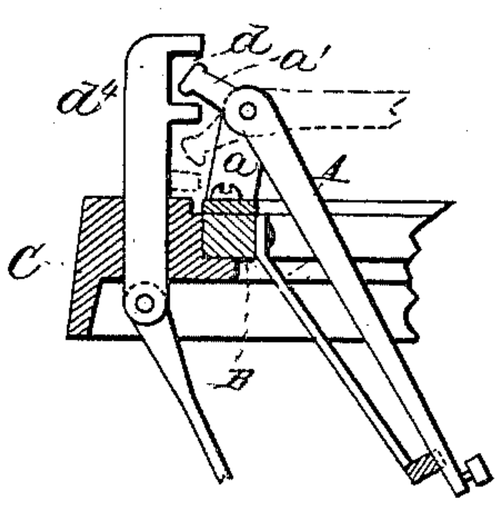


Fig. 1.

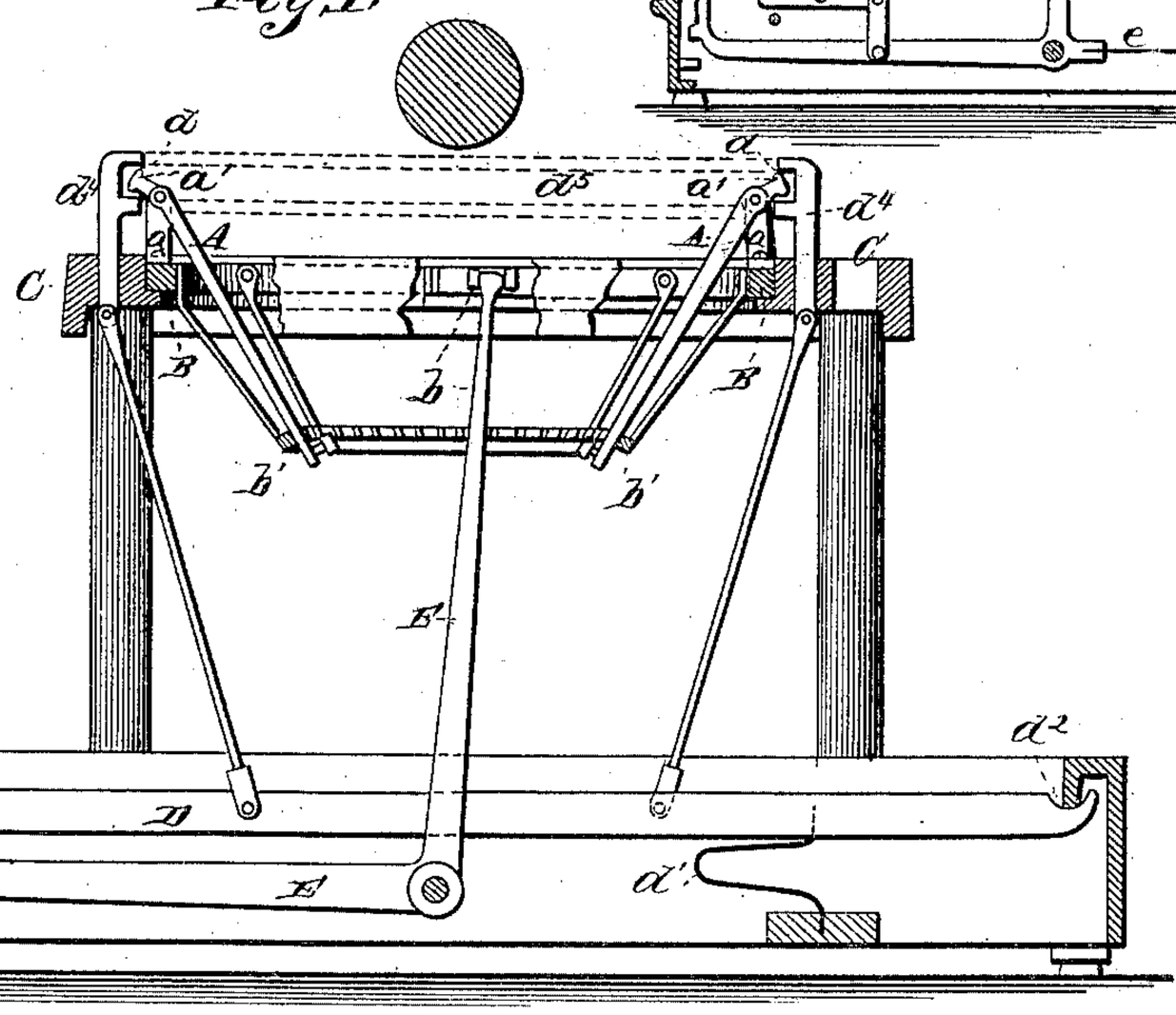
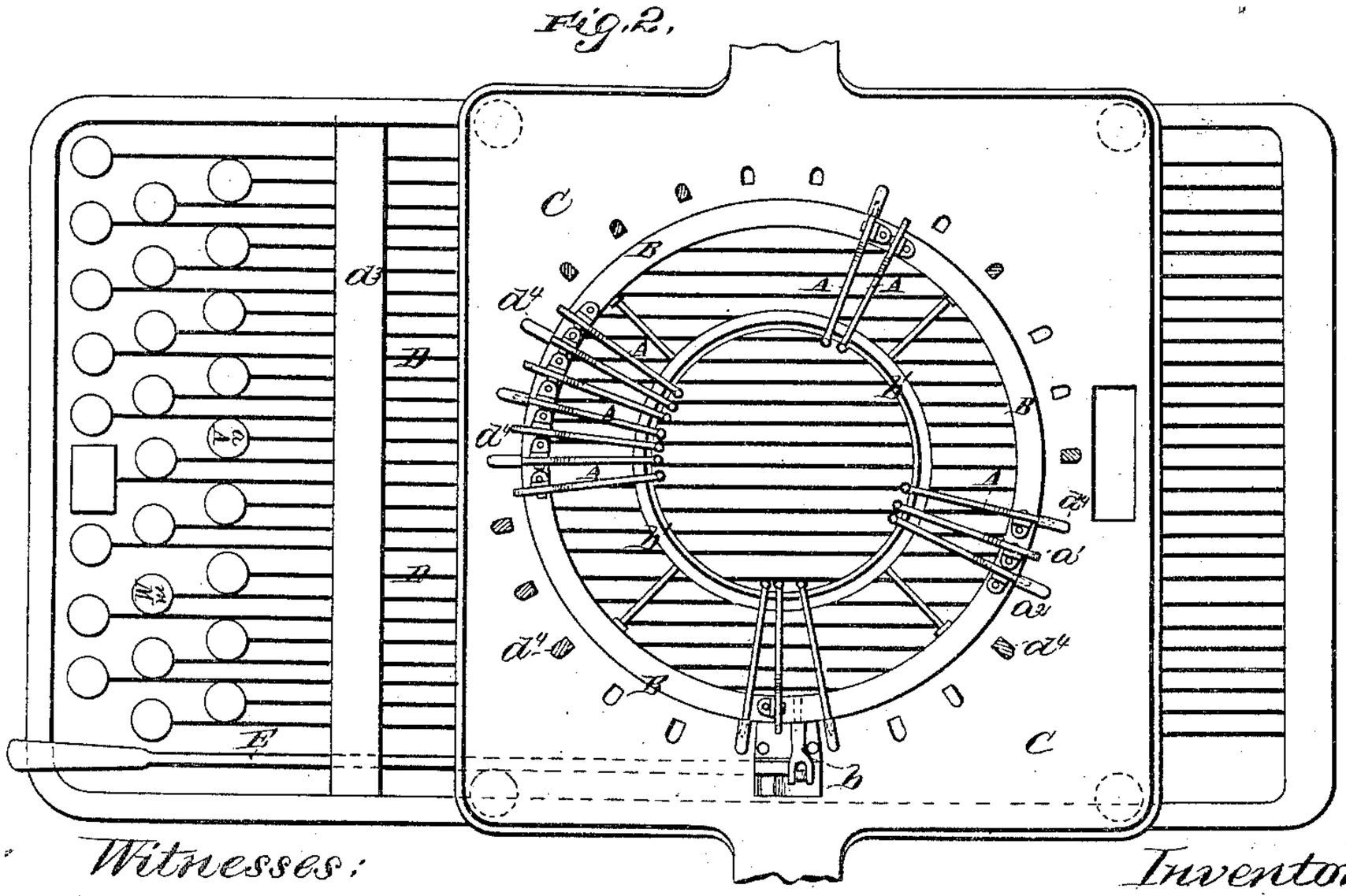


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY H. UNZ, OF NEW YORK, N. Y., ASSIGNOR TO THE NATIONAL TYPE WRITER COMPANY, OF PENNSYLVANIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 472,836, dated April 12, 1892.

Application filed March 11, 1886. Serial No. 194,795. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. UNZ, a citizen of the United States, and a resident of New York, 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.

The object of my invention is to simplify the type-writer as regards the method of constructing and operating the same, and at the same time to extend the limits of its capabilities and make it cover a wider range of usefulness than heretofore.

In the accompanying drawings, Figure 1 is a vertical sectional view on a line from front to rear of a machine, showing my improvements. Fig. 2 is a plan view of the lower part of a machine, showing my improvements in the type-bar and key-lever movements. Fig. 3 is an enlarged detail. Fig. 4 is a sectional view showing details.

The same letters refer to the same parts throughout.

In this machine the number of key-levers may be confined to a single alphabet and space; but the number of the type may include capitals, lower-case, numerals, and punctuation-marks *ad libitum*, and the method of causing any particular key-lever to operate any desired type is one of the leading features of my invention.

In my machine the type-bars A are hung in the usual manner in the brackets *a;* but the brackets *a*, instead of being secured, as usual, to the stationary frame of the machine, are secured to the annulus, ring, or segment B, which is fitted in and guided by the frame C in such a manner that it may be revolved around a center line that coincides with the position of impact of the type upon the paper or the common center to which the type swing when in use.

The type-bars A are not connected, as usual, to their key-levers, but have one or more projections a', which engage with corresponding indentations d in the connection d^4 of the key-lever D. The connections d^4 are so guided and steadied by the frame C that they have a fair rectilinear movement, and are positively-acting connections, moving the type-bars both to and from the paper, while the indentations d are so adjusted in relation to the type-bars A as to present a uniform but not continuous groove around them when at rest, as indicated by the dotted line d^5, Fig. 1. It is obvious that in operating a key-lever in the usual manner it will actuate whatever type may at the time stand engaged with it, and to shift the work from lower-case to capitals, it is only necessary to revolve the ring B, and with it the whole type system, sufficiently to throw the lower-case types between the key-levers, as shown at a', Fig. 2, and at the same time to bring the capitals into engagement with their key-levers, as shown at a^2; or, if standing in this position, the reverse of the above-described movement will throw the capitals out of and the lower-case type into engagement with the type-levers, while a similar movement of a different degree or distance may throw the letter-type all out of gear and bring the numerals or punctuation-marks to engage with the type-levers in place thereof, and the same will hold true whatever form of key-lever or whatever the relative positions of power, fulcrum, and weight of such lever may be preferred. This revolution of the type-ring B may be performed by various means, as bevel-gear, cams, ratchet, or a simple handle. A convenient and simple method for common use is shown.

The ring B is provided with a projection or indentation *b*, which engages with a lever E, by actuating which the ring B can be revolved, as desired, while a spring *e* is provided to return the ring B to its normal position, and retain it there whenever the pressure upon E (or e', Fig. 4) is removed. The upper spring e^2, Fig. 4, is intended as a safeguard. It presses on a latch e^3, which is raised on inclines e^4 in the annulus B if the latter is turned either to the right or left, and in either case has the tendency to return the ring B to a central position. A gage-ring b' is provided upon the ring B, which acts as a stop, holding all of the type-bars at a uniform level when out of work, so that they may pass freely in and out of engagement with the connections d^4 of the key-levers when the ring B is revolved, while for the same purpose the key-levers D are each provided with a spring d',

which holds the lever steadily against the fulcrum d^2 and stop-bar d^3 when not in operation, thereby bringing the connections d^4 accurately to their proper level.

It will be seen that by revolving the type-ring B the machine may be adjusted to print in cipher for plain copy or to print plain from cipher-copy. For instance, suppose the ring B to be revolved until the type D engages with the key-lever A. Then every letter of the alphabet will also engage with a key-lever three letters ahead of its proper place, and as by striking the key-lever A the letter "D" would be printed so by striking the key-lever M the letter "O" would be printed and the plain copy would be reduced to a cipher. To translate the same, reverse the operation and revolve the ring B until type A engages with key-lever D, and the cipher-copy may be reduced to plain print by a purely mechanical operation. The variations and combinations attainable by this means are practically infinite, and the writer can write his letter partly plain or one or more words in cipher or every word in a different cipher by simply revolving the type-ring B by some preconcerted rule.

Having thus described the nature and uses of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a type-writer, the combination of the type-bars A and rotatable annulus B, carrying gage-ring b', substantially as and for the purposes herein shown and set forth.

2. In a type-writer, the combination of the key-lever D, fulcrum d^2, spring d', and type-bars with the guided and positively-acting connection d^4, substantially as and for the purposes herein shown and set forth.

3. In a type-writer, the combination of the rotatable annulus B, carrying the type-bars, with the spring e, which returns and retains it in its normal position, substantially as and for the purposes herein shown and described.

4. In a type-writing machine, the swinging type-bar A and revolving annulus B, in combination with the key-lever D and bifurcated arm d^4, adapted to slide, substantially as and for the purposes herein shown and set forth.

Signed at New York, in the county of New York and State of New York, this 10th day of March, A. D. 1886.

HENRY H. UNZ.

Witnesses:
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