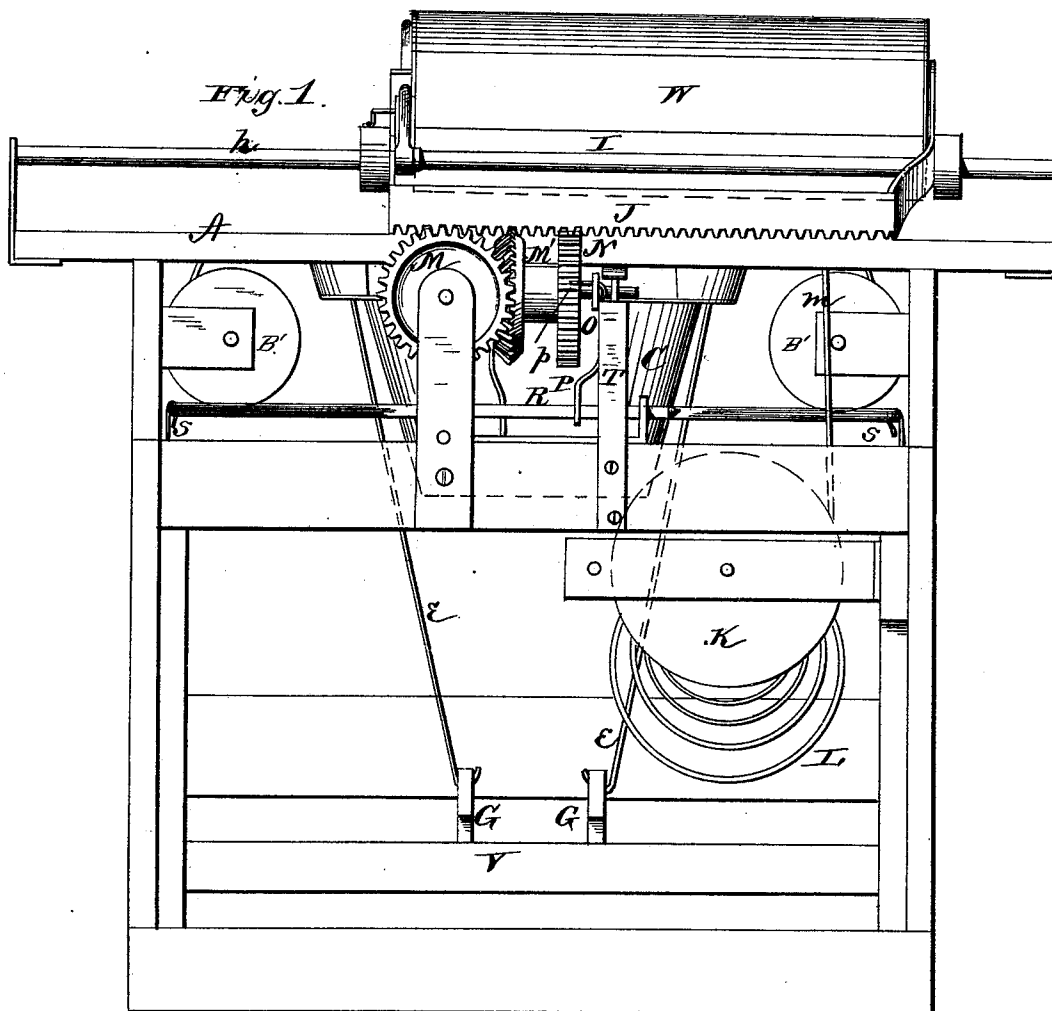


H. PHIPPS.
Type Writing Machine.

No. 229,458.

Patented June 29, 1880.



WITNESSES

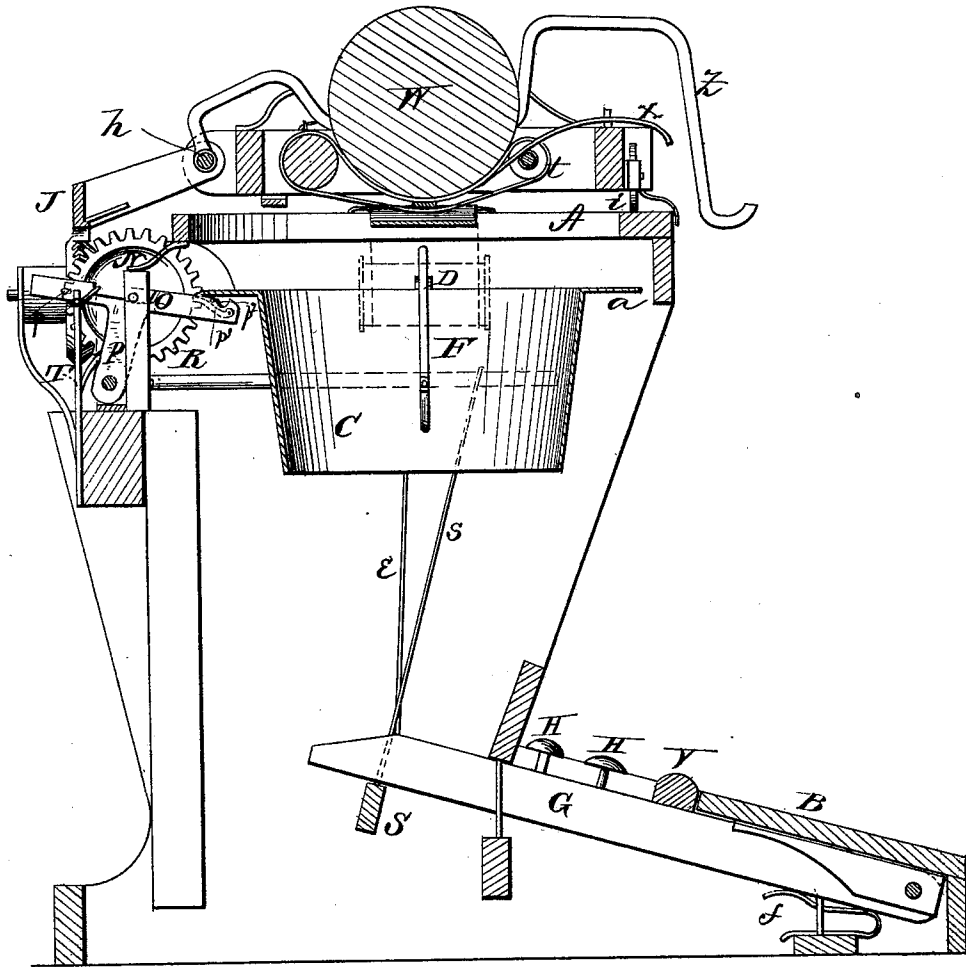
F. L. Curand
H. Aubrey Coulman

INVENTOR

J. H. Phipps
Alexander & Co.
ATTORNEYS.

J. H. PHIPPS.
Type Writing Machine.
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Fig. 2.



WITNESSES

P. L. Curran

H. Aubrey Toulmin

INVENTOR

J. H. Phipps

Alexander Mason

ATTORNEYS

J. H. PHIPPS.
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Fing. 3.

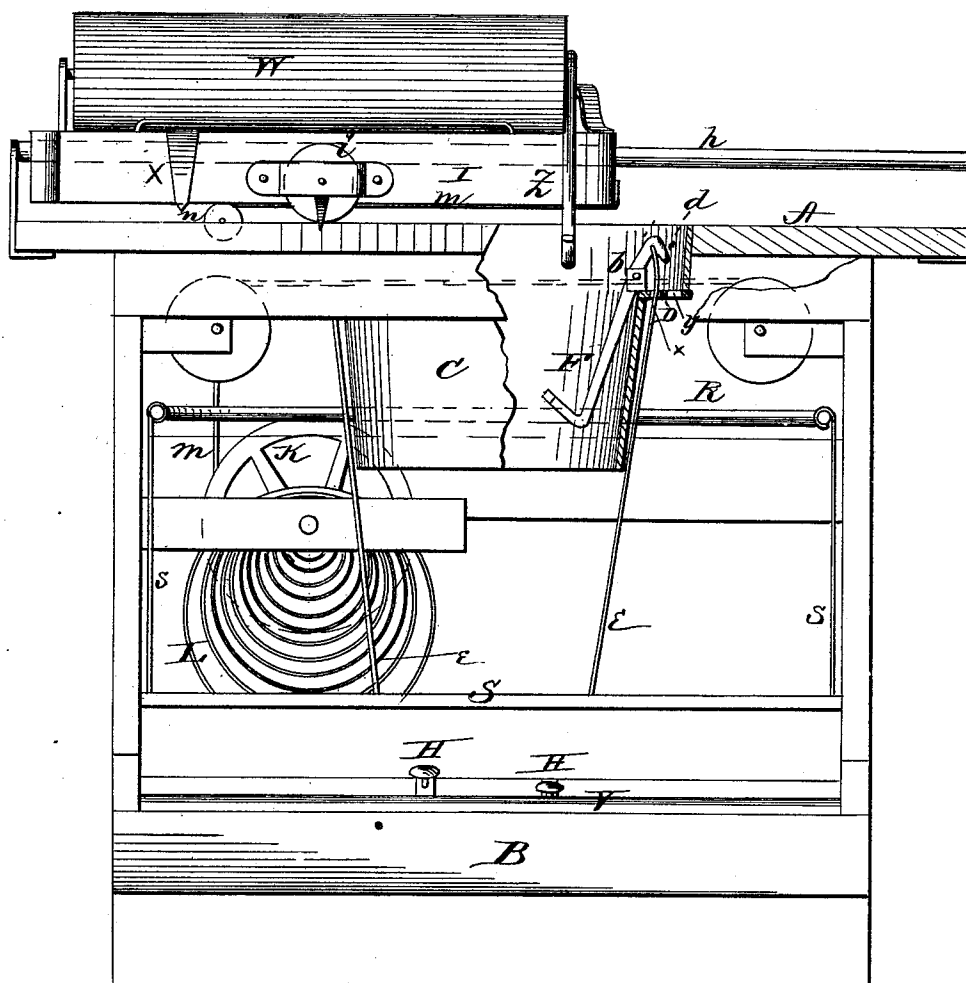
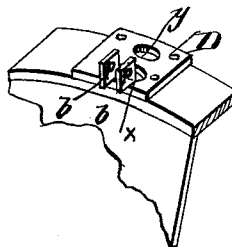


Fig. 5.



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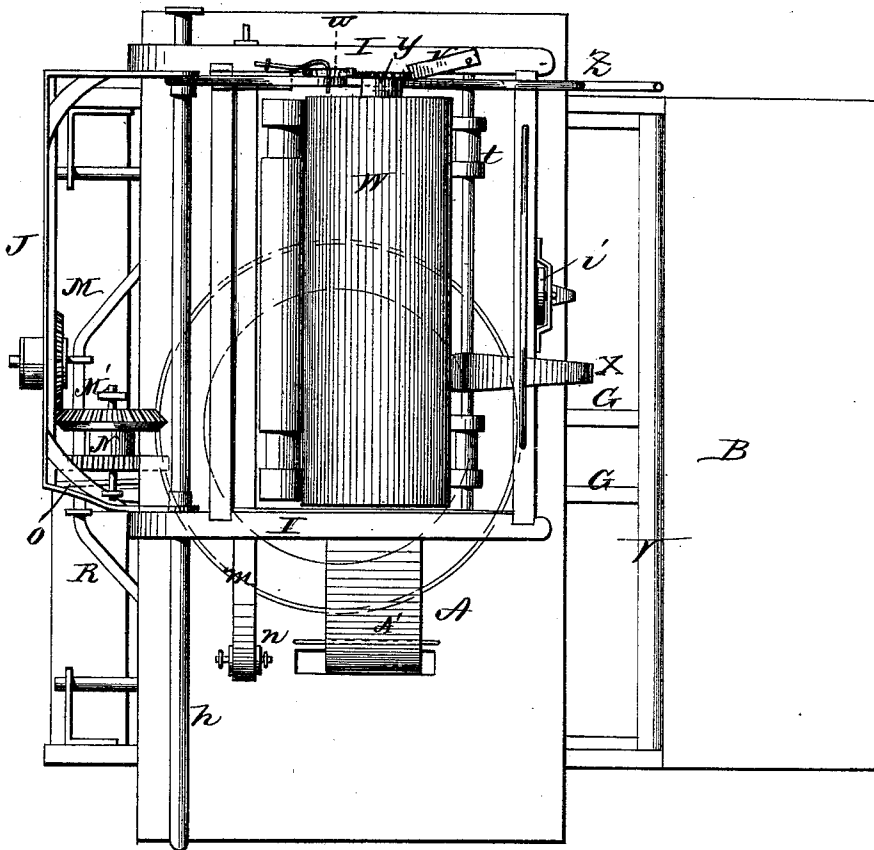
F. L. Oursand
H. Aubrey Foulmer

INVENTOR

INVENTOR,
J. B. Phipps
Alexander Watson
ATTORNEYS

J. H. PHIPPS.
Type Writing Machine.
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Fig. 4.



WITNESSES

F. L. Oursaud

H. Aubrey Faulman.

INVENTOR

INVENTOR
J. H. Phipps
Alexander & Sons

Alexander Truax

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH H. PHIPPS, OF FENTON, MICHIGAN.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 229,458, dated June 29, 1880.

Application filed September 26, 1879.

To all whom it may concern:

Be it known that I, JOSEPH H. PHIPPS, of Fenton, in the county of Genesee, and in the State of Michigan, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in certain improvements in type-writers, as will be hereinafter more fully set forth, and pointed out in the claims.

In the annexed drawings, Figure 1 is a rear elevation of a type-writer embodying my invention. Fig. 2 is a transverse vertical section; Fig. 3, a front elevation, partly in section; Fig. 4, a plan view of the same, and Fig. 5 is a perspective view of one of the type-lever guides.

A represents the table of the machine, supported on a suitable frame, at the bottom of which is a platform, B, for the operator. In the table A is a circular opening, below which is secured a tapering rim, C, having a flange, *a*, around its upper edge. In this flange are arranged the type-lever guides D, one for each lever F. The levers F are of substantially the form shown, pivoted between ears *b b* on the guides, and the letters formed on their inner or lower bent ends. The shorter or upper arm of each lever is formed with a conical projection, *d*. Each guide D has two holes, *x* and *y*. The rod *e*, which connects the type-lever with its corresponding key-lever G, passes down through the hole *x* in the guide, while the hole *y* receives the cone *d* of the type-lever, for the double purpose of guiding the inner end of the lever to the exact spot where the impression is to be made, and also to form a stop for the lever.

The key-levers G are pivoted under the platform B, and each has a spring, *f*, under it for holding it up. These levers are all of the same length, and have the keys H placed at different positions on them—that is to say, at varying distances from their front ends.

Along the rear of the table A, and elevated above the same, is a rod, *h*, on which slides

the carriage I, the front of said carriage being supported by a wheel or roller, *i*. The side arms of the carriage, where the rod *h* passes through them, are provided with sleeves or hubs, on which is hung a rack-frame, J. From the carriage I a strap, *m*, extends over a roller, *n*, down through a slot in the table, and connects below the same with a drum, K, to which a coil-spring, L, is connected in such a manner that by moving the carriage to the right the drum will be turned so as to wind up the spring, and the unwinding of the spring will move the carriage to the left again.

The rack J meshes with a bevel-gear wheel, M, and this, in turn, meshes with a similar wheel, M', on the hub of which is secured an escapement-wheel, N.

O is a sliding bar or escapement-bar, provided with one pin or projection, *p*, and a dog, *p'*, to take into the wheel N. The bar O is attached to an arm, P, projecting from a rocking shaft, R. The ends of this shaft form cranks, which, by rods or wires *s s*, connect with a bar, S, under the inner ends of the key-levers G, so that the depression of any one of these levers will operate the escapement. The pin *p* at the outer end of the escapement-bar O is stationary, while the dog *p'* at the inner end is pivoted, and a stop, *p''*, on the bar limits the upward movement of the dog. A spring, T, is arranged to hold the bar O so that the dog *p'* will be in mesh with the escapement-wheel N.

By raising the rack J the carriage is moved by hand to the right for printing, which winds up the spring L, as above stated, and when the rack J is then let down in gear with the wheel M the carriage is held in this position by the escapement, as the strain on the wheel N holds the dog *p'* against the stop *p''*. When any key-lever is pressed down to print a letter the bar O is moved inward, the pin *p* entering the wheel N before the dog *p'* has escaped; but as soon as this dog gets out of the wheel it drops down a certain distance, or just below the tooth which bore against it. As the key-lever is then allowed to move up again the spring T throws the bar O outward again, and the strain caused by the spring L and rack J on the wheels causes the wheel N to turn just far enough to allow the dog *p'* to enter the next space, and the next tooth throws the dog

against the stop p^2 . The carriage thus moves toward the left the distance of one of the teeth of the wheel N for each depression of a key-lever. A pivoted frame, V, is also provided to act on the bar S when the carriage should be moved without printing.

The carriage I contains the roller W and bands t , for holding the paper. At one end of the roller is a ratchet-wheel, Y, with a stationary pawl, r , to prevent backward movement thereof.

Z is a lever pivoted to the carriage and provided with a spring-pawl, π , to take into the ratchet Y. By depressing the lever Z the roller will be turned the required distance for the next line, and then the carriage can, by the aid of said lever, be moved to the right again.

A spring is arranged to hold the pawl π in the ratchet Y, and another spring is arranged to raise the lever Z.

On a rod in front on the carriage is a movable indicator, X, to indicate where to commence a line by moving the same to the right position on the paper, and then moving the carriage so that the indicator will be opposite the center of the machine. This movable indicator is used, in connection with a scale on the front of the machine, to perform the function for which it is designed.

A' is an ink-ribbon passing over rollers B' B'.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The type-lever guide D, formed with the ears $b b$ and holes $x y$, in combination with the type-lever F, formed with the cone d , substantially as and for the purposes herein set forth.

2. The combination, with the carriage I and its operating-spring, connected directly to the carriage, as described, of the rack J, gear-wheels M M', escapement-wheel N, and the escapement-bar O, having stationary pin p , pivoted dog p' , and stop p^2 , the said pin and dog being arranged to operate on opposite teeth of the escapement-wheel, substantially as and for the purposes herein set forth.

3. The combination, with the escapement-wheel N and escapement-bar O, with its pin and dog operating on opposite teeth of the escapement-wheel, as herein described, of the spring T, rock-shaft R, rods s , bar S, key-levers G, and frame V, substantially as and for the purposes herein set forth.

4. In a type-writing machine, the combination of a movable indicator, X, on the front of the carriage and a scale on the front of the machine, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of July, 1879.

JOSEPH H. PHIPPS.

Witnesses:

E. E. BRIDGES,

FRANK P. KLEEGON.