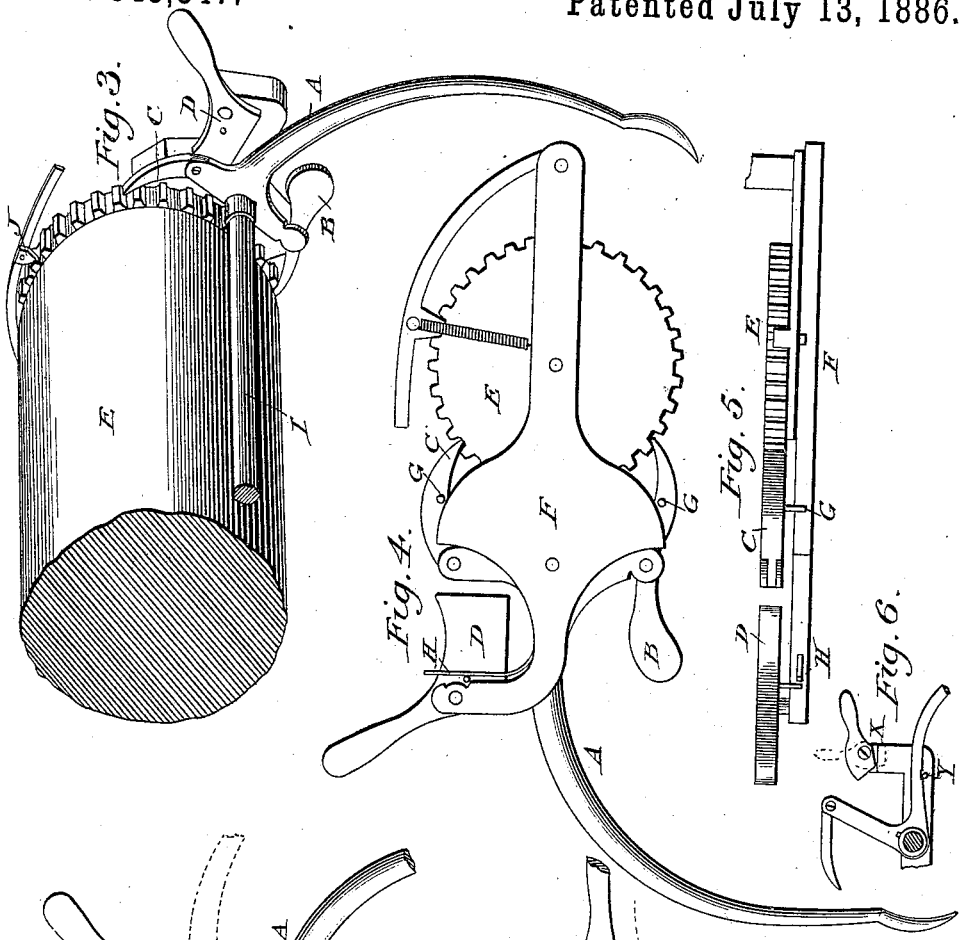
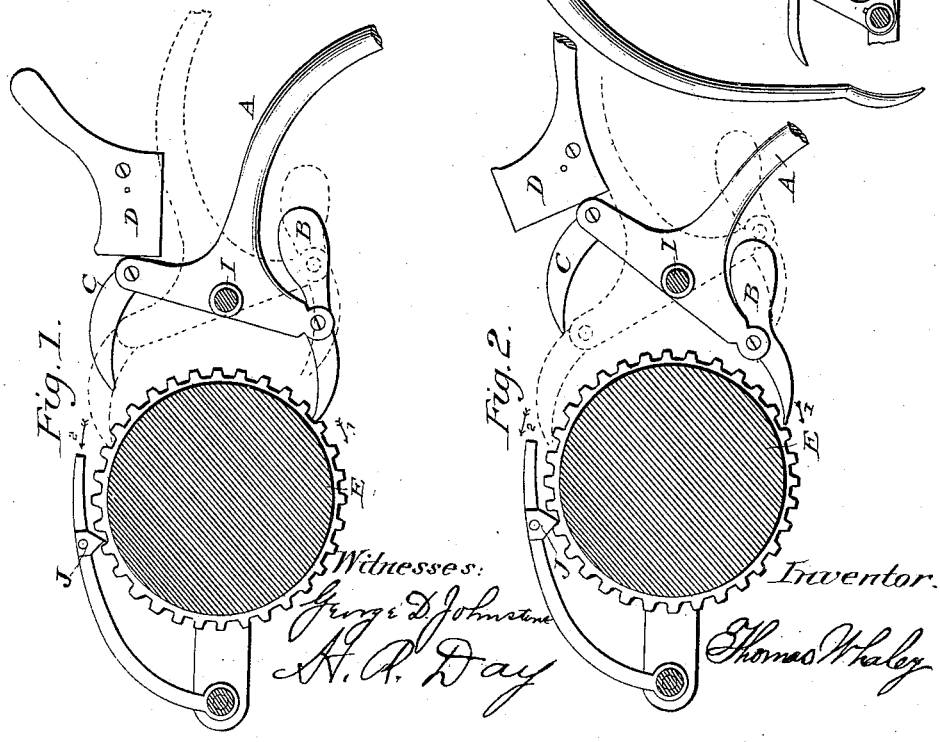
(No Model.)

T. WHALEY.

LINE SPACING DEVICE FOR TYPE WRITING MACHINES.

No. 345,347. Patented July 13, 1886.





Witnesses:
Geo. D. Johnstone
A. R. Day

Inventor.
Thomas Whaley

UNITED STATES PATENT OFFICE.

THOMAS WHALEY, OF ASPEN, COLORADO, ASSIGNOR OF ONE-HALF TO JAMES E. McGREW AND GEORGE D. JOHNSTONE, BOTH OF SAME PLACE.

LINE-SPACING DEVICE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 345,347, dated July 13, 1886.

Application filed August 5, 1885. Serial No. 173,633. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WHALEY, a citizen of the United States, residing at Aspen, in the county of Pitkin and State of Colorado, have invented a new and useful Improvement in Line-Spacing Devices to be used on Type-Writing Machines, of which the following is a specification.

My invention relates to improvements in type-writing machines, in which machines a roller or paper-carrier, in connection with a ratchet-wheel operated upon by a lever and pawl, is so constructed and worked as to revolve the roller and carry the paper in one direction, so that where a line is printed and the roller moved, the roller and paper cannot then be reversed and turned back, the line re-written or corrected, without removing the paper from the roller, except the paper be drawn back with the hand, which is not done with accuracy and speed.

The object of my improvement is to provide a means by which said roller may, by the same lever, be moved forward or reversed, and thereby the paper be carried in either direction at the will of the operator on the said machines, and thereby facilitate the correcting of errors and provide a speedy method or means of interlineation. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an inside end view of the lever, pawls, space-regulator, and ratchet-wheel with combination or machine set by reason of the regulator D for single spacing; Fig. 2, the same as above, except that space-regulator D is set for double spacing; Fig. 3, a detailed view, in perspective, of the lever, space-regulator, ratchet-wheel, and a section of roller; Fig. 4, an outside view showing pawl-pins G and pawl-guide F, or the frame-work of this part of the machine, to which are added shoulders or pawl-guides; Fig. 5, top of type-writing machine as it looks looking down on the top of ratchet-wheel; Fig. 6, a part view of the type-writing machine without the petitioner's invention herein attached.

Similar letters refer to similar parts throughout the several views.

A is a lever, supported on shaft I, to which are connected two pawls or ratchets, B and C, hinged thereto by pivots, which lever, when raised, as shown in dotted lines, Fig. 1, moves the pawl C forward, so that the pawl C, acting on ratchet-wheel and roller E, turns said wheel and roller, thereby carrying the paper in the direction marked by arrow 2. Pressing lever A downward, as shown in heavy lines, Fig. 1, moves pawl B forward, which, acting on ratchet-wheel and roller E, turns said wheel and roller in the direction marked by arrow 1.

D is a space-regulator, which, when in position as in Fig. 1, permits lever A to fall into the position shown in heavy lines, or rise, as shown in dotted lines, the distance required to allow pawls B and C to move forward or backward one notch or cog on the ratchet-wheel E. When in position as in Fig. 2, it permits the same movements the distance of two notches or cogs, and thus at the same time regulates the distance ratchet-wheel, and roller E may be moved by a single motion of lever A in either direction. Space-regulator D, also, by its shape and construction, prevents the rising and falling of lever A beyond given distances. Pawl-pins G and G, acting on shoulders of pawl-guide F, Fig. 4, elevate or lower the points of pawls B and C, according to the direction in which lever A is moved, thus allowing but one pawl to act at the same time. When pawl B acts or turns ratchet-wheel E, pawl C is raised free and clear of wheel E. When pawl C acts upon wheel E, pawl B is carried from wheel E by reason of pawl-pins G and G and their movements on the shoulders of pawl-guide F.

Pawl-guide F, Fig. 4, while acting as a frame for supporting the several parts of the machine, is constructed with two shoulders, upon which the said pawl-pins G and G move. Pawl J, to which, however, I lay no claim, is so shaped that the ratchet-wheel can turn either way, and is simply to hold the roller firmly when not in motion.

H in Fig. 4 is a spring for the purpose of holding space-regulator D in position.

My new lever differs from the levers now and heretofore used on type-writing machines, as shown in Fig. 6, in this, that it works two ratchets or pawls, as herein set forth, thereby turning the paper-roller in either of two directions instead of one, as before; the improved space-regulator in this, that it regulates the distance the lever may be moved in

either direction, and thus dispense with the pin Y, Fig. 6, as the one now in use requires. Its convenience and adaptability will be apparent from comparison of Y in Fig. 6 with D in the other figures.

I am aware that prior to my invention a lever, ratchet-wheel, and space-regulator have been used on type-writing machines. I therefore do not claim these machines as constructed and used heretofore; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in type-writing machines, of the paper-roller with the double-acting lever A, pawls B and C, connected therewith, and ratchet-wheel E, pawl-pins G, and pawl-guide F, having shoulders, so as to operate and move the paper-roller in either direction.

2. The combination, in type-writing machines, with lever A, of the double-acting space-regulator D, which is constructed and arranged as hereinbefore described, so as to act as an adjustable stop for the movements of the pawl-lever in either direction.

THOMAS WHALEY.

Witnesses:
M. M. DONNELLY,
ALONZO F. BARDWELL.