

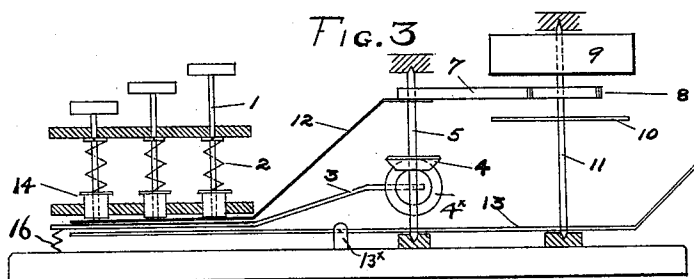
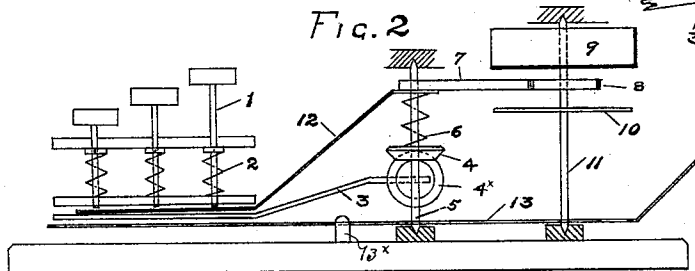
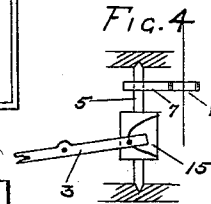
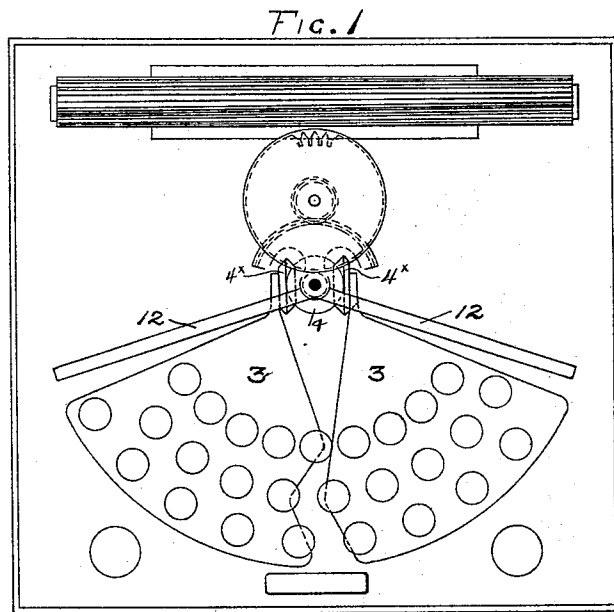
(No Model.)

2 Sheets—Sheet 1.

C. H. McCLELLAN.
TYPE WRITING MACHINE.

No. 487,761.

Patented Dec. 13, 1892.



Witnesses

John Barnett
Fredrick Lubben

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UNITED STATES PATENT OFFICE.

CHARLES H. McCLELLAN, OF NEW YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 487,761, dated December 13, 1892.

Application filed May 28, 1891. Serial No. 394,416. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY McCLELLAN, a citizen of the United States, residing in the city and county of New York, State of New York, have invented a new and useful Type-Writing Machine, of which the following is a specification.

My invention relates to improvements in that class of type-writing machines in which a rotating wheel is used to do the printing.

My invention chiefly consists in the interposition of a spring, as a link, in the train of mechanism between the key and the type-wheel. The object gained by this spring connection is that after the type-wheel has been brought to its proper printing position the key may be further depressed without further turning of the type-wheel and without bringing undue strain on any part of the mechanism and the further advantage of dispensing with more complicated and expensive mechanism. The spring connection is acted on either by compression or by twisting, and several forms are shown in the drawings, of which I consider that shown in Figure 2 to be the best, but do not confine myself strictly to any particular one.

Referring to the drawings, Fig. 1 is a plan, and Fig. 2 an elevation, of the machine embodying my invention. Fig. 3 is an elevation of one form of machine in which the spring connection is placed close to the character-buttons instead of close to the type-wheel, as in Fig. 2. Fig. 4 shows a form of machine in which a spiral sleeve is used in place of the bevels of Figs. 2 and 3. Figs. 5 and 6 are respectively plan and elevation views of a complete machine similar to that shown in Fig. 2.

Referring to Fig. 2, the type-buttons 1 are held up by springs 2. The broad levers 3 are rigid with the bevels 4^x, supported in suitable castings in either side of bevel-gear 4, which is free to rotate on the vertical shaft 5. Bevel-gear 4 is, by means of a spring 6, connected to a large gear-segment 7, which is rigid on shaft 5. The large gear-segment 7 gears into a small gear 8, which, together with type-wheel 9 and lock-wheel 10, is rigid on shaft 11. Fastened rigidly to large gear-segment 7 are two arms 12. Lever 13, pivoted at 13^x, operates the hammer and escapement of carriage

and locks into the lock-wheel 10 in any suitable manner, as shown in Figs. 5 and 6.

Referring to Fig. 2, the operation of the machine is as follows: When a button is depressed, it strikes one of the broad levers 3, which, being rigid to the bevel-gears 4^x, turns bevel-gear 4 and thus winds up spring 6, which causes the large gear-segment 7 to turn, thus turning the small gear 8 and consequently the type-wheel 9 and lock-wheel 10. When the large gear-segment 7 turns, the arms 12 also turn until one of them strikes the shank of the particular button depressed. The type-wheel is thus brought to a stop with the type corresponding to the depressed button at the printing-point, and further pressure on the button simply winds up the spring 6 without further turning of the type-wheel, and this further downward motion of the button causes the broad lever 3 to strike lever 13, which locks the type-wheel and operates the hammer and escapement of carriage. When the pressure on the button is removed, the springs 2 and 6 bring all parts to their original positions.

In Fig. 3 is shown a form of machine in which the spring connection is placed directly on the button-shanks. In this case the bevel-gear 4 is rigid on shaft 5. On each button is a sliding sleeve 14, which when depressed operates on one or the other of levers 3, and the button-shanks pass down through openings in the levers 3 to operate lever 13. A light spring 16 on the end of lever 3 brings the parts back to their original positions.

The construction in other particulars is similar to Fig. 2, and the action is as follows: When a button is depressed, its sleeve 14 is pressed down by its spring 2 and depresses the corresponding lever 3, which, by means of its bevels 4^x, turns segment-gear 7 and type-wheel 9. When bevel-gear shaft 5 is rotated, arms 12 swing around and strike the depressed sliding collar 14 to stop the type-wheel with the desired type at the printing-point. Further pressure causes the button-shank to pass through sliding collar 14 and lever 3 and depresses lever 13, thus operating escapement, &c.

In Fig. 4 is shown a spiral-groove arrangement as substitute for the bevels of Figs. 2 and 3. This spiral sleeve 15 is rotated by

means of pins in end of levers 3 moving in the spiral groove which is cut on the surface of sleeve 15. When used in the form of machine shown in Fig. 2 and in connection with
5 spring 6, this sleeve 15 is loose on shaft 5. When used in the form of machine shown in Fig. 3, the sleeve 15 is rigid on shaft 5.

What I claim is—

1. The combination, in a type-writing machine, of a type-wheel and key, an intermediate spring adapted to position the type-wheel when operated by the depression of the key, and an escapement and hammer operated

by the further depression of the key beyond that required to position the type-wheel. 15

2. The combination, in a type-writing machine, of button-shanks 1, acting as stops, swing-levers 12, broad levers 3, bevels 4 4^x, shaft 5, spring 6, segment-gear 7, gear 8, lock-wheel 10, type-wheel 9, and lever 13, all substantially as described. 20

CHARLES H. MCCLELLAN.

Witnesses:

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