No. 682,248. Patented Sept. 10, 1901.

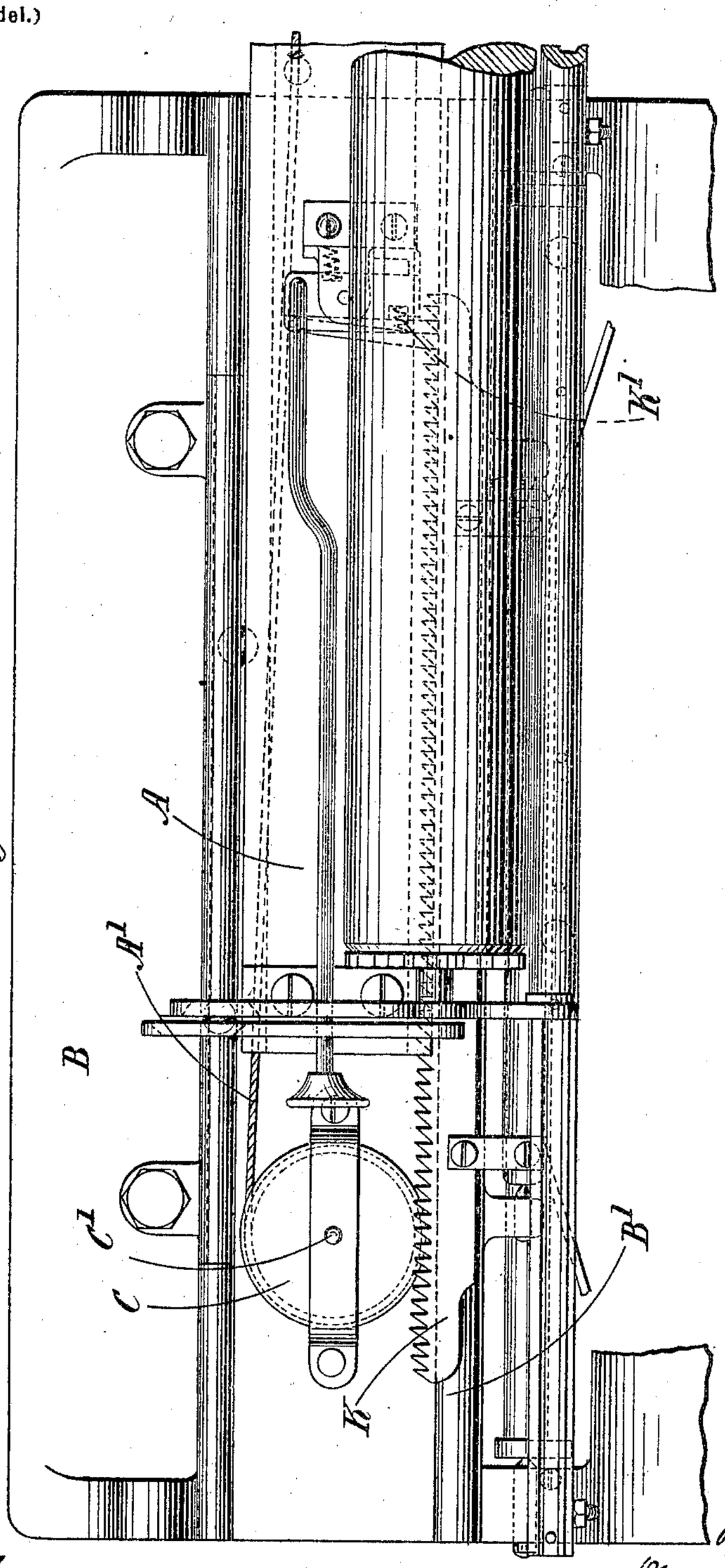
J. S. FOLEY.

TYPE WRITING MACHINE.

(Application filed June 3, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



Witnesses
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J. J. McCarthy.

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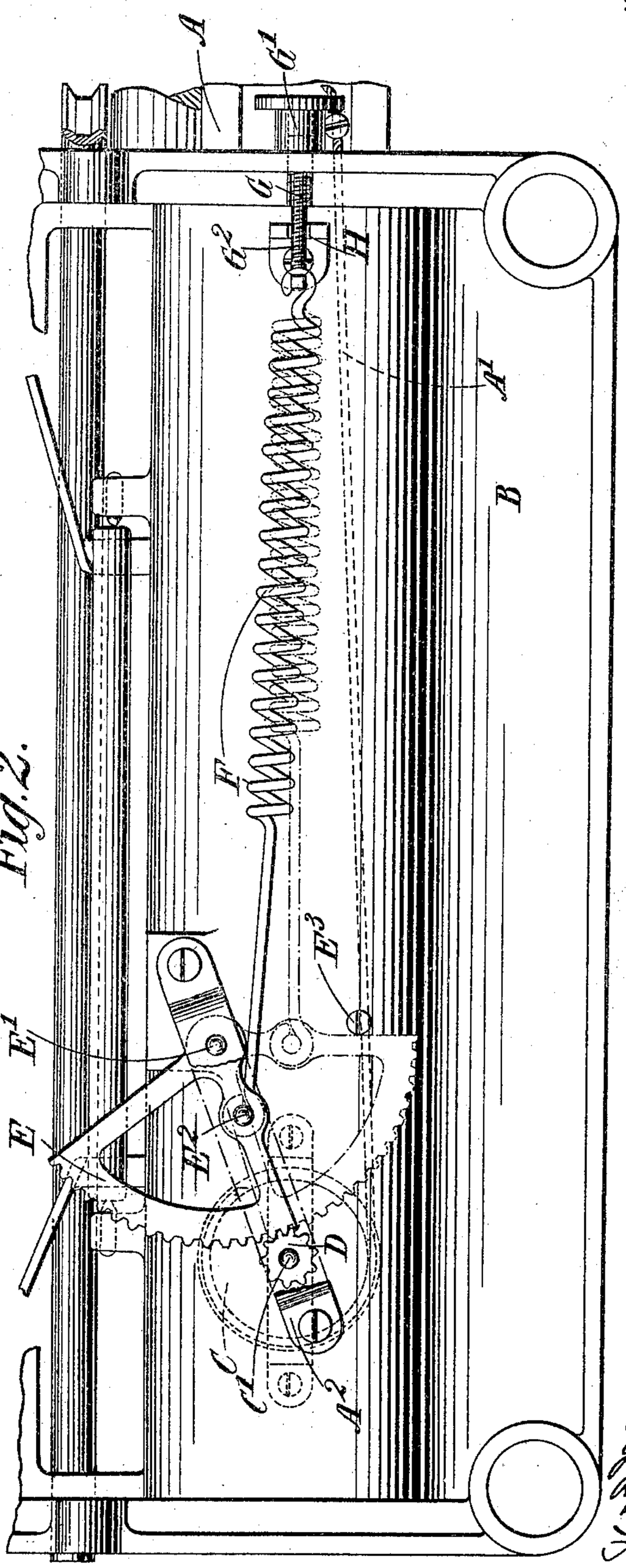

Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES SAMUEL FOLEY, OF WEST BROMWICH, ENGLAND, ASSIGNOR OF ONE-HALF TO JOHN HENRY BIRCH, OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 682,248, dated September 10, 1901.

Application filed June 3, 1901. Serial No. 62,978. (No model.)

To all whom it may concern:

Be it known that I, JAMES SAMUEL FOLEY, a subject of the King of England, residing at West Bromwich, Stafford, England, have invented certain new and useful Improvements in or Relating to Type-Writing Machines, (for which application has been made in Great Britain under No. 20,610, dated November 15, 1900,) of which the following is a specification.

This invention relates to improvements in the mechanism for giving travel to the platen-carriage of type-writing machines, its principal object being to provide a device which shall act with equal force on the platen-carriage whatever may be the position of the latter in the machine-frame.

In carrying out the invention travel is given to the platen-carriage by means of a string wound around a spring-controlled drum in a well-known manner. The drum is provided with a pinion geared with a toothed segment pivoted, preferably, at its center. To one of the side arms of the segment is attached one end of a spiral spring, whose other end is fastened to the machine-frame, the spring being so positioned relatively to the segment that as the spring is lengthened, and therefore exerts a stronger pull, the position of its segmental point of attachment relatively to the pivotal point of the segment is altered, so that it exerts a lesser leverage. Preferably the spring is attached adjustably to the frame and a device is provided for limiting the travel in both directions of the adjusting mechanism.

A convenient construction according to this invention is shown in the accompanying drawings, of which—

Figure 1 is a top plan, and Fig. 2 a bottom plan, of the back portion of the frame of a type-writer with the platen-carriage and its actuating mechanism.

Like letters indicate like parts in both figures.

The platen-carriage A is carried on the frame B of the machine, say, by side ball-bearings B′. To the under side of the carriage A is fastened one end of a string A′, chain, or the like, of which the other end is secured to a drum C, fixed on a pin C′, rotatably carried in bearings in the frame and in a bracket A^2, fixed on the under side of the frame. (This bracket is shown broken away in Fig. 2 for the sake of clearness.) Fixed on the pin C′ on the under side of the frame is a pinion D, which gears with a toothed segment E, pivotally carried on a pin E′. One end of a coiled spring F is secured—say at E^2—to one arm of the segment, the other end being held by the hooked end of a screw-bolt G, which passes through the side of the frame and is held by a threaded nut G′. The hooked end G^2 of the bolt is cut away on two sides and this flattened portion passes through a guiding-slot H in a lug formed with or fixed onto the machine-frame. The guiding-slot H limits the range of adjustment of the spring, its edges engaging the shoulder of the bolt or the end of the spring when the bolt has been run a certain distance in or out of the frame by means of the nut G′. A stop E^3 is provided to limit the travel of the segment under the tension of the spring. The pivotal point of the segment and the points of attachment of the spring both to the frame and to the segment may be varied, but they must be so positioned relatively to each other that as the spring is extended—that is, as the tension of the spring increases the effective leverage distance between the segment's pivotal point and the spring's segmental attachment-point is reduced.

The string A′, drum C, pinion D, segment E, and spring F are so arranged relatively to each other that when the platen-carriage is in the position shown in Fig. 1—that is, at the farthest point of its travel toward the right—the string is unwound from the drum and the pinion is engaged with the segment, so that the latter is under tension of the spring to rewind the string on the drum and draw the platen-carriage toward the left. This position of the segment and spring is shown in full lines in Fig. 2, while the other extreme position of the parts is shown in dotted lines.

The movement of the platen-carriage under the tension of the spring may be regulated from the keyboard in any well-known manner—say, as indicated in the drawings,

by a rocking rack K, engaging two dogs or pawls K′, placed one above the other.

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

1. In a type-writer the combination with the frame, the platen-carriage movable thereon a drum in operative connection with the carriage and a gear-wheel adapted to rotate with the drum of a pivoted toothed segment carried on the frame in gear with the wheel and a spring attached to the segment and to the frame to pull the segment in one direction the two points of attachment of the spring being located relatively to the pivotal point of the segment so that the effective leverage distance between the segment's pivot and the spring's segmental point of attachment decreases as the tension of the spring increases substantially as set forth.

2. In actuating mechanism for a type-writer platen-carriage the combination with a spring such as F and a screw-bolt adjustably carried on the frame and having a flattened portion engaging the spring of a guideway engaging said flattened portion substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES SAMUEL FOLEY.

Witnesses:
SYDNEY E. HARRIS,
THOS. DAVIS.