No. 837,569. PATENTED DEC. 4, 1906.

E. M. INGERSOLL.

CARRIAGE RELEASE DEVICE FOR TYPE WRITERS.

APPLICATION FILED JUNE 8, 1904. RENEWED JAN. 4, 1906.

2 SHEETS—SHEET 1.

FIG. 1.

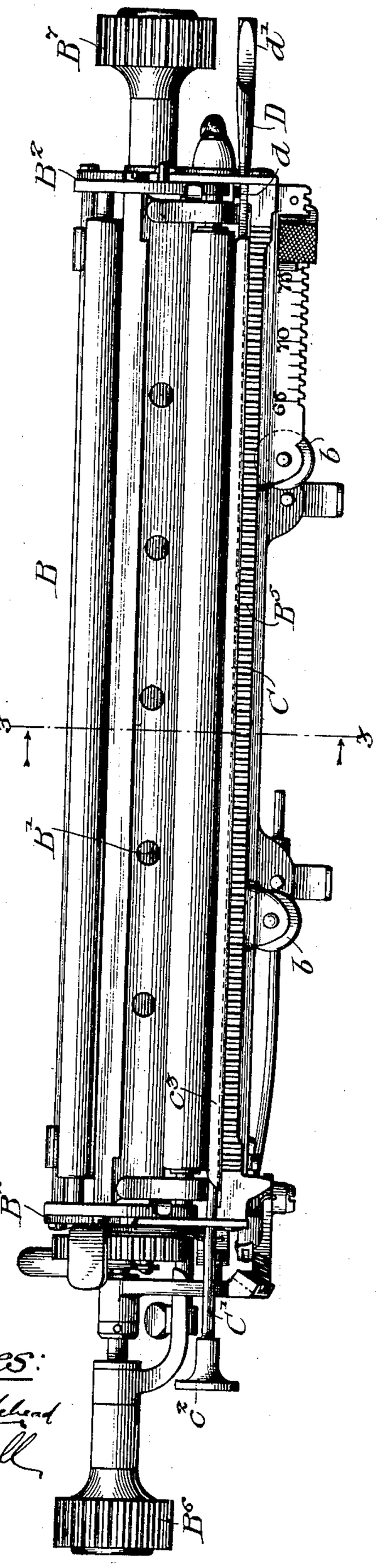
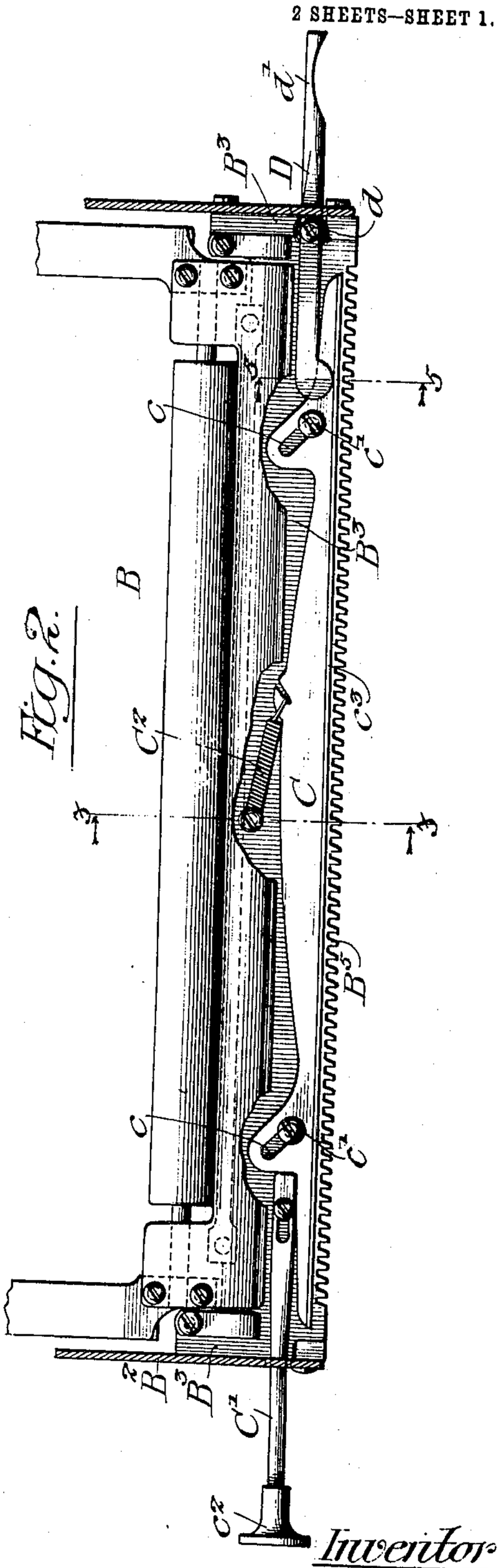


FIG. 2.



Witnesses:
Louis W. Whitehead
W. L. Hall

Inventor:
Emmet M. Ingersoll
by:- Poole & Brown
His Attys:-

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2 SHEETS—SHEET 2.

Fig. 3.

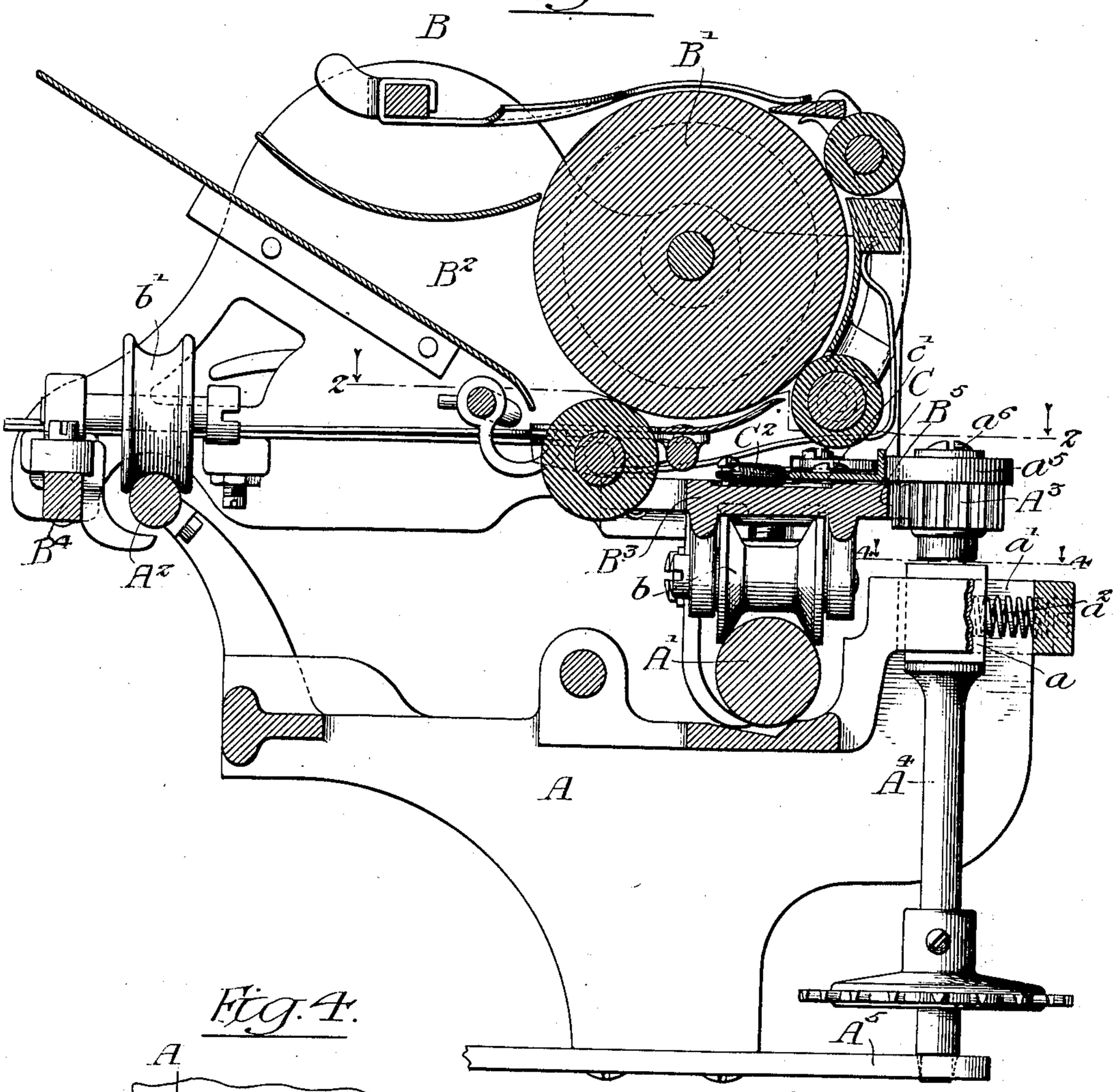


Fig. 4.

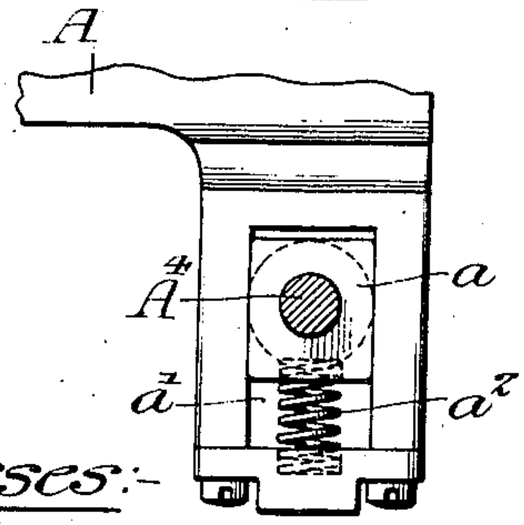
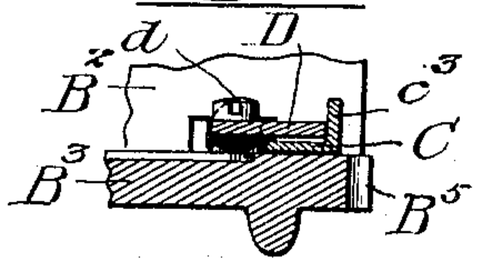


Fig. 5.



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Inventor:-
Emmet M Ingersoll.
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his Attys:-

UNITED STATES PATENT OFFICE.

EMMET M. INGERSOLL, OF WOODSTOCK, ILLINOIS, ASSIGNOR TO THE OLIVER TYPEWRITER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CARRIAGE-RELEASE DEVICE FOR TYPE-WRITERS.

No. 837,569. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed June 8, 1904. Renewed January 4, 1906. Serial No. 294,559.

To all whom it may concern:

Be it known that I, EMMET M. INGERSOLL, a citizen of the United States, and a resident of Woodstock, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Carriage-Release Devices for Type-Writers; 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, which form a part of this specification.

This invention relates to an improved device for releasing the carriage of a type-writing machine from its letter-spacing mechanism, whereby the carriage may be moved freely in either direction from end to end of its travel, thereby facilitating the insertion of characters on an already-printed line or for other purpose.

My improvements are herein shown as applied to an "Oliver" type-writing machine, wherein endwise movement of the carriage under the action of its actuating-spring to produce the letter-spacing is effected through the medium of an escapement mechanism embracing a rotative pinion which is yieldingly held in intermeshing relation with a rack-bar on the carriage-frame, and said carriage is disengaged from the escapement mechanism by a release-bar adapted to force said pinion out of mesh with the rack-bar. My improvements may, however, be applied to other type-writing machines having the same general construction of parts for effecting letter-spacing.

In the drawings, Figure 1 is a front elevation of a carriage of an Oliver type-writing machine. Fig. 2 is a horizontal section thereof with parts broken away, taken on line 2 2 of Fig. 3. Fig. 3 is a cross-section of the carriage, taken on line 3 3 of Figs. 1 and 2, showing also parts of the machine-frame and the letter-spacing mechanism. Fig. 4 is a fragmentary section taken on line 4 4 of Fig. 3. Fig. 5 is a sectional view of the rack-bar and the releasing device, taken on line 5 5 of Fig. 2.

As shown in the drawings, A designates the carriage-shift frame of the machine, and B the carriage, in which is supported the usual rotative platen B′. Said platen is provided with turning-knobs B^6 and B^7, attached to the platen-shaft at the opposite ends of the carriage in the usual manner. Said carriage embraces end plates B^2 B^2, which support the platen and the paper guiding and pressing devices; and front and rear longitudinal members B^3 B^4, affixed at their ends to said end plates. The carriage is supported on the shift-frame through the medium of rollers *b b′*, which travel on horizontal parallel rails A' A^2, extending longitudinally of the shift-frame. The letter-spacing mechanism for the carriage embraces a rack-bar B^5, herein shown as formed integral with the front longitudinal member B^3 of the carriage-frame, and an intermittingly-rotative driving-pinion A^3, mounted on the upper end of an upright shaft A^4, which turns in suitable bearings in the shift-frame. As herein shown, the upper end of the shaft is rotatively mounted in a block *a*, which slides toward and from the rack-bar in a slot *a′*, formed in the shift-frame, and is yieldingly thrown toward the rack-bar by a spring a^2, which is applied to act on said block, Fig. 4. The lower end of the shaft A^4 has a bearing in a horizontal forwardly-extending arm A^5 on the shift-frame, and the bearing-socket in said arm is made of such size as to permit the upper end of the shaft to swing or oscillate toward and from the rack-bar. The means for swinging the said shaft A^4 to thus move the pinion A^3 out of mesh with the rack-bar consists of a longitudinally-arranged release-bar C, which slides on the rack-bar horizontally toward and from said pinion. The said release-bar and the devices affording horizontal movement thereof shown in the drawings are like the construction shown in the prior United States Letters Patent to Thomas Oliver, No. 599,863, dated March 1, 1898. The bar is provided near its ends with oblique parallel slots *c*, through which extend headed holding and guide studs *c′*, that are secured in and rise from the rack-bar. The said release-bar is moved obliquely in a horizontal plane by means of an endwise-sliding actuating-rod C′, loosely connected at its inner end with one end of the release-bar and provided at its outer end with a knob or button c^2.

The actuating-rod extends through and has sliding engagement with the end plate B^2

of the carriage. When pressure on the actuating-rod is released, the release-bar is restored to its normal position, away from the pinion A^3, by means of a retracting-spring C^2, herein shown as having the form of a spiral contractile spring, which is attached at one end to the carriage and at its other end to the release-bar. Said release-bar C is preferably provided at its front margin with a narrow vertical flange c^3, which engages an antifriction-roller a^5, applied to the shaft A^4 between the pinion thereon and a holding-screw a^6 at its upper end of the shaft. The actuating-rod C′ is located at the left-hand side of the carriage in position to be engaged and thrust endwise by one of the fingers of the left hand, while the left hand grasps said turning-knob B^6, this being the usual mode of operating these parts of the Oliver type-writing machine. The paper guiding and pressing devices associated with the platen B′ are of the usual construction found in the Oliver type-writing machines and constitute no part of the present invention.

In addition to the endwise-movable actuating rod-bar C′ for operating the release-bar C, I provide at the opposite or right-hand end of the carriage a manually-operable device, also constructed to move the release-bar horizontally toward said pinion to release the latter from the rack-bar. The last-mentioned actuating device consists of a horizontally-swinging lever D, which is pivoted between its ends upon a pivot-stud d, secured in the frame member B^3. The outer end d' of the lever outside its pivot extends through an opening in the end plate of the carriage and is located below and slightly in front of the adjacent turning-knob B^7 on the platen-shaft. The inner end of the lever is adapted to bear against the inner face of the vertical flange c^3 of the release-bar, as clearly shown in Figs. 2, 3, and 5, the release-bar being adapted to freely slide endwise relatively to the lever. When the outer end of said lever is pressed rearwardly, therefore, the inner end thereof is carried forwardly against and transmits a forward horizontal movement to the release-bar. By reason of the oblique slotted connection of the said release-bar with the carriage-frame described the side of lateral pressure transmitted to said release-bar through the medium of the lever D has the same effect of shifting said release-bar obliquely forward as does the endwise pressure applied to the actuating-rod C′. It will also be observed that the trip-lever D is located in such relation to the turning-knob B^7 of the platen-shaft at the right-hand end of the machine that said tripping-lever may be actuated to release the release-bar when the hand occupies its usual position for turning the platen, it being in position to be engaged by the thumb of the hand which grasps the platen-turning knob. The carriage of a machine thus equipped may be readily released by either hand, and inasmuch as the tripping devices are carried by the carriage and located in position to be moved by the hand which grasps the platen-turning knob and controls the endwise movement of the carriage they are always in position for immediate and convenient operation by either hand.

The construction of the release-bar, whereby it is adapted to be moved laterally or forwardly and backwardly on the carriage-frame in one direction by a spring and in the other direction by pressure applied through the actuating rod and lever described, may be varied, while retaining the advantages arising from the use of the general combination of parts described.

I claim as my invention—

The combination with a carriage rack-bar, an intermittingly-rotative driving-pinion and a platen mounted in the carriage and having turning-knobs at both ends of the carriage, of a release-bar having horizontal movement on the carriage endwise and laterally in an oblique path, a retracting-spring acting on the release-bar to move the same laterally forward and endwise toward the left-hand end of the carriage, an endwise-movable trip-rod arranged in parallel relation to the release-bar at the left-hand end of the carriage and adapted to act endwise thereon to shift the release-bar rearwardly and toward the right-hand end of the carriage, and a horizontally-swinging trip-lever at the right-hand end of said carriage pivoted between its ends to the carriage-frame, and acting at its inner end laterally on the release-bar to also shift the latter rearwardly and toward the right-hand end of the carriage, the outer end of said trip-lever extending outwardly from the end of the carriage parallel with the axis of the platen and adjacent to the platen-turning knob at that end of the carriage.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 15th day of April, A. D. 1904.

EMMET M. INGERSOLL.

Witnesses:
C. H. Donnelly,
E. R. Hoy.