

No. 639,912.

Patented Dec. 26, 1899.

J. A. SOMMERVILLE.
TYPE WRITING MACHINE.

(Application filed May 2, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

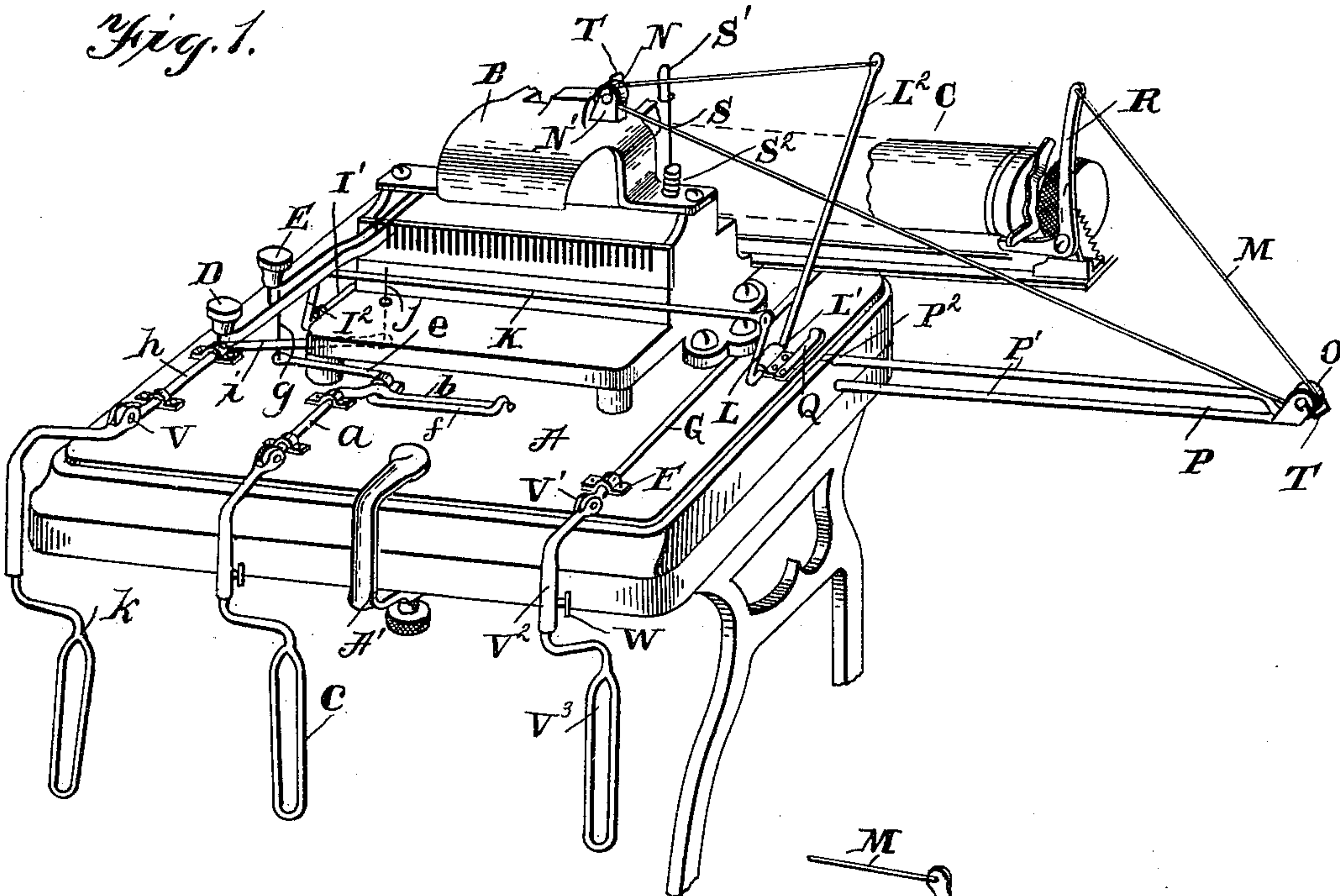
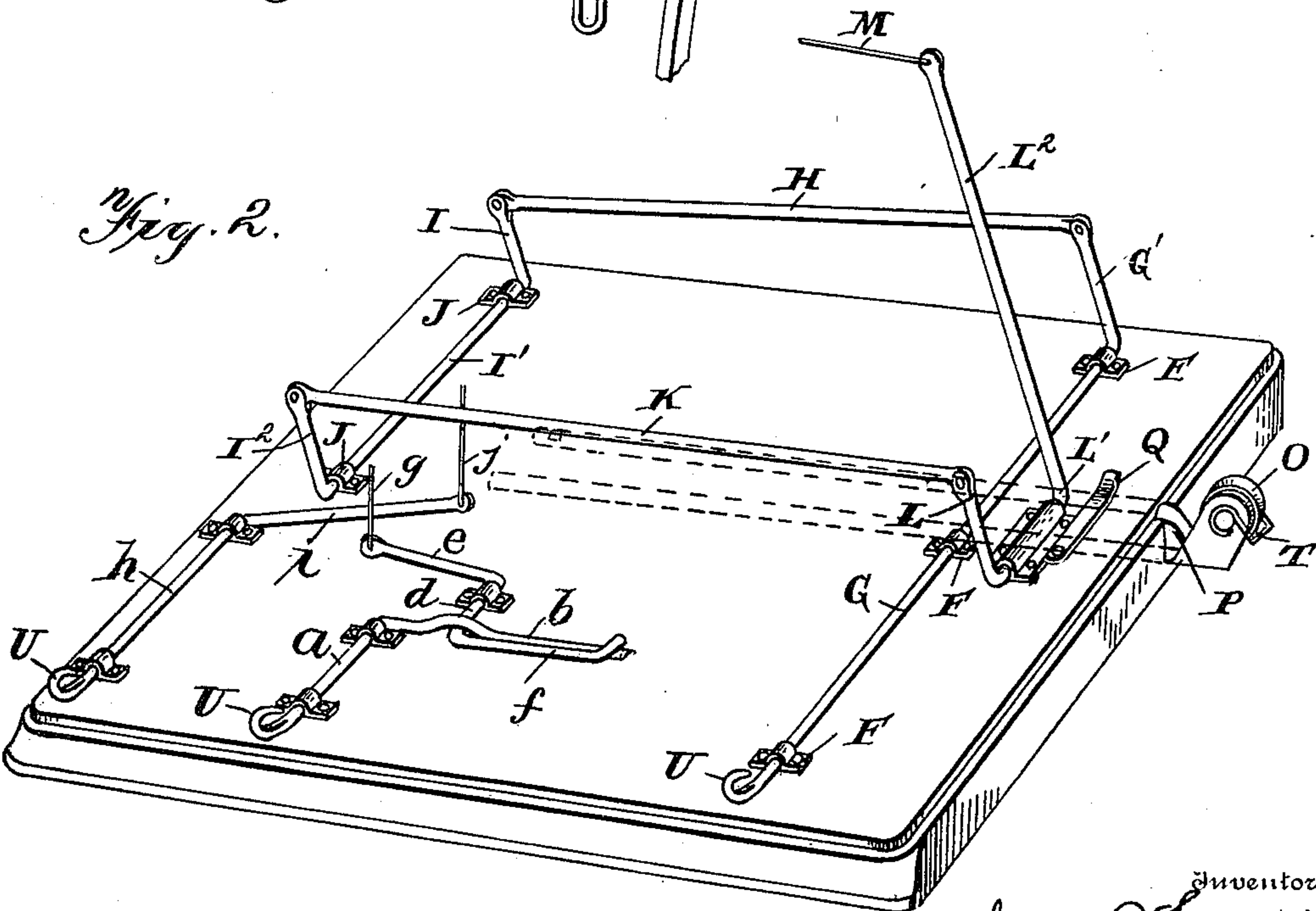


Fig. 2.



Witnesses

Geo. E. Truch.
Chas. R. Wright.

Inventor
James A. Sommerville
by James B. Benson
his Attorney

No. 639,912.

Patented Dec. 26, 1899.

J. A. SOMMERVILLE.
TYPE WRITING MACHINE.

(Application filed May 2, 1899.)

(No Model.)

2 Sheets—Sheet 2.

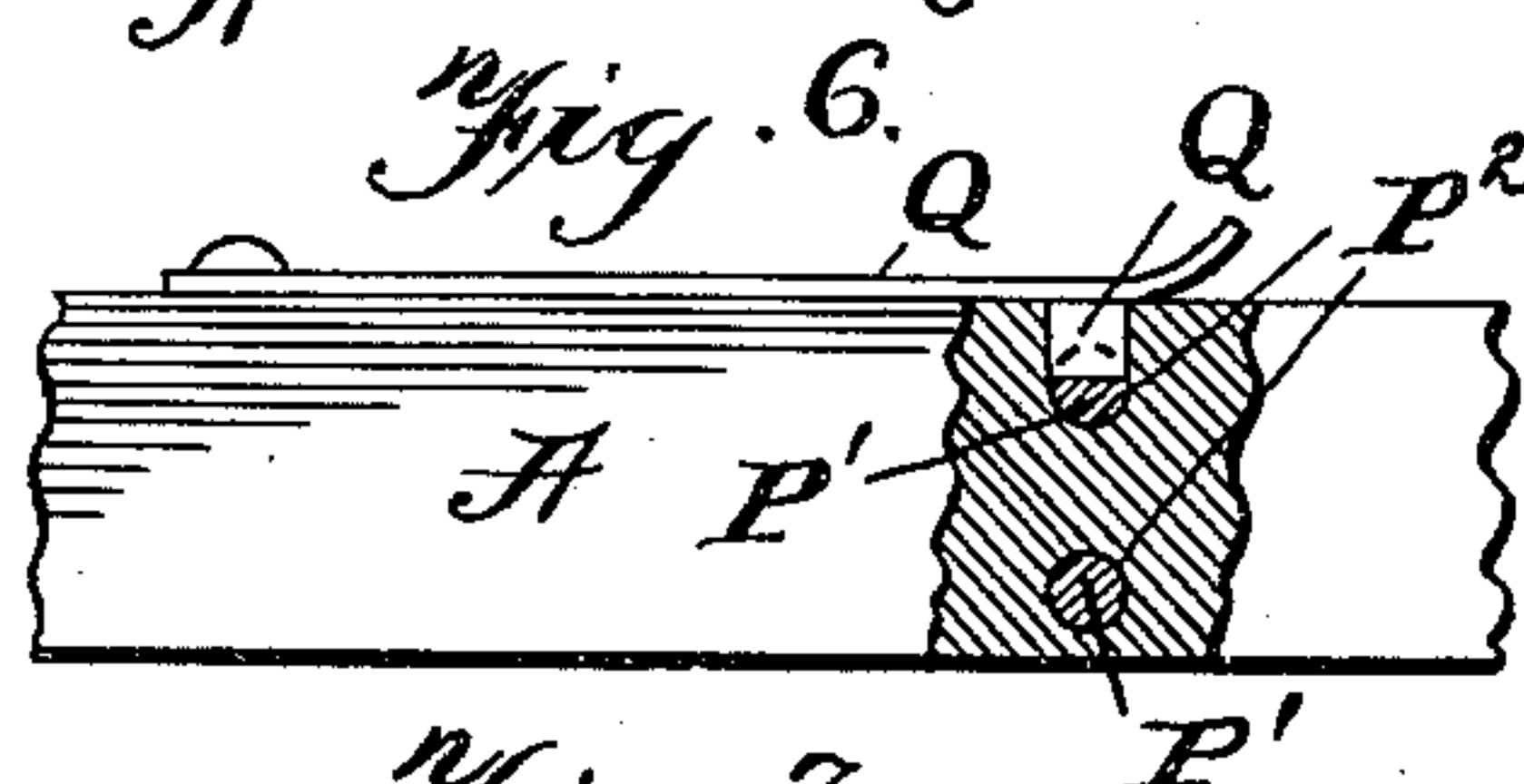
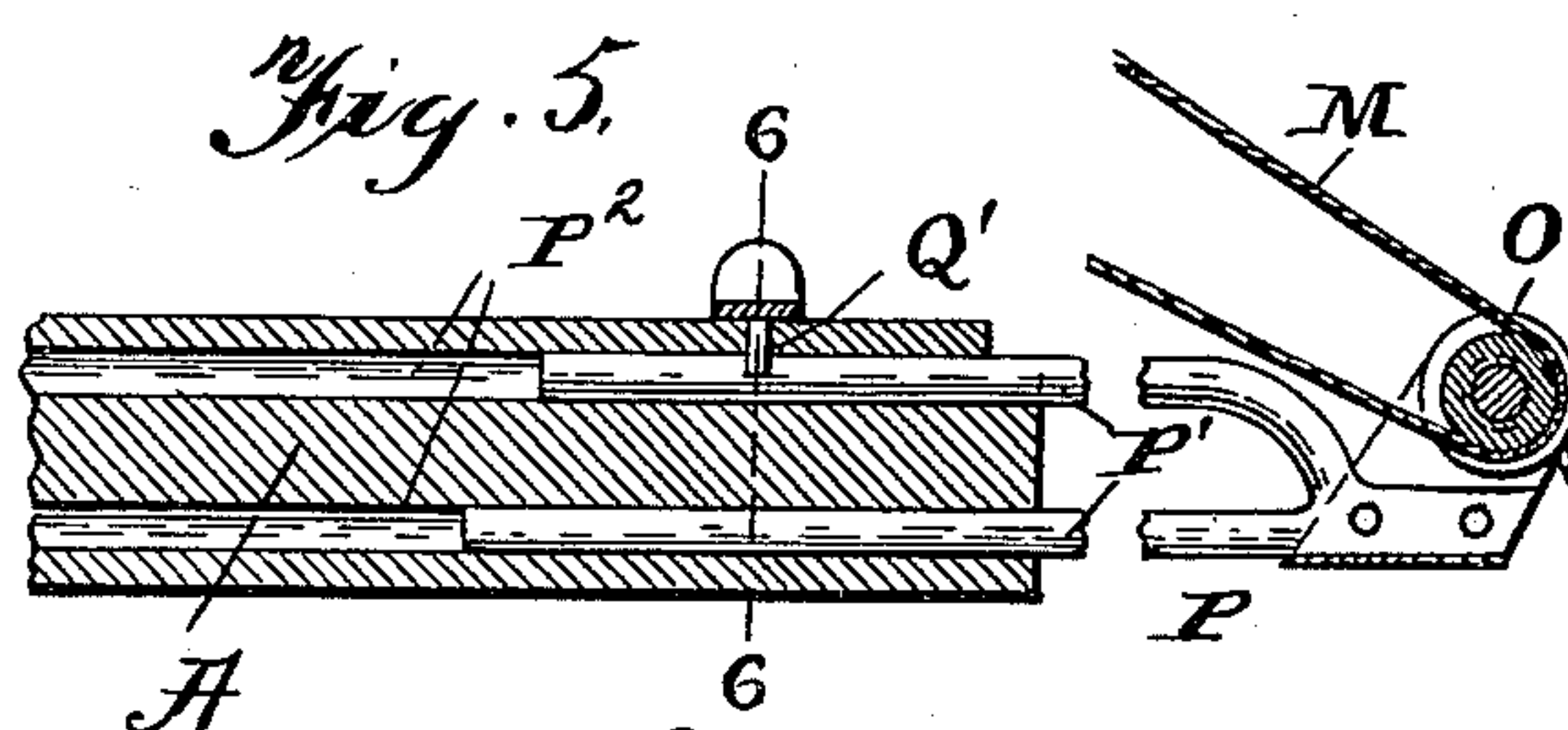
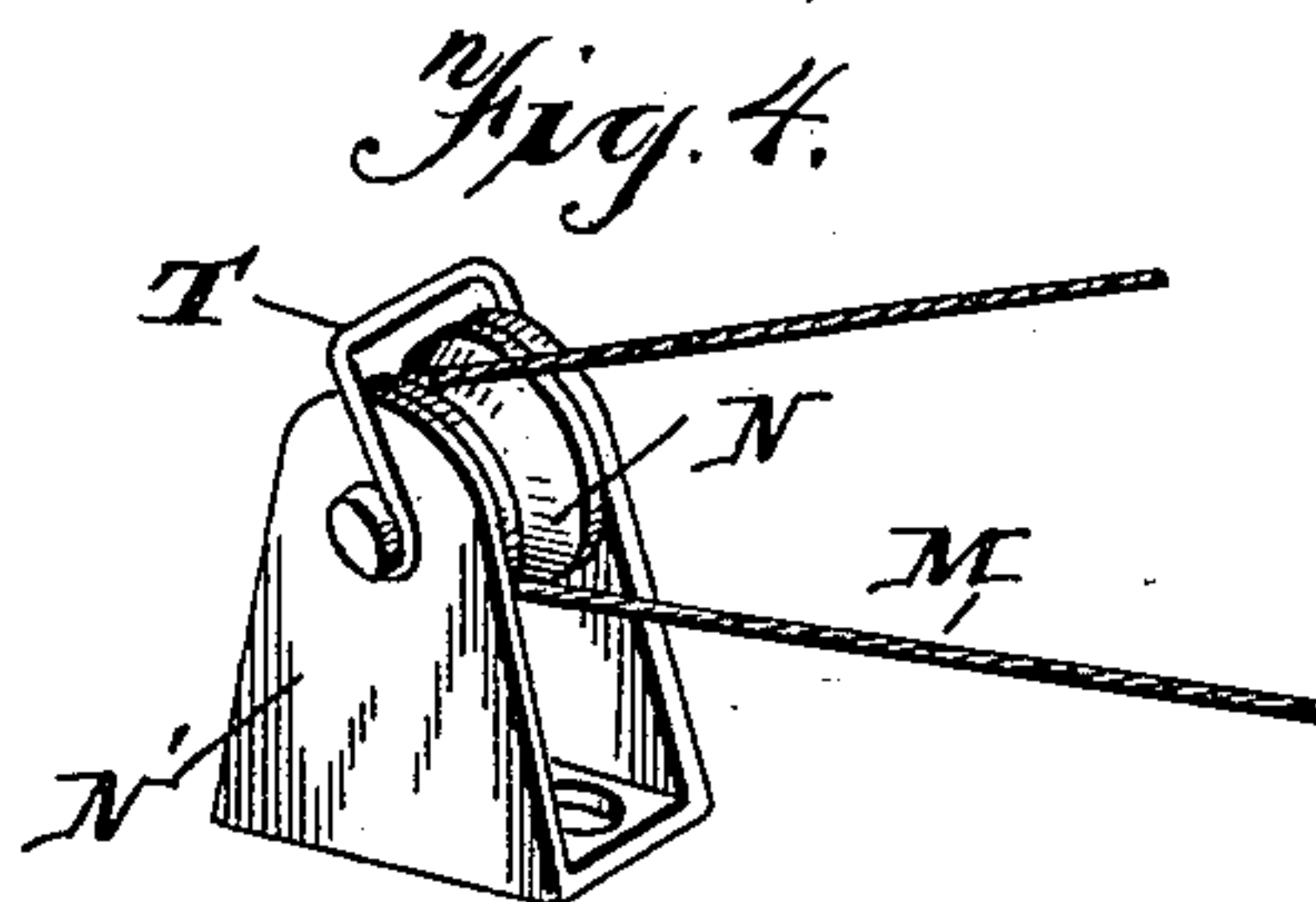
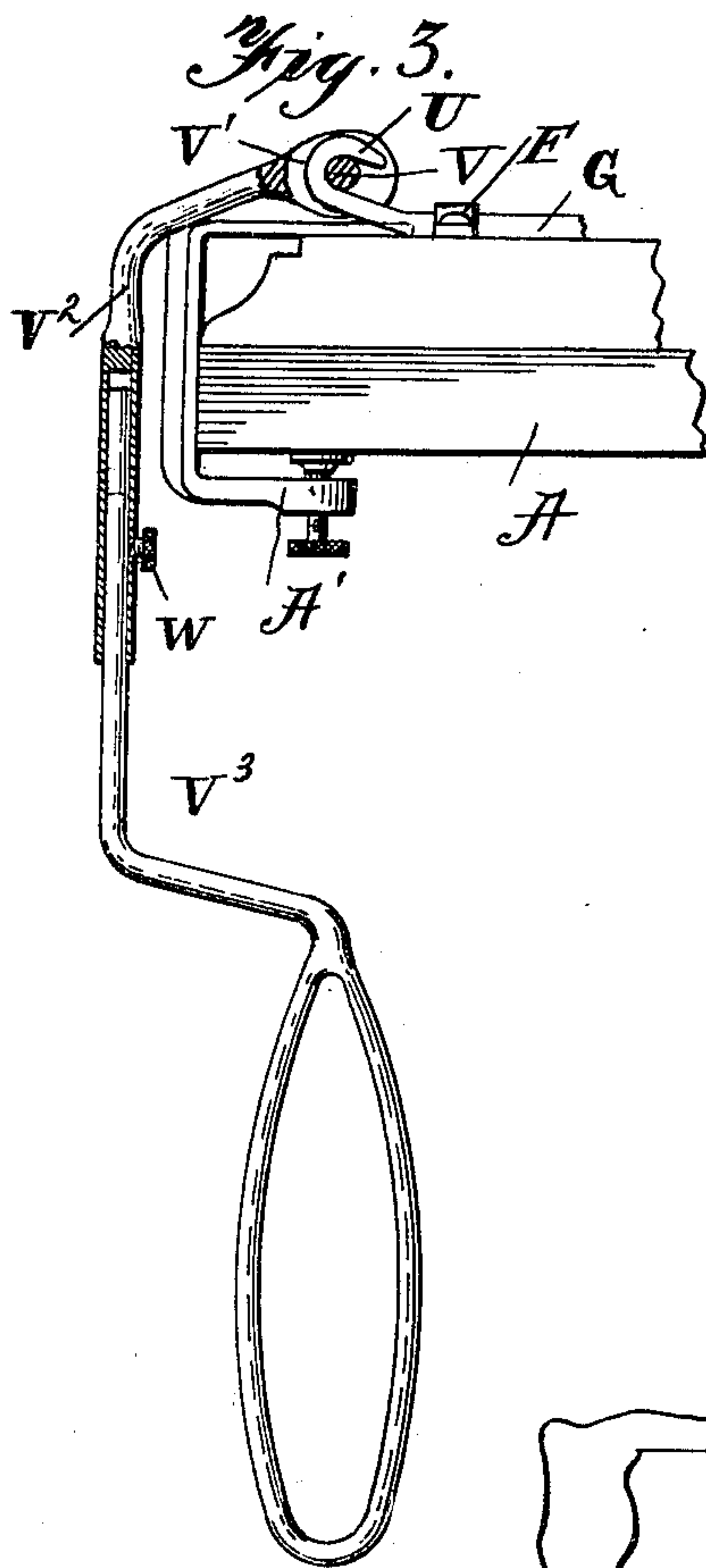
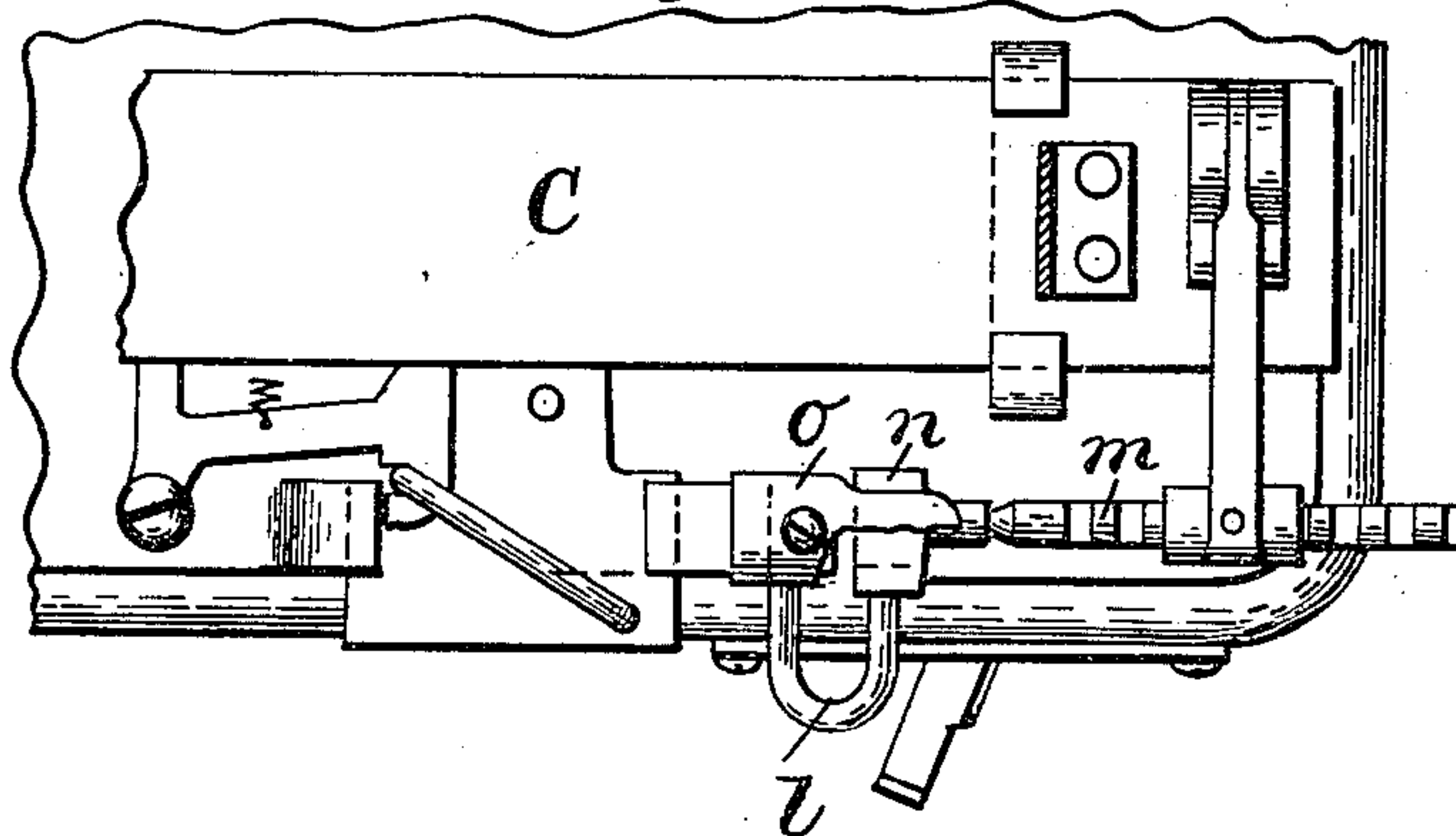


Fig. 7.



Witnesses
Geo. C. Frech.
Chas. R. Wright.

Inventor
James A. Somerville
by James M. Bevan
his Attorney

UNITED STATES PATENT OFFICE.

JAMES ABY SOMMERVILLE, OF FRONT ROYAL, VIRGINIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 639,912, dated December 26, 1899.

Application filed May 2, 1899. Serial No. 715,353. (No model.)

To all whom it may concern:

Be it known that I, JAMES ABY SOMMERVILLE, a citizen of the United States, residing at Front Royal, in the county of Warren and State of Virginia, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to type-writing machines, and particularly to an attachment of improved construction therefor by means of which the platen may be rotated to present a new line to the type, the carriage returned to the position where it is desired to commence a new line, and the shifting for the capital letters and for the figures (in such machines wherein a separate shift is required for the latter) effected, without the necessity of removing the hands to attain either of said results.

The details of construction of my invention are fully described in the following specification and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of my attachment applied to a type-writing machine, only such parts of the latter being illustrated as are necessary to show the connection of the attachment therewith. Fig. 2 is a similar view of the attachment in position upon the base of the machine, the latter being omitted. Fig. 3 is an enlarged sectional detail view of one of the knee-levers, showing the connection between the same and its rock-shaft. Fig. 4 is a perspective view of the sheave which is positioned upon the machine-frame and the bracket therefor. Fig. 5 is an enlarged sectional detail view of the sliding arm, the view being a vertical section of the base. Fig. 6 is a sectional detail view taken on the line 6 6 of Fig. 5, showing the catch for the arm. Fig. 7 is a top plan view of the rear portion of the type-writing machine, showing the buffer.

While I have illustrated and described my invention in the present instance as applied to the type-writing machine known as the "Blickensderfer," it will be readily under-

stood that the attachment may be used upon other makes of type-writing machines with slight modifications.

Referring now more particularly to the accompanying drawings, A designates the base of the machine, which may be firmly secured to the stand or table by any preferred form of clamp A'; B, the frame of the machine; C, the carriage; D, the shift-key for the capital letters, and E the shift-key for the figures.

I will first describe the construction for effecting the rotation of the platen and the reverse movement or return of the carriage to its initial position.

Mounted upon base A by means of suitable brackets F at one side of the frame of the machine is a rearwardly-extending rock-shaft G, having its rear end turned upwardly to form an arm G', to which one end of a connecting-rod H is pivotally connected. This connecting-rod H extends in rear of the machine and at its opposite end is pivotally connected with the upturned end or arm I of a short rock-shaft I', mounted upon base A, upon the opposite side of the machine, by suitable brackets J and extending parallel with shaft G. The forward end of this short rock-shaft is also turned upwardly to form an arm I², to the free end of which one end of a connecting-rod K is pivotally secured. Said connecting-rod K extends across the front of the machine beneath the key-levers and at its opposite end is pivotally connected to the short arm L of a U-shaped operating-lever L', which is pivotally mounted upon base A on the same side of the machine as the long rock-shaft G. The other arm L² of this U-shaped lever is elongated or extended, as shown, to extend quite a considerable distance above base A. To the free end of said long arm L² one end of a cord or cable M is secured, said cord or cable passing around a sheave or pulley N, mounted in a U-shaped bracket N', detachably secured to the upper portion of the machine-frame. From thence said cord or cable passes around a sheave O, carried by the outer end of a sliding arm P. This arm is here shown as bifurcated, each prong or member P' sliding in a groove P², formed in base A. Said arm could, however, be formed solid, if desired, without in any

way departing from the spirit of my invention. To secure said arm in its extended position, a spring-catch is provided consisting of a piece of spring metal Q, secured at one
 5 end to base A and carrying at its opposite end a detent Q', which depends into groove P² and engages a notch formed in said sliding arm. When the machine is not in use, this catch is disengaged and the arm slid into the
 10 base. The opposite end of said cord or cable is connected with the ratchet mechanism common to type-writing machines for rotating the platen. This connection will vary somewhat for different makes of type-writing machines. In the present instance the cord or
 15 cable is secured to the extended end of a bell-crank lever R, which replaces the usual hand-lever found on the "Blickensderfer" machine, said lever operating the pawl for rotating the platen. A spring-guide S is secured upon the upper portion of the frame of the machine adjacent to the sheave N and has a loop S' formed at its upper end, through
 20 which the cord or cable passes, and at its lower end is coiled at S². Guards T are provided for the sheaves to prevent the cord from slipping therefrom.

Rock-shaft G is formed at its forward end with a hooked portion U, to be engaged by the
 30 pin V, carried by the bifurcated end V' of the upper tubular section V² of the knee-lever. Said knee-lever has a lower section V³, which extends up into the tubular section and is secured therein by a set-screw W. By means of this construction the knee-lever
 35 may be lengthened or shortened, according to the height of the stand upon which the type-writing machine rests, so as to be in proper position to be engaged by the knee of the operator. Through the medium of its above-described connection with the rock-shaft it may be readily detached when the machine is not in use or while being carried from place to place. By means of the above construction a slight pressure of the knee upon
 40 the knee-lever will rock said shaft G, and by means of the connection between the latter and the U-shaped operating-lever said lever will be operated, drawing upon the cord or cable and rotating the platen to present a new line to the type, while an increased pressure upon said knee-lever, will in addition to rotating said platen, return the carriage to its initial position for the commencement of
 55 a new line. The connection of said rock-shaft with the operating-lever through the medium of the short rock-shaft and the connecting-rods is provided for the purpose of giving to the lever an increased movement at the expense of but slight movement on the part of the knee-lever, so that while the latter moves but a short distance the movement of the former is greatly increased, whereby the carriage is moved the entire distance back
 60 to its initial position with but a slight pressure from the knee. It will also be understood that by varying the pressure upon the

knee-lever the carriage may be stopped at any desired point.

For effecting the movement of the shift-
 70 key for the capitals I provide the rock-shaft a, which is mounted upon the base A and bent at its rear end to form an arm b and at its forward end having a knee-lever c of the same construction as that formerly described. A short rock-shaft d is mounted upon base
 75 A adjacent to the rear end of shaft a and formed at its respective ends with the oppositely-extending arms e and f, arm e being connected with the shift-key by a link g, and
 80 arm f extending parallel with arm b of shaft a and having its end bent to be engaged by said arm b. A pressure from the knee of the operator upon knee-lever c will cause the shift-key to be depressed, as will be readily
 85 understood.

In the type-writing machine here illustrated a separate shift is required for the figures, and for depressing this shift-key I provide the rock-shaft h, which is mounted upon
 90 the base A on the opposite side of the machine from shaft G, said shaft having its rear end bent to form an arm i, which is connected with the shift-key by a link j, extending through an opening formed in the frame of
 95 the machine. The rock-shaft is provided at its forward end with a detachable extensible knee-lever k, similar in construction to the knee-lever before described. By a pressure from the knee of the operator upon this knee-
 100 lever the shift-key is held depressed while the figure is being printed.

Knee-levers c and k extend downwardly on opposite sides of one of the knees of the operator, the same being operated by pressure
 105 of the knee to the right or left, according as it may be desired to operate the shift-key for the capitals or figures. As before set forth, in machines not requiring or using a separate shift-key for the figures this latter knee-lever
 110 and operating mechanism will not be necessary.

My improved buffer consists of a U-shaped piece of metal l, secured by one of its arms to some convenient portion of the machine-
 115 frame, with its other arm in position to be engaged by the carriage when returned for the commencement of a new line. In the present instance said arm is engaged by the marginal stop m upon the carriage. Said arm is
 120 also provided with a plate or pad n, of leather or other suitable material, so that the engagement of the carriage with said buffer is unaccompanied by noise. A guard o extends over said buffer-arm, as is clearly shown in
 125 Fig. 7.

It will be understood that either the construction for shifting for the capitals or for returning the carriage to its initial position and rotating the platen may be used independently and slight modifications and changes made in the invention without in any way departing from the spirit and scope thereof.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination with a type-writing machine, of knee-levers located to depend on opposite sides of the knee of the operator and adapted to be operated by pressure in opposite directions, and operative connections between said knee-levers, and the shift-keys of the machine, substantially as described.

2. The combination with a type-writing machine, of a rock-shaft having oppositely-extending arms at its respective ends, a connection between one of said arms and the shift-key of the machine, a second rock-shaft carrying an arm engaging the other arm of said first-mentioned rock-shaft, and a knee-lever carried by said last-mentioned rock-shaft, substantially as described.

3. The combination with a type-writing machine, of an operating-lever, a knee-lever for actuating said lever, a sliding arm carried by said machine, and a cord or cable connecting said operating-lever and the carriage of the machine and loosely engaging said arm, substantially as described.

4. The combination with a type-writing machine, of an operating-lever, a knee-lever for actuating said lever, a sliding arm carried by the machine, a spring-catch for holding said arm extended, and a cord or cable connecting said operating-lever and the carriage of the

machine and loosely engaging said arm, substantially as described.

5. The combination with a type-writing machine, of an operating-lever, means for actuating the same, an arm carried by the machine and sliding in the base thereof, a spring-catch for holding said arm extended, and a cord or cable connecting said operating-lever with the carriage of the machine and passing around a pulley carried by said arm, substantially as described.

6. The combination with a type-writing machine, of a rock-shaft having an arm at its rear end, a knee-lever at the forward end of said shaft for actuating the same, a second rock-shaft having arms at its respective ends, a rod pivotally connected to the arms formed on the rear ends of said shafts, a U-shaped operating-lever, a rod pivotally connected to the arm at the front end of said last-mentioned rock-shaft and one of the arms of said lever, and a connection between the other arm of said lever and the carriage of the machine, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES ABY SOMMERVILLE.

Witnesses:

WM. R. BUCK,
J. H. STEELE.