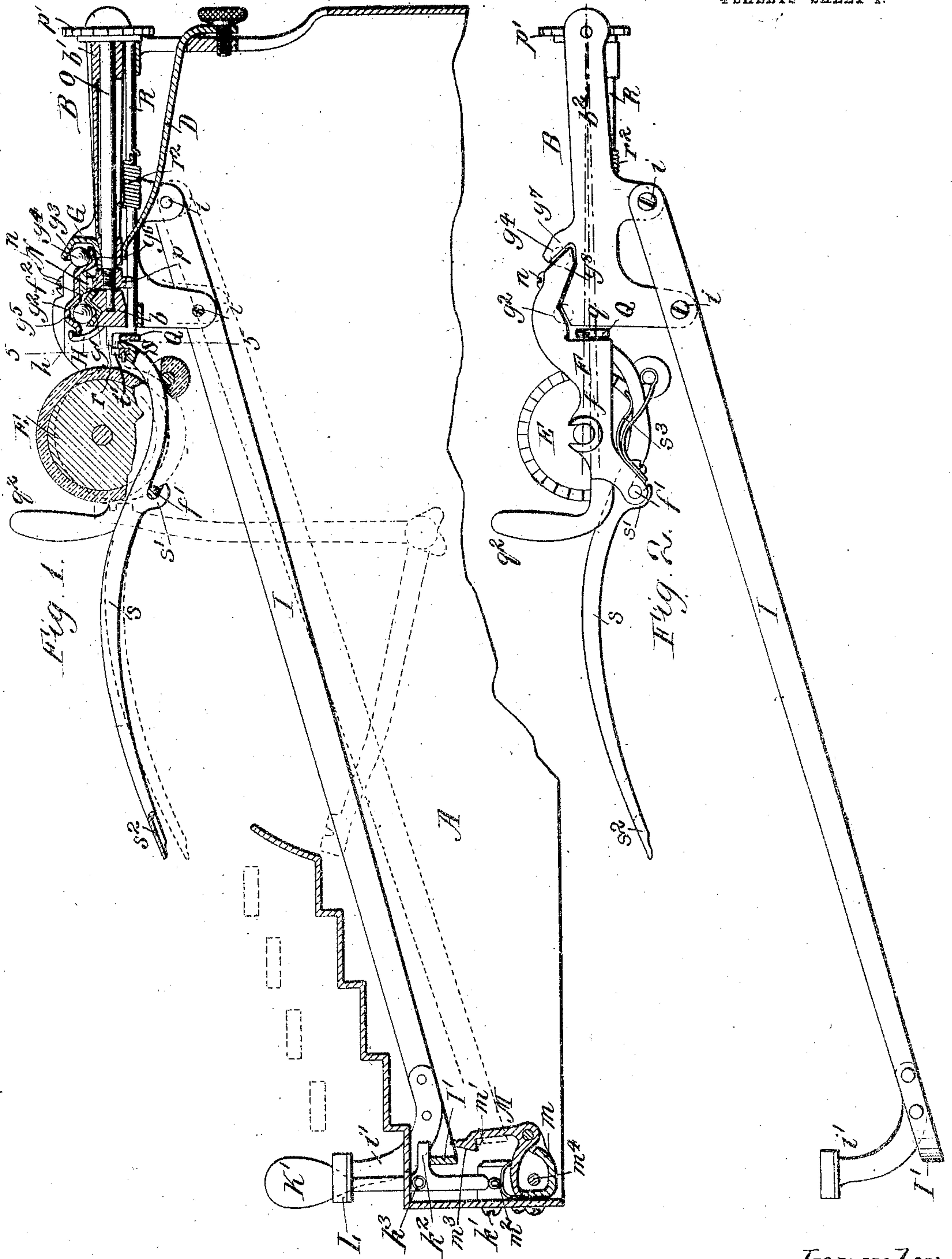


No. 847,343.

PATENTED MAR. 19, 1907.

E. G. LATTA.
TYPE WRITING MACHINE.
APPLICATION FILED JULY 5, 1904.

4 SHEETS—SHEET 1.



Witnesses:

R. W. Runner
E. A. Voth.

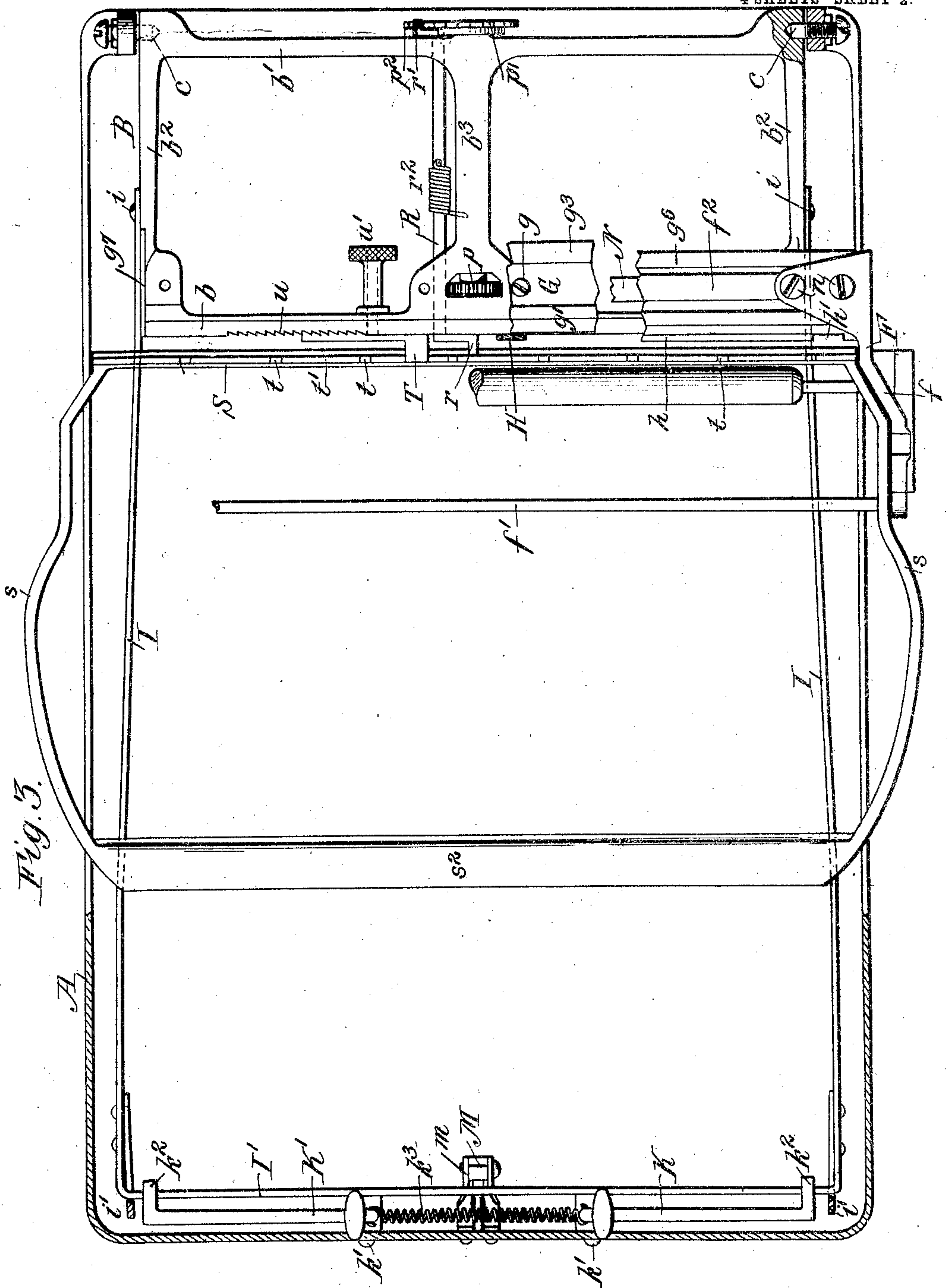
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4 SHEETS—SHEET 2.



Witnesses:

R. W. Runcie
E. A. Volk.

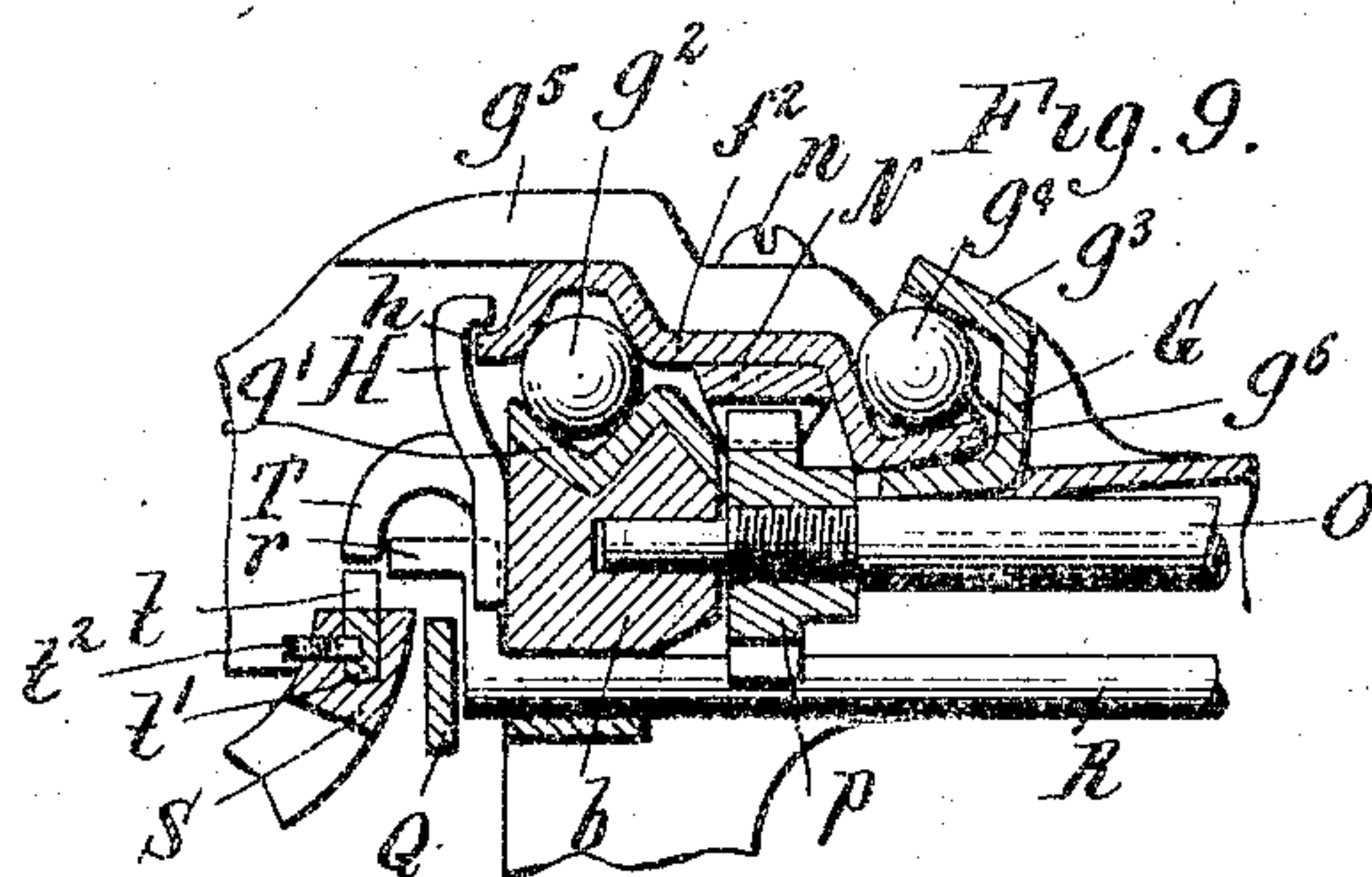
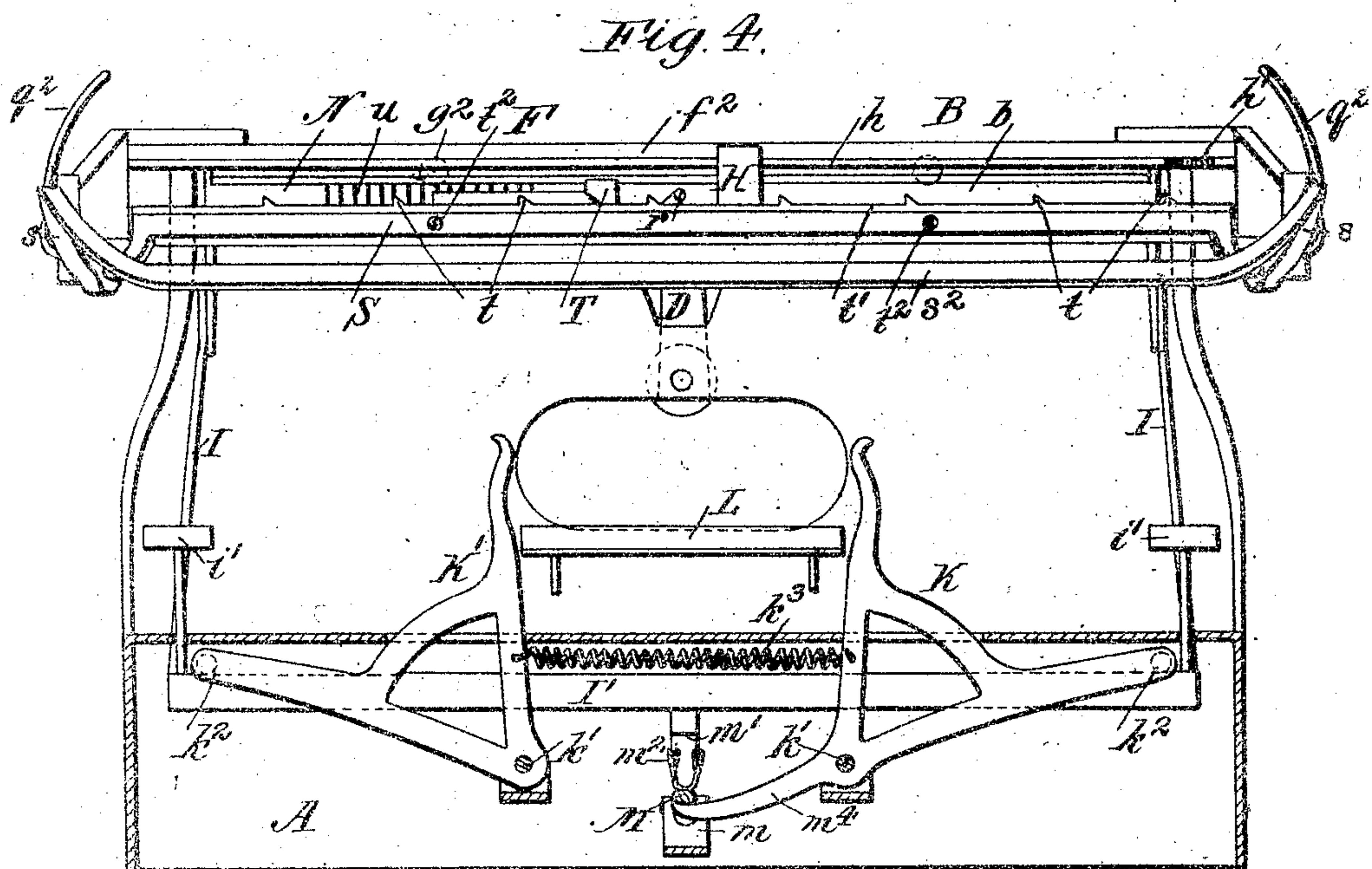
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4 SHEETS—SHEET 3.



Witnesses:

P. W. Rimmer
E. A. Volk.

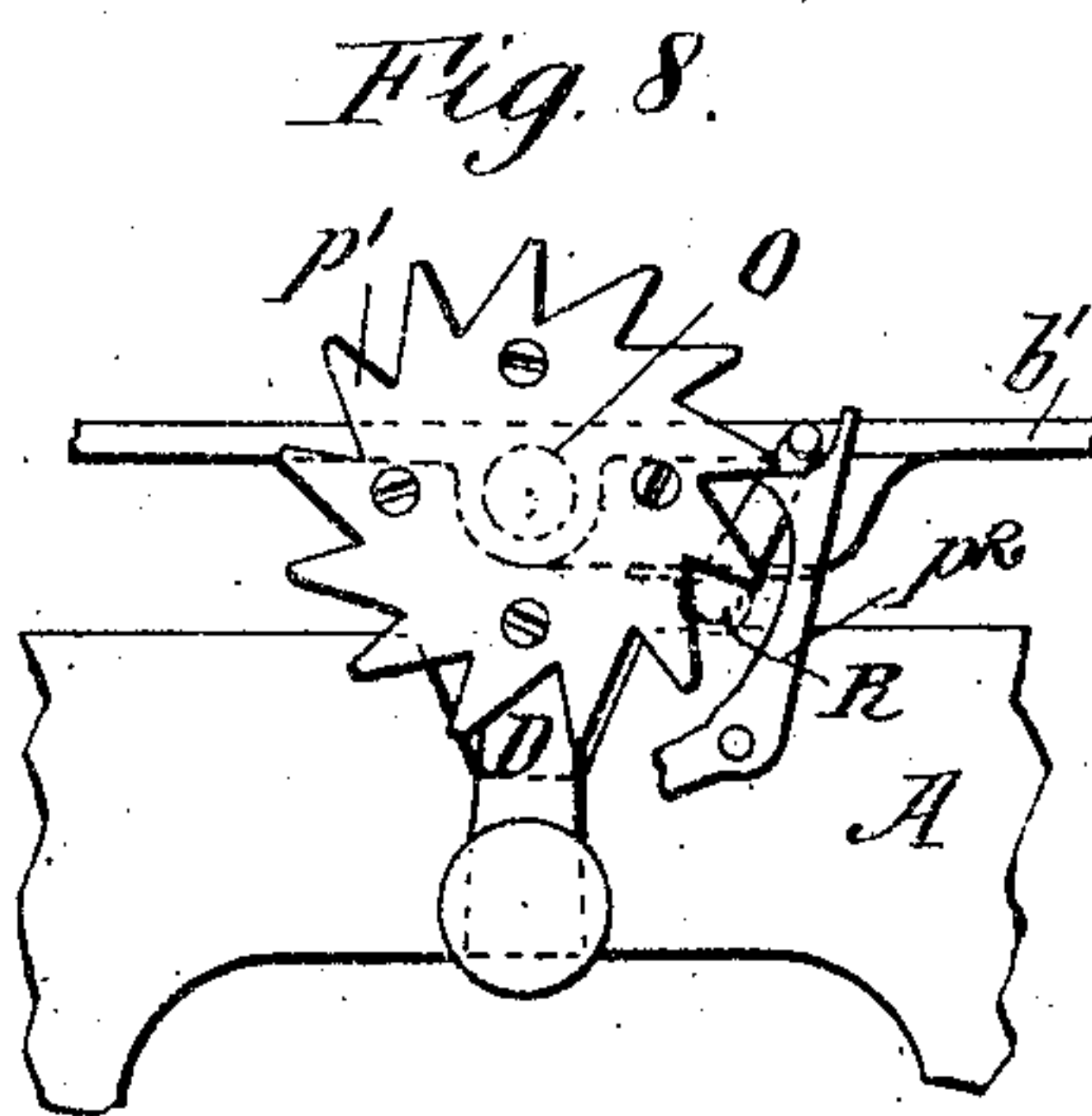
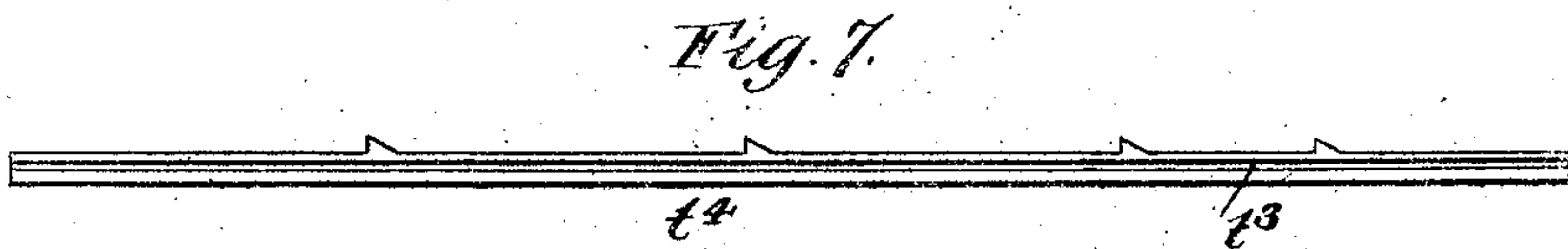
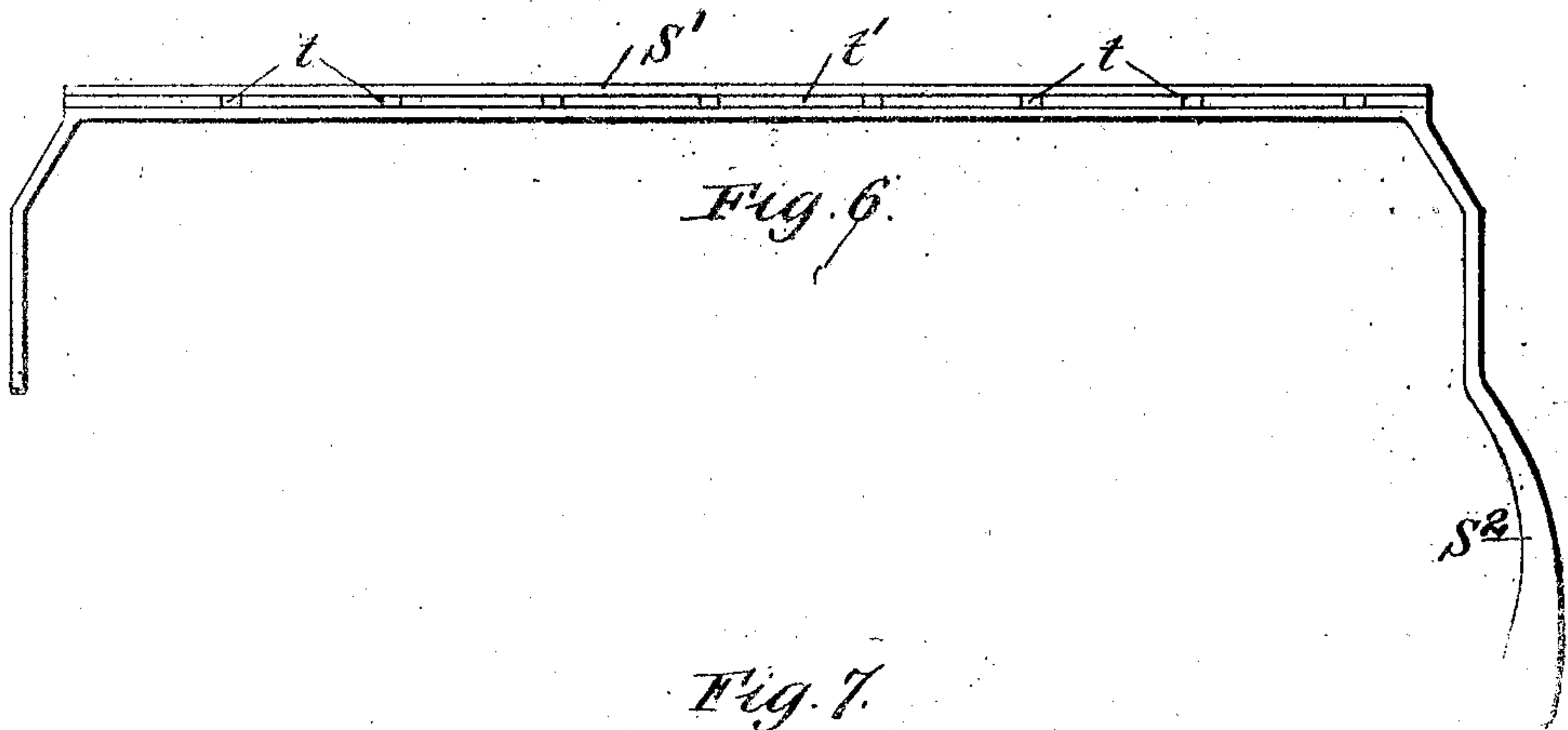
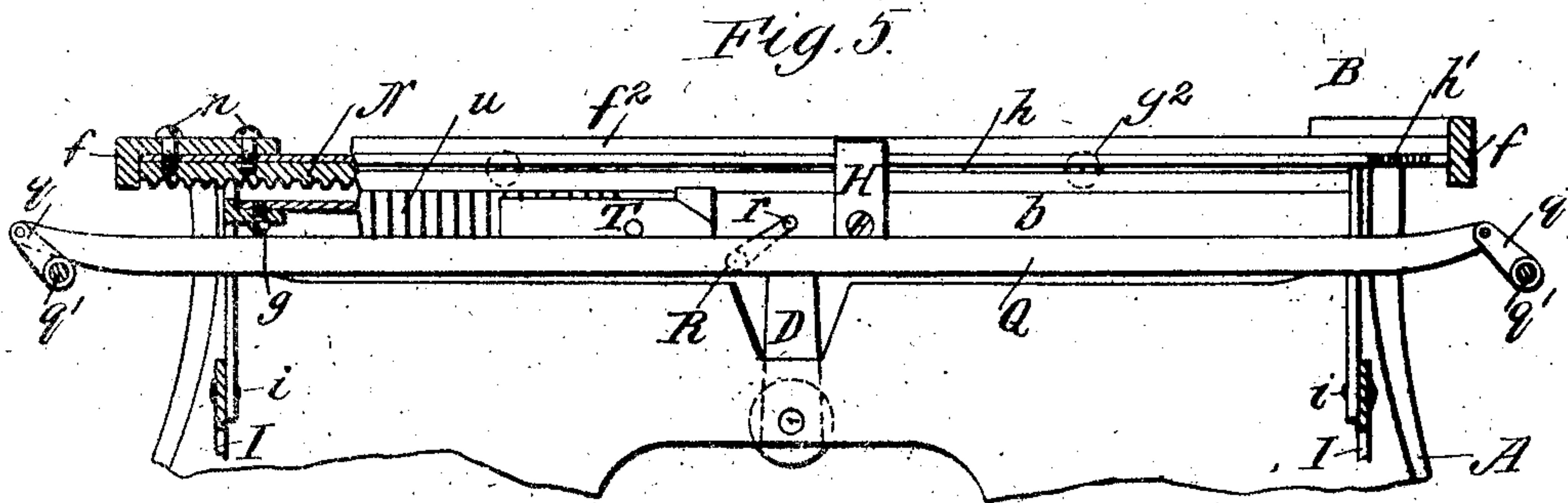
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APPLICATION FILED JULY 5, 1904.

4 SHEETS—SHEET 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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TYPE-WRITING MACHINE.

No. 847,343.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed July 6, 1904. Serial No. 215,248.

To all whom it may concern:

Be it known that I, EMMIT G. LATTA, a citizen of the United States, residing at Friendship, in the county of Allegany and State of New York, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines of that kind in which the type-bars are provided with two sets or cases of type and the platen is normally held in operative relation to one set of type and is shifted into operative relation to the other set, and more particularly to visible-writing machines in which the impressions are made at the front side of the platen, where the writing can be seen without changing the position of the platen or carriage.

While the invention is especially designed for a front-strike machine, and such a machine is hereinafter described, and shown in the drawings, some parts of the invention are also applicable to other forms of machines.

The objects of the invention are to provide a type-writing machine of desirable, inexpensive, and practical construction in which the platen-carriage is wholly supported by a shift-frame, no part of which partakes in the lateral movement of the carriage; to provide a novel carriage shifting and locking mechanism by which greater speed and certainty of action is attained; to so construct and arrange the carriage-shifting mechanism that guides are provided whereby the operator is greatly aided in finding the finger-keys by the so-called "touch" system, and to improve type-writing machines in the particulars hereinafter pointed out, and set forth in the claims.

In the accompanying drawings, consisting of four sheets, Figure 1 is a longitudinal sectional elevation of a type-writing machine embodying the invention, showing by full lines the carriage and shift-frame in its normal printing position and showing by broken lines the shifted position of the parts, and also indicating by broken lines the central type-bar in its two positions and the finger-keys. Fig. 2 is an end elevation of the carriage, shift-frame, and auxiliary feed device detached from the main frame. Fig. 3 is a plan view, partly in horizontal section

and partly broken away, of the parts shown in Fig. 1, the platen being omitted to expose the parts beneath the same. Fig. 4 is a front elevation, partly in section thereof, showing by full and broken lines the two positions of the shift-lever and right-hand thumb-lever. Fig. 5 is a transverse sectional elevation in line 5 5, Fig. 1, showing the carriage-release mechanism. Fig. 6 is a plan view of a modified form of auxiliary feed-bar detached. Fig. 7 is an elevation of one of the interchangeable stop-strips for the auxiliary feed, showing another arrangement of the stop projections. Fig. 8 is a detail rear elevation of the carriage-escapement wheel and associated parts. Fig. 9 is a fragmentary section, on an enlarged scale, showing the carriage-bearing and adjacent parts.

Like letters of reference refer to like parts in the several figures.

A represents the stationary or main frame of the machine, which may be of any known or suitable construction.

B represents a carriage supporting and shifting frame, which is hereinafter termed the "shift-frame." This frame is preferably of rectangular form, consisting of front and rear cross-bars *b b'*, connected by end and intermediate longitudinal bars *b² b³*, respectively, and is pivoted at its rear to the main frame in rear of the platen-carriage to swing vertically. In the construction shown the shift-frame is pivoted on bearing-cones *c*, adjustably secured to the sides of the main frame and entering sockets in the ends of the shift-frame. The latter is held up in its normal position by a suitable spring, such as the leaf-spring *D*, secured to the back of the main frame and bearing at its free front end against the under side of the shift-frame. The latter can be swung downwardly on its pivots, as hereinafter described, against the action of said spring, which acts to return it to the normal position.

E represents the platen, which, as usual, is journaled to rotate on the laterally-movable carriage *F* and is preferably removably seated in open bearings or bearings of some other construction enabling the platen to be readily lifted-off of the carriage. The carriage is mounted on the front portion of and projects forwardly from the shift-frame on which it travels laterally transversely across the ma-

chine, and its location relative to the pivotal axis of the shift-frame is preferably such that said pivotal axis is situated in a horizontal plane midway between the normal and shifted or lowered position of the axis of the platen. The carriage preferably consists of end bars or pieces f , connected by a front cross-rod f' and a rear cross-bar or bearing-bar f^2 , and is slidably connected to the shift-frame by a ball-bearing constructed as follows:

G represents a bearing-bar consisting of a strip of hardened sheet-steel, which is rigidly secured to the upper front portion of the shift-frame by screws g or otherwise and extends from end to end of this frame. It is of the cross-sectional shape shown in Fig. 1, having in its front portion a groove g' , in which a front row or set of balls g^2 bears, and is provided at its rear end with a forwardly and upwardly projecting flange g^3 , which bears on the upper side of a rear row or set of balls g^4 . The rear cross-bar or bearing-bar f^2 of the carriage is also formed of hardened sheet-steel and is of the cross-sectional shape shown in Fig. 1, having a downwardly-facing groove g^5 at its front portion, which bears down on and forms the upper half of the race for the front row of balls, and an upwardly-facing groove g^6 at its rear portion, which bears up against and forms the lower portion of the race for the rear set of balls. The end bars of the shift-frame and carriage are provided with lips g^7 g^8 , respectively, which project toward each other at the ends of the ball-races to prevent the escape of the balls therefrom. The balls are prevented from bunching in the races by suitable stops. (Not shown.) The weight of the platen and carriage causes the bearing-bar f^2 to bear down on the front row of balls and up on the rear row of balls, which are thus held up against the flange g^3 of the bearing-bar G on the shift-frame. The two sets of balls, which are located in substantially the same horizontal plane, form an antifriction-bearing on which the carriage moves with the minimum friction, and as the weight of the carriage always maintains the balls in contact with the bearing-bar G the carriage requires no adjustment to compensate for wear in the bearing. This construction, furthermore, avoids the excessive friction sometimes caused in bearings of this character as usually made by a too-close adjustment of the parts. The shift-frame takes no part in the lateral movement of the carriage, and there is therefore less weight of parts to move laterally, and as the carriage is supported by the shift-frame wholly its movement is as free as if it was supported directly on the main frame and no shift-frame were used. The carriage also moves quicker and a lighter driving-spring can be employed than would be necessary if any part of the shifting device moved with it

or if the carriage moved on the main frame in contact with any part of the shift-frame.

H represents a hook secured to the central front portion of the shift-frame and overhanging a forwardly-projecting lip h on the bearing-bar f^2 of the carriage to prevent the detachment of the latter except when moved to a predetermined position. The lip h is notched near one end—for instance, the right end, at h' , Figs. 3, 4, and 5—and when this notch is brought opposite to the hook H by moving the carriage to the left to its limit the carriage can be raised and detached from the shift-frame without disturbing any of the parts except to disconnect the carriage from its driving spring-barrel, which is not shown, but which may be mounted either on the shift-frame or the main frame. It can be replaced with equal facility. The balls remain in place on the bearing-bar G when the carriage is removed and require no attention in replacing the carriage. The hook H is not in actual contact with the carriage and does not in any wise hinder the free movement of the same. It acts only to prevent the carriage from rebounding when it has been shifted and returned to the normal position and from accidental detachment from the shift-frame.

The shift-frame is provided with a shift-lever which preferably consists of a bail having parallel side arms I, rigidly secured by screws i or otherwise to the ends of the shift-frame and extending downwardly and forwardly beneath the carriage, being connected at their front ends by a cross-bar I' located beneath the lower front portion of the keyboard. i' represents finger-keys which are rigidly secured to the shift-lever at the front ends of its side arms by screws or other means enabling the keys to be readily detached. The shift-frame and carriage are shifted downwardly by depressing either of the finger-keys i' , just as other carriages are shifted; but it will be observed that the keys are rigid on the shift-frame and there are no working parts between the keys and shift-frame.

Improved operating mechanism for the shift-frame is employed, constructed as follows: K K' represent two bell-crank levers which are fulcrumed on pivots k' , secured to the front part of the main frame, and have laterally-projecting arms provided with studs k^2 , bearing on the cross-bar of the shift-lever, and upright arms which project up above the space-key L, adjacent to its ends, and in position to be engaged and moved laterally by the thumbs of the operator, which are ordinarily held over the space-key. The upright arms of the levers are connected by a helical spring k^3 , by which they are held in the position shown by full lines in Fig. 4. M, Fig. 1, represents a detent which is pivoted on a bracket m , removably secured to the front of

the main frame and has an upwardly-projecting arm provided with a hook m' to engage the cross-bar of the shift-lever when in its lower position and a forwardly-projecting arm which is normally held down on the front end of the bracket m by a spring m^2 , secured to the main frame, for instance, between the same and the bracket m . When the shift-lever is depressed to shift the carriage, its cross-bar engages the inclined face m^3 on the upright arm of the detent and pushes it back until the bar passes the hook, when the latter is thrown forward by its spring over the cross-bar and K holds it down. One of the thumb-levers—the right-hand lever in the drawings—has an arm m^4 , projecting beneath the forwardly-projecting arm of the detent M , and which in the normal position of the lever permits the detent to engage the shift-lever when the latter is lowered. In use the operator's thumbs rest against the upright arms of the thumb-levers K K' over the ends of the space-bar L , the thumb-levers forming indicators or guides by which the hands may always be placed in a known position, thus greatly facilitating the so-called "touch" system of writing, as they afford known points from which the operator soon learns the location of the finger-keys and to reach them without looking for them and without removing the thumbs from their place against the thumb-levers.

When it is desired to shift the carriage for a single character, the right-hand thumb-lever K is moved outwardly, thus depressing the shift-lever and at the same time, through its arm m^4 , swinging the detent M out of the path of the cross-bar of the shift-lever to prevent it from engaging and holding said shift-lever down. Preferably both thumb-levers K K' are moved simultaneously, thus dividing the work of shifting the carriage between both thumbs.

In case it is desired to lock the carriage in the shifted position the shift is made with the left-hand thumb-lever K' , which leaves the detent M free to engage and hold the shift-lever, or the same may be accomplished by using both thumb-levers K K' to make the shift, and then releasing the right-hand lever K , while holding the shift-lever down by the other thumb-lever K' , until the detent engages the cross-bar of the shift-lever. When it is desired to release the shift-lever, the right-hand thumb-lever K is moved to trip the detent. These several movements can be made quickly without changing the position of the thumbs and enable the carriage to be shifted, locked, and released with greater speed and ease than heretofore. The thumb-levers are returned to their normal position by their spring k^3 as soon as released and fulfill their function as guides. For those who so prefer the left-hand thumb-lever K' instead of the one K can be made to operate

the locking-detent M , or the locking-detent may be omitted entirely, leaving the thumb-levers with their other described advantages.

In the least expensive form of machine both the thumb-levers and locking-detent M are omitted and the carriage is shifted by the finger-keys i' , fixed to the shift-lever. When the thumb-levers K K' are employed, the shift-keys i' can be, and preferably are, omitted.

The step-by-step movement of the carriage to produce ordinary letter-spacing is effected by an escapement mechanism, a portion of which is shown in Figs. 1, 3, and 7. N represents a toothed rack which is secured to the under side of the bearing-bar f^2 of the carriage between the two rows of bearing-balls by the screws n , which fasten the bearing-bar to the end pieces of the carriage, or in any other suitable manner.

O is an escapement-shaft which is journaled at its ends in the front and rear cross-bars of the shift-frame and is arranged longitudinally of said frame beneath the intermediate bar thereof, which is preferably concaved. The shaft is provided near its front end with a gear-pinion p , which projects through a slot in the bearing-bar G of the shift-frame and meshes with the toothed rack N and is provided at its rear end with an escapement-wheel p' , which is controlled by an escapement mechanism (not shown) to effect the step-by-step movement of the carriage.

p^2 is a dog pivoted on the rear of the main frame and engaging the teeth of the escapement-wheel to hold the latter from rotation. The center of the escapement-wheel and the point at which the dog engages the teeth of the wheel are located in the pivotal axis of the shift-frame, so that the movement of the wheel on the holding-dog in shifting the carriage is so small that it is not an objection and does not interfere with the easy proper action of the escapement in either position of the carriage.

Q represents a carriage-release bar which is arranged in rear of the platen adjacent to and parallel with the front bar of the shift-frame. The release-bar is connected at opposite ends by upturned portions to arms q on the rear ends of shafts q' , journaled in the end bars of the carriage and provided at their front ends with line-space levers q^2 . The arrangement and operation of the line-space levers and connecting carriage-release bar are fully described in my application for United States Letters Patent, Serial No. 208,011, filed May 14, 1904.

R , Fig. 3, is a rock-shaft journaled in suitable bearings in the shift-frame parallel with the escapement-shaft and provided at its front end with a crank-arm having a stud r , situated over the carriage-release bar, and at its rear end with a crank-arm having a stud

4
 5 r^1 , which engages the holding-dog p^2 for the escapement-wheel. The rock-shaft R is held with its rear stud out of contact with the holding-dog p^2 by a spring r^2 , coiled about the shaft and connected thereto and to the shift-frame. When either line-space lever is rocked to turn the platen and feed the paper, the release-bar is lifted and, engaging the front stud of the release-shaft R , oscillates
 10 the latter, so as to move the holding-dog p^2 out of engagement with the escapement-wheel and release the escapement to permit the free movement of the carriage.

The auxiliary feed mechanism for setting
 15 the carriage to different predetermined positions for paragraphing and producing column work is constructed as follows: S represents a feed-bar arranged adjacent to and parallel with the release-bar in rear of the
 20 platen and carried by forwardly-projecting arms s at its ends, which are removably hung to oscillate vertically on the front cross-rod f' of the carriage by hooks s' or otherwise. Both arms preferably project forwardly from
 25 the carriage and are connected to a finger-bar s^2 , which is parallel with the carriage and located just above the rear portion of the keyboard. The arms s of the feed-bar are preferably curved, as shown in Fig. 2, and
 30 bowed outwardly, as shown in Fig. 3, to avoid interference with the type-bars when the carriage is at either end of its run. The feed-bar is normally held down in the position shown in Fig. 1, beneath and out of en-
 35 gagement with the front stud of the release-shaft R , by a suitable spring s^3 , Fig. 2, secured to the carriage and bearing against one arm of the feed-bar. The latter is provided with a number of upwardly-extending stop pro-
 40 jections t to cooperate with a fixed stop T on the shift-frame to arrest the carriage in different positions, determined by the location of the stop projections t and fixed stop T . The stop projections t are preferably formed on a
 45 hardened-steel stop-strip t' , which is removably seated in a groove in the feed-bar, in which it is held from transverse movement by the engagement of pins t^2 , Fig. 9, in a longi-
 50 tudinal groove t^3 in the stop-strip. The stop-strip is slipped endwise into the groove in the feed-bar and is held from endwise movement therein when the feed-bar is in normal position by the engagement of its
 55 ends with the end bars of the carriage.

The operation of the auxiliary feed mechanism is as follows: By partially depressing the finger-bar s^2 the stops t on the feed-bar are raised into line with the fixed stop T , and by further depressing the finger-bar the rear
 60 edge of the feed-bar engages the front stud of the release-shaft R and rocks the same to release the carriage, as before explained. The carriage is then free to move to the left until arrested by the engagement of one of
 65 the stop projections t with the fixed stop T .

Upon releasing the finger-bar the feed-bar S permits the release-shaft to rock far enough to allow the holding-dog p^2 to swing into position to intercept the escapement-wheel before the stop on the feed-bar is free from the
 70 fixed stop T , and upon the complete return of the feed-bar the carriage is again controlled by the regular step-by-step escapement. The stop projections are situated at ten letter-space intervals on the stop-strip or
 75 at other desired intervals, such as to arrest the carriage at the desired points, and the first stop projection is preferably so located as to stop the carriage in correct position for starting a paragraph. Interchangeable
 80 stop-strips provided with differently-spaced stop projections are provided, so that by placing the proper strip on the feed-bar the carriage can be stopped at various desired
 85 points, thus greatly facilitating the production of different kinds of column or tabulated work. A stop-strip t' with a different arrangement of stop projections is shown in Fig. 7. The fixed stop T is also preferably
 90 adjustable on the shift-frame, for which purpose, in the construction shown, it consists of a block having teeth on its rear face, which are held in engagement with cooperating
 95 teeth u on the front bar of the shift-frame by a holding-screw or other releasable securing device u' . By adjusting the fixed stop T along the shift-frame the paragraphing-stop
 100 may be caused to act at any desired point near the left end of the line, and a similar adjustment may be used to vary the situa-
 105 tion of the column-stops in the line. The finger-bar is in a most favorable position to be reached, and it can be operated by downward pressure on any part of its length; but as it moves laterally with the carriage the
 110 operating pressure will ordinarily be applied to that part which happens to be opposite the central part of the keyboard. An important advantage of this construction is that the operator's finger follows the movement of the
 115 finger-bar with the carriage and acts as a brake to prevent, to a great extent, the shocks, strains, and wear, which would be caused by the abrupt stopping of the carriage after moving a long distance.

Fig. 6 shows a modified form of feed-bar S' for the auxiliary feed mechanism, in which the finger-bar is omitted and one of its arms terminates in an operating-lever S^2 . This
 120 bar is interchangeable with the feed-bar S , before described. It is lighter and less expensive, but lacks the advantages of the finger-bar.

By first removing the platen from the carriage the feed-bar, in either form, can be
 125 readily unhooked and lifted off of the carriage, leaving in place only its spring s^3 and the fixed stop T on the shift-frame.

The auxiliary feed device requires but little force to operate it and can be operated

without shifting the carriage, if desired; but by the application of more force to the finger-bar it serves the double function of shifting the carriage and at the same time moving the carriage laterally an irregular distance to a desired position. This action of the finger-bar is due to the fact that it becomes rigid with the carriage and the shift-frame when it has been forced down far enough to be stopped by the engagement of the feed-bar S with the stud on the release-shaft R after having released the carriage from its escapement. By the application of a little more pressure on the finger-bar it overcomes the tension of the carriage-shift spring D and serves to shift the carriage. This is an advantage in paragraphing, as a capital letter or upper-case character is usually required to start the paragraph, and this double function of the feed-bar saves one motion. When the carriage is locked in shifted position and is thus held from vertical movement, the operation of the auxiliary feed device has no effect on the carriage-shift.

I claim as my invention—

1. In a front-strike type-writing machine in which the type strike the front side of the platen, the combination of a laterally-movable carriage, a shift-frame which supports the carriage and is pivoted to the main frame in rear of the carriage to shift the carriage vertically, and a carriage-escapement arranged in part on the shift-frame and in part on the main frame with the operative connection between said parts substantially in the pivotal axis of the shift-frame, substantially as set forth.

2. In a type-writing machine, the combination of a laterally-movable carriage, a shift-frame pivoted to the main frame and supporting the carriage, and a carriage-escapement having one part supported by the main frame and another part supported by the shift-frame, with the working joint between said parts of the escapement on the pivotal axis of the shift-frame, substantially as set forth.

3. In a front-strike type-writing machine in which the type strike the front side of the platen, the combination with a main frame, and a laterally-movable carriage and platen, of a vertically-movable shift-frame for the carriage pivoted to the main frame in rear of the platen, the pivotal axis being on a horizontal plane midway between the upper and lower positions of the axis of the platen, substantially as set forth.

4. In a visible-writing type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a main frame, a laterally-movable platen-carriage, and a shift-frame which entirely supports the carriage and is pivoted to the main frame to swing up and down to place the platen in different printing posi-

tions, said shift-frame being connected to the main frame by separated pivots located in rear of the platen and parallel therewith, substantially as set forth.

5. In a visible-writing type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a main frame, a laterally-movable carriage supporting the platen, a carriage-shift frame which entirely supports the carriage and is pivoted to the main frame in rear of the platen and has an arm rigid therewith projecting forwardly under the carriage, and a device in front of the carriage for operating said arm to swing said shift-frame, substantially as set forth.

6. In a visible-writing type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a main frame, a laterally-movable platen-supporting carriage, and a shift-frame which is of substantially the same length as the carriage and entirely supports said carriage and is pivoted to the main frame to swing up and down to place the platen in different printing positions, said carriage and shift-frame being constructed to allow the carriage to move laterally on the shift-frame beyond the ends thereof, substantially as set forth.

7. In a visible-writing type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a main frame, a laterally-movable platen-supporting carriage, and a shift-frame which entirely supports said carriage and is pivoted to the main frame in rear of the carriage to swing up and down to place the platen in different printing positions, said carriage being movable laterally on the shift-frame in front of the pivotal connection between the shift-frame and the main frame, and said shift-frame and carriage being constructed to allow the carriage to move laterally beyond the ends of said shift-frame, substantially as set forth.

8. In a visible-writing type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a main frame, a laterally-movable carriage, and a shift-frame which is of substantially the same length as the carriage and entirely supports said carriage and is pivoted to the main frame substantially in the horizontal plane of the axis of the platen to swing up and down to place the platen in different printing positions, said carriage and shift-frame being constructed to allow the carriage to move on the shift-frame laterally past the pivotal connection of the shift-frame with the main frame, substantially as set forth.

9. In a type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a laterally-

movable platen-carriage, a main frame, a rigid shift-frame provided with a carriage-supporting track along its front side, the shift-frame being pivotally connected to the main frame by two pivots at its rear, and an escapement-wheel supported on the shift-frame between the pivots thereof, substantially as set forth.

10. In a type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a laterally-movable platen-carriage, a main frame, and a rigid rectangular shift-frame pivoted at its rear portion to the main frame to swing up and down, and a track which entirely supports the carriage and is located wholly in front of said pivotal connection, substantially as set forth.

11. In a type-writing machine in which the type-bars swing upwardly and rearwardly to the platen, the combination of a laterally-movable platen-carriage, a main frame, a rigid rectangular shift-frame having a supporting-track for the carriage along its front, and a pair of separate independently-adjustable pivots connecting the rear of the shift-frame to the main frame, substantially as set forth.

12. In a type-writing machine, the combination with the keyboard, the type-bars, a platen, and a space key or bar, of a device which is located in the front central portion of the keyboard and projects upwardly above the space-bar and is normally held stationary to form a thumb rest or guide but which is movable sidewise of the machine, and means operated by the sidewise movement of said device for changing the printing relation of the platen and type-bars, substantially as set forth.

13. In a type-writing machine, the combination of the type-bars, a platen, a keyboard, a space bar or key in the front part of the keyboard, pivoted thumb rests or guides adjacent to and independent of the space-key on opposite sides of and near the front center of the keyboard, and means operated by said thumb-guides for changing the printing relation of the platen and type-bars, substantially as set forth.

14. In a type-writing machine, the combination of a keyboard, a space bar or key in the front part of the keyboard, pivoted upright thumb-guides adjacent to said space bar or key and independent thereof, and means independent of the space bar or key operated by said thumb-guides for actuating

an operative part of the machine, substantially as set forth.

15. In a type-writing machine, the combination with type-bars, a platen, a keyboard, and a space key or bar, of a thumb-rest arranged adjacent to the space-key and movable sidewise of the machine, and mechanism operated by said thumb-rest to change the printing relation of the type-bars and platen, substantially as set forth.

16. In a type-writing machine, the combination with pivoted type-bars, a platen, a keyboard, and a space key or bar, of a pair of opposable thumb-rests arranged at the front of the keyboard and movable in opposite directions, and mechanism by which the printing relation of the type-bars and platen is changed by the movement of either or both of said thumb-rests, substantially as set forth.

17. In a type-writing machine, the combination with a shiftable carriage, and a keyboard, of a lever having an upright arm arranged at the front portion of the keyboard and forming a thumb rest or guide, said arm being movable sidewise of the machine, and mechanism operated by said lever for shifting the carriage, substantially as set forth.

18. In a type-writing machine, the combination with a shiftable carriage, and an automatic detent for holding the carriage in shifted position, of a pair of levers having upwardly-extending laterally-movable arms located at the front central portion of the keyboard, and means controlled by said levers and operating to shift the carriage and prevent action of the detent when said levers are moved in concert and to shift the carriage and permit the detent to act when one lever is released prior to the other, substantially as set forth.

19. In a type-writing machine, the combination with a shiftable carriage, and an automatic detent for holding the carriage in shifted position, of a pair of levers having upwardly-extending laterally-movable arms located at the front central portion of the keyboard, means actuated by both of said levers for shifting the carriage, and means actuated by one of said levers for controlling the action of said detent, substantially as set forth.

Witness my hand this 25th day of June, 1904.

EMMIT G. LATTA.

Witnesses:

CHAS. J. RICE,

H. L. BLOSSOM.