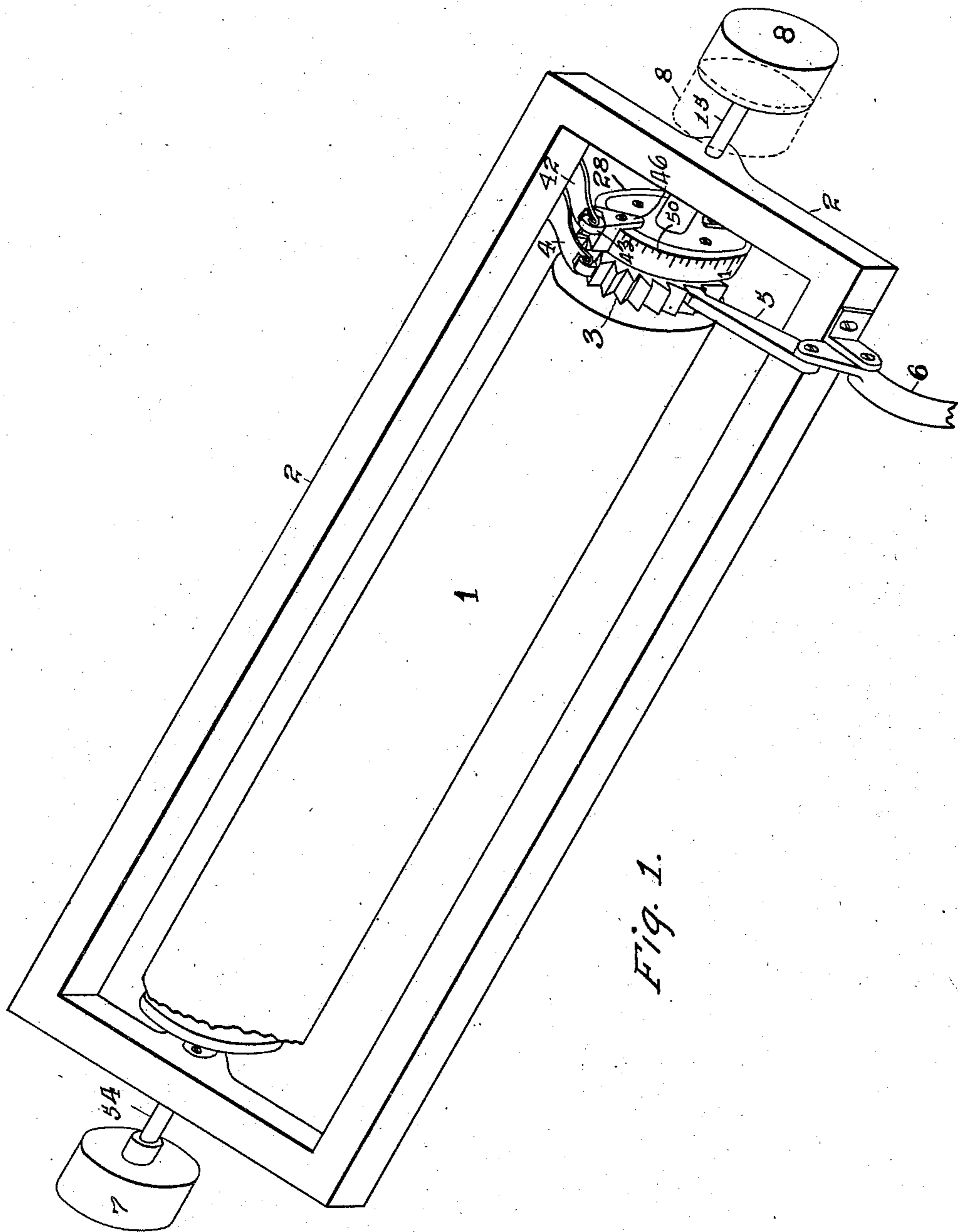


No. 843,085.

PATENTED FEB. 5, 1907.

A. W. HEWITT.
TYPE WRITING MACHINE.
APPLICATION FILED APR. 19, 1906.

3 SHEETS—SHEET 1.



Witnesses
John C. Kopf
Hittie Frankfurt.

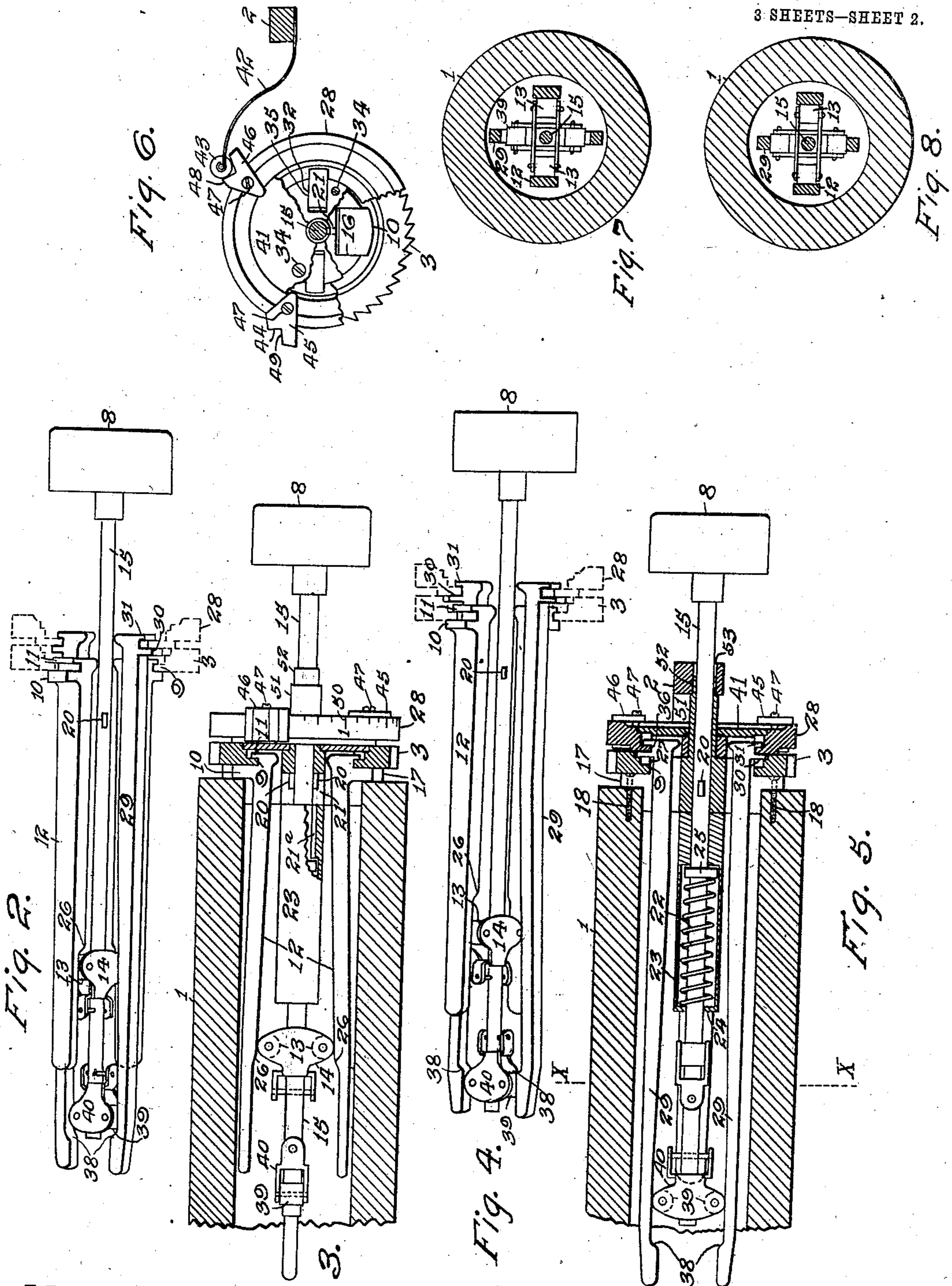
Inventor
Allan H Newitt
By his Attorney O. Stickney

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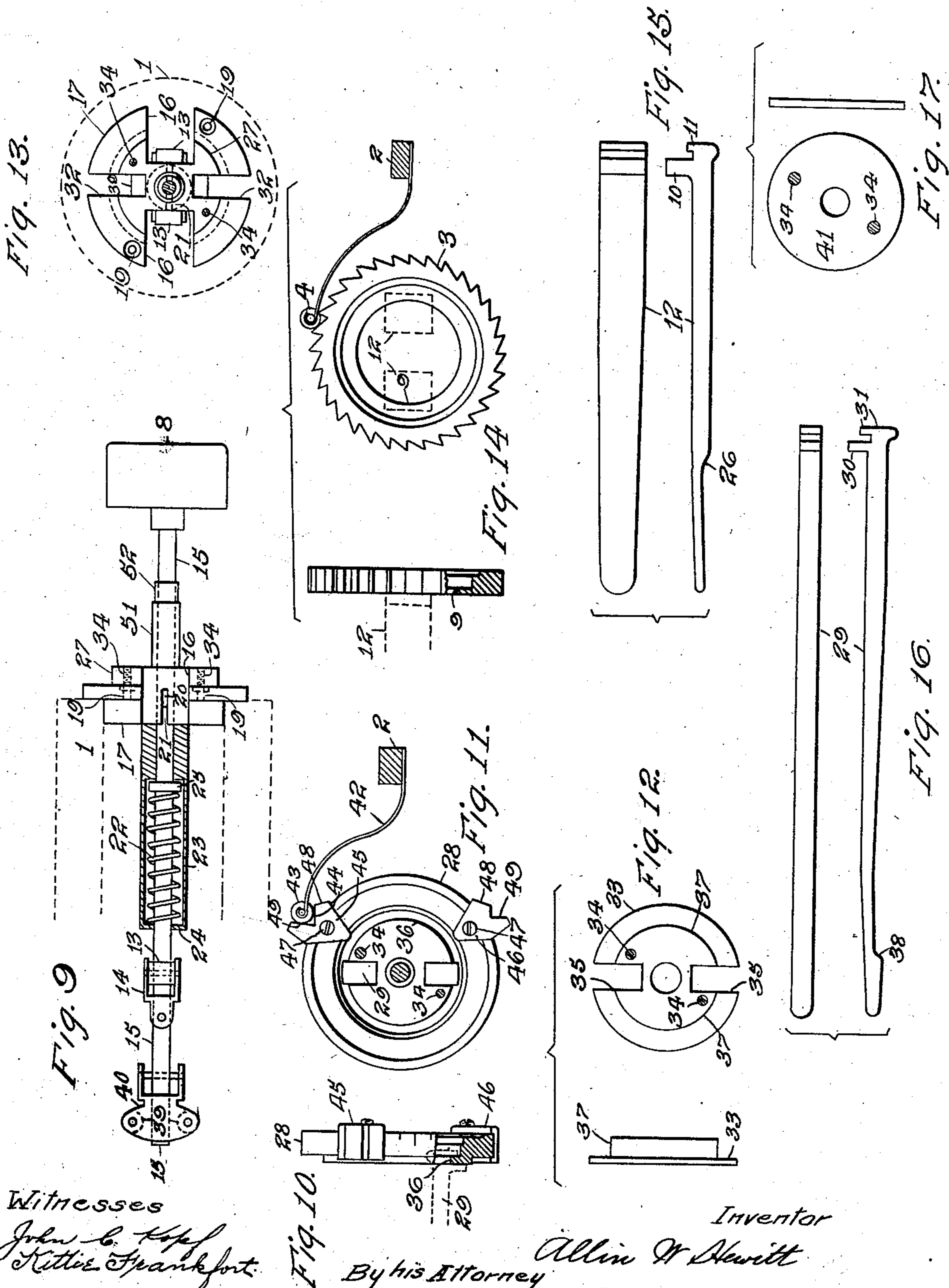
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3 SHEETS—SHEET 3.



Witnesses
John C. Kopf
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Fig. 10.
By his Attorney

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UNITED STATES PATENT OFFICE.

ALLIN W. HEWITT, OF BOGOTA, NEW JERSEY, ASSIGNOR TO UNDERWOOD
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NEW JERSEY.

TYPE-WRITING MACHINE.

No. 843,085.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed April 19, 1906. Serial No. 312,582.

To all whom it may concern:

Be it known that I, ALLIN W. HEWITT, a citizen of the United States, residing in Bogota, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to means for controlling the extent of rotation of the platens of type-writing machines, especially where it is desired to determine readily how far to rotate the platen backwardly to receive successive bills or other papers in proper relation to a single record-sheet retained on the platen and how far to rotate the platen forwardly before beginning the writing.

The improvements are illustrated in connection with a stop-wheel, which is normally silent during the rotation of the platen and intended to be connected with the platen at will, so as to limit the backward and forward rotation thereof.

One of the objects of my invention is to provide compact, simple, efficient, and easily understood and operated means for connecting the stop-wheel at will to the platen.

Another object is to render the rotation of the platen easy and noiseless when being turned backwardly and forwardly for the insertion and feeding of fresh bills or sheets.

In carrying out certain features of my invention I contrive to release the platen from the control of its usual line-spacing wheel at the same time that I connect the platen to the stop-wheel, both results being obtained by a single endwise movement of the finger-piece which originally rotates the platen. Preferably the releasing of the platen is effected by the first part and the connection of the platen to the stop-wheel by the last part of the endwise movement of the finger-wheel, the mechanism being so constructed that when the finger-wheel is pressed in for a small part of the full stroke the platen is released from the line-space wheel without being connected to the stop-wheel, whereby the operator can make fine adjustments of the platen independently of either wheel for the purpose of writing upon ruled paper, making corrections, &c.

In the preferred form of the invention I

provide a clutch between the line-space wheel and the platen and another clutch between the stop-wheel and the platen and mount the finger-wheel upon a central rod which passes within the platen and controls both clutches. Each of the clutches preferably consists of a pair of oppositely-placed bars each having jaws to bite the flange upon the wheel, the action of the bar being analogous to that of a wrench, so that the clutches are highly efficient.

In the form of the invention shown herein the stop-wheel is provided with a pair of relatively adjustable stops, and a yielding detent is mounted upon the platen-frame to engage the stops, each of the latter having a tooth inclined so that the detent may ride thereover, and each stop also having an abrupt tooth, which by abutting against the detent definitely arrests the rotation of the platen, so that the latter can play only within certain limits when under the control of the stop-wheel.

In the accompanying drawings, Figure 1 is a perspective view of a platen-frame and platen having the improvements applied thereto, the stop-wheel being shown out of use and the hand-wheel being seen in full lines in normal position and in dotted lines in the position to which it is pressed in by the operator in order to disconnect the platen from the line-space wheel and connect it to the stop-wheel. Fig. 2 shows the clutch mechanism in midway or idle position, whereby the platen is disconnected from both line-space wheel and stop-wheel in order to effect fine adjustments of the platen. Fig. 3 is a sectional view taken longitudinally of the platen and illustrating parts in normal positions with the platen clutched to the line-space wheel. Fig. 4 is a view similar to Fig. 2, but showing the clutch mechanism operated to connect the platen to the stop-wheel. Fig. 5 is a sectional view similar to Fig. 3, but taken on a plane at right angles to the plane of section of Fig. 3, so as to illustrate more clearly the normal silent clutch, which is used to connect the platen with the stop-wheel. Fig. 6 is an end view of the platen mechanism, showing the central clutch-releasing rod in section and showing one of the adjustable stops engaged by its spring-detent. Figs. 7 and 8 are cross-sections taken

at about the line X X of Fig. 5 and showing two pairs of clutch-bars in section. Fig. 7 shows the stop-wheel clutch in operative position, as at Fig. 4, while Fig. 8 shows both
 5 clutches out of use, as at Fig. 2. Fig. 9 shows the platen-head and the manner of supporting the central rod thereon, the parts being seen in normal position. Fig. 10 is an edge view, partly in section, and Fig. 11 is
 10 a side elevation, of the stop-wheel. Fig. 12 shows edge and face views of a cap used for retaining the line-space-wheel clutch against displacement. Fig. 13 is a side elevation of the platen-head seen at Fig. 9, showing the
 15 central rod in cross-section. Fig. 14 shows edge and side views of the line-space wheel. Fig. 15 gives face and edge views of one of the line-space-wheel-clutch members. Fig. 16 gives similar views of one of the stop-
 20 wheel-clutch members. Fig. 17 is a face and edge view of an outer cap.

The cylindrical platen 1 is journaled in a platen-frame 2 and has a notched line-space wheel 3, controlled by a yielding detent 4
 25 and actuated by a pawl 5 and lever 6 to rotate the platen line by line, said pawl and lever usually provided with means for effecting a variable throw, so as to secure different line-spacing. The platen may be rotated at
 30 any time in either direction by means of hand-wheels 7 and 8.

The line-space wheel 3, which is mounted at one end of the platen and concentrically therewith, has a thin flange 9, with which en-
 35 gage jaws 10 and 11 of each of a pair of opposite similar clutch-bars 12, which extend within the platen. Normally these bars are pressed apart by means of rolls 13, carried upon a bracket 14, which is fixed upon a rod
 40 15, extending axially or centrally of the platen. Each bar, with its jaws, constitutes a wrench, the jaws fitting closely over the flange and biting the same powerfully when the bars are pressed apart, Fig. 3, so that
 45 the bars and the line-space wheel must rotate together about the platen-axis. The bars fit closely within opposite radial recesses 16, formed in a metal head 17, which is fixed to the platen by screws 18, passing
 50 through holes 19 in said head. The clutch-bars hence rotate always with the platen and serve to lock the latter to the line-space wheel when the parts are as seen at Fig. 3, so that the line-space wheel and platen must
 55 rotate together. The outer jaw 11 and each clutch-bar may be shorter than the inner jaw 10, as shown, thus giving the jaws a powerful grip. The clutch members may be released by pressing the hand-wheel 8 to the left,
 60 since said hand-wheel is fixed upon the central rod 15 and is capable of moving the bracket 14, with its rolls 13, to the idle position seen at Fig. 2. When the parts are in this position, the platen may be turned to
 65 any extent for fine line adjustments, &c.

The hand-wheel 8 may still be employed for rotating the platen, because it has a spline 20 engaging a longitudinal slot 21, formed in the platen-head 17, thereby always giving
 70 the hand-wheel 8 control of the rotation of the platen. Upon releasing the hand-wheel it is returned to normal position, together with its rod or stem 15, or by means of a compression-spring 22. The latter is coiled
 75 about the rod 15 and is carried in a cylindrical housing 23. One end of the spring bears against the bottom 24 of the housing, while the other end bears against a collar 25, fixed upon the rod 15. The bars 12 have
 80 cams 26, which are engaged by the rolls 13 during the return or outward movement of the rod 15, thereby forcing the clutch-bars apart, the spring 22 having sufficient strength for this purpose. The flange 9 of the line-
 85 space wheel has a turning fit upon a boss 27, formed upon the platen-head 17, Fig. 13.

Preferably concentric with the platen and alongside of the line-space wheel is a stop-wheel 28, which is normally silent or motionless during the rotation of the platen and is
 90 brought into use only when it is desired to rotate the platen backward and forward for considerable distance and to arrest the platen at a predetermined point in its rotation in each direction. For this purpose the wheel carries
 95 suitable stops, which will presently be described. It is provided with a clutch mechanism corresponding generally to that which has already been described in connection with the line-space wheel. Said clutch mechanism
 100 comprises a pair of clutch-bars 29, having jaws 30 and 31. These bars are fitted in opposite radial slots 32, formed in the platen-head 17 at right angles to the slots 16. It will also be seen that a cap 33 is secured by
 105 screws 34 to the platen-head 17 for retaining the clutch-bars 12. Said cap 33 is formed with opposite radial slots 35, coincident with the slots 32 in the platen-head. The jaws 30
 110 31 engage an interior flange 36, formed upon the stop-wheel 28 and having a turning fit upon a boss 37, formed exteriorly upon the cap 33. The clutch-bars 29 always turn with the platen, but are normally silent, so that the
 115 stop-wheel does not turn, Figs. 5 and 8. When, however, the hand-wheel 8 is pressed in beyond the Fig. 2 position, a pair of cams 38, formed upon the bars 29, are engaged by rolls 39, carried upon a bracket 40, fixed to the central rod 15, whereby the bars 29 are
 120 cammed apart, causing the jaws 30 31 to bite the flange 36 of the stop-wheel, so that the latter is forced to rotate with the platen, Figs. 4 and 7. The stop-wheel is retained by a cap 41, which is secured to the platen-head 17 by
 125 means of the screws 34, the latter passing through both caps and threaded into said platen-head, Fig. 13, and while the stop is active the line-space wheel 3 is silent, its
 130 clutch-bar 12 being released, as seen at Fig. 3.

Thus it will be seen that normally the hand-wheel 8 may be used for turning the platen and line-space wheel 3 in the usual manner, while the stop-wheel 28 remains silent, and that by pressing said hand-wheel to the left for a short distance the platen may be turned independently of both line-space wheel and stop-wheel, while when the hand-wheel is pressed to the left as far as it will go the platen and stop-wheel 28 are locked together, so that the platen when turned backward and forward may be arrested by the stops on said wheel and that at all times the platen may be rotated by said hand-wheel 8. Upon releasing the hand-wheel the platen becomes automatically reconnected to the line-space wheel and disconnected from the stop-wheel.

It will be understood that the stop-wheel 28 may be of any desired construction and provided with any suitable stop or stops to cooperate with one or more stops upon the platen-frame. I illustrate, however, a novel form of stop on said wheel which is applicable to other forms of mechanism of this character. I preferably provide upon the platen-frame a yielding detent or stop comprising a spring-arm 42, carrying a roll 43, adapted to fit in a V-notch 44, formed in each of a pair of stops 45 46, fitted upon the periphery of the stop-wheel 28 and each adjustable around said wheel and secured by any suitable means, as a screw 47. Each stop has a sloping or cam surface 48, over which the wheel 43 will ride during the rotation of the wheel, the spring 42 being sufficiently yielding for this purpose; but each stop also includes an abrupt surface or abutment 49, which positively arrests the platen, or at least offers such resistance that it will not be overcome by the usual rotative pressure applied to the platen by the operator, so that for practical purposes the platen is brought to rest when rotating backward and forward by the abrupt faces or teeth 49. It will be understood that the engagement of the yielding detent 43 with the notches 44 prevents accidental rotation of the platen, while the platen may be easily turned in one direction to force the detent out of the notches. Each stop 45 and 46 is forked to fit over the periphery of the stop-wheel, so that turning the screw 47 may clamp the stop to the wheel.

The periphery of the stop-wheel is preferably provided with a scale 50, whereby to set the stops, and this scale may, if desired, be graduated in sixteenths of an inch, as illustrated, whereas the first line of writing may be brought accurately to any desired point on the page.

It will be seen at Fig. 9 that the housing 23 is rigidly secured to the platen-head 17 and at Fig. 3 that it has a longitudinal slot 21^a, in which the double spline 20 plays. Fixed upon the outer side of the platen-head is a sleeve 51, having a reduced portion or

gudgeon 52, which turns in a bearing 53, Fig. 5, formed in the platen-frame 2. The central rod 15 passes through the sleeve 51. The hand-wheel 7 is secured upon a stem 54, which serves as a bearing or axle for the other end of the platen.

Variations may be resorted to within the scope of the invention, and portions of the improvement may be used without others.

Having thus described my invention, I claim—

1. In a type-writing machine, the combination with a revoluble platen and a line-space wheel therefor, and a detent for said line-space wheel, of means for releasing the platen from the control of said detent, and a stop adjustable to predetermine the extent to which the platen can be rotated when so released; said stop normally ineffective to arrest the platen, but connected to said releasing means to be rendered effective thereby.

2. In a type-writing machine, the combination with a revoluble platen and a line-space wheel therefor, and a detent for said line-space wheel, of means for releasing the platen from the control of said detent, and stops for limiting the forward and backward movements of the platen when so released; said stops normally ineffective to arrest the platen, but connected to said releasing means to be rendered effective thereby.

3. In a type-writing machine, the combination with a revoluble platen and a line-space wheel, of means for releasing the platen from the line-space wheel, and stops for limiting the backward and forward strokes of the platen when so released; said stops normally ineffective to arrest the platen, but connected to said releasing means to be rendered effective thereby.

4. In a type-writing machine, the combination with a revoluble platen and a line-space wheel, of a stop-carrying member which is normally stationary during the revolution of the platen, and means for disconnecting the platen from the line-space wheel and connecting it to said stop-carrying member so that the latter rotates with the platen, and a fixed stop to cooperate with said stop-carrying member.

5. In a type-writing machine, the combination with a revoluble platen, of a stop-carrying member normally disconnected from said platen, a line-space wheel for the platen, a detent for said line-space wheel, and means for connecting the stop-carrying member to the platen and releasing the platen from the control of said detent.

6. In a type-writing machine, the combination with a revoluble platen, of a stop-carrying member normally stationary during the rotation of the platen, a line-space wheel and detent for the platen, a finger-piece, a clutch operable by said finger-piece for connecting said stop-carrying member to the platen and

means also controlled by said finger-piece for releasing the platen from the control of said line-space wheel and detent.

7. In a type-writing machine, the combination with a revoluble platen, of a wheel rotatable with the platen, stops upon said wheel and relatively adjustable around the wheel, and a yielding detent to engage said stops.

8. In a type-writing machine, the combination with a revoluble platen, of a wheel rotatable with the platen, stops upon said wheel and relatively adjustable around the wheel, and a yielding detent to engage said stops, said stop-carrying member being normally stationary during the rotation of the platen, and means being provided for connecting the platen to said stop-carrying member, at will.

9. In a type-writing machine, the combination with a revoluble platen, of a wheel rotatable with the platen, stops upon said wheel and relatively adjustable around the wheel, and a yielding detent to engage said stops, said stop-carrying member being normally stationary during the rotation of the platen, and means being provided for connecting the platen to said stop-carrying member, at will, said relatively adjustable stops having inclined teeth to enable them to overcome the restraint of said detent when force is supplied to the wheel to rotate the same.

10. In a type-writing machine, the combination with a platen and a line-space wheel, of a stop-carrying wheel, a clutch to connect the platen to the line-space wheel, a second clutch to connect the platen to the stop-carrying wheel, and a single finger-piece having means to control both of said clutches.

11. In a type-writing machine, the combination with a revoluble platen, a line-space wheel and a stop-carrying wheel, of means for either connecting the platen in alternation to the line-space wheel, and stop-carrying wheel, or releasing said platen from both wheels, at will.

12. In a type-writing machine, the combination with a revoluble platen, of a plurality of yielding detents, wheels controlled by said detents for governing the line-space movements of the platen and means for bringing either detent and wheel into action and simultaneously silencing the other wheel and detent.

13. In a type-writing machine, the combination with a revoluble platen, of a plurality of independently-operable wheels having means for governing the line-space movements of the platen, and means for either silencing both wheels or bringing either wheel into action and simultaneously silencing the other wheel, at will.

14. In a type-writing machine, the combination with a platen and a line-space wheel, of a stop-carrying wheel, a clutch to connect the platen to the line-space wheel, a second clutch to connect the platen to the stop-carry-

ing wheel, and a single finger-piece having means to control both of said clutches; the construction and arrangement being such that both clutches may be out of use simultaneously, so as to permit the revolution of the platen independently of both wheels.

15. In a type-writing machine, the combination with a revoluble platen, of a wheel normally disconnected from the platen, relatively adjustable stop-teeth mounted upon said wheel, a yielding detent to engage said stop-teeth, the latter being inclined so as to be capable of forcing said detent aside, and means for connecting said wheel to the platen, at will.

16. In a type-writing machine, the combination with a revoluble platen, of a wheel normally disconnected from the platen, relatively adjustable stop-teeth mounted upon said wheel, a yielding detent to engage said stop-teeth, the latter being inclined so as to be capable of forcing said detent aside, and means for connecting said wheel to the platen, at will; said detent being constructed to cooperate with each of said stops to restrain the platen against rotation in either direction.

17. In a type-writing machine, the combination with a revoluble platen, of a wheel normally disconnected from the platen, relatively adjustable stop-teeth, mounted upon said wheel, a yielding detent to engage said stop-teeth, the latter being inclined so as to be capable of forcing said detent aside, and means for connecting said wheel to the platen, at will; said detent being constructed to cooperate with each of said stops to restrain the platen against rotation in either direction; one of said stops having an abrupt abutment to prevent further rotation of the platen in backward direction, and the other of said stops having an abrupt abutment to prevent further rotation of said platen in forward direction.

18. In a type-writing machine, the combination with a platen having a head, and a line-space wheel having a flange, of a pair of clutch members supported in said head and comprising bars extending within the platen, and jaws to grip said flange, a rod carrying a hand-wheel and passing axially within the platen, a spring holding said rod in normal position, means carried by said rod and normally pressing said bars so as to cause the jaws to bite the flange; a stop-carrying wheel having a flange, a second pair of clutch members also supported in said head and comprising bars extending within the platen, and having jaws to grip the last-mentioned flange, and means also carried by said rod, and normally out of action, for pressing the last-mentioned bars, so as to cause their jaws to bite the flange of the stop-carrying wheel.

19. In a type-writing machine, the combination with a platen having a head in which

are formed opposite radial slots, of a line-space wheel having an interior flange, a pair of bars fitted in said slots and extending within the platen and having at their outer ends each a pair of jaws to bite said flange, the inner jaw being longer than the outer jaw, and said bars having cams provided upon their inner end, a rod passing through said head, a tubular support extending inwardly from said head and guiding said rod, a spring surrounding said rod within said tube for holding said rod in normal endwise position, rolls on opposite sides of said rod to engage said cams upon said bars, and normally separating the bars, and thereby causing the jaws to bite the flange, and a hollow journal projecting outwardly from said head; said rod extending outwardly from said hollow journal, and provided with a finger-wheel; said head having a projecting circular bearing upon which said flange has a turning fit, and said slots extending through said bearing, a cap upon said head for retaining the line-space wheel, a stop-carrying wheel having a flange and also turning upon said head, a second pair of clutch-bars also supported in said head and extending through said cap, and having jaws to grip the last-mentioned flange, means also carried by said rod and normally out of action, for pressing the last-mentioned clutching-bars so as to cause their jaws to bite the last-mentioned flange, a cap secured upon said stop-carrying wheel, a platen-frame in which said journal has a bearing, and yielding detents upon said platen-frame one for each of said wheels.

20. In a type-writing machine, the combination with a platen, of a finger-wheel normally capable of rotating the platen, a line-space wheel and detent, means for enabling the finger-wheel to release the platen from said line-space wheel and detent, and means connectible to the platen by said hand-wheel for adjustably limiting the forward and backward rotations of the platen.

21. In a type-writing machine, the combination with a line-space wheel having a detent, of a platen, means for causing the platen either to rotate together with the line-space wheel or to rotate in either forward or backward direction independently of the line-space wheel while the latter is stationary, and stops for limiting both the backward and forward rotations of the platen which are effected independently of said line-space wheel.

22. In a type-writing machine, the combination with a line-space wheel having a detent, of a platen, a finger-piece, means controlled by said finger-piece for causing the platen either to rotate together with the line-space wheel or to rotate in either forward or backward direction independently of the line-space wheel while the latter is stationary, and relatively adjustable stops for limiting both the backward and forward rotations of the platen effected by said finger-piece independently of said line-space wheel.

23. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, a normally ineffective stop, and a finger-piece having means to release the platen from the control of said detent and concomitantly render said stop effective to predetermine the extent to which the platen can be rotated.

24. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, normally ineffective stops, and a finger-piece having means to release the platen from the control of said detent and concomitantly render said stops effective to predetermine the extent to which the platen can be rotated in backward and forward directions.

25. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, normally ineffective stops, and a finger-piece having means to release the platen from the control of said line-space wheel and concomitantly render said stops effective to predetermine the extent to which the platen can be rotated in backward and forward directions.

26. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, relatively adjustable but normally ineffective stops, and a finger-piece having means to release the platen from the control of said line-space wheel and concomitantly render said stops effective to predetermine the extent to which the platen can be rotated in backward and forward directions.

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