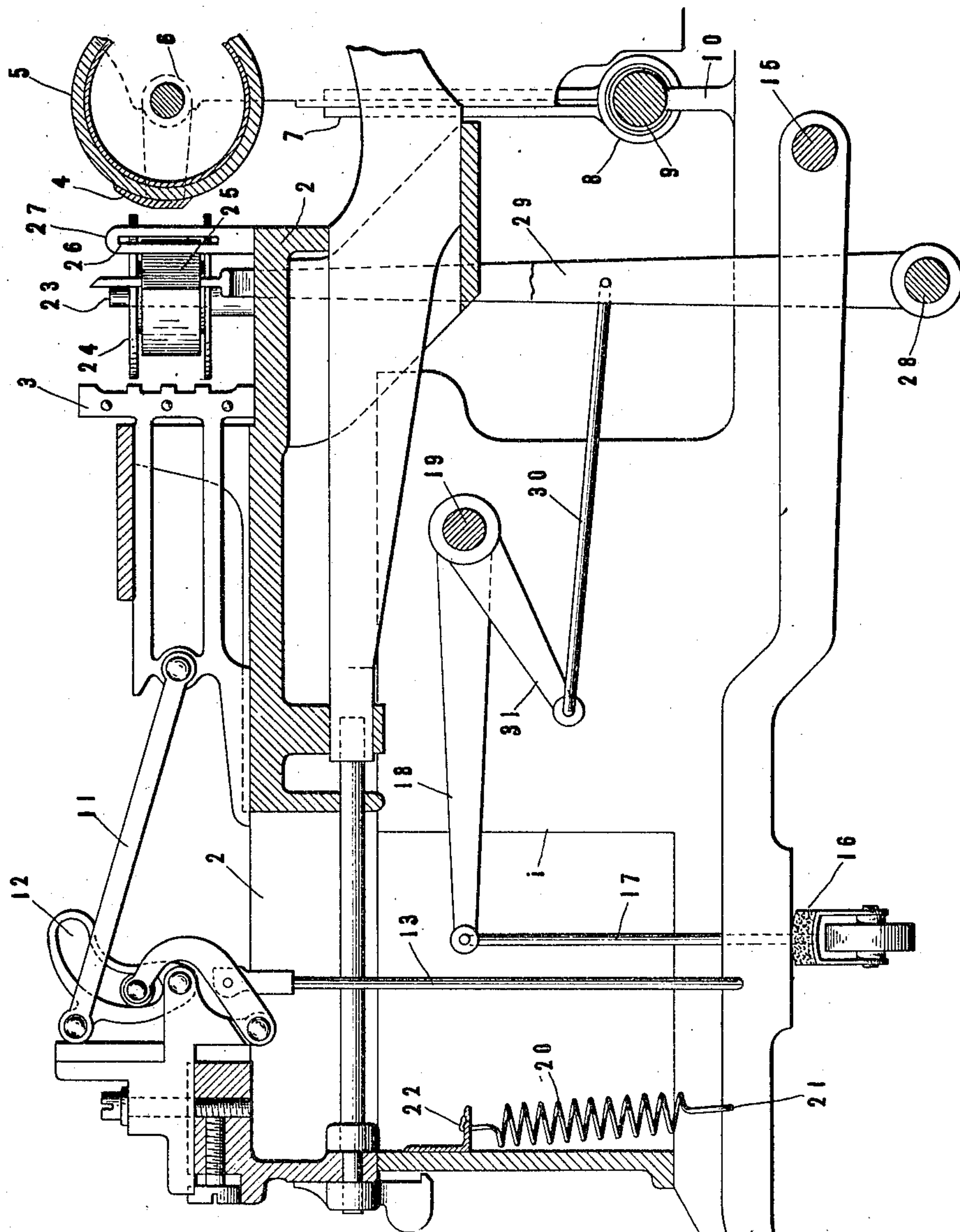


No. 871,344.

PATENTED NOV. 19, 1907.

W. P. KIDDER.
TYPE WRITING MACHINE.
APPLICATION FILED APR. 25, 1906.

2 SHEETS--SHEET 1.



— 100 —

WITNESSES:

J. Edgar & Son.
Oxford St.



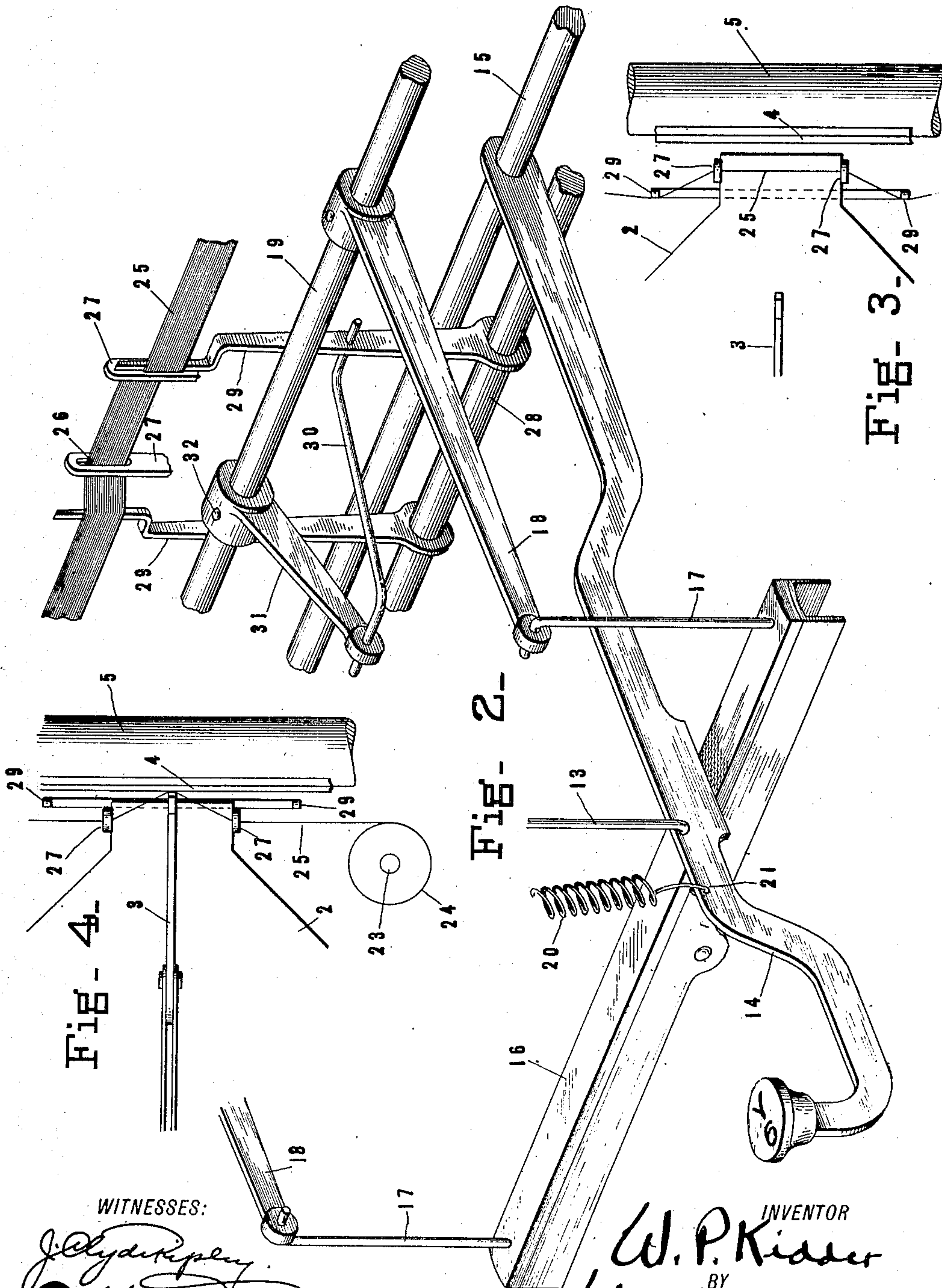
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BY
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WELLINGTON PARKER KIDDER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO PARKER MACHINE COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 871,344.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed April 25, 1906. Serial No. 313,529.

To all whom it may concern:

Be it known that I, WELLINGTON PARKER KIDDER, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is directed to typewriting machines, and has special relation to that class of machines in which the writing is effected in view of the operator.

One of the objects of the invention is to provide a construction whereby a clear and unobstructed view of the writing may at all times be had.

Another object is to provide means for supporting and guiding that portion of the ribbon being drawn across the printing point of such construction that while the ribbon is normally removed from and discloses the printing point, the type-carrying members are not opposed thereby when projected to carry the same against the platen.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is shown one of the various possible embodiments of my invention, Figure 1 is a transverse view taken through one form of typewriting machine, showing my invention applied thereto; Fig. 2 is a view in perspective showing certain features thereof; Figs. 3 and 4 are views showing diagrammatically the positions assumed by certain of the parts during the operation of the machine.

Similar reference characters refer to similar parts throughout the several views of the drawings.

One of the chief obstacles in the way of complete visibility of the writing in machines of the front or top strike type as hitherto constructed resides in the difficulty of carrying the ribbon clear of the platen to uncover

the writing when the same has been pressed thereagainst by the types.

It is the aim of my invention, which I shall presently explain in detail, to eliminate the above difficulty and attain other desirable ends by providing a construction wherein the ribbon is normally held away from the printing point in a relatively taut condition, but that portion thereof adjacent the printing point is automatically slackened when the type bars are progressing towards the platen so as not to impede their movements, such slack being taken up and the ribbon carried from the platen during the returning of the type bars to their normal positions. The above and other advantages are secured in constructions of the nature of that hereinafter described.

Referring now to the drawings, wherein I have shown my invention applied to a noiselessly operating typewriter, the framework of the machine is designated by 1, and carries in its upper portion a table or bed 2 upon which the type-carrying members rest and across which they are adapted to be projected when operated for printing. But one of the type-carrying members 3 is shown herein, but it will be understood that said members are grouped upon bed 2 in such manner as to be thrust against a common point upon the platen, which is shown in the present instance as constituted by a bar or plate 4 having a plane impression surface to receive the impact of the types and a curved rear surface which fits about the similarly shaped periphery of the paper roll 5, journaled at either end in the platen frame 6.

The platen frame is mounted to be shifted vertically in ways 7 provided in uprights carried by a yoke 8 mounted upon a bar 9, upon which said platen frame slides when fed for letter spacing. This bar is supported upon suitable standards 10 erected upon the framing of the machine. Each of the type-carrying members is connected as by means of a link 11 with toggle mechanism 12, adapted to be actuated through a link 13 connected with a key lever 14, which is journaled upon a fulcrum rod 15 extending horizontally transversely of the machine and fastened in the end walls thereof.

The key levers rest upon the universal bail

16, suspended by means of links 17 from rocker-arms 18 extending from a universal rock-shaft 19 journaled in the end walls of the machine, and each of the key levers is normally maintained in its uppermost position by means of a retractile spring 20 connected therewith at 21, and is also suitably connected with the framing of the machine as at 22.

The above-described mechanism comprises no part of my present invention, certain features thereof being shown, described and claimed in an application of Charles W. Sponsel, Serial No. 274,650, filed August 18, 1905, and in my application, Serial No. 298,592, filed January 30, 1906, but is shown herein in order to render the structural features of my invention clearer of understanding.

Journalled upon suitably-driven upright shafts 23 arranged at either end of the machine are spools 24 upon which is wound an inking ribbon 25, the ribbon being adapted to be drawn by said spools back and forth longitudinally of the platen and across the printing point thereof. That part of the ribbon adjacent the printing point is threaded through slots 26 provided in a pair of guides 27 erected upon bed 2, said guides operating to guide the ribbon across the printing point, and are arranged at such distance from the platen that the ribbon when extended therebetween will not obstruct a view of the writing.

Mounted upon a rod 28 journaled in the end walls of the framing of the machine are a pair of swinging arms 29 which extend upwardly therefrom, said arms being spaced apart a distance slightly greater than the distance between guides 27, the upper extremities thereof being adapted normally to engage the inking ribbon, as shown in Figs. 2 and 3, behind guides 27. One of the arms 29 is connected by means of a cranked link 30 with an arm 31 extending from universal shaft 19 and keyed or pinned thereto at 32.

Having thus described the structural features constituting my invention, the operation thereof may now be understood. With the key levers in their normal positions, arms 29 are held in engagement with the ribbon by means of universal shaft 19, through the connecting mechanism, and are disposed slightly behind guides 27, as clearly shown in Fig. 3, the ribbon, by means of said arms, being held in a slightly taut condition so that the same will extend in substantially a straight line between guides 27, thus insuring against the writing being obscured by the ribbon. Now when a key lever is depressed to advance a type-carrying member to impression the motion of said key lever, communicated to the universal shaft 19 through the connecting mechanism, will through arm 31 and link 30, cause arms 29 to be projected

forwardly simultaneously with the forward thrust of said type-carrying member, and to be carried out of engagement with the ribbon as shown in Fig. 4. As arms 29 are normally slightly behind guides 27, the forward movement thereof will operate to produce a slight slack in the ribbon upon either side of said guides, so that the same when engaged by a type-carrying member will be easily carried thereby against the impression surface on the platen, such slack also insuring against the impeding or hindering of the thrusts of the type-carrying members to impression. In other words, the slack which is taken up on either side of guides 27 by arms 29 when the parts are in their normal positions will be transferred to occupy a position between said guides by the type-carrying members when projected for printing. During the returning of the parts to normal positions arms 29 will again engage the ribbon to take up the slack therein between guides 27, and thereby remove the ribbon from the printing point of the platen to the position shown in Fig. 3, where the same will not obscure a view of the writing.

It will accordingly be seen that I have provided mechanism wherein is realized the aims and objects of my invention, characterized by simplicity and efficiency. The ribbon is normally held in such position as to afford a clear view of the writing, and yet that part thereof being fed across the printing point is easily carried against the platen from the position of rest. It will also be observed that slack in the ribbon adjacent the printing point is produced simultaneously at the initial movement of the type-carrying members to impression, and is gradually produced during the progression of such members toward the platen, such slack being taken up in a similar manner during the recovery of the type-carrying members.

While I have shown my invention applied to a front strike typewriter, it is obvious that the same may be employed with equal facility in top strike machines, or in any form of machine wherein visible writing is sought to be attained.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. I desire it also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I

claim as new and desire to secure by Letters Patent is:—

1. In a typewriting machine, the combination with an inking ribbon, of means for supporting the same in a position removed from the printing point so as to expose the writing, and means for rendering the ribbons slack during the projection of the type bars to the printing point.
2. In a typewriting machine, the combination with means for supporting the inking ribbon in a position away from the printing point so as to expose the writing, and means operated by the key levers for rendering the ribbon slack during the thrust of a printing instrumentality to impression.
3. In a typewriting machine, the combination with means for normally supporting the inking ribbon in a position removed from the platen so as to expose the writing, of means operated by the key levers and engaging the ribbon in the vicinity of the printing point for rendering the same slack during the projection of the type bars toward the platen.
4. In a typewriting machine, the combination with means for supporting an inking ribbon in a position normally removed from and disclosing the printing point, of means operated through a connection with the universal bar for rendering the ribbon slack during the thrust of a printing instrumentality to impression.
5. In a typewriting machine, the combination with an inking ribbon, of means for supporting the same in a position removed from the platen so as to expose the writing, and means engaging the ribbon in proximity to the printing point and operated through a connection with the universal bar adapted for rendering the same slack during the projection of the type bars against the platen.
6. In a typewriting machine, the combination with an inking ribbon, of means for guiding the ribbon across the printing point and means for slacking the ribbon during the thrusts of the printing instrumentalities to impression.
7. In a typewriting machine, the combination with an inking ribbon, of means for guiding the ribbon, adapted to support the same so as to expose to view the printing point, and means for rendering the ribbon slack which becomes effective during the progress of the type bars toward the printing point.
8. In a typewriting machine, the combination with an inking ribbon, of guiding means for the ribbon adapted to support the same so as to expose to view the printing point, and means which through a connection with the universal bar becomes effective to produce slack in the ribbon during the progress of the type bars toward the platen.
9. In a typewriting machine, in combination, an inking ribbon, and means for maintaining the ribbon in a relatively taut condition

away from and disclosing the printing point, said last-mentioned means being adapted for relieving the ribbon from its taut condition during the thrusts of the printing instrumentalities to impression.

10. In a typewriting machine, in combination, an inking ribbon, means for guiding that portion of the ribbon being fed across the printing point, and means cooperating with said guiding means for maintaining the ribbon normally in a relatively taut condition away from and disclosing the printing point, said last-mentioned means becoming effective to render the ribbon slack during the thrusts of the type bars to impression.

11. In a typewriting machine, in combination, an inking ribbon, means for guiding that portion of the ribbon being fed across the printing point, and means cooperating with said guiding means for maintaining the ribbon normally in a relatively taut condition away from and exposing to view the printing point, said last-mentioned means through a connection with the universal bar becoming effective to render the ribbon slack during the thrusts of the type bars to impression.

12. In a typewriting machine, the combination with a platen, a series of type bars and a ribbon feeding mechanism, of means for holding the ribbon in a normal position which affords a view of the printing point, and for rendering the ribbon slack when the type bars are being projected against the platen.

13. In a typewriting machine, the combination with a platen, a series of type bars and a ribbon feeding mechanism, of means for holding the ribbon relatively taut in a normal position which affords a view of the printing point, said means becoming effective to relieve the ribbon from its taut condition as the type bars are moving toward the platen.

14. In a visible typewriting machine, the combination with a platen, a series of type bars and a ribbon winding mechanism, of means for holding the ribbon in a normal position which affords a view of the printing point adapted to render the same slack while the type bars are being projected to impression, said means also operating to take up such slack during the recovery of the type bars.

15. In a visible typewriting machine, the combination with a platen and a series of type bars, of a pair of ribbon spools adapted for feeding the ribbon across the printing point, a carrier for the ribbon arranged in proximity to the printing point, and means cooperating with said carrier to automatically produce slack in the ribbon while the type bars are moving in the direction of the platen.

16. In a visible typewriting machine, the combination with the type bars, the key levers connected therewith, a platen and a ribbon feeding mechanism, of a ribbon carrier

arranged in proximity to the printing point and means operated at each depression of a key lever for producing slack in the ribbon so as not to impede the thrusts of the type bars against the platen, said means also operating to take up any slack in the ribbon while the key levers are returning to initial position, thereby normally maintaining the ribbon away from and disclosing the printing point.

17. In a visible typewriting machine, the combination with a platen, a series of type bars and a ribbon winding mechanism, of means for producing and taking up slack in the ribbon during the projection and returning movements respectively of the type bars.

18. In a typewriting machine, the combination with a platen, the type bars and a ribbon-winding mechanism, of means for supporting the ribbon in a position normally removed from and disclosing the printing point, said ribbon being adapted to be pressed against the platen by the type bars during their movements to impression, and means for rendering the ribbon slack during the movement of the type bars to impression, and for returning said ribbon to normal position after each impression.

19. In a visible typewriting machine, the combination with a platen, a series of type bars and a ribbon-winding mechanism, of means for supporting the ribbon in a position normally removed from and disclosing the printing point, said ribbon being adapted to be moved from normal position and pressed against the platen by the type bars during their strokes to impression, and means operated from the universal bar for returning the ribbon to normal position after each impression.

20. In a visible typewriting machine, the combination with an inking ribbon normally removed from the platen in order to expose to view the writing, the type bars and the key levers, of means for producing slack in the ribbon so as not to impede the movements of the type bars when projected to impression, and means for actuating said last-mentioned means upon each depression of a key lever.

21. In a visible typewriting machine, the combination with a platen, a series of type bars and a ribbon winding mechanism, of a ribbon carrier arranged in the vicinity of the printing point adapted normally to hold the ribbon in a position away from and disclosing the printing point, and means cooperating with said ribbon carrier at each projection of a type bar against the platen to produce slack in the ribbon so as not to interfere with the free movement of the type bar to impression.

22. In a visible typewriting machine, the combination with a platen, a plurality of type bars and a ribbon winding mechanism, of a ribbon carrier for supporting the ribbon

in a position removed from the printing point so as normally to expose the same to the view of the operator, and means cooperating with said ribbon carrier adapted to produce slack in the ribbon at each actuation of a type bar toward the platen and for taking up such slack while the type bar is returning to its normal position.

23. In a visible typewriting machine, the combination with a platen, a series of type carriers and a ribbon winding mechanism adapted for moving the ribbon longitudinally of the platen across the printing point, of a member for guiding that portion of the ribbon being fed across the printing point and supporting the same in a position removed from and disclosing said printing point, and a member which cooperates with said afore-mentioned member to provide slack in the ribbon while the type carriers are being moved to impression, said last-mentioned member being also adapted to cooperate with said first-mentioned member to take up such slack during the returning movements of the type carriers to normal position.

24. In a visible typewriting machine, the combination with a platen, a series of type carriers and a ribbon winding mechanism adapted for drawing the ribbon across the printing point on the platen, of a pair of guides for supporting the ribbon in proximity to the printing point, and means which becomes effective at each actuation of a type carrier toward the printing point, adapted for producing slack in the ribbon, said means also becoming effective during the returning to normal position of said type carriers to take up such slack and thereby remove the ribbon from the printing point so as to expose to view the writing.

25. In a visible typewriting machine, the combination with a platen, a series of type carriers and a ribbon winding mechanism adapted for drawing the ribbon across the printing point on the platen, of a pair of guides by means of which that portion of the ribbon in proximity to the printing point is supported in a position removed therefrom so as to expose to view the writing, and a pair of arms engaging the ribbon adapted through their cooperation with said guides to produce slack in that portion of the ribbon in proximity to the printing point during the movements of the type carriers toward the platen, said arms also operating to take up such slack while said type carriers are being returned to their normal position.

26. In a visible typewriting machine, the combination with a platen, a series of type carriers and a ribbon winding mechanism, of a pair of guides supporting that portion of the ribbon adjacent the printing point in a position removed from and disclosing said printing point, and a pair of arms normally en-

gaging said ribbon and maintaining the same in its normal position, said arms being adapted to be disengaged from the ribbon during the movements of the type carriers to impression, thereby producing slack therein so as not to impede the movements of said type carriers toward the platen, and means connecting said arms with the universal bar.

27. In a visible typewriting machine, the combination with a platen, a series of type carriers and a pair of ribbon spools for drawing the ribbon across the printing point on the platen, of a pair of guides supporting that portion of the ribbon being drawn across the printing point, a pair of arms normally in engagement with said ribbon adapted to cooperate with said guides to maintain the ribbon away from the printing point so as to expose the writing to the view of the operator, and means for disengaging said arms from the ribbon so as to produce slack therein and thereby prevent the same opposing the movements of the type carriers toward the platen.

28. In a visible typewriting machine, the combination with a platen, a series of type carriers and a pair of ribbon spools adapted for drawing the ribbon longitudinally of the platen, of a pair of guides for supporting that portion of the ribbon which is being drawn across the printing point on the platen, a pair of arms normally in engagement with the ribbon to maintain the same in a relatively taut condition and being held in such engagement through a connection with the universal bar, said universal bar through said connecting means being adapted to disengage said arms from said ribbon, thereby producing slack in the ribbon and permitting the type carriers to carry the ribbon forward and press the same against the platen.

29. In a visible typewriting machine, the combination with a platen, a series of type carriers and a pair of spools adapted to be rotated to feed the ribbon across the printing point on the platen, of a pair of slotted guides in which is supported that portion of the ribbon being fed across said printing point, a pair of arms normally held in engagement with the ribbon, said arms cooperating with said guides to normally hold the ribbon away from the printing point in such position that the writing is exposed to view, a rock shaft upon which said arms are mounted, and means for engaging and disengaging said arms from the ribbon, operated through a connection with the universal bar.

30. In a visible typewriting machine, the combination with a platen, a series of type carriers and a pair of ribbon spools by means of which the ribbon is fed longitudinally of

the platen across the printing point thereof, of a pair of guides arranged in proximity to the printing point on the platen for supporting that portion of the ribbon adjacent the printing point in a position normally removed from and disclosing the printing point, a pair of arms adapted to engage the ribbon adjacent said guides and to maintain the same in a relatively taut condition, and means connecting said arms with the universal bar adapted upon each depression thereof to disengage said arms from said ribbon whereby the same is slacked while the type bars are being projected to impression, said means also operating to reengage said arms with said ribbon while the type bars are being returned to their normal position.

31. In a visible typewriting machine, the combination with a platen, a series of type bars, a series of key levers each of which is adapted to operate a type bar, and a pair of ribbon spools adapted for feeding the ribbon longitudinally of the platen across the printing point thereof, of a pair of guides erected upon the framing of the machine adapted for supporting that portion of the ribbon adjacent the printing point in a position away from and disclosing said printing point, a pair of arms normally adapted to bear against the ribbon and to maintain that portion of the ribbon extending between said guides in a normally taut condition, a rock shaft upon which said arms are mounted, a second rock shaft connected with the universal bar, and a member connecting said arms with said last-mentioned rock shaft whereby at each depression of the universal bar said arms are swung out of engagement with the ribbon as the type bars are being projected against the platen, thereby producing slack in the ribbon and affording an unobstructed movement for said type bars when projected to impression.

32. In a visible typewriting machine, the combination with a platen, a series of type bars and a ribbon winding mechanism, of a pair of arms adapted for producing and taking up slack in that portion of the inking ribbon in proximity to the printing point on the platen, said arms being adapted to follow the type bars in their movements to and from the platen whereby slack in the ribbon is produced during the forward movements of the type bars and is taken up during their return movements to normal position.

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

WELLINGTON PARKER KIDDER.

Witnesses:

CHARLES H. WILEY,
H. M. SEAMANS.