

No. 624,135.

Patented May 2, 1899.

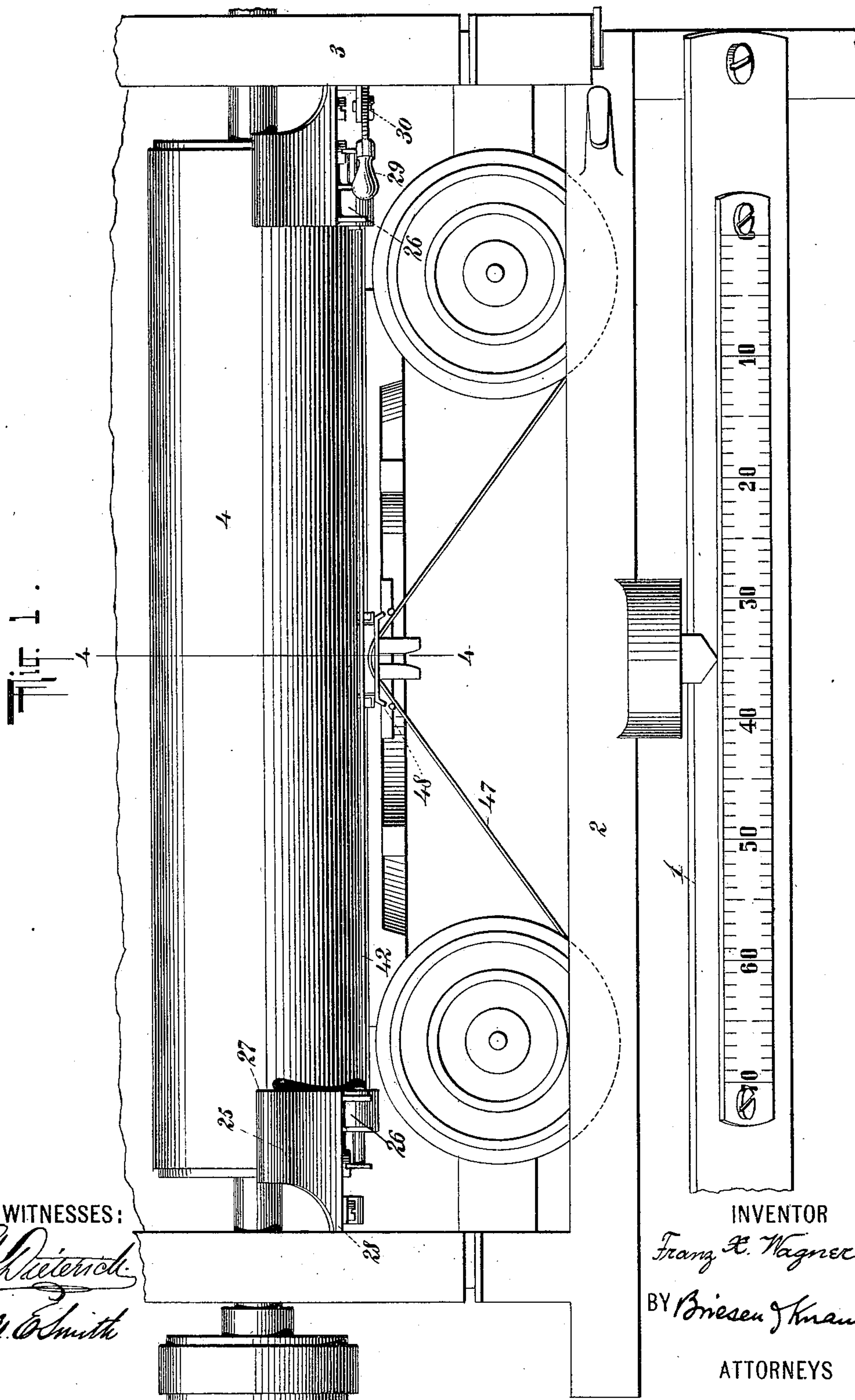
F. X. WAGNER.

PAPER CARRIAGE AND INDEX MECHANISM FOR TYPE WRITERS.

(Application filed Dec. 12, 1898.)

(No Model.)

4 Sheets—Sheet 1.



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4 Sheets—Sheet 2.

Mr. Hank You are hereby notified to appear on the 30th.
day of October 1899 for examination before Mr. Dow at #79 Row St.

A fine invention

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Fig. 2.

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Fig. 5.

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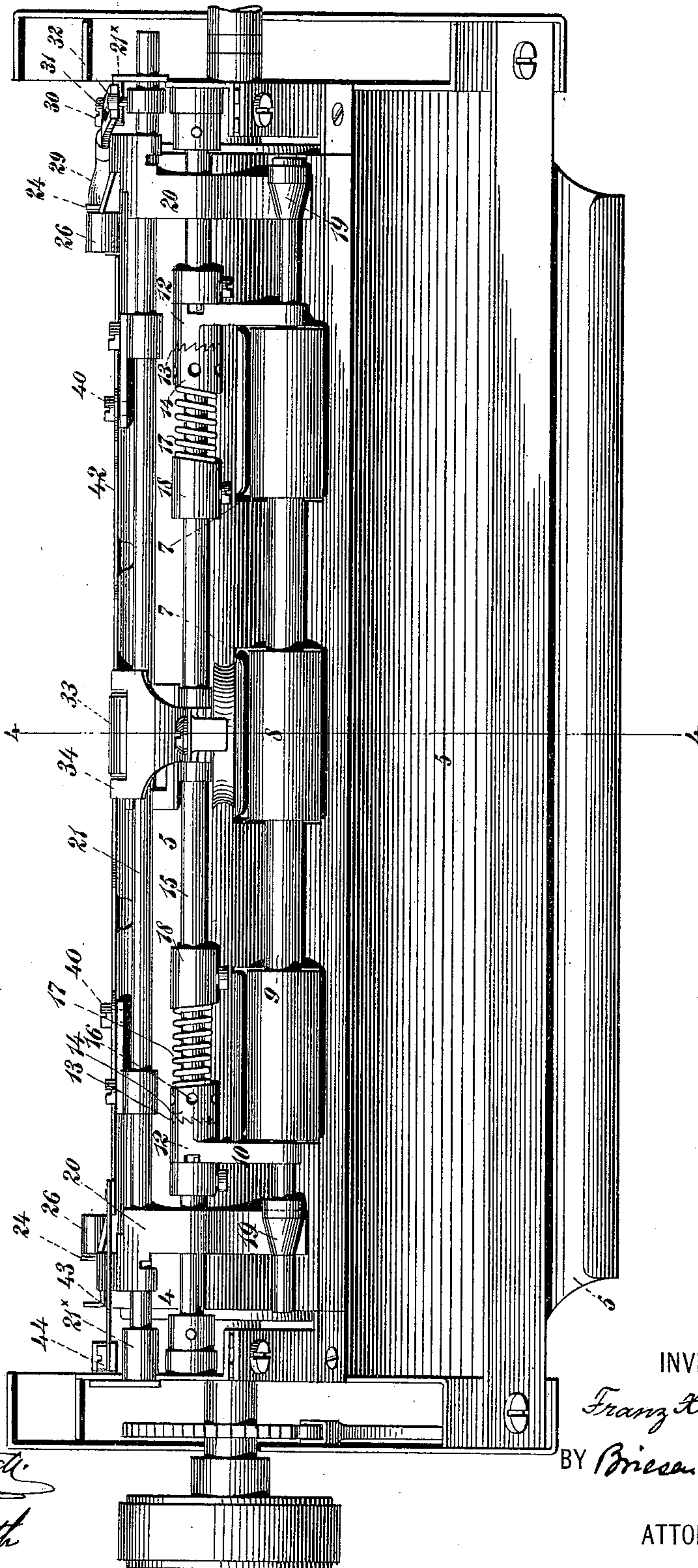
PAPER CARRIAGE AND INDEX MECHANISM FOR TYPE WRITERS.

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4 Sheets—Sheet 3.

Fig. 3.



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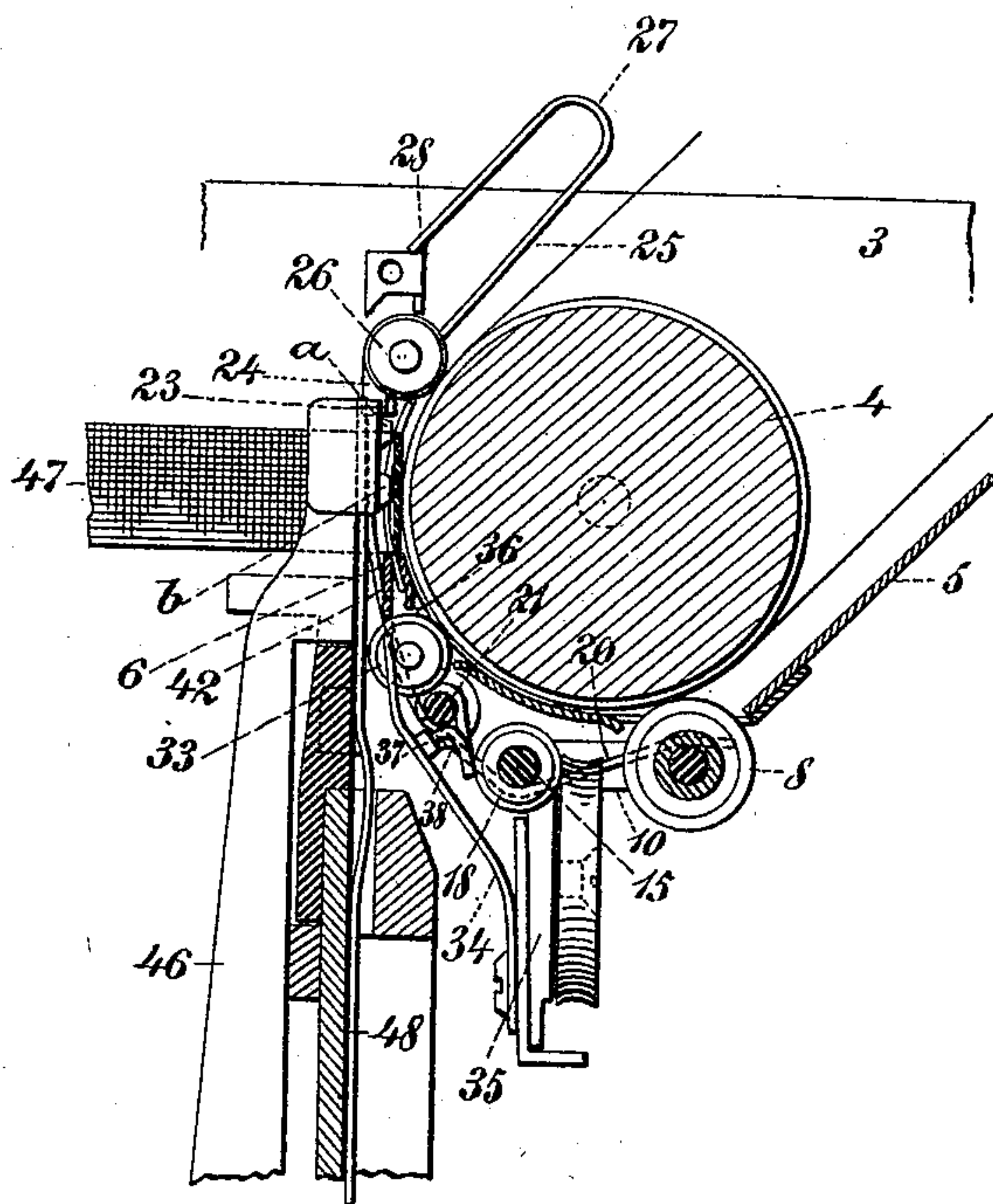
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4 Sheets—Sheet 4.

Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANZ X. WAGNER, OF NEW YORK, N. Y., ASSIGNOR TO THE WAGNER
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PAPER-CARRIAGE AND INDEX MECHANISM FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 624,135, dated May 2, 1899.

Application filed December 12, 1898. Serial No. 698,967. (No model.)

To all whom it may concern:

Be it known that I, FRANZ X. WAGNER, residing in the city, county, and State of New York, have invented certain new and useful
5 Improvements in Paper-Carriages and Index Mechanisms for Type-Writers, of which the following is a specification.

My invention relates to paper-feed mechanism and to index mechanism for type-
10 writers; and said invention consists in the novel arrangement and combination of parts hereinafter described and claimed.

Type-writers have heretofore been devised which employed separately-mounted marginal feed-rollers that were adapted to bear
15 upon the paper near each side edge of the paper and a central feed-roll near the front of the platen and main feed-rollers that were adapted to bear upon the paper throughout
20 a considerable extent of the length of the platen. In such constructions, however, these feed-rollers or sets of feed-rollers have been separately moved and maintained out
25 of action when it was desired to straighten the paper on the platen. It will be understood that the several movements required to move these feed-rollers out of and into contact
30 with the platen occasioned considerable delay every time it was found desirable to adjust the paper on the platen.

The object of my invention is to overcome the difficulties heretofore encountered in type-writing machines and to provide a simple and efficient mechanism for simultaneously
35 throwing the feed-rolls which cooperate with the paper-platen out of operation by a single operation of a hand-actuated lever.

A further feature of my invention consists in moving an indicator to and from the printing-point by a movement of the lever which
40 causes the feed-rollers to be moved into and out of contact with the paper-platen.

In the accompanying drawings, wherein like characters indicate corresponding parts
45 in all the views, Figure 1 is a plan view of sufficient number of parts of a type-writing machine to illustrate my invention. Fig. 2 is a front view of the same with parts removed for the purpose of clearer illustration,
50 the paper being shown in place in the paper-carriage. Fig. 3 is a bottom view of the

platen-carriage and the parts carried thereby. Fig. 4 is a transverse sectional view of some of the parts illustrated in Fig. 1, the
view being taken on the line 4 4 of Fig. 1. 55 Fig. 5 is a detail perspective view of the central-feed-roll-displacing cam and its carrier.

I have illustrated my invention in the present case as adapted to the well-known Underwood type-writer. It will be understood,
60 however, that my invention may be employed in any form of machine wherein an application of said invention is found feasible and that changes in detail may be made to adapt
65 my improvements to other types of machines than that illustrated.

In the drawings, 1 indicates the main frame of an ordinary Underwood machine, in which a paper-carriage 2 is adapted to reciprocate
70 from end to end for the production of lines of writing. The paper-carriage 2 is provided with an auxiliary frame 3, which constitutes the platen-frame or carriage proper. In this
75 platen-frame 3 is carried the platen 4, which may be rotated in any suitable manner to produce the spacing between the lines. Suitable mechanism (not shown) is provided for
80 moving the platen-frame in a vertical direction in the carriage to bring the printing-line into alinement with either the upper or lower case characters *a b*, respectively, on the type-
bars. (See Fig. 4.) The platen-frame or carriage 3 is provided with a paper-shield 5, which
85 guides the paper to the platen. This shield extends from the rear portion of the platen, as indicated in Fig. 4, to a point below the central front portion of the platen, as indicated at 6, and apertures 7 are provided in
90 the shield, through which apertures extend the main feed-rollers 8. The feed-rollers 8 are shown as three in number and are loosely mounted upon a shaft 9, which is carried by
95 arms 10. These arms 10 are provided with sleeve-like portions 12, that carry ratchet-faces 13, which engage in corresponding ratchet-teeth upon sleeves 14, which are
100 loosely carried upon a rod 15, and the sleeves 14 are preferably provided with openings 16. Each of the sleeves 14 is connected to a coiled spring 17, which is in turn connected to a sleeve 18, fixed to the shaft 15. It will thus
be seen that a rotation of the sleeves 14 will

increase or decrease the tension of the springs upon the arms 10 and feed-rollers 8 in accordance with the direction in which said sleeves 14 are turned. It will of course be understood that the engaging teeth between the sleeves 12 and 14 will maintain the parts in the relative positions to which they are adjusted. The shaft 9, hereinbefore referred to, is extended beyond the arms 10, as indicated in Fig. 3, and these extensions are provided with cams 19, which cooperate with arms 20 near each end of the platen, that are adapted to slide in the longitudinal direction of the shaft 9, as will be hereinafter explained. These arms 20 are fixed upon a longitudinally-movable rod 21, that slides in bearings 21^x of the platen-frame, and said arms are extended upon the opposite side of said rod to form extensions 22. These arms or extensions 22 are each provided with a cam-finger 23, which cooperates with an abutment or extension 24, connected with the support 25 of each of the marginal rollers 26. (See Figs. 2 and 4.) These marginal rollers 26 are adapted to bear upon the paper near each end of the platen and are, as before stated, carried by the supports 25, which in the present instance consist of spring-arms bent, as indicated at 27, Fig. 4, and secured, as indicated at 28, to a portion of the platen-frame 3. It will thus be seen that the marginal rollers 26 are independently mounted near each end of the platen and are adapted normally to be maintained in contact with the platen by the spring-pressure of the supports 25, in which they are mounted, and that a movement of the rod 21 in one direction will cause the cam-fingers 23 to move the marginal rollers 26 out of contact with the platen or the paper on the platen, whereas a movement of said rod in the opposite direction will bring the lowest portion of the cam-fingers 23 under the abutments 24, thereby allowing the rollers to simultaneously move into contact with the platen or with the paper on the platen. In order to bring about this longitudinal movement of the rod 21, I have provided a hand-operated lever 29, which is pivoted, as indicated at 30, upon the platen-frame and is provided at its lower end with a slot 31, in which a pin 32 upon the rod 21 engages.

Upon reference to Fig. 2 of the drawings it will be observed that an independently-mounted feed-roller 33 is pivoted in a spring-pressed frame 34, secured to an extension 35, (see Fig. 4,) extending from the rod 15. This spring-pressed feed-roller 33 is adapted to be forced through an aperture 36 in the shield 5 and to be normally maintained in contact with the paper-platen by the pressure of the spring-pressed frame of said feed-roller. This spring-pressed frame or support 34 is provided with a pin 37, (see Fig. 4,) with which cooperates a cam 38, (shown in detail in Fig. 5,) carried by the longitudinally-movable rod 21. The cam 38 is so located with relation to the pin on the spring-pressed support 34 that the roller 33 will be moved out of contact

with the platen when the longitudinally-movable rod 21 is moved in a direction which will cause the marginal rollers 26 and the main feed-rollers 8 to be forced out of contact with the platen, and the parts will be maintained in such position until the rod 21 is moved in an opposite direction by the hand-operated lever 29. The rod 21 is likewise provided with studs 39, each of which carries a pin 40, that passes through a cam-groove 41 in a movable indicator-bar or scale 42. This scale 42 is connected by a link 43 to one end of the platen-frame, as indicated at 44. This scale is mounted so that the upper edge thereof may be brought directly beneath the line of writing by the hand-operated lever 29, as indicated in Fig. 2 of the drawings, whether the platen be in the lower or elevated position. This is due to the fact that the scale and its cooperating parts are carried by and moved bodily with the platen-frame. The indices 45 upon said scale are so arranged that no matter at what point the carriage be with relation to the printing-point an index 45 will always be brought to the printing-point when the scale is elevated by the hand-operated lever 29. The indices are equably arranged, so that any one index brought to the printing-point will indicate the relative positions of each character throughout the line, as the spacing on the scale corresponds to the distance between the characters written. It will thus be understood that the scale not only affords an indication of the printing-point, but that it likewise indicates the line on which the characters will be written. However, where an indication of the line alone is desired the bar 42 may be made without indices thereon. When the scale is moved by the hand-operated lever 29 to the dotted-line position represented in Fig. 2 of the drawings, it is conveyed to a position where it does not interfere with the writing, as will be seen by reference to Fig. 4 of the drawings. In this view a type-bar 46 is shown in the printing position with a ribbon 47 interposed between the characters on the type-bar and the paper on the platen. This ribbon 47 is carried by suitable mechanism—such, for instance, as a guide 48—which in the present instance is automatically operated by suitable mechanism (not shown) to convey the ribbon into the path of the characters on the type-bar just before such character reaches the platen and to automatically move the ribbon out of the line of writing after each character is written.

It will be observed that by my invention I am enabled to move all of the feed-rollers into and out of contact with the platen and to simultaneously move the scale or indicator to the position where it is available to indicate the printing-point and the position of a line of writing and that the only movement required to bring about this movement of the scale and the feed-rolls is that given to the hand-operated lever 29, whereas in the type of machine wherein such rollers were hereto-

fore employed it was necessary to make several movements in order to carry the marginal, central, and main feed-rollers out of contact with the paper on the platen.

5 The indicator or scale is seldom required except when the paper is to be adjusted upon the platen, and when this is necessary it is desirable to force all of the feed-rollers out of contact with the paper on the platen, so
10 that the paper will be entirely free from the pressure of the feed-rollers and may be readily moved to any position desired. In accordance with my invention the rollers are moved out of contact with the paper, and the scale is
15 automatically moved into the indicating position and is automatically moved out of such position when the rollers are again allowed to bear upon the paper.

20 Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a platen of independently-mounted marginal feed-rollers and hand-operated mechanism for simultaneously
25 conveying said feed-rollers into and out of contact with the platen and for maintaining said feed-rollers in either of such positions.

2. The combination with a platen of independent marginal feed-rollers, an independent
30 support for each of said rollers at each end of the platen and hand-operated mechanism for simultaneously conveying said feed-rollers into and out of contact with the platen and for maintaining said feed-rollers in either
35 of such positions.

3. The combination with a platen of independent marginal feed-rollers, an independent support for each of said rollers at each end of the platen, an independently-mounted
40 centrally-located feed-roller and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen.

4. The combination with a platen of main feed-rollers, independent marginal feed-rollers, an independent support for each of said
45 marginal feed-rollers at each end of the platen and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen.

5. The combination with a platen of main feed-rollers, independent marginal feed-rollers, an independent support for each of said
55 marginal feed-rollers at each end of the platen, an independently-mounted centrally-located feed-roller and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen.

6. The combination with a platen of independently-mounted marginal feed-rollers, an indicator and hand-operated mechanism for
60 simultaneously conveying said feed-rollers into and out of contact with the platen and for maintaining said feed-rollers in either of such positions and for simultaneously moving the said indicator to and away from the
65 printing-point.

7. The combination with a platen of independent marginal feed-rollers, an independent support for each of said rollers at each end
70 of the platen, an indicator and hand-operated mechanism for simultaneously conveying said feed-rollers into and out of contact with the platen and for maintaining said feed-rollers in either of such positions and for simultaneously
75 moving said indicator to and away from the printing-point.

8. The combination with a platen of independent marginal feed-rollers, an independent support for each of said marginal feed-
80 rollers at each end of the platen, an independently-mounted centrally-located feed-roller, an indicator and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen
85 and for simultaneously moving said indicator to and away from the printing-point.

9. The combination with a platen of main feed-rollers, independent marginal feed-rollers, an independent support for each of said
90 marginal feed-rollers at each end of the platen, an indicator and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen and for simultaneously moving said indicator
95 to and away from the printing-point.

10. The combination with a platen of main feed-rollers, independent marginal feed-rollers, an independent support for each of said
100 marginal feed-rollers at each end of the platen, an independently-mounted centrally-located feed-roller, an indicator and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen and for simultaneously
105 moving said indicator to and away from the printing-point.

11. The combination with a platen of independently-mounted marginal feed-rollers, a scale, the indices on said scale being equably
110 spaced and each index being adapted to be brought into register with the printing-points and hand-operated mechanism for simultaneously conveying said feed-rollers into and out of contact with the platen and for maintain-
115 ing the feed-rollers in either of such positions and for simultaneously moving said scale to and away from the printing-point.

12. The combination with a platen of independent marginal feed-rollers, an independent support for each of said feed-rollers at
120 each end of the platen, a scale, the indices on said scale being equably spaced and each index being adapted to be brought into register with the printing-point and hand-operated
125 mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen and for maintaining the feed-rollers in either of such positions and for simultaneously moving said scale to and away
130 from the printing-point.

13. The combination with a platen of independent marginal feed-rollers, an independent support for each of said feed-rollers at

each end of the platen, an independently-mounted centrally-located feed-roller, a scale, the indices on said scale being equably spaced and each index being adapted to be brought into register with the printing-points and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen and for simultaneously moving said scale to and away from the printing-point.

14. The combination with a platen of main feed-rollers, independent marginal feed-rollers, an independent support for each of said marginal feed-rollers at each end of the platen, a scale, the indices on said scale being equably spaced and each index being adapted to be brought into register with the printing-points and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen and for maintaining said feed-rollers in either of such positions and for simultaneously moving said scale to and away from the printing-point.

15. The combination with a platen of main feed-rollers, independent marginal feed-rollers, an independent support for each of said marginal feed-rollers at each end of the platen, an independently-mounted centrally-located feed-roller, a scale, the indices on said scale being equably spaced and each index being adapted to be brought into register with the printing-points and hand-operated mechanism for simultaneously conveying all of said feed-rollers into and out of contact with the platen and for simultaneously moving said scale to and away from the printing-point.

16. In a type-writer, the combination of a reciprocating carriage, a platen-carriage which is vertically movable to bring the printing-point into the path of the upper or lower case characters, an indicating-bar carried by said platen-carriage, feed-rollers cooperating with said platen and means for moving the indicating-bar to and away from the printing-point when the platen is in either the lowered or elevated position and for simultaneously conveying the feed-rollers into and out of contact with the platen.

17. In a type-writer, the combination of a

reciprocating paper-carriage, a platen-carriage which is vertically movable to bring the printing-point into the path of the upper or lower case characters and which is independent of but is carried by said paper-carriage, a scale carried by said platen-carriage, the indices on said scale being equably spaced and each index being adapted to be brought into register with the printing-point, feed-rollers cooperating with the platen and means for moving said scale to and away from the printing-line when the platen is in either the lowered or elevated position and for simultaneously conveying the feed-rollers into and out of contact with the platen.

18. In a type-writer, the combination of a reciprocating paper-carriage, a platen, feed-rollers cooperating therewith, a platen-carriage which is vertically movable to bring the printing-point into the path of the upper or lower case characters, an indicating-bar carried by said platen-carriage and being adapted to be moved to and away from the printing-point in a perpendicular plane when the platen is in either the lowered or elevated position and means for moving said scale and simultaneously conveying said feed-rollers into and out of contact with the platen.

19. In a type-writer, the combination of a reciprocating paper-carriage, a platen, feed-rollers cooperating therewith, a platen-carriage which is vertically movable to bring the printing-point into the path of the upper or lower case characters and which is independent of but is carried by said paper-carriage, a scale carried by said platen-carriage, the indices on said scale being equably spaced and each index being adapted to be brought into register with the printing-point and means for moving said scale in a perpendicular plane to and away from the printing-line when the platen is in either the lowered or elevated position and for simultaneously moving said rollers into and out of contact with the platen when the scale is moved with relation to the printing-line.

FRANZ X. WAGNER.

Witnesses:

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GEO. E. MORSE.