No. 849,888. PATENTED APR. 9, 1907.

L. B. COPELAND.

TYPE WRITING MACHINE.

APPLICATION FILED NOV. 21, 1902.

2 SHEETS—SHEET 1.

FIG. 1.

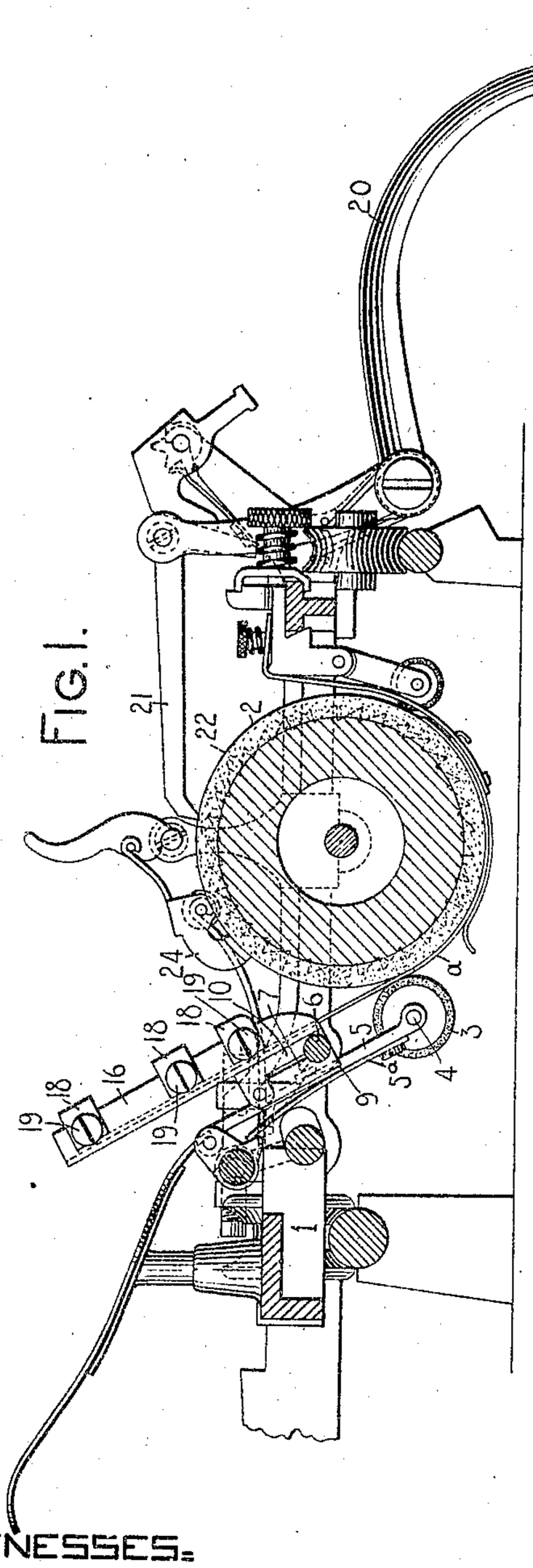


FIG. 4.

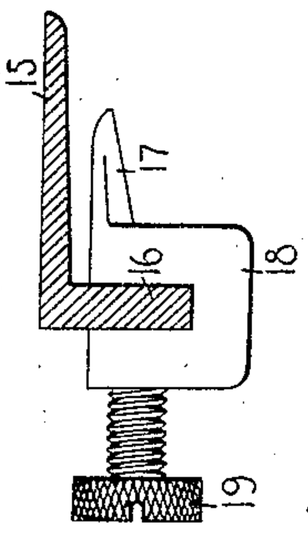
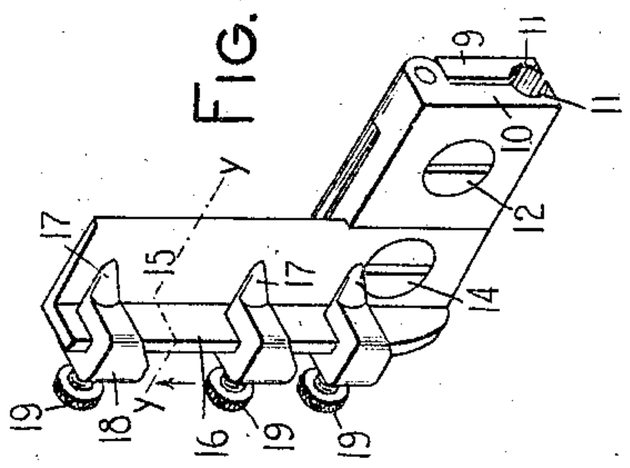


FIG. 3.



WITNESSES:

K. V. Donovan

Charles E. Smith

INVENTOR:

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2 SHEETS—SHEET 2.

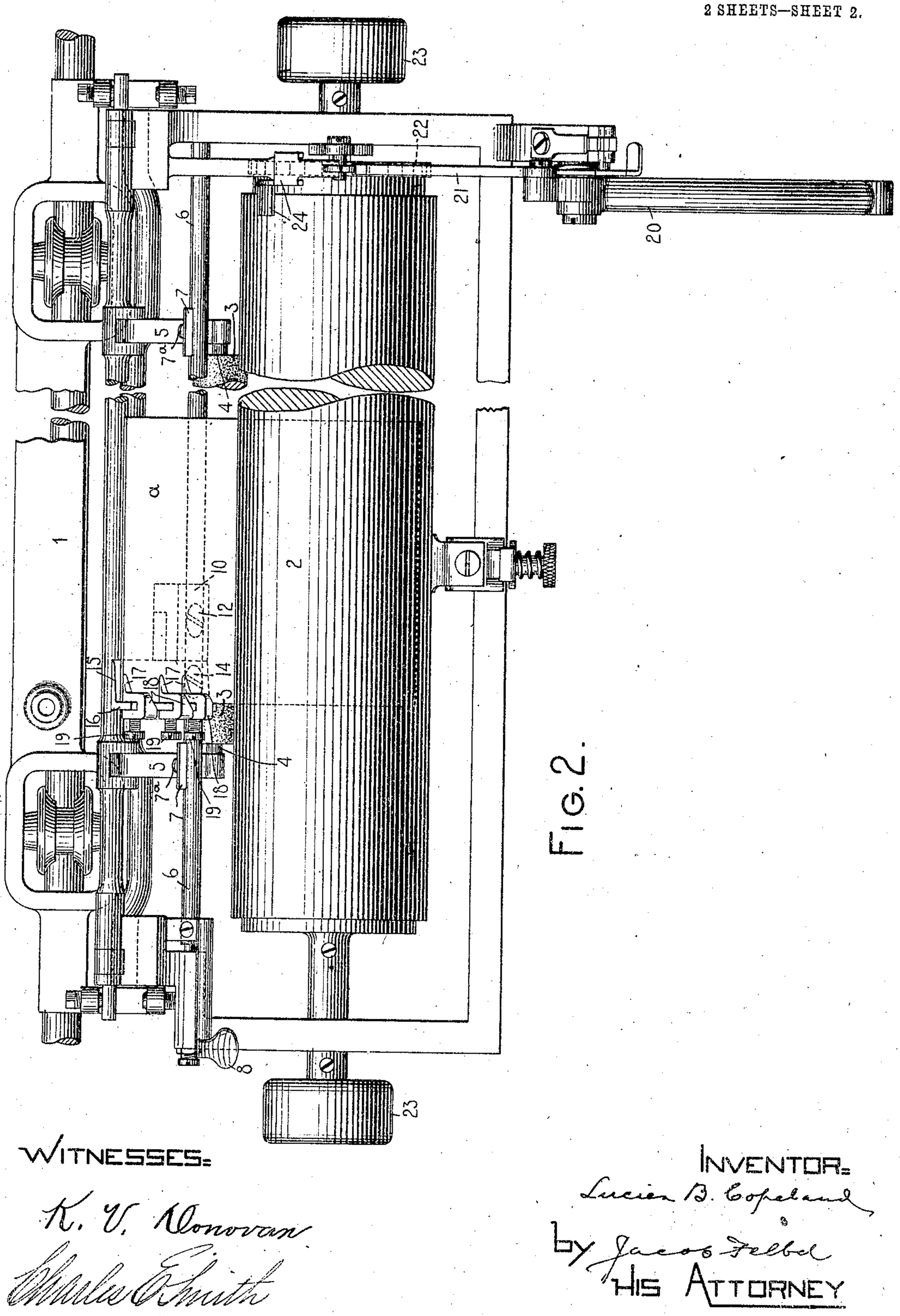

FIG. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

LUCIEN B. COPELAND, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO WYCKOFF, SEAMANS & BENEDICT, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 849,888. Specification of Letters Patent. Patented April 9, 1907.

Application filed November 21, 1902. Serial No. 132,254.

To all whom it may concern:

Be it known that I, LUCIEN B. COPELAND, a citizen of the United States, and a resident of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to type-writing machines, and more particularly to devices for accurately guiding, positioning, or squaring cards, envelops, or paper, and to indicating devices for determining when the cards or other articles are properly positioned with reference to the printing-line, whether the writing is to appear at regular line-space distances or varying distances, and whereby the writing on various cards or the like may be accurately positioned without depending on the judgment or skill or taxing the memory of the operator. This device is particularly useful for filling in cards for card-catalogues and like work, though obviously it may be employed for a variety of purposes.

To the above and other ends which will hereinafter appear my invention consists in the features of construction, arrangements of parts, and combinations of devices to be hereinafter described and claimed.

In the drawings, Figure 1 is a vertical sectional view of one form of type-writer carriage, showing a construction embodying my invention applied thereto, the section being taken through the left-hand end portion of the carriage and looking to the right. Fig. 2 is a plan view of the same. Fig. 3 is a detail perspective view of my improved devices removed from the carriage, and Fig. 4 is an enlarged detail transverse sectional view taken on the line *y y* of Fig. 3 and looking in the direction of the arrow in said figure.

The same reference characters in the different figures are used to designate the same parts.

The type-writer carriage 1 may be of any suitable construction, the carriage shown in the present instance being essentially that of a No. 6 Remington type-writing machine, wherein the paper or card to be written on is introduced at the rear side of the platen 2 or at the bight between the platen and the feed-rollers 3 and is carried down and under the platen, where it receives the impacts of the types at the under side thereof. These feed-rollers are mounted on a shaft 4, carried at its ends by pivoted links 5, to which flat springs 5^a under tension are secured and which cause the rollers to exert a pressure against the platen. The carriage is provided with the usual feed-roller-release rock-shaft 6, running parallel with the platen 2 and shaft 4, and which has projections 7 bearing against studs 7^a, that project from the links 5, so that when it is desired to release the paper or card from the pressure of the feed-rollers it is merely necessary to rock the shaft 6 by means of its crank arm or handle 8 and the projections 7 will bear upon the studs carried by the links 5 and cause them to carry the feed-rollers away from the platen. It is upon this shaft 6 and in close proximity to the platen and feed-rollers that I prefer to mount my improved side edge guide or gage and indicating devices, though obviously they may be mounted on any other suitable portion of the carriage.

The devices comprise two clamps or blocks 9 and 10, which are hinged together along their upper edges, while along their lower interior faces they are each provided with a groove 11, running the entire length thereof, the grooves being oppositely disposed for the reception of the shaft 6. A transversely-extending hole is drilled in the block 10 at a point between the groove and hinge, whereas the rear block 9 is tapped at a like point for the reception of the stem of a headed set-screw 12, which passes freely through the hole in the front block 10 and takes in the threaded opening in the block 9. This construction is such that the device may be readily attached to or detached from the shaft 6 and adjusted longitudinally thereon to any desired point longitudinally of the platen where it is desired to employ the device. The screw 12 is to clamp the guide at any point along the shaft 6 to which it may be adjusted. However, the clamping action of the blocks and screw is preferably such as to merely prevent an accidental displacement of the devices along the shaft 6. In Fig. 1 of the drawings I have shown the guide clamped on the shaft 6 at such an angle that the cards *a* may be delivered therefrom to the bight between the feed-rollers and platen; but this angle may be varied at pleasure.

The front block 10 is cut away at one end for the reception of an upright card or paper guide, which is secured to the block 10 by a screw 14. This guide is angular or L shaped in cross-section, being composed of two sides or faces 15 and 16, that are at substantially right angles to each other. The side or face 15 is flush with the outer face of block 10 and constitutes a support for the front face of the card to be written on, whereas the side or face 16 extends upwardly from one edge of the face or side 15 and at right angles to the length of the platen, so that it may constitute an abutment against which the left-hand-side edge of the card *a* may be squared and properly positioned as the leading edge of the card is introduced into the bight between the feed-rollers and platen. This side-edge guide member 16 carries several pointers, index-fingers, or indicating devices 17, which are capable of being moved longitudinally on the member 16 and in a plane at substantially right angles to the length of the platen or of being removed entirely therefrom. These fingers 17 are each carried by one member of a slotted block 18, which straddles the side 16, whereas the other member of each block is tapped transversely for the reception of a clamping-screw 19, which secures the block at any desired point along the guiding edge 16, so that an individual adjustment of the fingers is afforded.

The depth of the slots in the blocks 18 is such that the fingers 17 are held in proximity to the side 15 but do not touch it, sufficient space being left between the two for the insertion and passage of whatever cards *a*, envelops, or articles that are to be fed into the machine, and the outer end of the fingers are slightly beveled on the under face and the distance between side or ledge 15 and lower face of each finger 17 gradually increases from the guide-face 16 to the outer ends of the fingers, as shown in Fig. 4, to allow the more ready insertion of paper, though the faces are nevertheless substanially parallel. The top edge of each finger or pointer 17 is, however, made straight or horizontal in order that the top edge of the card may be brought into register or alinement therewith.

While the devices are particularly adapted for "under-strike" machines in order that index and other cards, envelops, and the like may be properly introduced and written upon at predetermined lines or spaces without the necessity of the operator constantly swinging the carriage back to examine the position of the card relatively to the printing-line, from certain aspects of my invention the devices may be employed in other characters of type-writing machines.

The devices are used as follows: The screw 12 is turned slightly to permit the clamping-blocks to slide freely on the shaft 6 when the blocks, with the devices carried thereby, may be moved along the shaft to the desired position, the position depending somewhat on the width of the cards employed. The screw is then turned slightly to draw the blocks together, and thus clamp them against accidental longitudinal displacement on the shaft 6. The left-hand edge of the card is then introduced between the fingers 17 and the supporting-ledge 15 and is moved to the left until the left-hand-side edge of the card is squared against the abutment, guide, or gage 16 and is thus properly positioned to be fed into the machine and so that the top and bottom edges of the card will be parallel with the printing-line. The card is then forced down until the leading edge takes in the bight between the feed-rollers and platen. The platen is then rotated to the desired extent until that portion of the card which is to receive the first line of writing is at the printing-line, this being determined by swinging the carriage back and examining the position of the card. The carriage is then turned down and the uppermost index or pointer is adjusted along the side edge 16 until the top edge of the uppermost pointer registers with the edge of the card which is to constitute the bottom thereof. The uppermost pointer is thus set to indicate when the card is in position to receive the first line of writing thereon, and all other like cards subsequently introduced into the machine will each have a corresponding portion thereof at the printing-line when the bottom edge of the card is brought into register with the top of the uppermost pointer. If the succeeding lines to be written on the card occur at regular line-space distances as determined by the ordinary line-spacing mechanism, comprising the hand-lever 20, the pawl 21, and ratchet-wheel 22, then the other pointers may be disregarded or removed, if desired. If, however, the lines of writing are to appear at irregular distances, which may be attained by turning the platen to the desired extent by a finger-wheel 23, when the ordinary line-spacing mechanism is not used and the usual device 24 at the right-hand end of the platen is employed for fractional-line spacing then all of the index-fingers or as many as may be required are set in the manner hereinbefore explained. Thus, for instance, let us suppose that a name is to be written at a fixed distance from the top of the card and that at a given distance below this the address is to appear, whereas a title of a book is to be placed a short distance below the address. These various points may be successively located by turning the platen until the proper places on the card are brought successively to the printing-line, and as each place is located a pointer is brought into register with the bottom edge of the card, and the various cards of the same size subsequently introduced

may be properly positioned with the aid of the indicating devices to receive the lines of writing at the proper positions thereon and without taxing the memory or relying on the judgment of the operator.

Instead of the various index-fingers registering with an edge of the card they may be caused to register with printing-lines or other marks which may be on the back of the card or which may be placed thereon, and the same results are attained.

While I have shown but three index-fingers 17, it should be understood that any desired number may be employed and that the supporting-ledge 15 and side-edge guide 16 may be as long as desired to accommodate any length of cards.

From the foregoing it will be seen that I have provided simple and efficient devices for the purposes stated that may be applied to existing forms of type-writing machines without modifying the structural features of said machines; that the devices are such that cards or the like may be accurately positioned and fed to the printing-line and the writing appear or be placed thereon in a uniform manner without taxing the memory or relying upon the judgment or skill of the operator; that the indicating devices coöperate with the back or the bottom edge of the card; that the devices are located at or adjacent to the point of introduction of the cards or paper into the machine, and that the devices direct the cards to the machine and to a point where the leading edge thereof will be received in the bight between the paper-feed rollers and the platen. It will likewise be seen that the indicating devices are at all times within the view of the operator when cards are used and that nevertheless the devices in no manner obstruct the operator's view of any of the written matter, that the devices of my invention may be readily applied to or disconnected from the machine when desired and are simple in construction, inexpensive to manufacture, and are efficient in use.

Various changes in details of construction may be made without departing from the spirit of my invention, and certain features thereof may be employed without the others.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, a guide adapted to coöperate with a side edge of the paper or card, in combination with means adapted to coöperate with the bottom edge of the paper or card for indicating the position of the paper or card with relation to the printing-line.

2. In a type-writing machine, a guide adapted to coöperate with a side edge of the paper or card to be fed into the machine and written upon, in combination with means adapted to coöperate with the bottom edge of the paper or card for indicating when any predetermined point on the paper or card reaches the printing-line.

3. In a type-writing machine, a platen, a guide adapted to coöperate with the side edge of the paper or card and to be adjusted longitudinally of the platen, in combination with means adapted to coöperate with the bottom edge of the paper or card for indicating the arrival of some predetermined point of the paper or card at the printing-line.

4. In a type-writing machine, a guide adapted to coöperate with the side edge of a paper or card to be fed into the machine and written upon, in combination with means adapted to coöperate with the bottom edge of the paper or card for indicating the arrival of a plurality of irregularly-spaced predetermined points of the paper or card at the printing-line.

5. In a type-writing machine, the combination of a guide adapted to coöperate with a side edge of the card or paper to be fed into the machine and to direct the same into the machine, a platen, means for adjusting the guide longitudinally of the platen and means adapted to coöperate with the bottom edge of the paper or card for indicating the position of the card or paper relatively to the printing-line.

6. In a type-writing machine, the combination of a carriage, a platen carried thereby, paper-feed rollers, an adjustable guide adapted to coöperate with a side edge of the card or paper to be written and to deliver the same to the bight between the paper-feed rollers and the platen, and an indicating device carried by said guide and adapted to coöperate with the bottom edge of the paper or card.

7. In a type-writing machine, the combination of a carriage, a platen carried thereby, an adjustable guide adapted to coöperate with a side edge of the card or paper and provided with index-fingers capable of adjustment to positions which will indicate when different predetermined points on the card or paper are successively brought to the printing-line.

8. In a type-writing machine, the combination of a carriage, a platen carried thereby, a guide that is adjustable longitudinally of the platen and which constitutes an abutment against which a side edge of the card or paper is adapted to bear so that the same may be squared and fed into the machine and the top and bottom edges thereof be maintained parallel with the printing-line, and means adapted to coöperate with the bottom edge of the paper or card for indicating the arrival of certain points of the card or paper at the printing-line.

9. In a type-writing machine, the combination of a carriage, a platen carried thereby, an adjustable guide adapted to coöperate with a side edge of the card or paper, so that

the same is fed into the machine with the top and bottom edges thereof parallel to the printing-line and index-fingers adjustable along said guide and in a plane at right angles to the length of the platen, to indicate the arrival of certain predetermined points on the card or paper at the printing-line.

10. In a type-writing machine, the combination of a carriage, a platen carried thereby, an L-shaped guide adapted to coöperate with a side edge of the card or paper, and index-fingers carried by and adjustable along one member of said L-shaped guide to determine the position of the card or paper with relation to the printing-line.

11. In a type-writing machine, the combination of a carriage, a platen carried thereby, a shaft, an L-shaped guide carried by said shaft and adjustable longitudinally thereon and one face of which is adapted to coöperate with a side edge of card or paper, whereas the other face of the guide supports the face of the card or paper, and indicators carried by said guide, whereby an indication is afforded when certain predetermined points on the card or paper coincide with the printing-line.

12. In a type-writing machine, the combination of hinged blocks, and a shaft to which said blocks are adapted to be secured, one of the blocks carrying a side-edge guide.

13. In a type-writing machine, the combination of a platen, a shaft that extends longitudinally of the platen, hinged blocks adapted to engage said shaft and be clamped thereon, a set-screw entering said blocks and effecting the clamping thereof and a side-edge card or paper guide carried by one of said blocks.

14. In a type-writing machine, the combination of a platen, a shaft that extends longitudinally of the platen, hinged blocks provided with grooves for the reception of said shaft, a set-screw which unites said blocks and an upright angular card or paper guide carried by said blocks.

15. In a type-writing machine, the combination of a platen, relatively fixed line-indicating means located at or near the point of introduction of the paper and coöperative with the bottom edge of the paper for indicating when a given portion of the paper has been brought to the printing position.

16. In a type-writing machine, the combination of a platen, and indicating means located at or near the point of introduction of the paper and coöperating therewith to indicate when any predetermined point on the paper reaches the printing-line.

17. In a type-writing machine, the combination of a platen, and an indicating device located at or near the point of introduction of the paper and coöperating therewith and adjustable to indicate when any predetermined point on the paper reaches the printing-line.

18. In a type-writing machine, the combination of a platen, and a plurality of independently-adjustable indicating devices located at or near the point of introduction of the paper and coöperatng therewith to successively indicate when a plurality of predetermined points on the paper are successively brought to the printing-line.

19. In a type-writing machine, the combination of a platen, and line-indicating means arranged to coöperate with the bottom edge of the card or paper to indicate when any predetermined point on the card or paper is at the printing-line.

20. In a type-writing machine, the combination of a platen, and a plurality of line-indicating devices arranged to coöperate with the bottom edge of the card or paper to successively indicate when predetermined points on the card or paper are brought successively to the printing-line.

21. In a type-writing machine, the combination of a platen, paper-feed rollers, means for directing cards or paper to the bight between the feed-rollers and platen, and means carried by said directing means for indicating when any predetermined point on the card or paper reaches the printing-line.

22. In a type-writing machine, the combination of a platen, paper-feed rollers, means for directing the card or paper to the bight between the feed-rollers and platen, and a series of independently-adjustable indicating devices carried by said directing means, for indicating when predetermined points on the card or paper reach the printing-line.

23. In a type-writing machine, the combination of a platen, paper-feed rollers, means for directing cards or paper to the bight between the feed-rollers and platen, and a plurality of indicating devices that are carried by said directing means and are independently adjustable in a plane transverse to the length of the platen, whereby said indicating devices may be set to successively indicate when a number of points on the card or paper are brought to the printing-line.

24. In a type-writing machine, the combination of a platen, paper-feed rollers, a substantially L-shaped guide that directs the card or paper to the bight between the feed-rollers and platen, and one member of which constitutes a guide for a side edge of the card or paper, and indicating means carried by said guide and coöperating with the bottom edge of the card or paper to indicate when any predetermined point thereon arrives at the printing-line.

25. In a type-writing machine, the combination of hinged blocks, a set-screw, an upright angular guide composed of two sides or faces which are carried by said blocks, and index-fingers carried by one of the sides.

26. In a type-writing machine, the combination of hinged blocks, a set-screw for hold-

ing them together, an angular guide and an index-finger adapted to be secured to one side of the angular guide and to be held in proximity to and to have one face substantially parallel with the other side of said guide to permit the passage of paper between the finger and one side of the guide.

27. In a type-writing machine, the combination of hinged blocks, an upright angular guide, index-fingers carried thereby, and means for affording an independent adjustment of said fingers along said guide.

28. In an under strike type-writing machine the combination of a platen, indicating devices located at or near the point of introduction of the paper and adapted to coöperate with the paper, and means for affording an independent adjustment of said indicating devices.

29. In an under strike type-writing machine, the combination of a platen, feed-rollers therefor, a paper-guide which directs the card or paper to the bight between the feed-rollers and platen, and indicating means carried by said paper-guide and adapted to cooperate with the cards or paper to indicate when a perdetermined point thereon arrives at the printing-line.

30. In a type-writing machine, the combination of means for directing cards or paper to the machine and comprising an L-shaped guide, indicating-fingers carried by and adjustable along said guide, each indicating-finger having a slotted block connected thereto and which is seated on one member of said guide, and a set-screw in each block and which is adapted to bear on the guide and retain the block and finger in the adjusted position.

31. In a type-writing machine, the combination of a platen, paper-feed rollers, means for directing cards or paper to the bight between the feed-rollers and platen, said directing means comprising an L-shaped paper-guide, indicating-fingers carried by and individually adjustable along one member of said guide and each having a slotted block that is seated on said member, and a set-screw carried by each block and adapted to bear on the guide to retain the fingers in their adjusted positions.

Signed at Providence, in the county of Providence and State of Rhode Island, this 19th day of November, A. D. 1902.

LUCIEN B. COPELAND.

Witnesses:

GEO. W. THURSTON,

JOHN E. KAY.