C. S. LABOFISH.

TYPEWRITING MACHINE.

APPLICATION FILED APR. 16, 1919.

1,342,174.

Patented June 1, 1920.

3 SHEETS—SHEET 1.

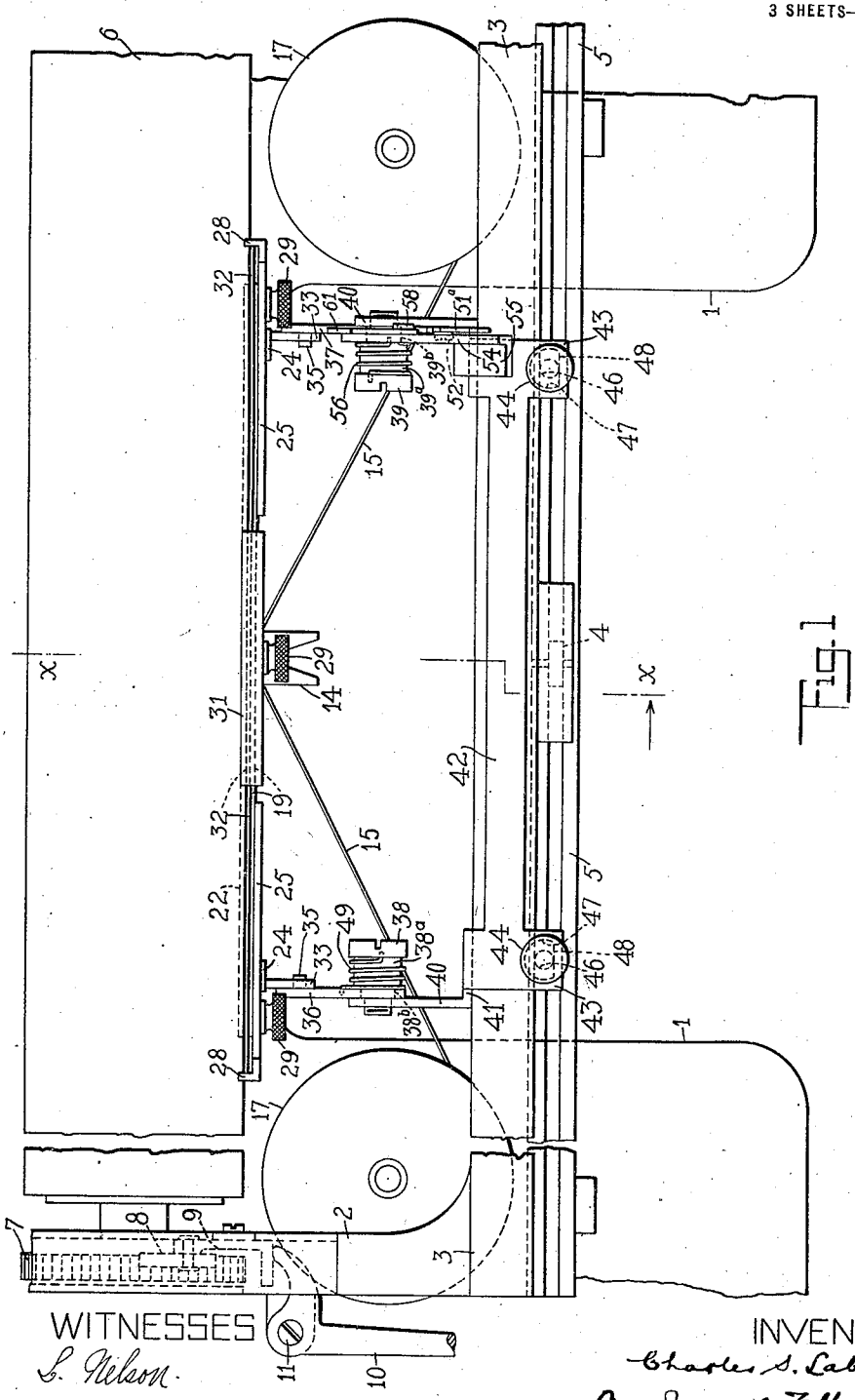


Fig. 1

WITNESSES

L. Nelson.

M. W. Pool

INVENTOR

Charles S. Labofish

By Jacob Talbot

HIS ATTORNEY

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3 SHEETS—SHEET 2.

Fig. 2

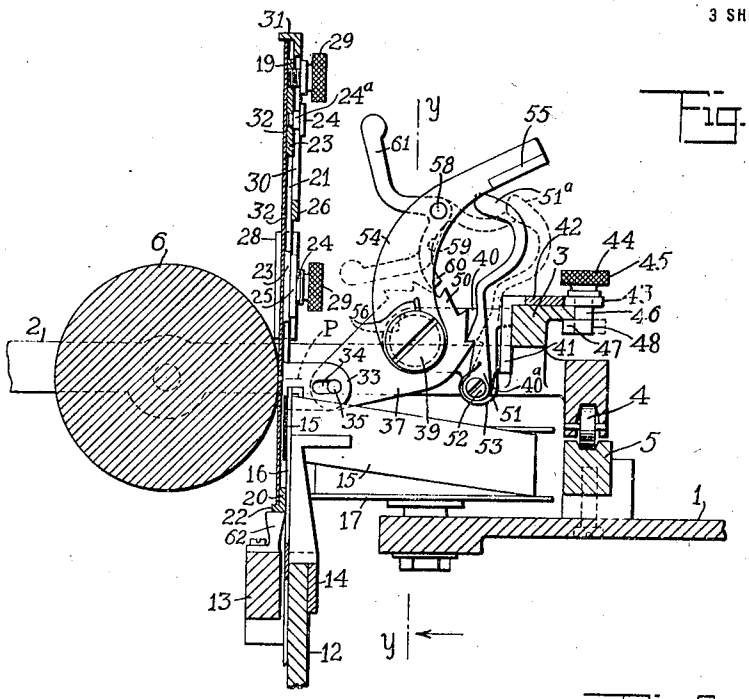
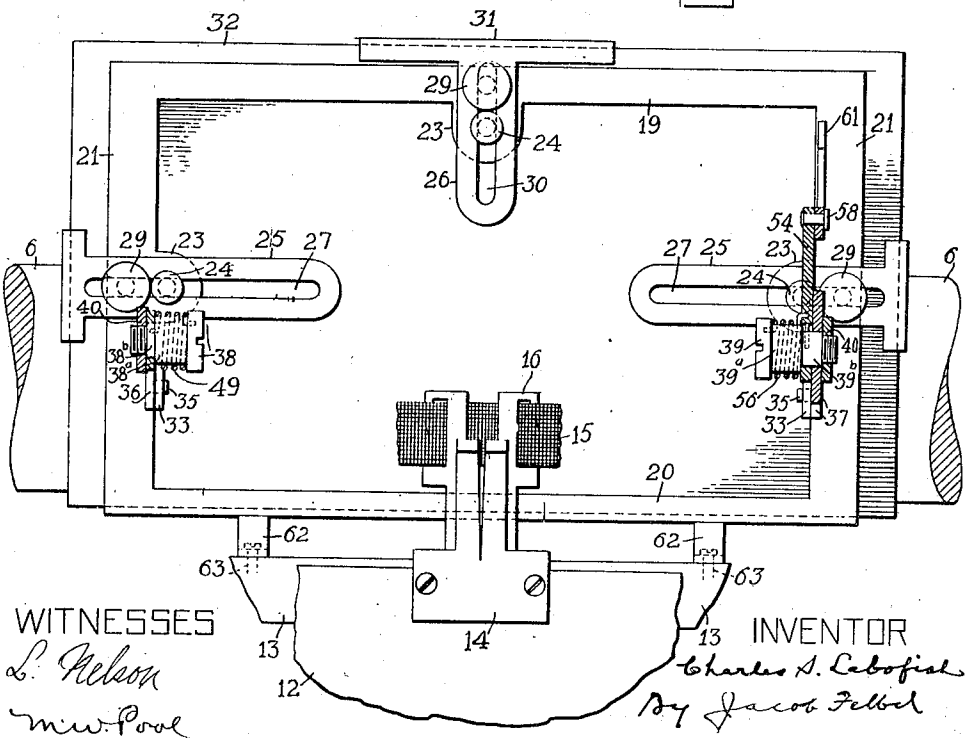


Fig. 3



WITNESSES

L. Nelson

M. W. Pool

INVENTOR

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By Jacob Felbel

HIS ATTORNEY

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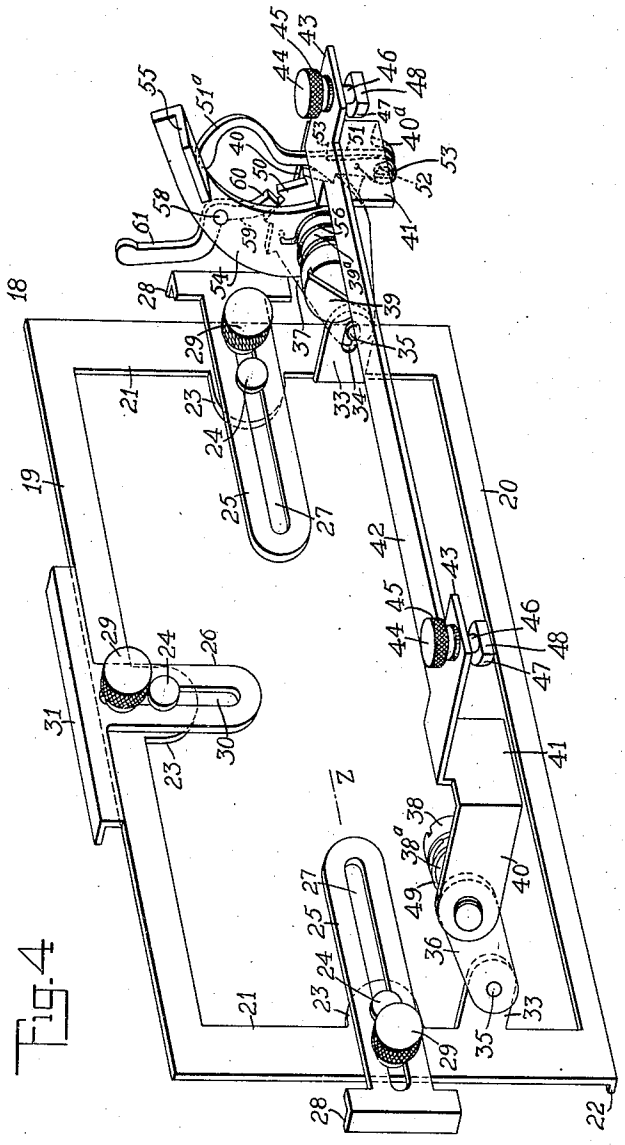


Fig. 4

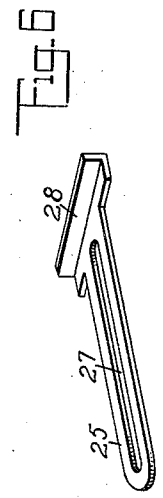


Fig. 6

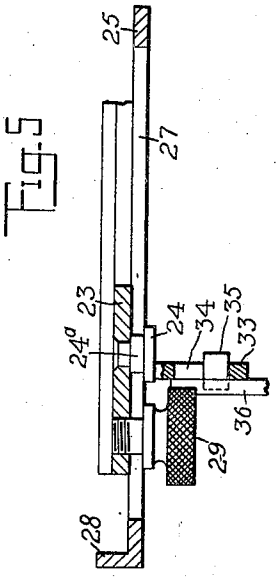


Fig. 5

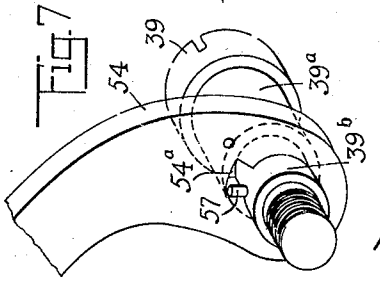


Fig. 7

WITNESSES

L. Nelson

M. W. Pool

INVENTOR

Charles S. Labofish

By Jacob Felbel

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES S. LABOFISH, OF NEW YORK, N. Y., ASSIGNOR TO REMINGTON TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPEWRITING-MACHINE.

1,342,174. Specification of Letters Patent. Patented June 1, 1920.

Application filed April 16, 1919. Serial No. 290,567.

To all whom it may concern:

Be it known that I, CHARLES S. LABOFISH, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Typewriting-Machines, of which the following is a specification.

My invention relates more particularly to means for facilitating the addressing of cards or envelops, and its general object is to provide new and improved devices of the character specified. More specifically, my present invention has for its object the provision of a card or envelop addressing contrivance or attachment which is complete in itself, being provided with card holding and line spacing devices, and which may be readily attached to and detached from typewriting machines without necessitating any alteration in the machine itself, so that the ordinary and normal functions of the machine may be at once brought into use as soon as the attachment or contrivance has been removed. Other objects will hereinafter appear.

To the above ends my invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings which illustrate the preferred form of my invention,

Figure 1 is a fragmentary top plan view showing the upper part of a typewriting machine with my invention applied thereto.

Fig. 2 is a front to rear sectional view taken on a plane indicated by the dotted line x in Fig. 1 and looking in the direction of the arrow.

Fig. 3 is a transverse sectional view taken on a plane indicated by the dotted line y y in Fig. 2 and looking in the direction of the arrow.

Fig. 4 is a perspective view of my novel device or contrivance detached.

Fig. 5 is a fragmentary sectional view on an enlarged scale taken on a plane indicated by the dotted line z in Fig. 4 and looking in the direction of the arrow.

Fig. 6 is a perspective view of an adjustable side guide.

Fig. 7 is a detail perspective view.

My invention is adapted for use in connection with a typewriting machine of ordinary construction such as is shown in the drawings, only so much of said machine being illustrated as is necessary for a full understanding of my said invention. The machine comprises a top plate 1 above which is mounted a slidable platen carriage comprising side bars 2 connected at their forward ends by a front bar 3. A roller 4, mounted at the front of the carriage, coöperates with a stationary guide rail 5. Mounted on the carriage is a roller platen 6 that is provided with line spacing devices comprising a ratchet wheel 7 secured in fixed relationship with the platen axle near one end of the platen. Coöperating with said ratchet wheel is a pawl 8 pivotally mounted on a part 9 that is actuated by a line space lever 10 pivoted at 11 on the platen carriage. The machine is of the front strike variety, type bars not shown being adapted to strike against the front face of the platen, the printing point thereone being indicated at p. Said type bars are mounted on a stationary segment or support 12 that is secured to a cross bar 13 comprised in the frame of the machine. Fixed to the segment is a center guide 14 that guides the types as they approach the printing point on the platen, said types printing through a ribbon 15 that is controlled by an upright vibrator 16. Said vibrator is disposed between and guided by the segment 12 and bar 13 and normally maintains the printing portion of the ribbon below the printing point p, but is adapted to be moved upward at each printing operation to bring the ribbon opposite the printing point by suitable vibrating mechanism. The ribbon 15 is wound on spools 17 mounted above the top plate 1, which spools are adapted to be turned by suitable mechanism to feed the ribbon.

My novel attachment or contrivance comprises, generally stated, an open frame or holder in which the paper, card or envelop is received, a support on which said frame is movably mounted, which support is adapted for ready attachment to the platen carriage, and devices for effecting movements of the frame incident to line spacing the cards or envelops, these devices being a part of the contrivance and entirely independent of the regular platen line spacing

mechanism heretofore described. The open frame aforesaid is best shown in Figs. 3 and 4, being designated as a whole by the reference 18. It is preferably made of sheet metal and is rectangular in shape, comprising two long horizontally disposed parallel top and bottom bars 19 and 20 and two shorter connecting vertical side bars 21, the bottom bar 20 being provided with a rearwardly turned lip 22. The top bar and side bars are provided with lugs 23 to which are secured headed pins 24 that serve to guide and support adjustable guides. These guides comprise two side guides 25 and a top guide 26 of like construction, the top guide, however, differing somewhat in dimensions from the side guides. Each side guide 25 is formed with a slot 27 which receives the associate pin 24, said pin being provided with a shoulder 24^a which, as will be understood from Fig. 5, slidably engages with the parallel edges of the slot 27. The outer end of each guide 25 is provided with a lip 28 turned rearward at right angles to the body of the guide or slide and providing a guide proper for one of the side edges of the card or envelop. Thumb nuts 29 serve to secure the side guides 25 in adjusted positions. The top guide 26 is provided with a vertical slot 30 that coöperates with the associate pin 24, said guide 26 being formed with a rearwardly turned horizontal lip 31 that coöperates with the top edge of the card, the guide 26 being held in adjusted position by a thumb nut 29. The construction and arrangement is such that the thumb nuts 29 not only secure their respective guides in adjusted positions but also coöperate with the pins 24 to confine said guides to right line movements, preventing rotary displacement of said guides. These guides afford means for adapting the frame to cards, envelops or work elements of differing dimensions. In Fig. 3 is shown a card or work element 32, said card resting on the bottom lip or ledge 22 and with the side guides 25 and the top guide 26 adjusted so that their respective lips or ledges coöperate with the side and top edges of the card or sheet 32. It will be apparent that with a larger sheet, envelop or work element the adjustable guides would be moved outward to receive it properly and with a smaller element said guides would be moved inward. To permit of such adjustments it is only necessary of course to loosen the thumb nuts, move the adjustable guides to positions where they lightly contact with the edges of the work sheet or element and then to tighten the thumb nuts.

Turned forward from the inside edges of the side bars 21 of the card holder or carrier are ears 33 formed with slots 34 that receive pins 35 projecting laterally inward toward each other from the rear end portions of arms 36 and 37, said arms at their forward ends being perforated to bear on screws 38 and 39. The left-hand one of these screws is provided with two shouldered portions 38^a, 38^b, and the right-hand screw 39 has shoulders 39^a and 39^b, as shown in Fig. 3. The smaller shoulders 38^b and 39^b provide bearings for the respective arms 36 and 37. Said screws are threaded into ears or angular extensions 40 bent at right angles and rearward from the depending end portions 41 of a support or bar 42. Said bar is horizontally disposed and at its ends is also provided with forward extensions 43 which receive clamping nuts or devices 44 by which the bar may be detachably secured or clamped to the carriage of the machine. Each clamping nut comprises a knurled finger piece 45 at its upper end, a stem 46 and a disk portion or flange 47 at its lower end, this flange being mutilated or cut off at one side as indicated at 48. Wound around the shoulder 38^a of the screw 38 is a coiled spring 49. One end of said spring is engaged in a hole in the screw head while the opposite end is secured to the associate arm 36, the spring being so disposed that it tends always to turn said arm downward. The right-hand arm 37 has formed at its forward end portion a series of ratchet teeth 50, which are engaged by a spring pawl 51 pivoted at 52 to a lug 40^a extending downward from the right-hand ear 40. The pawl extends upward and its upper end portion is curved or bent, as indicated at 51^a, to provide a finger piece. A bow-spring 53 is secured at one end to the pawl and at the other end to the part 41, said spring tending to maintain the pawl in engagement with the ratchet teeth 50, the pawl operating normally as a holding pawl. The ratchet 50 and pawl 51 are so disposed that they prevent downward movement of the rear end portion of the arm 37 under the influence of the weight of the stencil or card carrier and under the influence of the spring 49. Arranged on the shouldered portion 39^b of the screw 39 to the left of the arm 37 and contiguous thereto is an arm 54 which is perforated to bear rotatably on said shoulder and curves upward and forward, being provided at its free end with a laterally bent finger portion or key 55. This arm is normally urged rearward by a spring 56 coiled around the shoulder 39^a of the screw 39 and anchored at one end to said screw, the other end of the spring being secured to the arm 54. The arm 54 is provided with a cut-out 54^a, as best shown in Fig. 7, and the spring 56 normally maintains the forward side of said cut-out engaged with a radial pin 57 projecting from the shoulder 39^b. The cut-out 54^a is of sufficient width to permit full movement of the arm 54 forward and down-

ward in line spacing the work sheet carried by the frame or holder 18. Pivoted at 58 on the arm 54 is a pawl member 59 provided at its lower end with a pawl tooth 60 adapted to coöperate with and actuate the ratchet teeth 50, its upper arm terminating in a finger piece or key 61.

When it is desired to attach the contrivance to the carriage of the machine the thumb pieces 45 of the clamping devices are turned until the flat faces 48 are toward the rear, as indicated by the dotted lines in Fig. 2. The bar 42 is then placed on the front bar 3 of the carriage, the open frame or holder 18 being disposed between the platen at the rear and the ribbon vibrator 16 and center guide 14 at the front. The downward movement of the holder is limited by stationary stops formed of lugs or angle pieces 62 which are secured to the cross bar 13 by screws 63. In Fig. 2 the holder is shown resting on the stops 62 and at this time the holding pawl 51 is engaged with the lowermost ratchet tooth of the ratchet 50. The contrivance is fixedly secured to the carriage by turning the thumb pieces 45 until the disks 47 frictionally engage with the under side of the lip of the carriage rail 3, the construction causing the devices 44 when in this position to exert a clamping effect on the rail 3 and to hold the bar 42 tightly engaged with said rail. It may be here noted that when it is desired to detach the contrivance the thumb pieces 45 are turned to withdraw the disks from engagement with the rail 3, whereupon the whole contrivance or apparatus may be readily removed. Assuming that the parts are in the position shown in Figs. 2 and 3, the card, envelop or work sheet 32 is in position to receive the first line of the address or other writing, this being written in the usual way by actuating the printing instrumentalities which print through the ribbon 15, the sheet 32 being backed by the platen 6. The card holding contrivance or apparatus will move bodily leftward as the carriage is spaced toward the left after the printing of each character. The first line of writing having been completed, the operator depresses the key 55, causing the tooth 60 of the actuating pawl to engage with the underlying ratchet tooth 50, depressing said ratchet tooth and turning the arm 37 on its pivot, lifting the rear end portion of said arm, which operates through the pin 35 on the right-hand ear 33 of the holder 18, whose motion will be transmitted to the left-hand side of the frame or holder, swinging up the arm 36. These parts are so proportioned and adjusted that this upward or feeding movement will continue until the holding pawl 51 snaps over the ratchet tooth 50 that is next to the bottom ratchet tooth of the set, thus holding the parts in the raised position. The holder and work sheet are thus elevated or fed through a line space distance, in the present instance about $\frac{3}{8}$ of an inch. After the second line has been printed the line spacing or card feeding operation is repeated, raising the holder and work sheet through another line space distance, the writing of the third or last line in the present instance taking place at about $\frac{1}{4}$ of an inch from the lower edge of the work sheet 32. With the parts in this position the completed work sheet may be readily removed and a new work or card sheet inserted. Thereafter the operator pushes the key 61 rearward and downward from the full line to the dotted line position in Fig. 2, resulting in the swinging of the pawl tooth 60 forward and upward and causing it to operatively engage with the finger piece 51^a to swing the pawl 51 forward against its spring 53 until said pawl 51 disengages from the ratchet wheel 50. As soon as this disengagement takes place gravity and the spring 49 become effective to move the holder 18 and the new work sheet downward until the holder is arrested by the stops 62. Thereupon the finger piece 61 is released and the pawl 51 snaps into engagement again as shown in Fig. 2. The downward movement is continuous as distinguished from the step-by-step upward or line feeding movement. It will be observed that normally there is a lost motion or clearance between the pawl tooth 60 and the underlying ratchet tooth 50, this clearance permitting the pawl tooth to be swung freely out of the path of the ratchet teeth when the key 61 is actuated as described to move said pawl member 59 independently of its supporting part or carrier 54. The elongation of the openings or slots 34 is sufficient to compensate for the slight arc in which the arms 36 and 37 swing as opposed to the straight line up-and-down movement of the ears 33 with which they coöperate. It will also be noted that the card, envelop or work sheet is confined between the front face of the platen and the upright walls of the open frame 18 so that while a card may move up and down freely it is prevented from falling out of place in the frame.

My invention provides a comparatively simple and cheap device for use with cards, envelops or the like and which may readily be attached to and removed from existing styles of typewriting machines without requiring alteration of such machines. It is apparent of course that details of construction of my invention may be varied without departing from it in order to adapt it for use with different makes of writing machines.

It is to be understood that in certain of the appended claims the term "card holding contrivance" and similar expressions is

used generically for a contrivance or apparatus that may be employed in writing on any other suitable work element besides cards, such as envelops, stencil sheets and the like.

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

1. In combination with the platen carriage of a writing machine; a detachable card holding contrivance comprising a support, means for detachably securing said support to the carriage, a card or sheet holder, connections for movably connecting said holder with said support, and means for line spacing said card holder while the platen of the machine remains quiescent.

2. In a front strike writing machine, the combination of a platen carriage and a detachable card holding contrivance comprising a horizontal bar, an upright card holding frame, means for connecting said frame and said bar, line spacing means for said frame comprising a line spacing key or handle and connections, the complete line spacing means being detachable with and included in said detachable contrivance, and means for securing said bar to said carriage.

3. In a typewriting machine, the combination of a platen, a carriage, line spacing mechanism for said platen, and a card holding contrivance detachably secured to said carriage, said contrivance comprising separate line spacing means for the card which operates to line space the card entirely independently of said line spacing mechanism for said platen.

4. In a typewriting machine, the combination of a platen, a carriage therefor, and a detachable card holding contrivance comprising an upright card holder, a support secured detachably to said carriage, and means for moving said holder independently of said platen to line space the work element carried by said holder.

5. In a typewriting machine, the combination of a platen, a carriage therefor, and a detachable card holding contrivance comprising an upright card holder, a support secured detachably to said carriage, and complete key controlled means mounted on said support and detachable therewith for feeding the work element carried by said holder.

6. In a typewriting machine, the combination of a carriage and a detachable card holding contrivance comprising an upright card holder, a support clamped to said carriage, arms pivotally mounted on said support and connected to said card holder, pawl and ratchet devices operative on one of said arms to feed said card holder, and a key for operating said pawl and ratchet devices, said key being part of and detachable with said contrivance.

7. A card holding contrivance for typewriting machines comprising a supporting bar, arms pivoted thereon, a card holder pivotally connected to said arms, and line spacing devices for said card holder comprising a ratchet, an actuating pawl, and a holding pawl, said actuating pawl being operative to render said holding pawl inoperative.

8. Line spacing contrivances comprising a ratchet, a pivoted key, an actuating pawl pivoted on said key, and a holding pawl, said actuating pawl being operative by said key to effect line spacing movements and being operative independently of said key whereby both pawls are thrown out of the path of said ratchet.

9. Line spacing contrivances comprising a ratchet, a pivoted key, an actuating pawl pivoted on said key, and a holding pawl, said actuating pawl being operative by said key to effect line spacing movements, said actuating pawl having a movement independent of said key to throw said holding pawl out of use.

10. In a typewriting machine, the combination of a platen, a carriage provided with a front bar, an upright card holding frame, arms loosely connected to said frame, a bar provided with ears to which said arms are pivotally connected, devices for detachably clamping said last recited bar to the front bar of the carriage, and line spacing devices for said frame, said devices operating independently of said platen.

11. In a typewriting machine, the combination of a carriage, a platen thereon, an upright card holding frame, a bar provided with ears, arms pivotally connected to said ears and to said frame, devices for detachably clamping said bar to the carriage, line spacing devices for said frame, said devices operating independently of said platen, and a stationary stop for limiting movement of said frame in one direction.

12. In a front strike typewriting machine, the combination of a platen, a carriage provided with a front bar, an upright card holding frame, arms loosely connected to said frame, a bar provided with ears to which said arms are pivotally connected, devices for detachably clamping said last recited bar to the front bar of the carriage, line spacing devices for said frame, said devices operating independently of said platen, and a stationary stop for limiting downward movement of said frame.

13. In a typewriting machine, the combination of a platen, a carriage, an upright card holding frame, arms loosely connected to said frame, a bar detachably clamped to the carriage, arms pivotally connected to said bar and to said frame, means for moving said frame in one direction comprising pawl and ratchet devices associated with one

of said arms, and means for moving said frame in the opposite direction comprising a spring connected with the other of said arms.

14. In a typewriting machine, a card holder comprising an open rectangular frame, one side being formed with an angular lip, and the other three sides having adjustable slides provided with guide lips, means being provided for clamping the slides and confining them to right line movements.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 14th day of April, A. D. 1919.

CHARLES S. LABOFISH.

Witnesses:
CHARLES E. SMITH,
E. M. WELLS.