

(No Model.)

3 Sheets—Sheet 1.

E. C. LEWIS.
TYPE WRITER ATTACHMENT.

No. 585,918.

Patented July 6, 1897.

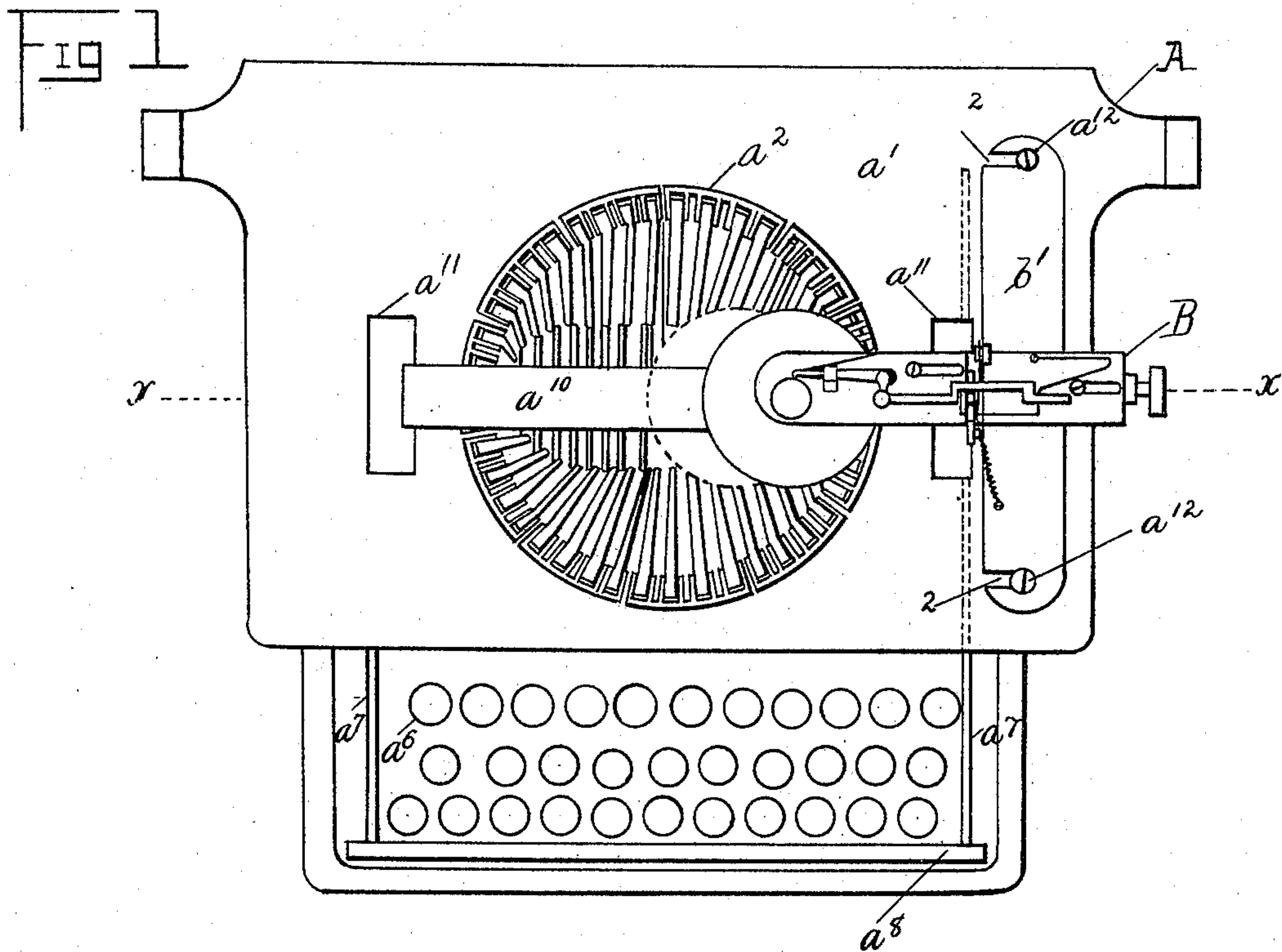


Fig 7

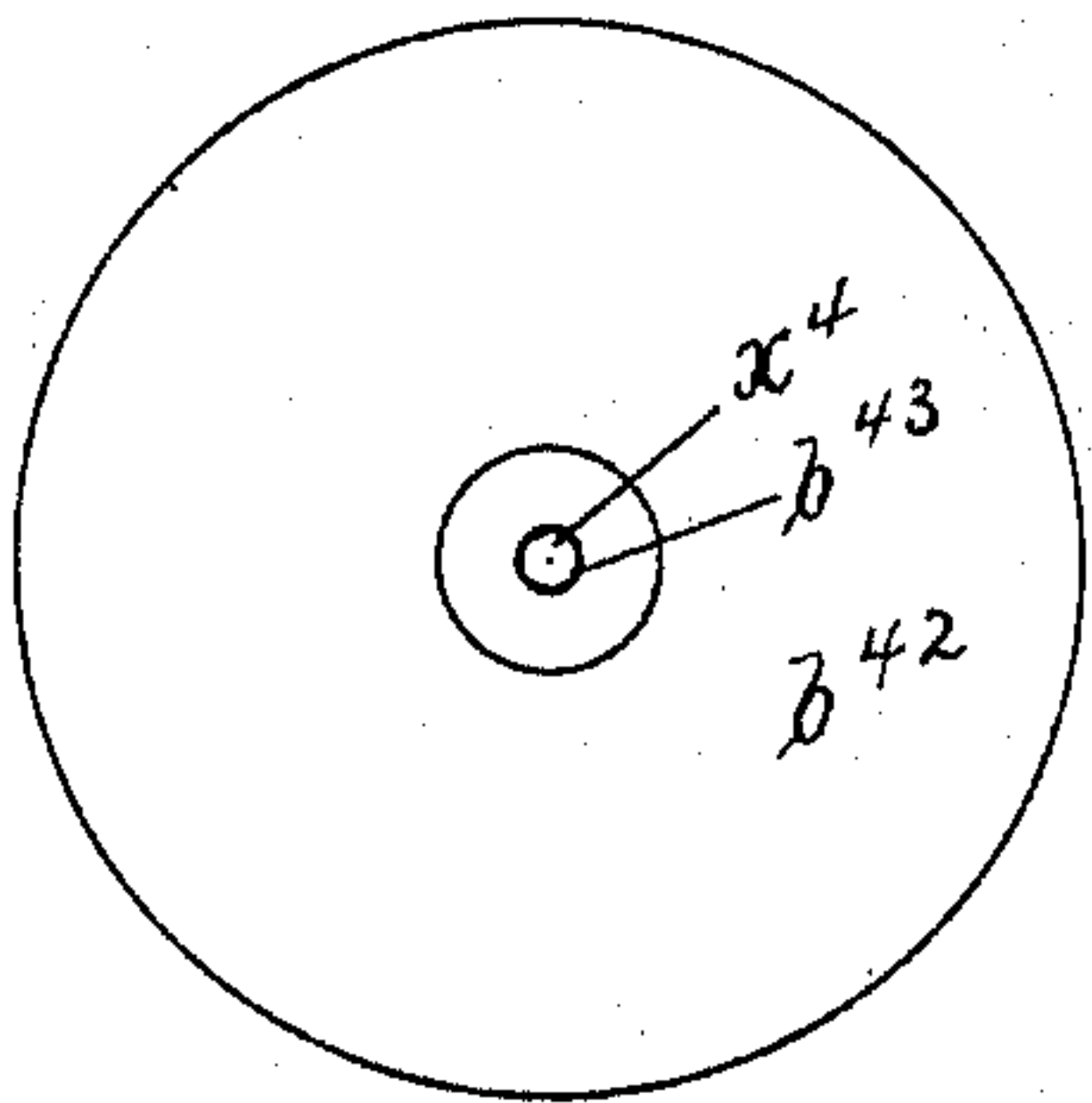
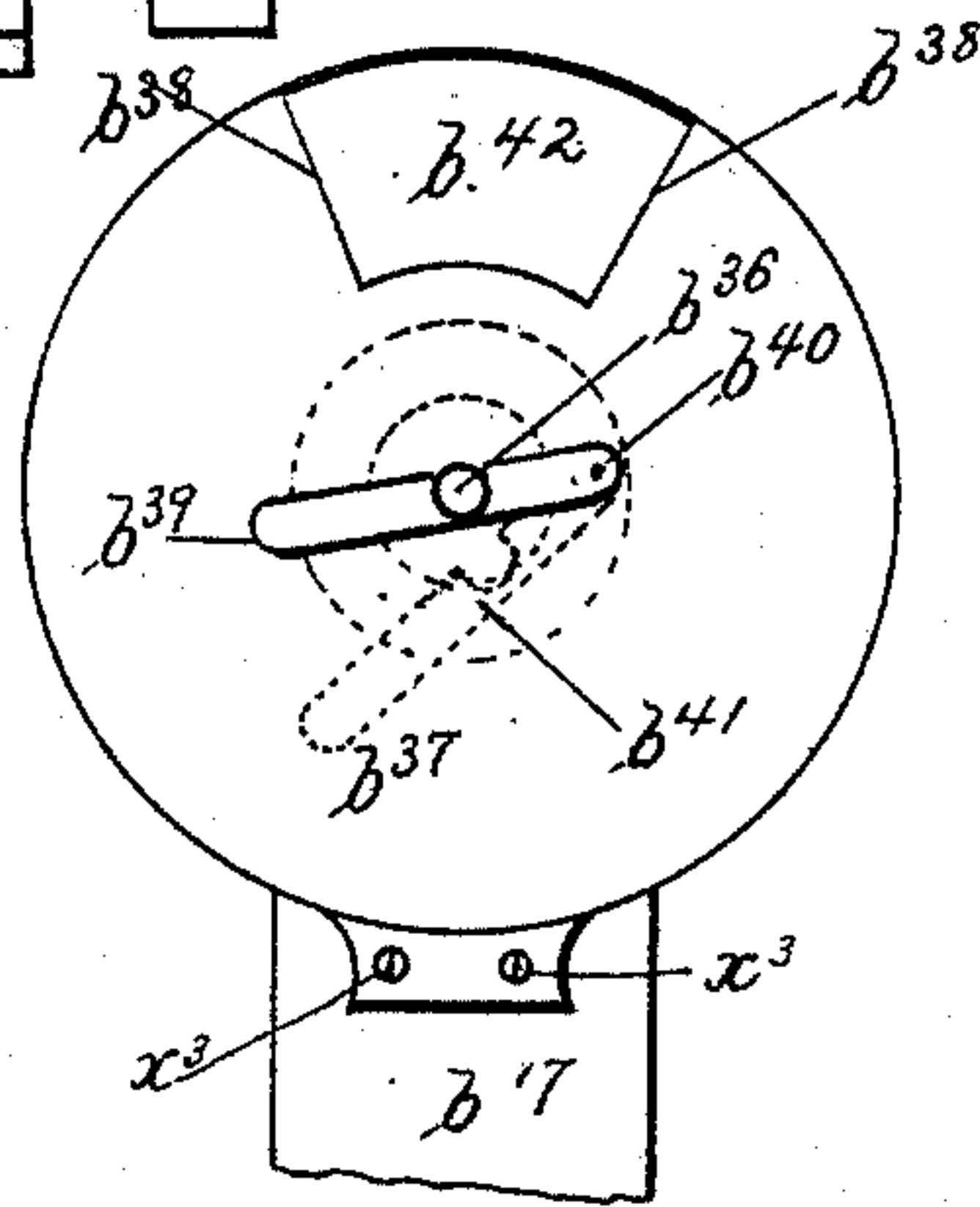


Fig 6



WITNESSES

Emma C. Finlayson
William D. Finlayson

INVENTOR

Everett C. Lewis

BY

Stewart & Stewart
his ATTORNEYS.

(No Model.)

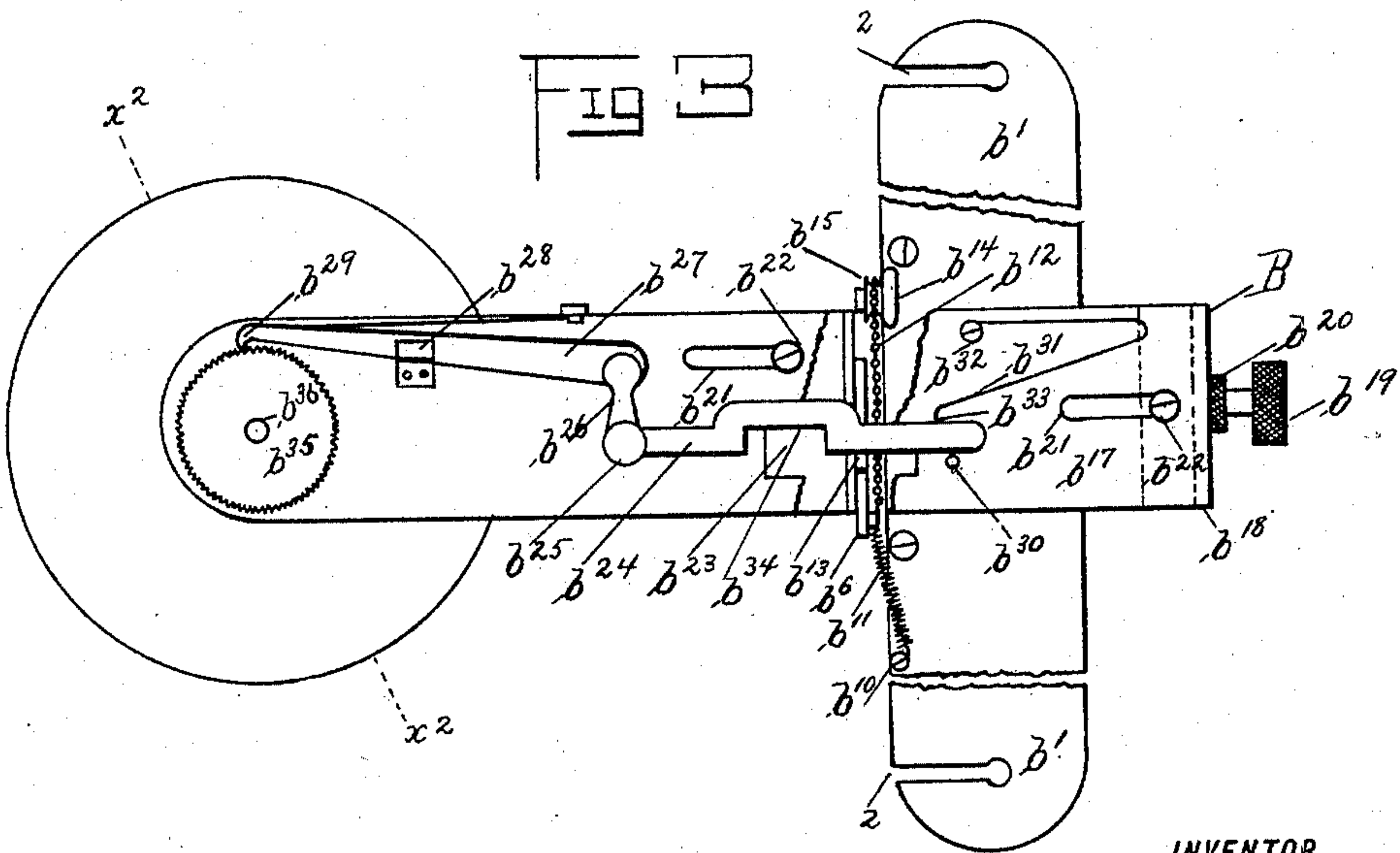
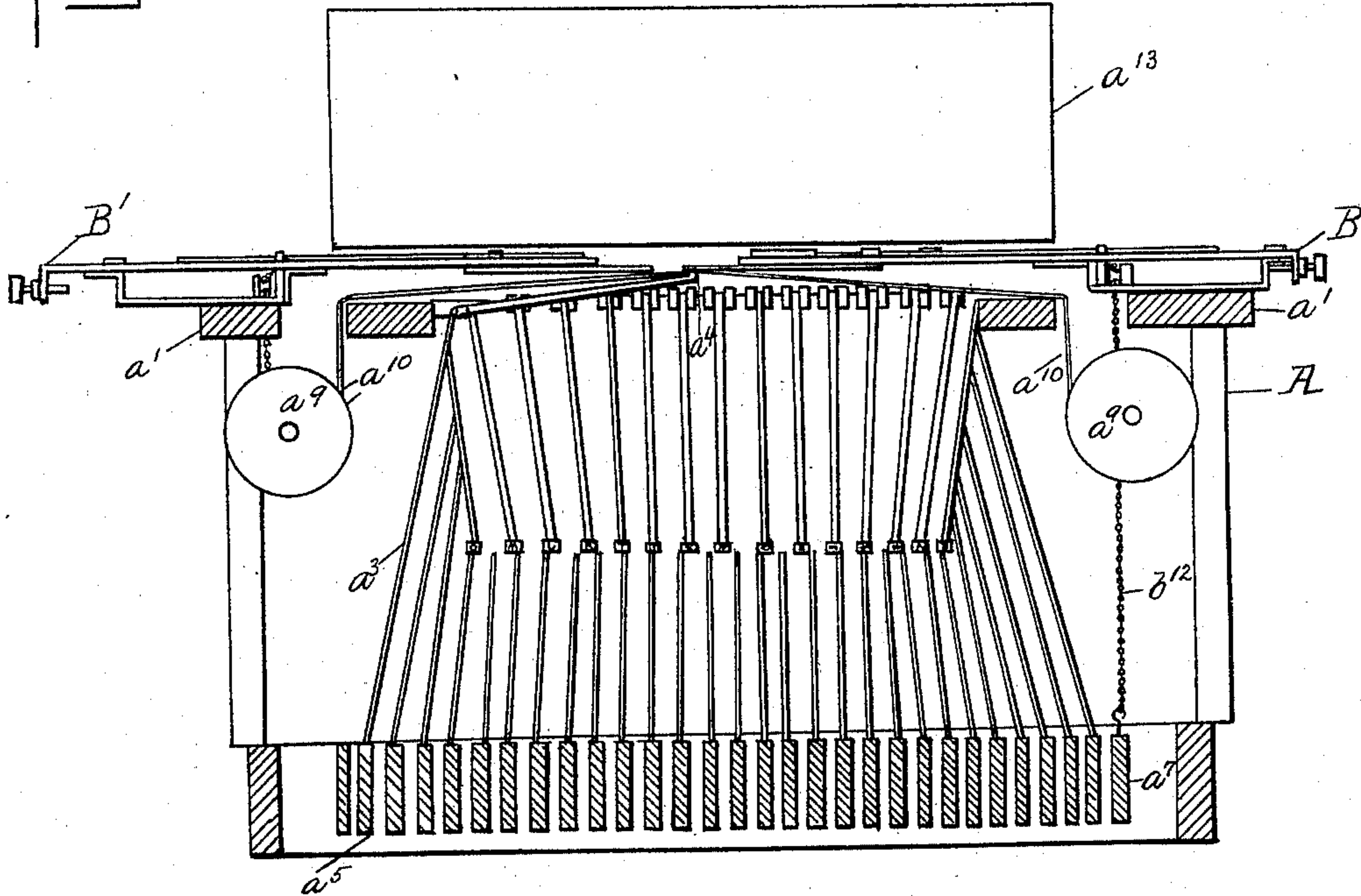
3 Sheets—Sheet 2.

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FIG 2



WITNESSES

Emma H. Finlayson
William D. Finlayson

INVENTOR

Everett C. Lewis

BY

Stewart & Stewart
his ATTORNEYS

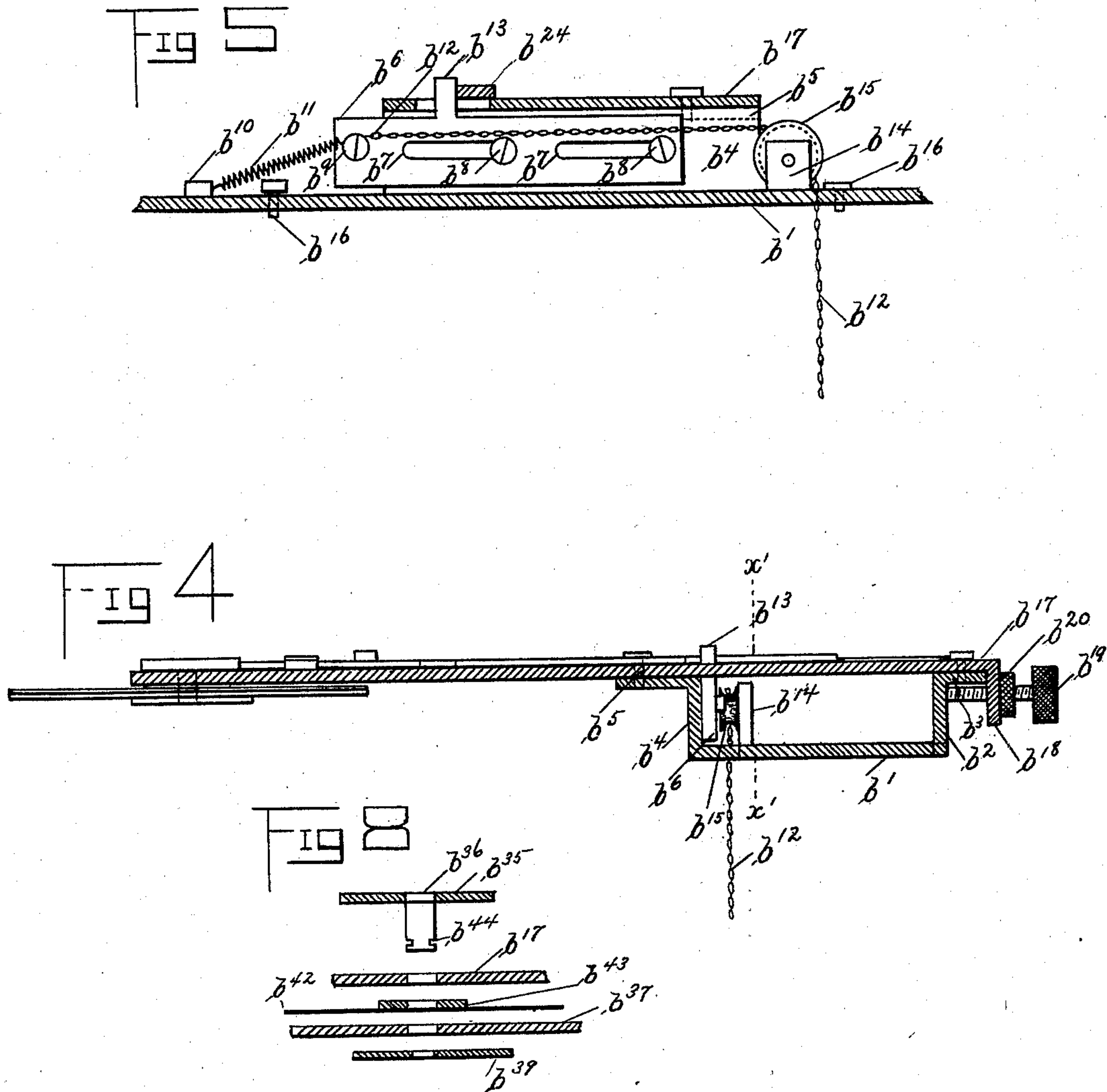
(No Model.)

3 Sheets—Sheet 3.

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WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

EVERETT C. LEWIS, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, TO JOHN T. UNDERWOOD, OF BROOKLYN, NEW YORK.

TYPE-WRITER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 585,918, dated July 6, 1897.

Application filed October 28, 1896. Serial No. 610,264. (No model.)

To all whom it may concern:

Be it known that I, EVERETT C. LEWIS, a citizen of the United States, and a resident of Woonsocket, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Type-Writer Attachments, of which the following is a specification.

My invention relates to that class of type-writing machines wherein a printing-sheet is interposed between the type and the platen of the machine for the purpose of producing an impression upon the paper by the action of the type.

My invention is an attachment to be used in connection with such type-writing machines for the purpose of sustaining and operating a printing-sheet in the field of the type, and yet so constructed as to permit of the ready introduction and removal of the printing-sheet into or out of the field of the type at the will of the operator, and my attachment may be used either with or without the removal of the printing-ribbon, as at present employed in such type-writing machines, and I may employ either one or more of my attachments in combination with one type-writer machine, and I may use different colors or characters of printing-sheets with each of said devices, thus giving to the operator of the machine an opportunity to select either the character or the quality of the printing-sheet which it is desirable to employ and to introduce or remove the same from the field of the type with great facility and ease.

I have illustrated my invention in the accompanying drawings, designating the parts by letters and figures and referring to like parts by like letters and figures.

Figure 1 is a plan view of the type-writing machine with the paper-carrying device and platen removed, showing my attachment secured to the upper side of the table of the device and withdrawn from the field of the type, but in dotted lines is indicated the position of the device when moved forward into the field of the type. Fig. 2 is a vertical sectional view of Fig. 1 on the lines xx , showing,

however, another of my attachments on the opposite side of the machine from the one shown in Fig. 1, and in Fig. 2 I show one of my attachments thrown forward into the field of the type and the other withdrawn therefrom. Fig. 3 is a plan view of my device with a portion of the carriage broken away to show the operative mechanisms beneath the top plate thereof. Fig. 4 is a vertical section of my attachment as shown in Fig. 3. Fig. 5 is a vertical section of Fig. 4, taken on the lines $x'x'$. Fig. 6 is a detailed view showing the under side of the frame or disk supporting the printing-sheet. Fig. 7 shows a plan view of the printing-sheet, and Fig. 8 is a sectional view taken on the lines x^2x^2 .

I have illustrated my invention in connection with the ordinary form of type-writers, such as that sold under the title of the "Remington type-writer" machine, but it may be employed with any machine wherein a printing-sheet is used in substantially the same manner.

In the drawings, A represents such type-writing machine as I have described.

a' is the table of the machine.

a^2 is the gang of type-bars, of which a^3 is one of the levers, a^4 one of the type shown in operative position, and a^5 one of the levers leading to the bank of keys, as a^6 .

a^7 and a^7 are the spacing-levers, leading to the space-bar a^8 .

a^9 and a^9 are reels, on which are run the ink-ribbons a^{10} and a^{10} .

a^{11} and a^{11} are the apertures in the table a' , through which the ribbon passes.

a^{12} and a^{12} are set-screws in the table a' for the purpose of holding in position my attachment.

a^{13} represents the platen of the machine.

I have deemed it unnecessary in this connection to show the carriage in which the platen is mounted or the other operative features of the machine which are unnecessary for the purpose of illustration here.

I have designated my attachment, as applied to the machine, as B and B' in Fig. 2. The one indicated as B is shown in operative position in the field of the type and the one

indicated as B' is designated as not in operative position—that is to say, out of the field of the type.

I will now proceed to describe the details of the construction of my attachment. b' is a cross-bar provided with the slots 2 and 2, which are arranged to slide under the set-screws a^{12} and a^{13} and to be held upon the table a' by said set-screws. Referring to Fig. 4, it will be seen that this bar b' is provided with the upturned right-angular flange b^2 , which flange is again bent at right angles, as at b^3 , and on the other side of the bar b' is also provided with a flange b^4 , bent at right angles thereto, and the flange b^5 bent at right angles to the flange b^4 , thus forming a base on which the carrier of the attachment is mounted of a width substantially equal to that of said carrier, and also providing a space for the operative mechanisms, which I call the “trigger movement” of my device, as shown in section in Fig. 5 along the lines $x'x'$ of Fig. 4. This trigger movement of my device may be described as follows: b^6 is a plate provided with the slots or ways b^7 and b^7 , through which the plate b^6 is secured to the flange b^4 by the screws b^8 and b^8 ; but said screws are introduced only far enough to operate as guides for the plate b^6 , and b^{10} is a binding-post on the base-plate or brace b' , and b^9 is a binding-post secured to the plate b^6 . Between said binding-posts b^9 and b^{10} is interposed a spiral spring b^{11} , with its tension directed to maintain the plate b^6 in the position shown in Fig. 5. b^{12} is a chain secured to the binding-post b^9 and passing over the pulley b^{15} and secured to the spacing-lever a^7 and operated by the spacing-bar a^8 , as heretofore described.

b^{13} is a lug which is part of the plate b^6 , passing through an aperture in the plate b^{17} , hereinafter to be described, and operating on the lever b^{24} .

b^{14} is a staple secured to the base-plate or brace b' , and b^{15} is a pulley mounted on a spindle secured to said staple b^{14} .

b^{16} and b^{16} are set-screws for the purpose of elevating or lowering the attachment with reference to its position between the type and the platen.

b^{17} is a plate which I prefer to call a “carrier,” upon which is mounted the operative mechanisms of my device for moving the printing-sheet. It is provided with a right-angular flange b^{18} , through which passes a thumb-screw b^{19} , which is intended for the purpose of adjusting the throw of the device, and b^{20} is a lock-nut to fix said throw when the same is determined by the thumb-screw b^{19} .

b^{21} and b^{21} are slots in the plate b^{17} , and b^{22} and b^{22} are screws to hold said plate b^{17} to the flanges b^5 and b^3 of the base-plate b' . These screws are sufficiently loose to permit the carriage b^{17} to slide within the ways b^{21} and b^{21} .

b^{23} is an aperture within the plate b^{17} to permit the lug or trigger b^{13} to pass through the same and operate freely within said aperture.

b^{24} and b^{26} form a crank-lever pivoted at

b^{25} , said crank-arm b^{26} being pivotally connected with the lever b^{27} , which is provided at the other end with the pawl b^{29} , and the guide b^{28} is interposed to hold said lever b^{27} in position.

b^{30} is a lug secured to the plate b^7 , and b^{31} is a knife-spring secured to the binding-post b^{32} , bearing on the lever b^{24} at the point b^{33} , retaining the same against the post b^{30} . The lever b^{24} is provided with the aperture b^{34} to permit the lug or trigger b^{13} , when my attachment is withdrawn from operative position, to respond to the movement of the space-bar without operating my attachment.

b^{35} is a ratchet-wheel secured to the spindle b^{36} , which passes through a journal-bearing in the plate b^{17} . b^{37} is a metal disk employed to support the printing-disk. In Fig. 6 I have shown a view of this disk, looking at the same from the under side, where it will be seen that a space is provided b^{38} and b^{38} , which is intended as an opening or aperture through which the type may act upon the printing-sheet. This disk b^{37} is secured to the under side of the plate b^{17} by the screws x^3 and x^3 .

b^{39} is a locking-lever, preferably of a knife-spring metal, hinged at b^{40} and provided with an indenture or notch b^{41} . The open position of the locking-lever b^{39} is also shown in dotted lines.

b^{42} is the printing-sheet as the same appears through the aperture b^{38} in the disk b^{37} . In Fig. 7 I have shown this printing-disk, which is mounted on a friction-button b^{43} , said friction-button having an aperture x^4 of a size to make frictional contact with the spindle b^{36} .

In Fig. 8 I have shown a sectional view of the spindle b^{36} , the ratchet-wheel b^{35} , the carriage-plate b^{17} , the button b^{43} , the printing-disk b^{42} , the sustaining-disk b^{37} , and the locking-lever b^{39} . I have shown these parts separated and in position to be run together, and it will be noted that the spindle b^{36} is provided at one end with an annular indenture or groove b^{44} . It is intended that the notch b^{41} of the locking-lever b^{39} shall slip into this annular notch b^{44} when the parts last referred to are run upon the spindle b^{36} and hold the same in position together.

The operation of my device is as follows: I introduce the printing-sheet b^{42} between the disk b^{37} and the carrier b^{17} by first releasing the locking-lever b^{39} from the annular aperture b^{44} and withdraw the spindle b^{36} , carrying the ratchet-wheel b^{35} . I then introduce between the disk b^{37} and the carrier b^{17} the printing-sheet b^{42} and again introduce the spindle b^{36} through said printing-disk and through the supporting-disk b^{37} and cause the locking-lever b^{39} to move in a position shown in Fig. 6, thus locking together the parts indicated. The friction-button b^{43} , as heretofore stated, has a central aperture x^4 , which makes frictional contact with the spindle b^{26} . It will be manifest, therefore, that said printing-disk will be carried by said spindle and the button

b^{43} is of sufficient thickness to separate the supporting-disk b^{37} and the under side of the carrier b^{17} , thus permitting the printing-disk to move freely between said supporting-disk and carrier with the movement of the spindle b^{36} and the ratchet-wheel b^{35} .

It will be understood that I present to the paper to be impressed that side of the printing-sheet which is most favorable for the transmission of the ink to the paper. I then secure my attachment to the table of the type-writer by the screws a^{12} and a^{12} , passing into the slots 2 and 2. I may partially adjust the same in these slots, so as to bring the attachment in the right position. I so adjust my attachment with reference to the operative field of the type that when the device is drawn back in the position shown in Fig. 1 the printing-disk will be out of the field of the type, and when it is thrown forward, as in my attachment B in Fig. 2, the printing-disk will be within the field of the type. This adjustment may be facilitated by the operation of the thumb-screw b^{19} and the set-screw b^{20} . I find this adjusting device also convenient when it is desired to shift the printing-surface of the printing-sheet, so as to bring a new surface into operation when one surface is partially exhausted. I then secure the chain b^{12} to one of the spacing-levers connected with the spacing-bars, as a^7 . When my attachment is thrust forward—that is to say, when the carriage b^{17} is caused to move in the slots b^{21} and b^{21} into the position shown in Fig. 3—the trigger b^{13} is in position to engage the crank-lever b^{24} , and with the operation of the space-bar from time to time as the type-writer is operated the plate b^6 , carrying said trigger b^{13} , is caused to reciprocate first in the power of the spacing-bar and it is then retracted by the spiral spring b^{11} . With the movement of said plate and trigger in the power of said spacing-bar said trigger b^{13} engages the crank-lever b^{24} and causes the pawl b^{29} to engage the ratchet-wheel b^{35} , thus moving the printing-disk one step and thus presenting to the type a fresh printing-surface. When, however, the carrier b^{17} is retracted into the position shown in Fig. 1, the trigger b^{13} , responding to the movement of the space-bar, moves within the slot b^{34} of the lever b^{24} . Thus the movement of said trigger during the period that the carrier b^{17} is withdrawn is an idle movement—that is to say, it does not affect the lever b^{24} , and therefore the printing-disk is stationary.

I may employ my device either singly or duplicate—singly, as shown in Fig. 1, and duplicate, as shown in Fig. 2—or I may use either one or two attachments in association with the ordinary inking-ribbon of a type-writer or without such ribbon, as convenience may dictate. The advantage of using several printing-sheets is that I may employ printing-sheets of different colors or having different qualities—that is to say, some printing-sheets are prepared with inks or coloring-matters

that will duplicate in an ordinary letter-copying book, while others have the quality of being indelible and not capable of copying. With the ordinary arrangement of the type-writer ribbon it is necessary, when it is desired to use a copying-ribbon or non-copying ink or to introduce a new color, either to reel off the copying-ribbon and introduce another or to carry two on the reels, thus necessitating the winding and the unwinding of the reel with each change.

My device is intended to provide a convenient means of rapidly changing the printing-sheet and readily introducing another. Moreover, in the ordinary printing-ribbon only a limited part of the ribbon—that is to say, usually the center thereof—is brought into the field of the type, whereas with the arrangement that I have shown by the adjustment of the thumb-screw b^{19} I may bring substantially the whole of the printing-surface of the disk employed into the field of the type. Moreover, these disks may be introduced and removed with great readiness and facility. Furthermore, I may use a disk made of materials which could not be used as an ink-ribbon because of their lack of tensile strength.

Furthermore, my attachment is capable of very convenient economical use in connection with what is known as the "mimeograph" process of duplicating type-written matter. As the mimeograph process is at present operated, the ink-ribbon is first removed. Under the present arrangement of type-writers this requires the unreeling of the ribbon and the removal of the same from the field of the type, for it is necessary in that process to bring the type directly in contact with the wax sheet from which it is desired to make a stencil.

In the operation of my device all that is necessary is to withdraw the carrier of the attachment, so as to remove the printing-sheet from the field of the type. This done, the machine is ready to receive the wax sheet which is employed in the preparation of the stencil used in what is known as the "mimeograph" process.

I may employ as the printing-sheet to be used as my attachment any of the well-known printing-sheets which may be used for this purpose; but I prefer to use a thin paper, as this is more economical.

What I claim is—

1. In a type-writing machine the combination with the type and platen, of an inking-sheet suitably mounted on a reciprocating carrier to move said sheet into and out of the operative field of the type, substantially as described.

2. In a type-writing machine the combination with the type and platen, of an inking-disk suitably mounted on a reciprocating carrier, to move said disk into and out of the operative field of the type, and means operated by the movement of the type-writing machine, to rotate said disk, substantially as described.

3. In a type-writing machine, the combination with the platen, of an inking-disk suitably mounted on a reciprocating carrier to move said disk into and out of the operative field of the type, and means operated by the movement of the type-writing space-bar to rotate said disk, substantially as described.

4. In a type-writing machine the combination with the type and platen, of an inking-disk suitably mounted on a reciprocating carrier to move said disk into and out of the operative field of the type, said disk being secured to the carrier by a spindle having at one end a ratchet-wheel, with a pawl for said ratchet, and a trigger engaging said pawl, operated by the movement of the machine to rotate said disk, substantially as described.

5. In a type-writing machine the combination with the type and platen, of an inking-disk suitably mounted on a reciprocating carrier, to move said disk into and out of the operative field of the type, said disk being mounted on said carrier by means of a spindle, having at one end a ratchet-wheel, with a pawl for said ratchet, and a trigger engag-

ing said pawl while the disk is in the field of the type, said trigger being operated by the movement of the machine, substantially as described.

6. In a type-writing machine the combination with the type and platen, of an inking-disk suitably mounted on a carrier, said carrier being mounted to reciprocate on a frame secured to the top plate of the type-writer machine, at either side thereof, to move the disk into and out of the operative field of the type, said disk being mounted on said carrier by means of a spindle having at one end a ratchet-wheel with a pawl for said ratchet, and a trigger engaging said pawl while the disk is in the field of the type, said trigger being operated by the movement of the space-bar, substantially as described.

Signed at Woonsocket, in the county of Providence and State of Rhode Island, this 22d day of October, A. D. 1896.

EVERETT C. LEWIS.

Witnesses:

WALTER E. GREY,
JEFFERSON ALDRICH.