

No. 723,079.

PATENTED MAR. 17, 1903.

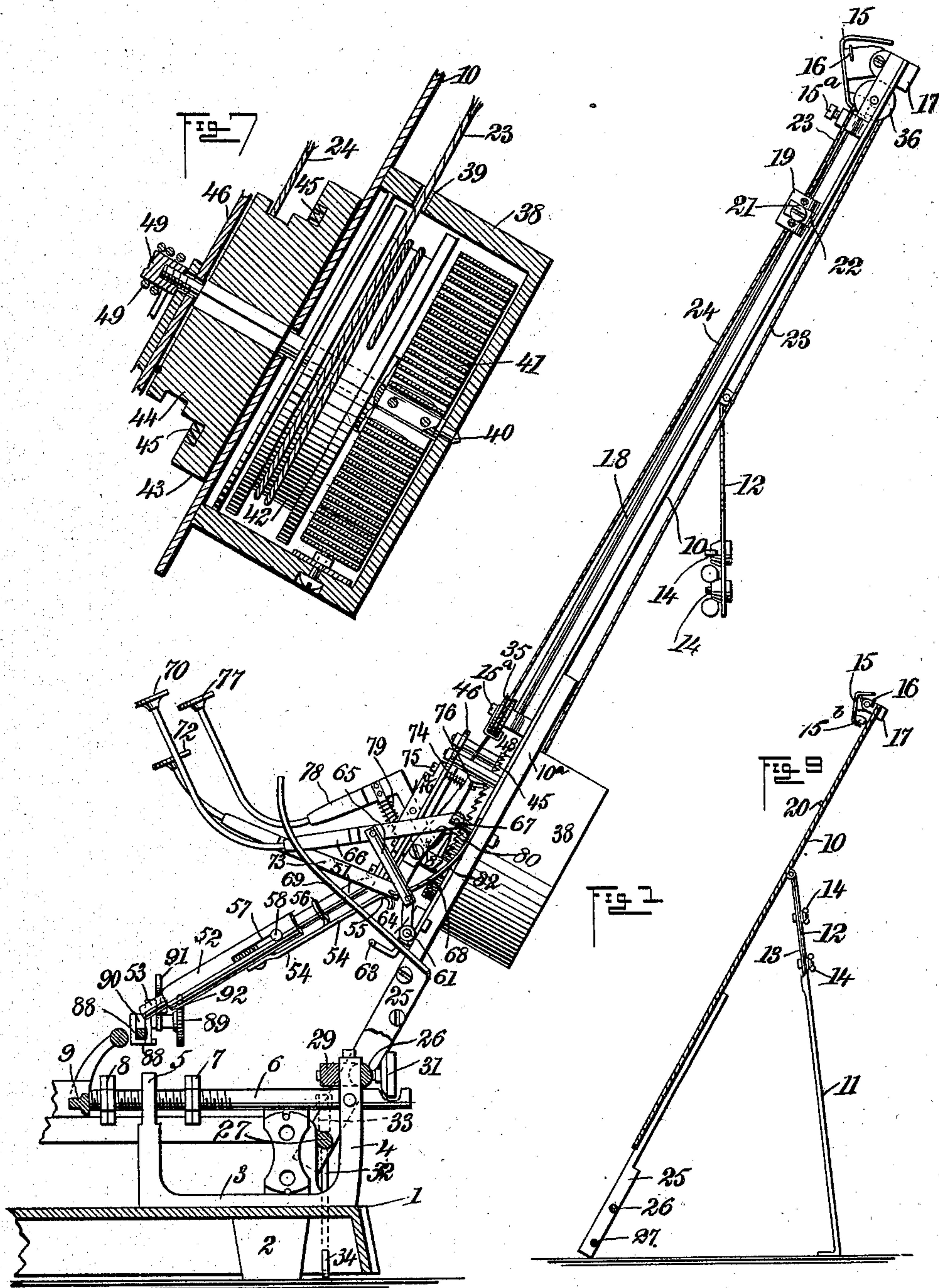
C. B. TOWERS & W. A. CAMERON.

COPY HOLDER.

APPLICATION FILED OCT. 1, 1902.

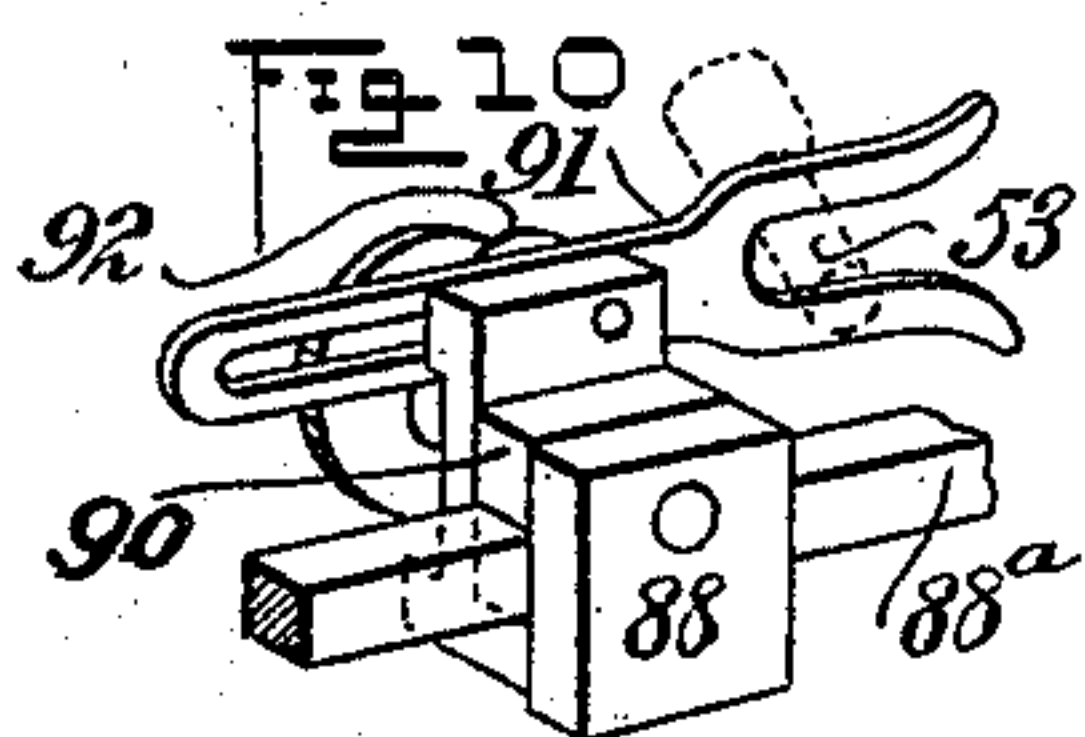
NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

Walter Harrison



INVENTORS
Charles B. Towers
Walter A. Cameron
BY
Mumford
ATTORNEYS.

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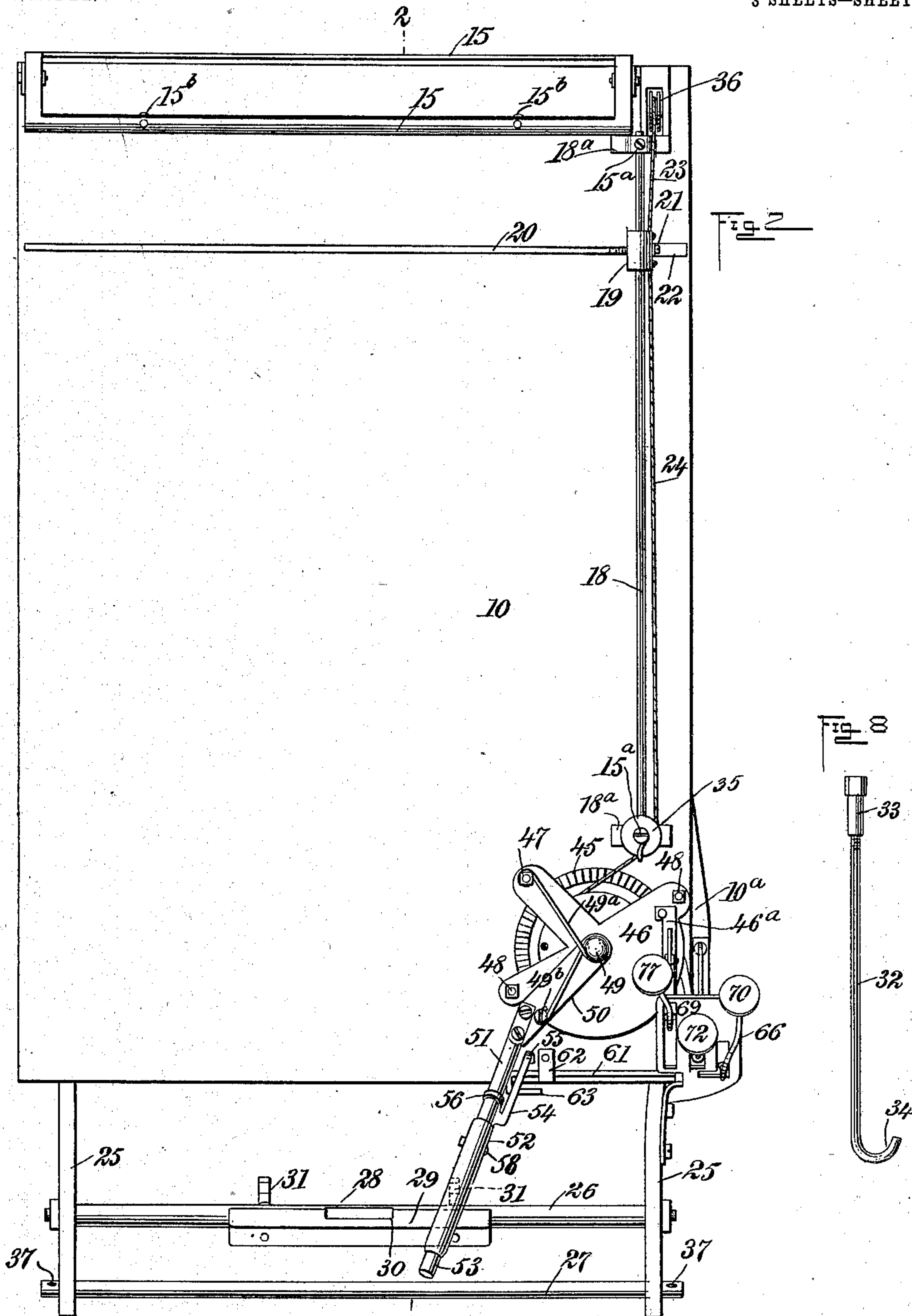
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3 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

CHARLES BULLARD TOWERS, OF MILES CITY, AND WALTER ALMANZOR CAMERON, OF STACEY, MONTANA.

COPY-HOLDER.

SPECIFICATION forming part of Letters Patent No. 723,079, dated March 17, 1903.

Application filed October 1, 1902. Serial No. 125,460. (No model.)

To all whom it may concern:

Be it known that we, CHARLES BULLARD TOWERS, a resident of Miles City, and WALTER ALMANZOR CAMERON, a resident of Stacey, in the county of Custer and State of Montana, citizens of the United States, have invented a new and Improved Copy-Holder, of which the following is a full, clear, and exact description.

10 Our invention relates to improvements in copy-holders, and is somewhat similar to the invention covered by our other application, Serial No. 68,193, filed July 13, 1901, for a copy-holder.

15 We will describe a copy-holder embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, 20 in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation showing our invention as applied to an Oliver type-writer. Fig. 2 is a front elevation of the copy-holder removed from the type-writer. Fig. 3 is a fragmentary section upon the line 3 3 of Fig. 4, looking in the direction of the arrows. Fig. 4 is a fragmentary elevation of the ratchet mechanism, parts being in section, on the line 4 4 of Fig. 3. Fig. 5 is a side elevation taken at right angles to Fig. 4. Fig. 6 is a detail section of the lever whereby the copy-holder is actuated from the type-writer. Fig. 7 is a fragmentary section of the drums for moving 35 the cords and pointer. Fig. 8 is a detail perspective view of one of the hooks used for securing a copy-holder to the type-writer. Fig. 9 is a reduced section upon the line 2 2 of Fig. 2, looking toward the left. Fig. 10 is a fragmentary perspective view of the mechanism used for adjusting the operating-lever relatively to the carriage of the type-writer.

The base of the type-writer is shown at 1, being provided with the feet 2 for supporting the same in the usual manner. The tailpiece of the type-writer is shown at 3 and is provided integrally with the standards 4 5. An adjusting-rod 6 is fitted with lock-nuts 7 8 and passes through the standards 4 and 5, as indicated more particularly in Fig. 1, and is adapted to engage a stop 9. (See Fig. 1.)

The board 10 of the copy-holder is provided with a plate 10^a for the purpose of supporting certain parts, as hereinafter described. The board 10 is further provided with a brace 11, 55 which is made extensible by means of the plates 12 13, which are disposed slidably in relation to each other and are connected by means of bolts 14. The upper end of the board 10 is provided with a clip 15, normally 60 pressed against the board by a spring 16, these parts being pivotally mounted upon the brackets 17. The clip is further provided with cushions 15^b for the purpose of engaging the paper to be copied.

65 Detachably supported upon the board 10 by means of bearings 18^a and screws 15^a is a longitudinal guide-rod 18, disposed parallel with the board 10. Slidably mounted upon this guide-rod 18 is a sleeve 19, provided with 70 a pointer 20, secured thereto by means of a screw 21, which screw also secures a thumb-piece 22 to the sleeve 19. By depressing the thumb-piece 22, so as to use the rod 18 as a pivot, the pointer 20 may be elevated relatively to the board 10, and thereby enabled 75 to move over the surface of a paper resting upon the same. The sleeve 19 is clamped upon one cord 24 of a pair of cords 23 24, and by removing the screws 15^a the guide-rod 18 80 may be taken out, thereby leaving the sleeve 19 suspended from the cords 23 and 24 alone. If the cords are maintained sufficiently taut, the guide 18 may in some instances be dispensed with, if desired.

85 At the lower extremity of the board 10 are two plates 25, provided with cross-rods 26 27, the cross-rod 26 being provided with a slot 28. A clamping member 29, provided with a slot 30, mating the slot 28, is adjustably connected with the cross-rod 26 by means of the thumb-screws 31. The upright 4, (shown in Fig. 1,) constituting a part of the tail-piece of the type-writer, is inserted through the opening formed by the slots 28 and 30, and 95 by rotating the screws 31 the cross-rod 26 of the frame is thus clamped upon the tail-piece. The brace-rods 32 (shown more particularly in Fig. 8) are provided with adjustable heads 33 and with curved lower ends 34. 100 These rods 32 are threaded through holes 37 in the rod 27, as indicated more particularly

in Figs. 1 and 2, and by tightening the heads 33 the curved ends 34 are drawn tightly against the undersurface of the base-plate 1, as indicated at the bottom of Fig. 1.

5 Mounted upon the board 10 are revoluble pulleys 35 36, which are partially encircled by the cords 23 24, as indicated more particularly in Figs. 1 and 2. A casing 38 is located below the board 10 and is provided with an
10 aperture 39, through which the cord 23 is free to pass. This casing contains a central revoluble shaft 40 and is connected therewith by means of a spiral spring 41 for the purpose
15 and for the purpose of retracting the pointer to the top of the board, this movement being accomplished by hand at intervals.

Disposed within the casing 38 is a revoluble drum 42, the same being rigidly connected
20 with the shaft 40. Mounted upon this same shaft and rigid relatively thereto, but disposed outside of the casing and adjacent to the board 10, is a revoluble member 43, comprising a drum 44 and a crown-wheel 45, this
25 crown-wheel constituting a ratchet. A guard-plate 46 supports the outer end of the shaft 40 and is provided with a bearing-plate 46^a. The guard-plate 46 is held in position by means of bolts 47 48. Mounted centrally
30 upon the bearing-plate 46 is a stem 49, carrying a spiral wire 49^a, pivotally mounted thereon and engaging the bolt 47, and also a screw 49^b, this screw being mounted upon the lever-socket 50 for the purpose of hold-
35 ing the lever 51 in a predetermined normal position, as indicated in Fig. 2.

Slidably supported upon the lever 51 is a sleeve 52, provided with a bearing member 53 and with an arm 54, this arm being curved
40 at its upper end 55 into the form of a hook, as shown. The arm 54 is integrally connected with the collar 56, which is slidably mounted upon the lever 51, so that the movements of the arm 54 cause the sleeve 52 to slide
45 relatively to the lever 51. A pin 58 projects from the lever 51 through a slot 57 in the sleeve 52, thereby enabling the latter to perform the movements just described. A spiral spring 51^a (shown more particularly in Fig.
50 6) is encircled by the sleeve 52 and normally presses in opposite directions upon the rod 51 and the bearing member 53, thereby normally lengthening the lever as a whole, as indicated by dotted lines in Fig. 6. If by any
55 means the bearing member 53 of the sleeve 52 be pressed upward, the spring 51^a is thereby compressed, and the lever is thus virtually shortened. The arm 54 is connected with the sleeve 58 by means of a screw and bolt 60, as
60 indicated in Fig. 6.

A rocking shaft 61 is mounted in bearings 62 and is provided with a crank 63, as indicated more particularly in Figs. 3 and 6. Disposed upon the shaft 61 is a crank 64, (indicated more particularly in Figs. 1 and 5,) this
65 crank engaging a pitman 65, the pitman being pivotally connected with a key-lever 66,

the key-lever being pivoted at 67. A leaf-spring 68 is mounted upon the plate 10^a and engages the pitman 65, for which purpose this
70 pitman is provided with a slot 65^a, as indicated more particularly in Fig. 5.

A plate 69, provided with divers slots 69^a, 69^b, and 69^c, is mounted substantially at a right angle with the general direction of the board
75 10, as indicated more particularly in Figs. 1 and 4. A finger-button 70 is mounted upon the lever 66 and is used for actuating the rock-shaft 61, thereby causing the crank 63 to raise or lower the hook 55, thereby sliding
80 the sleeve 52 and lengthening or shortening the lever of which this sleeve forms a part, as above explained. The purpose of this movement is to withdraw the lever from active engagement with the type-writer, but without
85 disconnecting the copy-holder from the type-writer. When the finger depresses the button 70, the lever 66 is engaged by a notch 71 in the plate 69, as indicated more particularly in Fig. 4. In doing this the lever 66 is swung
90 slightly to the left, so that its upper surface secures a grip against the under surface of the notch 71. So long as the lever 66 is held in this position the movements of the type-writer carriage do not affect the copy-holder.
95 Another finger-button 72 is mounted upon a lever 73 and is used for depressing the same. This lever 73 is substantially L-shaped and is provided with a spring 74, a pin-guide 75, and a pawl 76. By depressing the finger-
100 button 72 the pawl 76 is lifted out of engagement with the teeth 45, and the revoluble drums are thereby released from engagement with the pawl. The third finger-button 77 is connected with a third lever 78, this lever be-
105 ing provided with a spring-guide 79 and with a pawl 80, the pawl being pivoted at 81 upon the top of the lever 78. This pawl is normally caused to engage the teeth 45 by its own weight or a small wire spring 80^a when the
110 finger-button 77 is depressed.

A guide 82 engages the under side of the pawl and directs the pawl properly against the ratchet-teeth 45. This guide 82 also holds the pawl out of engagement with the
115 said teeth except when the button 77 is depressed. Mounted upon a pivot 83, as indicated more particularly in Figs. 3 and 4, is a pawl 84, provided with a boss 85, which engages the guides 86 and is normally pressed
120 downward by means of a spring 87. As the boss 85, however, normally engages the guide 86 the pawl 84 is prevented from descending except when the actuating-lever is swung to the right, as above described. When the lever
125 is swung to the right, the pawl 84 engages the ratchet-teeth 45, thereby rotating the drums in a contra-clockwise direction, as seen by the observer looking directly at Fig. 2, the cord 24 being, therefore, drawn down-
130 ward a slight distance and carrying with it the pointer 20. In other words, each time the bearing member 53 is moved to the right by the carriage of the type-writer the pointer

20 is moved downward to a distance approximating a distance between the two consecutive lines of the matter which is being copied.

The action of the pawl 84 is such as not to interfere in either direction except when the pawl 84 is in actual engagement with the ratchet-teeth. When the finger-button 77 is depressed, however, and the drums are thereby rotated, the pawl 76 of the lever 73 prevents backward movements of either the drums or the ratchet 45. The levers 78 and 73, controlled, respectively, by the buttons 77 and 72, appear, therefore, to have a direct relation to each other. One of these levers rotates the drums and the other releases the drums, both levers being controllable at will.

A clamping member 88 is slidably upon a cross-rod 88^a at the rear of the carriage of the type-writer and is secured rigidly there to at any desired point by means of the thumb-screw 89. A block 90 may be loosely inserted in the clamping member 88, if desired, for the purpose of preventing undue pressure of the thumb-screw 89 from being exerted upon the rod 88^a.

A Y-shaped member 91 is engaged by the screw 89 and is provided with a small screw 92, whereby said Y-shaped member may be adjusted relatively to the clamping member. It will be observed, therefore, that by means of the thumb-screw 89 the clamping member may be adjusted upon the rod 88^a, and by means of the screw 92 the Y-shaped member 91 may be adjusted relatively to the clamping mechanism. The Y-shaped member engages directly the bearing-rod 53, thereby communicating motion from the type-writer carriage directly to the copy-holder, as above explained.

The general operation of our invention is as follows: The copy-holder being connected with the type-writer, as above described, and the adjustment being properly made, the operative proceeds in the usual manner. Each time the carriage of the type-writer is moved to the right the revoluble drums are caused to revolve a certain distance in contra-clockwise direction, as above explained, thereby lowering the pointer 20 to a distance approximating the distance between two consecutive lines of the matter being copied. Should the lines of the matter thus being copied be provided with comparatively wide spaces, the Y-shaped member 91 is adjusted so as to allow the actuating-lever a greater amplitude of swing, and if need be the entire clamp may be moved by means of the thumb-screw 89, so as to give the lever sufficient movement. Vice versa, if the lines to be copied are close together the adjustment may be made in the opposite direction, thereby curtailing the amount of movement of the pointer 20. So, also, if the lines being copied are irregularly spaced the pointer may be adjusted at intervals by hand. It is partially for this purpose that the three keys above described are provided. By means of the keys

in question the pointer can be lowered any desired distance without moving the carriage of the type-writer. When a page is finished—that is to say, when the pointer arrives at the bottom of the board 10—the finger-button 72 is depressed, thereby elevating the pawl 76 and allowing the coiled spring 41 to rotate the drum, and thus retract the cords for the purpose of elevating the pointer 20 to the top of the board 10.

We find that by very little skill an operative may use our invention in such manner as to keep track of the language being copied, no matter how irregularly the lines may be spaced apart and no matter whether the words are crowded in certain lines and scattered in others. Neither does it make any material difference whether the matter to be copied contains many or few paragraphs. Normally, however, the adjustment once being made and the matter to be copied being comparatively uniform it is a good idea to move the carriage completely to the right at the end of each line, thereby insuring a uniform movement downward of the pointer.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A copy-holder, comprising a frame, a longitudinal member mounted thereon and movable in the general direction of its length, mechanism for actuating said longitudinal member, a lever connected with said mechanism, a bracket mounted upon the carriage of a type-writer and adjustable relatively to the same for engaging said lever, and a pointer connected with said longitudinal member and movable relatively to said frame.

2. A copy-holder, comprising a frame, a longitudinal member mounted thereon and movable in the general direction of its length, mechanism for actuating said longitudinal member, a lever for actuating said mechanism, a pointer connected with said longitudinal member and movable relatively to said frame, a guide for maintaining said pointer in proper alinement relatively to said frame, a substantially Y-shaped bracket for engaging said lever, and mechanism for mounting said bracket adjustably upon the carriage of a type-writer.

3. A copy-holder comprising a frame, pulleys revolubly mounted thereon, a flexible longitudinal member partially encircling said pulleys, a pointer connected with said flexible longitudinal member and movable relatively to said frame, drum mechanism connected with said flexible longitudinal member for actuating said pointer, ratchet mechanism for rotating said drum mechanism in one direction, a lever for actuating said ratchet mechanism, a spring for retracting said drum mechanism, and means for connecting said lever with the carriage of a type-writer.

4. A copy-holder comprising a frame, pulleys revolubly mounted thereon, a flexible

longitudinal member partially encircling said pulleys, a pointer connected with said flexible longitudinal member and movable relatively to said frame, drum mechanism connected with said flexible longitudinal member for actuating said pointer, a lever for actuating said drum mechanism, means for connecting said lever to the carriage of a type-writer, and a retracting-spring for automatically actuating said drum mechanism in the opposite direction.

5. A copy-holder, comprising a frame, pulleys revolubly mounted thereon, a flexible longitudinal member partially encircling said pulleys, a pointer connected with said flexible longitudinal member and movable relatively to said frame, drum mechanism connected with said flexible longitudinal member for actuating said pointer, ratchet mechanism for rotating said drum mechanism in one direction, a spring for retracting said drum mechanism, means for normally connecting said ratchet mechanism with the carriage of a type-writer, and a manually-operated device for actuating said drum mechanism independently of said carriage.

6. A copy-holder, comprising a frame, a traveling pointer mounted thereon, mechanism for actuating said pointer, means for connecting said mechanism with the carriage of a type-writer for the purpose of automatic-

ally actuating said pointer, and a manually-operated key mechanism for controlling said pointer independently of said carriage of said type-writer.

7. A copy-holder, comprising a frame, a traveling pointer mounted thereon, mechanism for actuating said pointer, means for connecting said mechanism with an independent machine for the purpose of automatically actuating said pointer, and a manually-operated key mechanism for temporarily preventing said independent machine, thus connected, from actuating said pointer.

8. A copy-holder, comprising a frame, a movable pointer mounted thereon, mechanism for actuating said movable pointer, said mechanism being provided with a lever, a member mounted upon an independent machine for actuating said lever, and means controllable at will for adjusting said member for the purpose of regulating the control of said lever.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES BULLARD TOWERS.
WALTER ALMANZOR CAMERON.

Witnesses:

L. C. SPENCER,
JAMES M. COLVIN.