

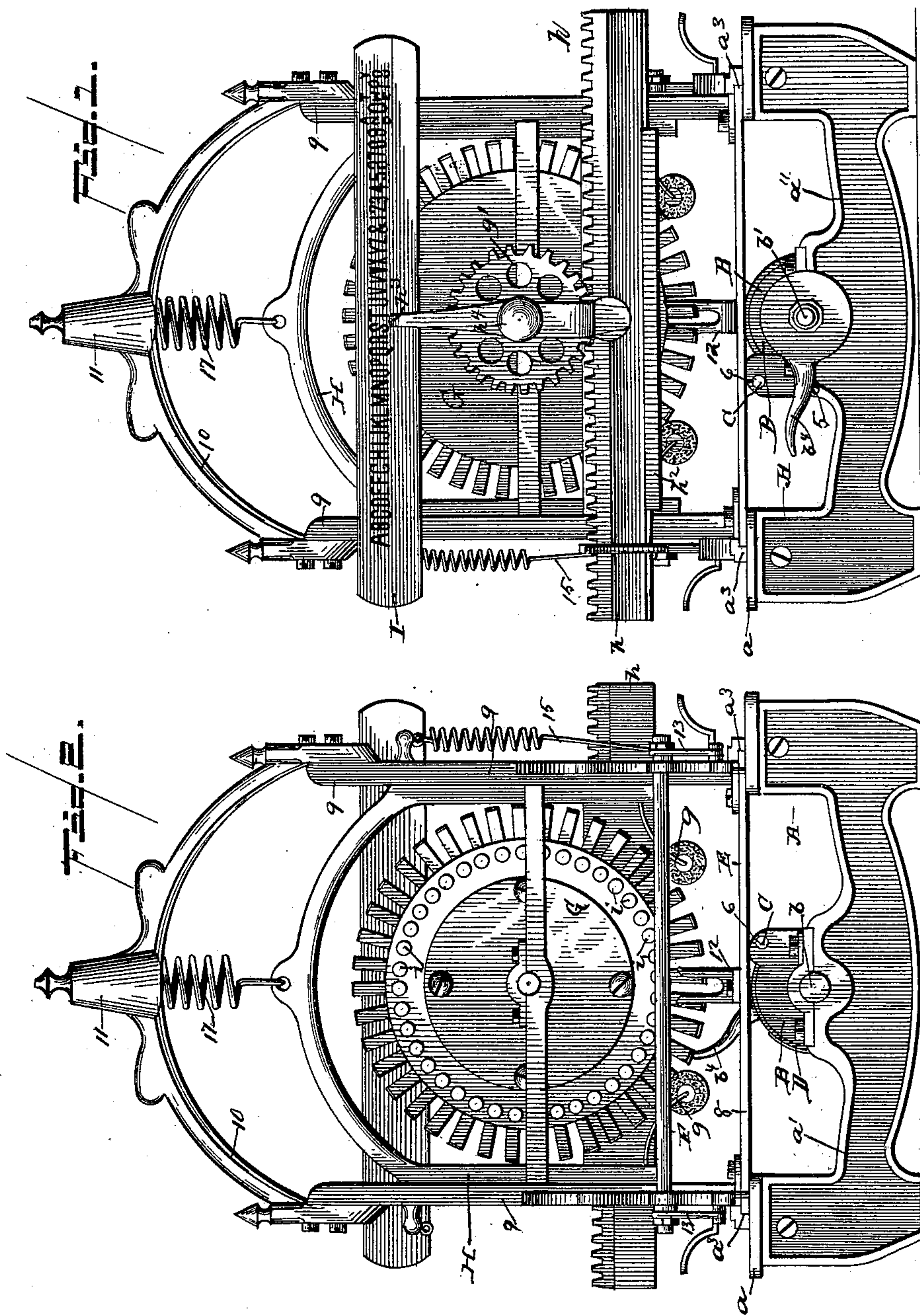
(No Model.)

3 Sheets—Sheet 1

J. W. BARTLETT.  
TYPE WRITING MACHINE.

No. 403,823.

Patented May 21 1889.



WITNESSES,  
*Frank Dunlan,*  
*Fenton Mercer*

INVENTOR,  
*John W. Bartlett*  
*By [Signature]*  
Attorneys.

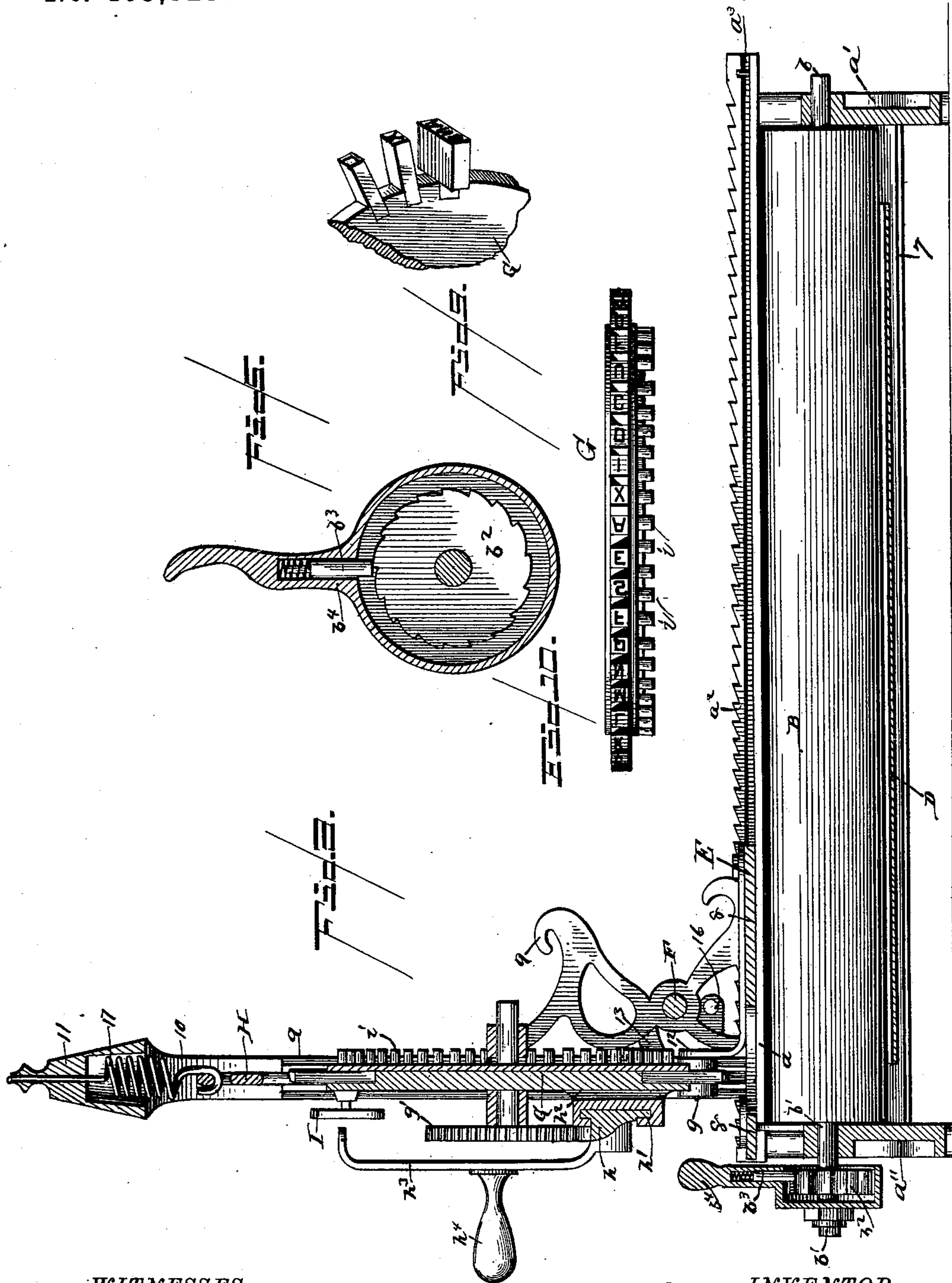
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Newton Mercer

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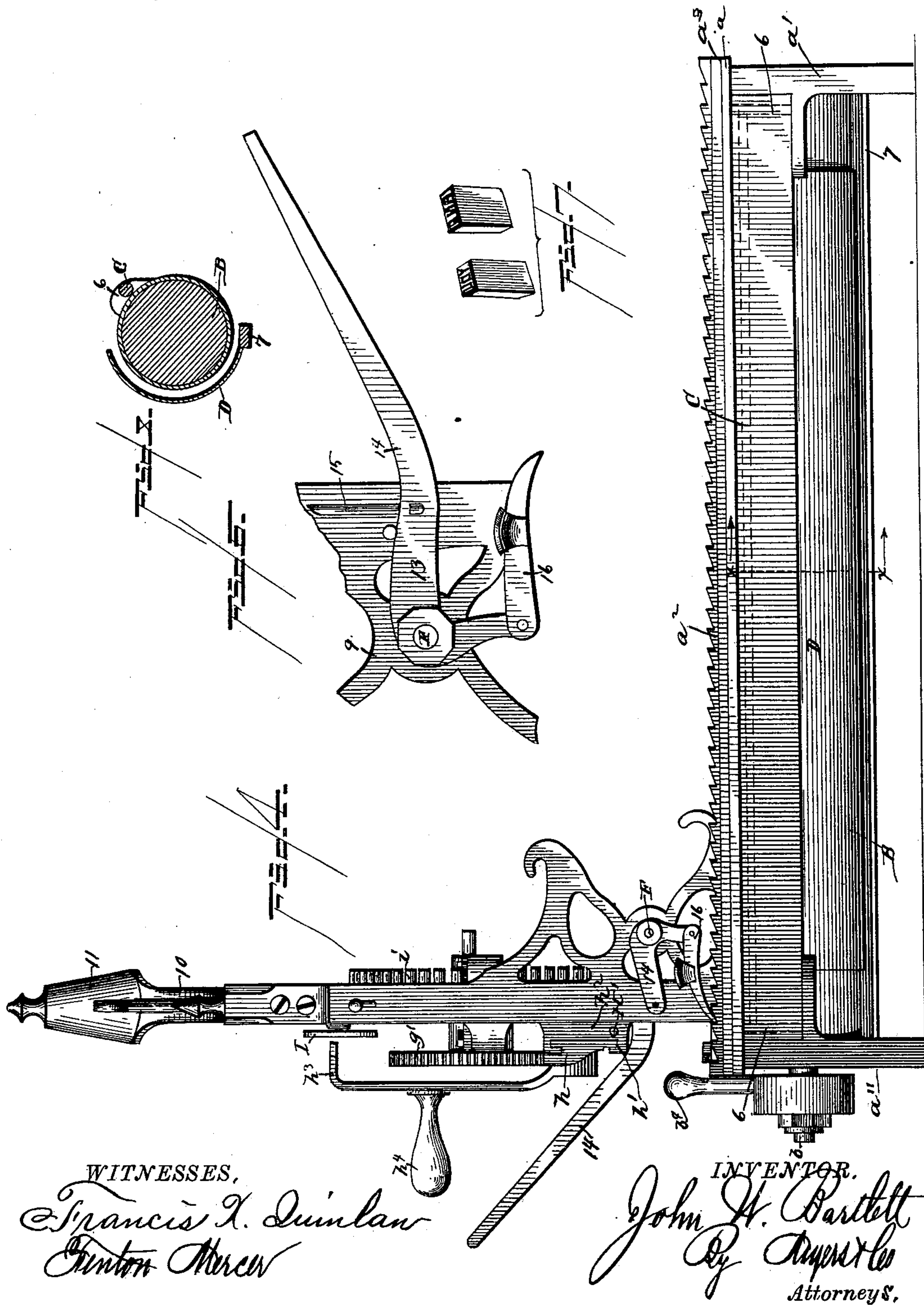
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# UNITED STATES PATENT OFFICE.

JOHN W. BARTLETT, OF MOLINE, ILLINOIS, ASSIGNOR OF ONE-FOURTH TO  
GEORGE W. WALKER, OF SAME PLACE.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 403,823, dated May 21, 1889.

Application filed December 23, 1887. Serial No. 258,845. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. BARTLETT, a citizen of the United States of America, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to certain new and useful improvements in type-writers, having for its object the provision of a device or machine embodying simple and highly efficient means for effecting the printing, and one that will furthermore possess advantages in point of inexpensiveness, durability, and general efficiency.

To this end the invention consists in the detail construction, combination, and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 are front and rear views of my improved type-writer. Fig. 3 is a central longitudinal sectional view. Fig. 4 is a view in side elevation. Figs. 5 and 6 are detail views. Fig. 7 shows two word type. Fig. 8 is a detail sectional view on the line  $x x$ , Fig. 4. Fig. 9 is a detail perspective view of a portion of the type-wheel and type. Fig. 10 is a plan view of the type-wheel.

Referring to the drawings, A designates the type-writer frame composed of two parallel side bars,  $a a$ , connected at their ends to connecting-bars  $a' a''$ , and upon the upper surface of said side bars, or upon plates secured thereto, are formed teeth or rack-bars  $a^2$ , extending from end to end thereof. These rack-bars are slightly projected or extended inward, forming grooves  $a^3$  between their under sides and the top of the side bars, as shown.

B is the paper cylinder or roll disposed midway between the side bars,  $a$ , the projecting axles or studs  $b b'$  of the ends thereof being secured in suitable journal-boxes attached to the upper surfaces of the end connecting-bars, as shown. The forward axle or projecting stud,  $b'$ , has rigidly secured thereon or cast therewith a ratchet-wheel,  $b^2$ , with which is

designed to engage a short spring-pressed pawl,  $b^3$ , held in the bore of a short lever,  $b^4$ , which has a circular ring incasing said ratchet. By means of this ratchet, lever, and pawl the roll or cylinder can be made to revolve to secure the desired space between the lines. Said lever rests normally against a short stud, 5, projecting from the end connecting-bar,  $a''$ , and by raising the same so as to move the pawl one notch it can be forced back to its former position, causing the turning of the roll or cylinder.

C is a guide-rod secured at its ends in eyes 6 6, attached to the connecting-bars.

D is a guard-plate secured at its outer end to a connecting-bar, 7, of the frame, (see Fig. 3,) and is bent around one side of the roll or cylinder, as shown.

E is the sliding type-carriage, composed of a flat horizontal plate, 8, sliding at its ends in the grooves  $a^3$ , and two upright side pieces, 9 9, connected at their upper ends by an arched or curved bar, 10, in the center of which is formed a central hollow chamber, 11, as shown. To the top central portion of the plate 8 is secured the horizontal portion of a guide-finger, 12, the vertical portion of which is centrally slotted, as shown. A connecting cross-rod, F, is loosely secured at its ends in openings in side pieces, 9, and upon this cross-rod are rigidly secured levers 13, one of which has an extended arm, 14, to which is connected the lower end of a coil-spring, 15, attached to the side of the adjoining side piece, as shown. To the lower end of the short arm of each lever 13 is connected the rear end of a pawl, 16, having projecting fingers. These pawls are designed to engage with the rack-bars, and by pressing on the extended arm of one of the levers 13 both pawls will be caused to recede or move rearwardly and engage with the next tooth, thus moving the carriage one point.

G is the type-wheel, having its axle secured in journal-boxes of connecting-pieces of a vertically-movable frame, H, the side uprights of which slide in grooves of the side pieces, 9. To the upper connecting-bar of this frame is connected the lower end of a spring, 17, secured at its upper end in the chamber 11 of the frame E, whereby the frame H is normally



held elevated. To the inner lower ends of the side bars of the frame H are connected the arms of ink-rolls  $g$ , with which the type of the wheel are designed to engage. A pinion or gear-wheel,  $g'$ , is rigidly secured upon the forward end of the type-wheel axle, and with it is designed to engage a rack-bar,  $h$ , sliding in a groove,  $h'$ , formed in a front cross-bar,  $h^2$ , of the frame H, to one end of which bar  $h^2$  is connected a short rod or finger,  $H'$ . To the center of this rack-bar is rigidly secured the lower end of a vertically-disposed finger or pointer,  $h^3$ , having an upper right, angular end and a central handle,  $h^4$ .

Across the upper portion of the frame H projects an indicating-bar, I, having thereon letters, numbers, punctuation-marks, and completed words corresponding to the type of the wheel.

The type-wheel G has projecting from its outer periphery the type of letters of the alphabet, numerals, punctuation-marks, and completed words which are composed of from three to eight letters, the same being words most frequently used or employed in writing. From the rear of the wheel, on a line with the type, project short studs  $i$ , which guide the type by entering the slot of the guide-finger 12. In practice the teeth of the pinion and rack-bar must be arranged to correspond with the type of the type-wheel—*i. e.*, when the indicating-finger points toward a certain letter or mark on the indicating-board, the type of such letter or mark must be on a line with the slot of the guide-finger 12, so that by pressing downwardly the movable frame by means of the handle  $h^4$  such type will make its impression on the paper.

The operation is as follows: Paper is supplied to the machine by passing the same onto the guard-plate D, and when it comes in contact with the roll or cylinder by operating the lever  $b^4$  said roll or cylinder will be caused to revolve, drawing the paper therewith, which will be held even on top of the roll or cylinder by means of the guide-rod C. The type-carriage will be supposed to be at the front end of the frame A. By moving the rack-bar so as to cause the indicating-finger to point to the desired letter or mark, and then by depressing the vertically-movable frame H and type-wheel, the type will make its impression, and upon releasing the handle the spring 17 will effect the raising of said frame H. When the frame H is depressed, the

finger  $H'$  thereof comes in contact with the arm of the lever 13, causing the depression thereof, and consequently the receding of the pawls 16 one notch, so that when the frame H and type-wheel are elevated the type-carriage E also moves rearward, thus presenting the type-wheel to the point for the next impression; and when it is desired to move the carriage a further distance—as when the completed words are to be printed—the same is effected by manipulating the extended arm 14 of the lever 13. When the carriage reaches the rear end of the frame A, it is returned to the front end thereof by simply raising the pawls 16 by their fingers and sliding the carriage to the front end, and by manipulating the lever  $b^4$  the rolls or cylinder will turn so as to adjust the paper.

I claim as my invention—

1. In a type-writer, the combination of the spring-suspended sliding frame carrying the inking-rolls, the type-wheel having radial type, the sliding rack-bar supported in a grooved cross-bar of said frame, the pinion on the shaft of said type-wheel engaging said rack, the indicating-bar applied to said frame, the handled pointer carried by the sliding rack-bar, and the type-carriage having the slotted guide-finger engaging a circularly-arranged series of studs upon the type-wheel, substantially as set forth.

2. In a type-writer, the combination of the spring-suspended sliding frame carrying the inking-rolls, the type-wheel having radial type, the sliding rack-bar supported in a grooved cross-bar of said frame, the pinion on the shaft of said type-wheel engaging said rack, the indicating-bar attached to said frame, the handled pointer carried by the sliding rack-bar, the type-carriage having the slotted guide-finger engaging a circularly-arranged series of studs upon the type-wheel, the cross-rod carrying levers having spring-connection with the supporting-frame of the type-wheel frame and provided with pawls engaging ratchet or rack bars of the horizontal or base frame, said sliding type-wheel frame having a finger acting upon one of said pawl-carrying levers, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. BARTLETT.

Witnesses:

JOHN S. GILLMORE,  
CHAS. S. KERNS.