

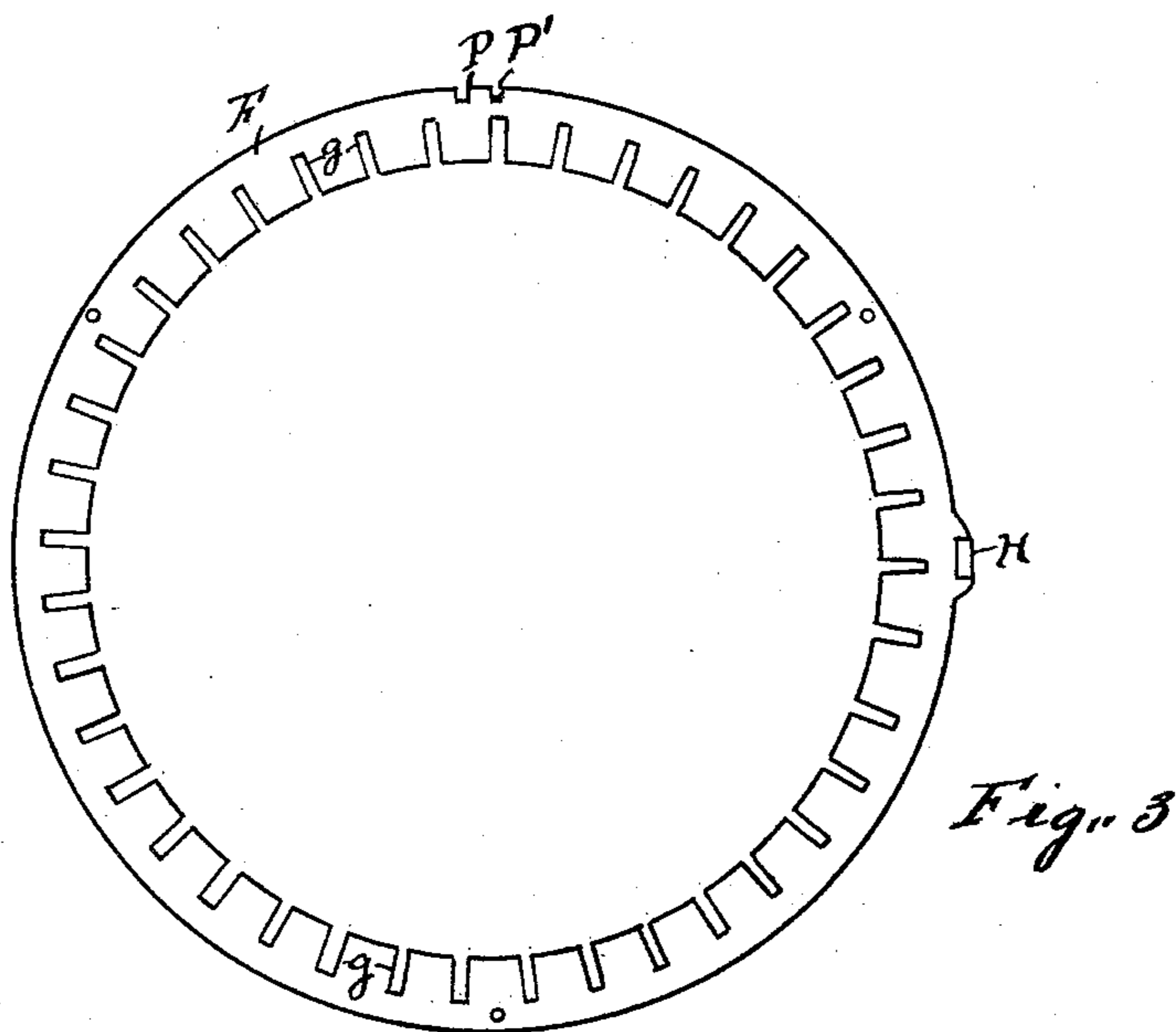
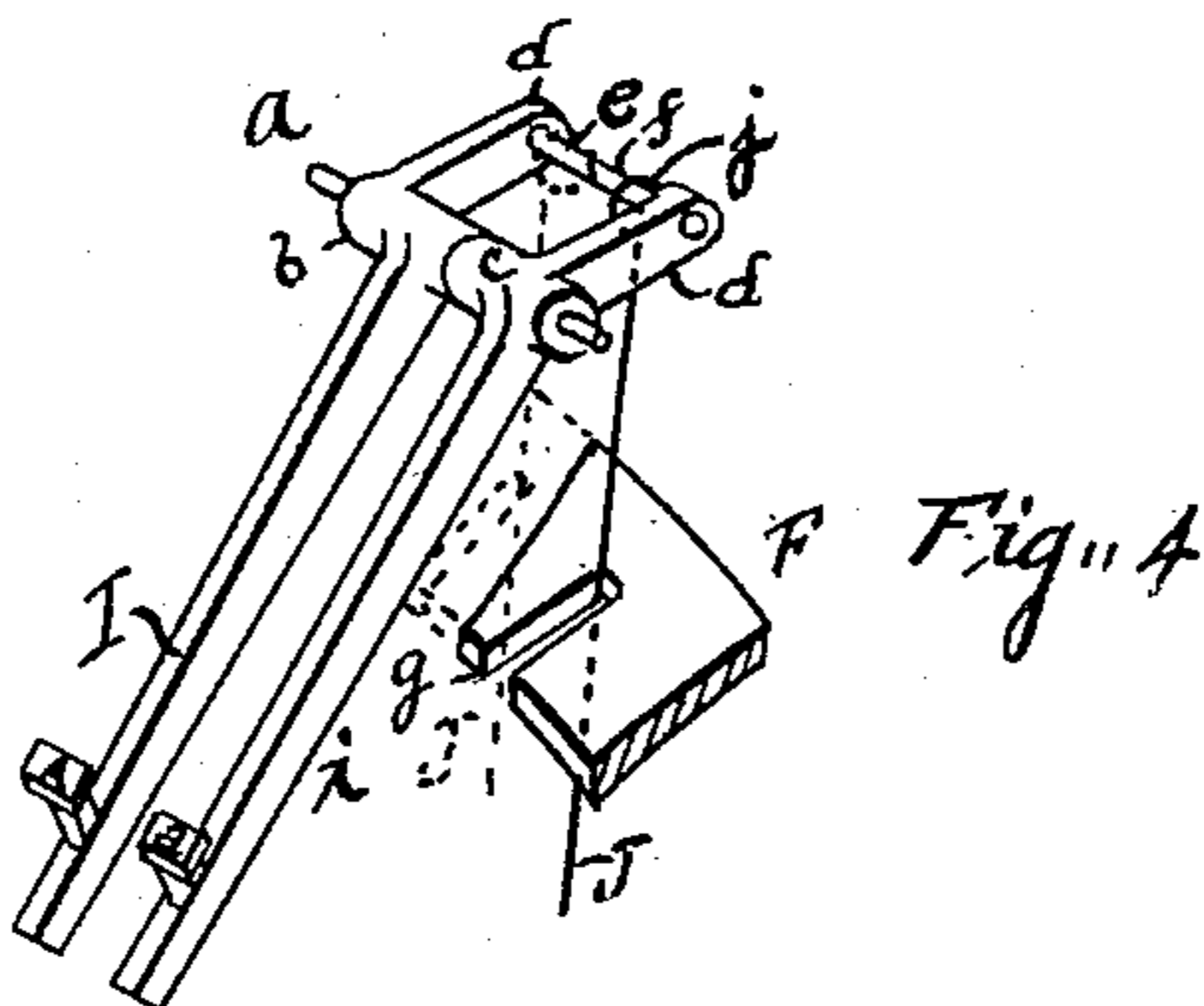
(No Model.)

2 Sheets—Sheet 2.

W. M. REASON.  
TYPE WRITING MACHINE.

No. 453,941.

Patented June 9, 1891.



Witnesses  
H. A. Wright  
Gertrude H. Anderson

Inventor  
Walter M. Reason.

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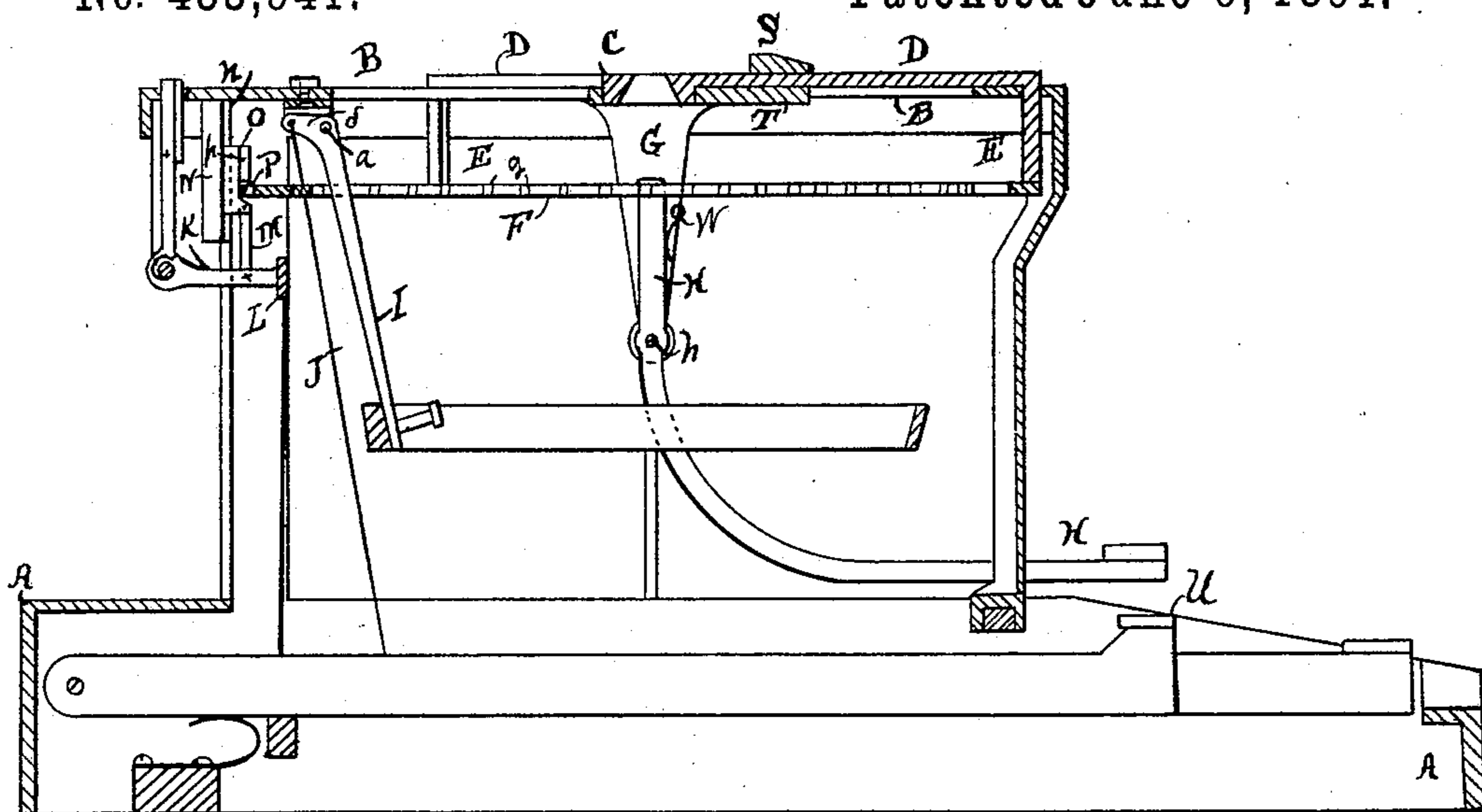
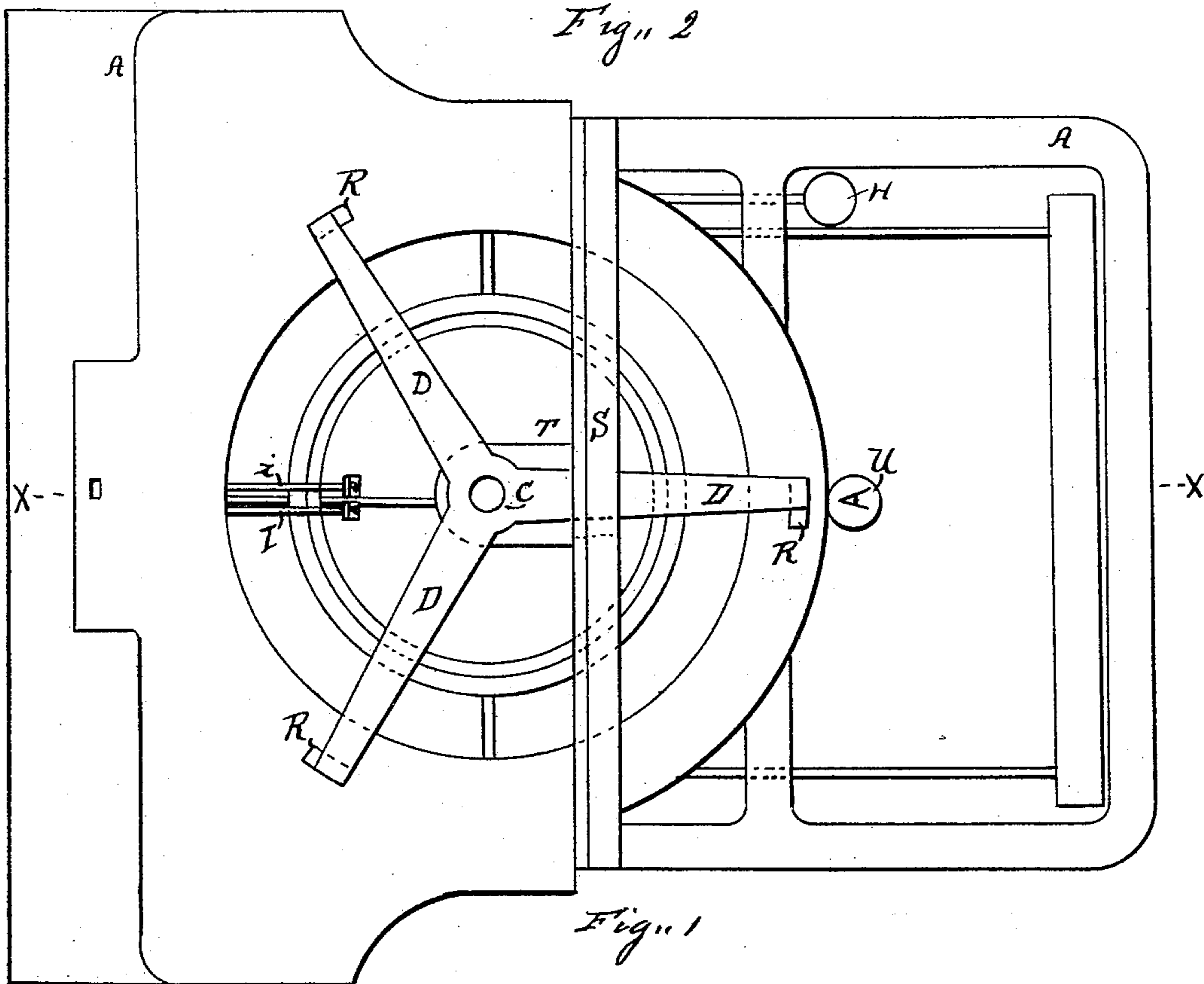


Fig. 2



Witnesses  
H. A. Wright  
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Inventor.  
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# UNITED STATES PATENT OFFICE.

WALTER M. REASON, OF CARO, MICHIGAN, ASSIGNOR OF ONE-HALF TO  
TIMOTHY C. QUINN, LUKE H. CORCORAN, ARTHUR T. SLAGHT, AND  
JOHN F. SEELEY, ALL OF SAME PLACE.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,941, dated June 9, 1891.

Application filed April 2, 1890. Serial No. 346,310. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER M. REASON, of Caro, in the county of Tuscola and State of Michigan, have invented a new and useful Improvement in Type-Writers, of which the following is a specification.

My invention relates to type-writers; and the object of my improvements is to adapt a type-writing machine to write either capital or small letters with one set of keys. I attain this object in the device illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a type-writing machine embodying my invention, the paper-carriage and all but one pair of the type-bars being removed. Fig. 2 is a section on the line  $x x$ , Fig. 1. Fig. 3 is a plan view of the shifting-ring, and Fig. 4 is a perspective view of one pair of type-bars and a part of the operating mechanism.

Similar letters of reference refer to similar parts throughout the several views.

A is the frame of the machine.

B is the opening at the periphery of which the type-bars are secured.

I is a type-bar which carries a capital letter, and  $i$  is a type-bar which carries a small letter. Said type-bars are pivoted upon a rod  $a$ , which rod is secured to the top plate of the machine near the periphery of the opening B. The other type-bars are secured in the same way and are similarly arranged, a bar carrying a small letter adjoining a bar carrying the corresponding capital letter.

$I d e$ ,  $i d f$  are the bell-crank levers, pivoted at  $b c$ , upon the long arms  $I i$  on which the type are carried, and  $e f$  are wrists extending from the free ends of the webs  $d d$  toward each other, their free ends coming together with their centers in line. The free ends of the wrists  $e f$  are beveled in opposite directions, as shown in Fig. 4.

J is a wire connecting the wrists  $e f$  with the lever of the key which operates the type-bars  $I$  and  $i$ .

$j$  is a loop formed in the end of the wire J, passing over and adapted to slide along the wrists  $e f$ .

S is a bar along which the wheel travels which supports the front of the paper-carriage.

T is a lug extending from the lower part of the rod S at its center to the center of the opening B.

C is a hub pivoted on the end of the lug T concentric with the opening B. An aperture is formed through the center of the hub C to permit the type to pass to strike the paper upon the platen.

D D D are arms extending radially from the hub C beyond the periphery of the opening B. The arm D, which extends toward the front of the machine, passes through an aperture formed for that purpose through the rod S.

F is a ring provided with radial slots  $g$ . Said ring is supported with its center directly below the center of the opening B by rods E E, extending vertically downward from the ends of the arms D D through slots R, formed through the top plate of the machine. The wire J passes through one of the slots  $g$ , and is adapted to move freely in the direction of its length in said slot.

H is a lever pivoted at the lower end of the hanger G and extending at its lower end to one side of the key-board, and provided with a key at said lower end. The upper end of the lever H engages with a slot in the periphery of the ring F, as shown in Fig. 3.

$w$  is a spring secured to the hanger G and acting to press the upper end of the lever H backward.

P P' are radial slots formed in the ring F at that part of its periphery which is farthest toward the rear of the machine and at a distance apart equal to the distance between the inner sides of the webs  $d d$ .

N is a hanger extending vertically downward from the top plate of the machine directly back of the slots P P'.

$n$  is a fin or tongue extending along the front side of the hanger N.

O is a sliding block provided with a groove adapted to fit over the fin  $n$ , along which fin said block slides.

$p$  is a projection extending from the block

Ó and adapted to engage with the slots P P' in the ring F when said block is drawn down.

K is the letter-space-ratchet rocking frame.

The operation of the above-described device is as follows: When the small letter is being used, the upper end of the lever H is held back by the spring W. The wire J is held by the slot *g* in the ring F, through which it passes, in that position which holds the loop *j* upon the wrist *f* of the crank which operates the type-bar which carries the small letter. When the key U is struck, a small letter is written. If the operator wishes to write a capital letter, he presses upon the key upon the end of the lever H, thus oscillating said lever about its pivot *h* and turning the ring F about the bearing of the hub C in the lug T. By the movement of said ring the wire J is carried sidewise, carrying the loop *j* over upon the wrist of the crank which operates the type-bar carrying the capital letter, so that when the key U is struck a capital letter is written. When the lever H is released, the spring *w* forces it back, carrying the ring F with it and moving the loop *j* back onto the wrist of the crank which operates the bar carrying the small letter. Every time a letter-key is struck the arm L is drawn downward, carrying with it the block O, thus drawing the tooth *p* into the slot P' when a capital letter is written and into the slot P when a small letter is written. When the tooth *p* is in one of the slots P P', the ring F is prevented from turning. Therefore the ring F cannot move except when both the type-bars are down and the wrist *f* is in line with the wrist *e*. This description of the operation of the device in respect to the type-bars I *i* applies to all the other type-bars.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a type-writing machine, of a pair of separately-movable type-levers, one carrying the capital and the other the small letter, a key for each pair of type-levers, a rod normally connecting said key with the type-lever carrying the small letter, a rotatable ring connected with all said connecting-rods, and locking mechanism operating on said ring and connected with all the key-levers, substantially as shown and described.

2. In a type-writing machine, a pair of independently-movable levers pivoted side by side, one carrying a capital letter and another the same letter in small type, a pivoted key, a connecting-rod pivoted to said key and normally engaging with the lever carrying the small character, and means, substantially such as described, for shifting said connecting-rod from one type-lever to the other, substantially as shown and described.

3. In a type-writing machine, the combination of pairs of separately-movable type-levers, a key for each pair, a rod positively connected with each of said keys and shiftably connected with one of the type-levers, a slotted rotatable ring adapted to shift the said rods, and a spring-retracted lever adapted to rotate said ring, substantially as described.

WALTER M. REASON.

Witnesses:

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