

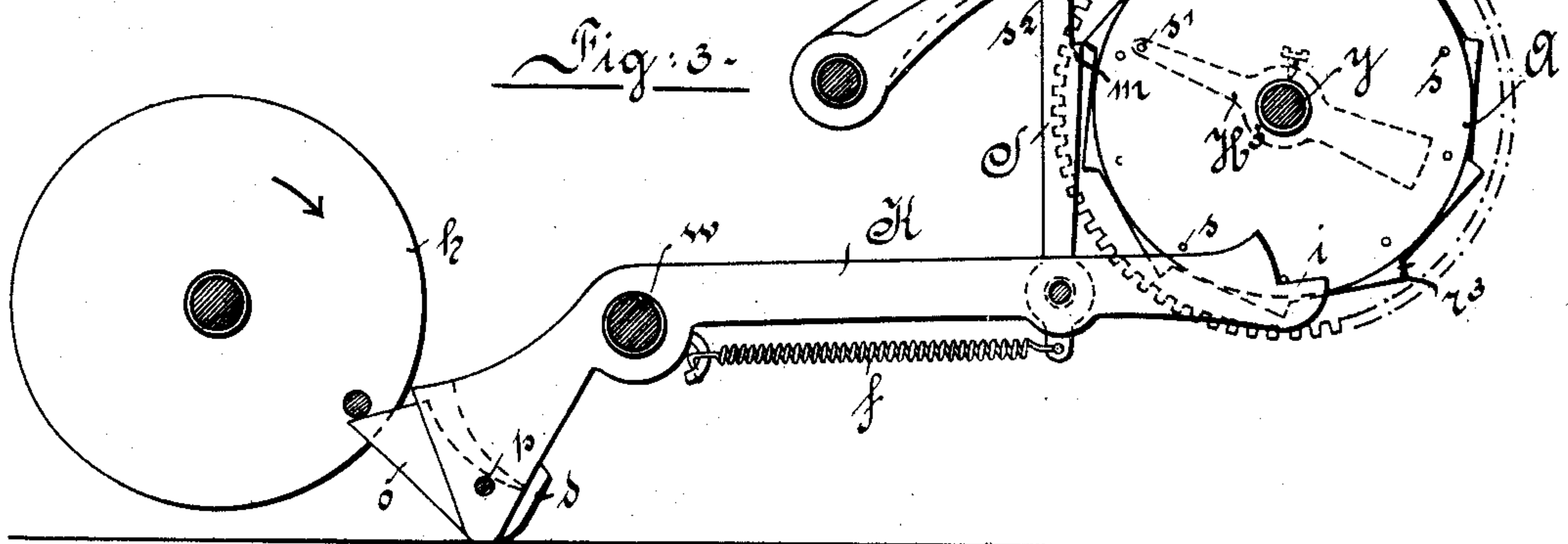
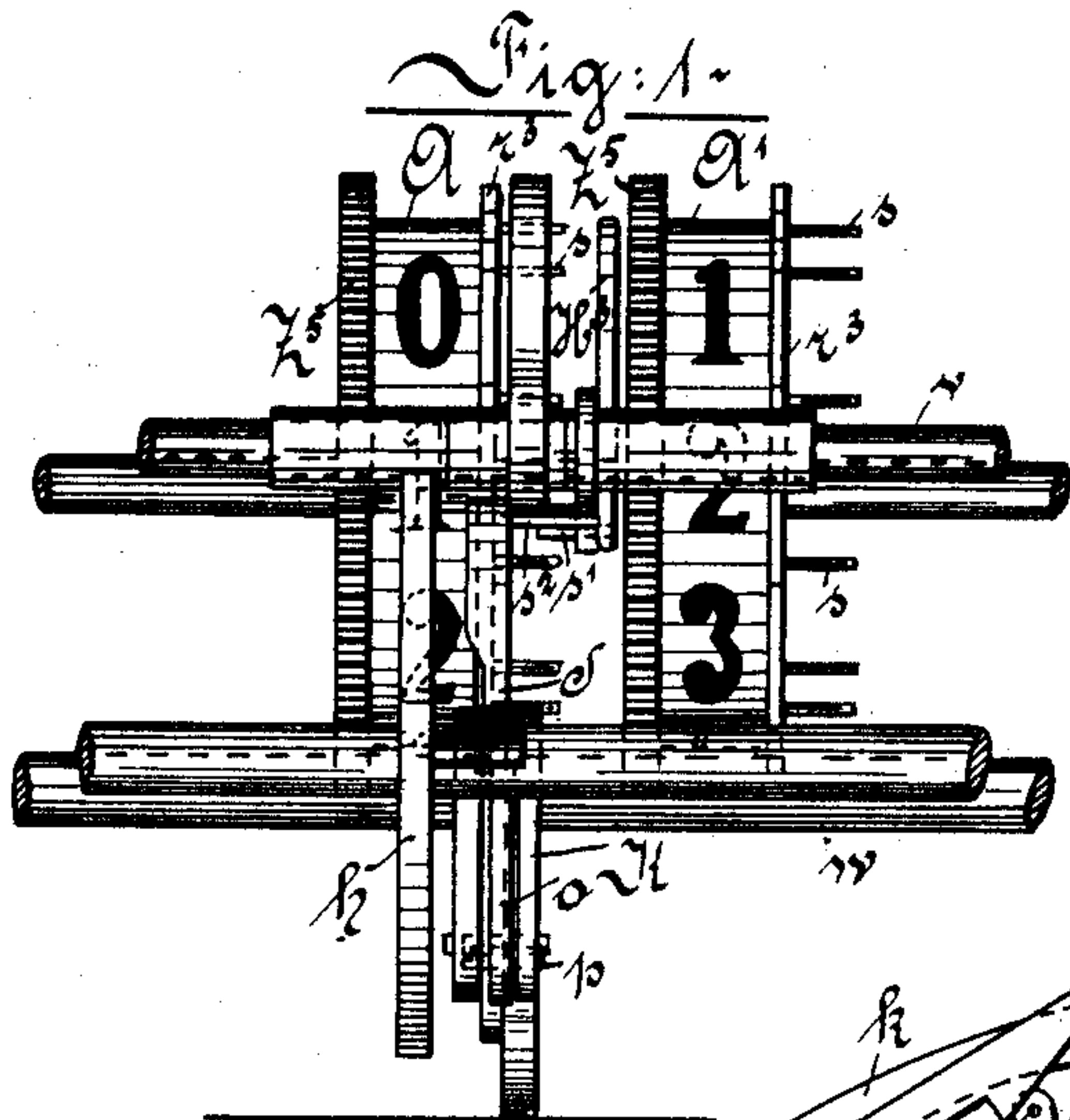
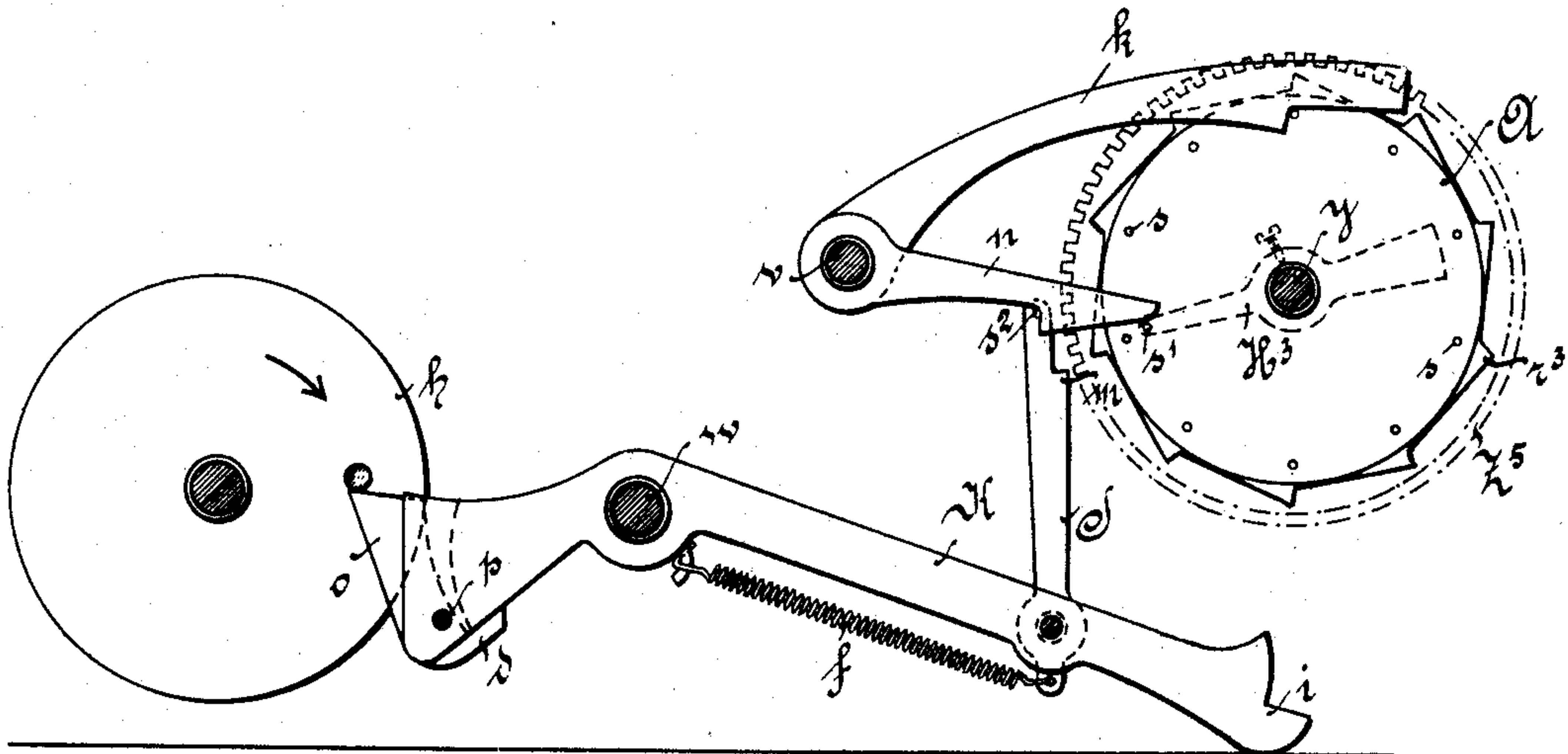
No. 618,477.

Patented Jan. 31, 1899.

J. PALLWEBER.  
CASH REGISTER OR LIKE APPARATUS.

(Application filed Oct. 13, 1897.)

(No Model.)



Witnesses.

Charles E. Smith  
Geo. C. Mease

Fig. 2.

Inventor  
Joseph Pallweber.  
By Briesen Knautz  
his attorney



# UNITED STATES PATENT OFFICE.

JOSEPH PALLWEBER, OF FRANKFORT-ON-THE-MAIN, GERMANY, ASSIGNOR  
TO THE FABRIK MECHANISCHER APPARATE GESELLSCHAFT MIT BE-  
SCHRÄNKTER HAFTUNG, OF SAME PLACE.

## CASH-REGISTER OR LIKE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 618,477, dated January 31, 1899.

Application filed October 13, 1897. Serial No. 655,081. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH PALLWEBER, a subject of the Emperor of Germany, residing at Frankfort-on-the-Main, Germany, have  
5 invented certain new and useful Improvements in Cash-Registers or Like Apparatus, (for which Letters Patent have been obtained with my knowledge and consent in the following countries, to wit: England, No. 22,946,  
10 dated October 15, 1896, and Switzerland, No. 15,158, dated August 23, 1897,) of which the following is a specification.

The present invention relates to mechanism for putting into motion the separate indicating  
15 drums or disks of cash-registers, adding-machines, &c., together with mechanism for stopping and holding said drums or disks after each movement thereof, so as to render it impossible for the drums to turn more than  
20 a predetermined distance, as the distance between the numerals. By this means the proper numerals on the drums are exposed, and there is little liability of inaccurate additions or indications being produced.

25 My invention consists in the novel arrangement and combination of parts hereinafter described and claimed.

One form of my invention is shown in the accompanying drawings, wherein—

30 Figure 1 represents a detail side view of a sufficient number of parts of a registering device to illustrate my invention. Fig. 2 is a like view of the same, showing the parts in different positions; and Fig. 3 is an end view  
35 of the apparatus.

Each of the indicating-drums  $A$   $A'$  and its connecting mechanism (of which there may be any suitable number) consists of a drum, which is provided with numerals from "0" to  
40 "9," arranged progressively around its periphery, a ratchet-wheel  $r^3$  firmly connected with each of the drums, and a gear-wheel  $Z^5$ , which is mounted loosely on the shaft of the drums and can be turned in either direction,  
45 whereas the drums themselves can be turned in only one direction. The indicating-drums  $A$   $A'$  are loosely mounted on the fixed shaft  $y$  independently of each other. Ten pins  $s$  are arranged on the ratchet-wheels  $r^3$  and corre-

spond in location to the ten teeth thereon. 50  
The purpose of the pins is to coöperate with other mechanism to arrest and hold the drums in the proper position to indicate the numerals thereon intended to be displayed. Levers  
55  $H^3$  are each provided with a pin  $s'$ , as is shown in dotted lines in Fig. 1. These levers are mounted on the shaft of the indicating-drums, and one is provided for each drum adjacent to its gear-wheel  $Z^5$ . Each of these levers rotates with its drum, and after each complete  
60 revolution raises the retaining-pawl  $n$  of the next adjacent indicating-drum of higher denomination, and thus places the operating-pawl  $S$  into position for turning the drum. On a fixed shaft  $v$  are loosely mounted stop-pawls  
65  $k$  and retaining-pawls  $n$  independently of each other. Each of the pawls  $k$  is so arranged that it always rests on one of the pins  $s$ , while the retaining-pawl  $n$  engages the pin  $s^3$  on the operating-pawl  $S$  and maintains the nose  $m$   
70 thereof out of engagement with its ratchet-wheel  $r^3$ . Each of the operating-pawls  $S$  is acted upon by a spiral spring  $f$  and is pivoted to a lever  $K$ , which is pivotally mounted upon the shaft  $w$ . The forward end of each of the  
75 levers  $K$  is cut out to form a nose  $i$  for engaging the pins  $s$  on the ratchet-wheels. The rear part of each of these levers  $K$  is provided with a recess, in which a pawl  $o$ , provided with a check or stop  $d$ , is pivoted, as indicated at  
80  $p$ . Each of the levers  $K$  is vibrated by a pin-disk  $h$ ; but the invention is not limited to this method of moving the levers  $K$ , as any known arrangement may be adopted for this  
85 purpose.

It will be understood that the various parts herein described correspond in number to the number of the indicating-drums employed.

The operation of my improved mechanism is as follows: Fig. 1 of the drawings shows  
90 the relation of the parts when one of the retaining-pawls  $n$  is about to be raised by the pin  $s'$ , adapted to rotate with the preceding indicating-drum. In this position the pawl  $k$  engages the uppermost of the pins  $s$  to prevent the backward movement of the indicat-  
95 ing-drum connected therewith. As long as the indicating-drum with which the pin  $s'$  ro-



tates remains motionless, the retaining-pawl  $n$  of the next adjacent drum cannot be raised, and the operating-pawl  $S$  thereof cannot engage with the teeth on its ratchet-wheel when the operating-pawl  $S$  is raised by its pin-disk, and the operating-pawl cannot therefore move the drum. However, when the drum  $a'$  rotates its pin  $s'$  will likewise rotate and engage the retaining-pawl  $n$  of the next adjacent drum and raise the same out of engagement with the operating-pawl  $S$ , which is liberated and by means of the spring  $f$  is forced into engagement with its ratchet-wheel  $r^3$ . If now the end of the lever  $K$  which carries the pawl  $o$  is depressed by means of its pin-disk  $h$  or some other means, the nose  $i$  thereon is raised, together with the operating-lever  $S$ . The latter being in engagement with the ratchet-wheel  $r^3$  turns the indicating-disk  $A$  a distance which corresponds to the distance between two figures. At the same time the nose  $i$  of the lever  $K$  has been raised high enough to engage the lowest of the ten pins  $s$ , and thus prevents further rotation of the drum, as indicated in Fig. 2. As the pin-disk  $h$  continues to move in the direction of the arrow the lever  $K$  falls back into its initial position, together with the operating-lever  $S$ , carried thereby. In the return movement of the lever  $K$  to the initial position the operating-pawl  $S$  is forced inward by contact with the teeth of the ratchet-wheel  $r^3$ , with which it co-operates until the retaining-pawl  $n$  has engaged the pin  $s^2$  thereon. As the lever  $K$  and the operating-pawl  $S$  continue to fall to the initial position, the retaining-pawl  $n$  pulls the operating-lever completely out of contact with the ratchet-wheel  $r^3$ , and thus prevents the operating-pawl  $S$  from engaging the

ratchets until the adjacent drum  $A$  has made a complete revolution and its pin  $s'$  again lifts the retaining-pawl  $n$  out of contact.

The object of the pawl  $o$  is to permit the disk  $h$  to be turned backward without affecting the lever  $K$ .

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

1. In a cash-register or like device, the combination of a plurality of indicating-drums, a ratchet-wheel adapted to rotate each drum, a series of pins carried by each ratchet-wheel, mechanism for engaging the pins and preventing the backward and forward rotation of the drums, a vibrating operating-pawl  $S$  coöperating with each of the ratchet-wheels, retaining mechanism for normally maintaining the operating-pawls out of operation, and mechanism adapted to throw the operating-pawl of one drum into operation by the revolution of another drum.

2. In a cash-register or like device, the combination of a plurality of indicating-drums, a ratchet-wheel connected to and adapted to rotate each drum, a series of pins carried by each ratchet-wheel, pawls  $k$  and  $K$  for engaging the pins and preventing the backward and forward rotation of the drums, a vibrating operating-pawl coöperating with each of the ratchet-wheels, retaining-pawls adapted to normally engage and maintain each of the operating-pawls out of contact with its ratchet-wheel, and mechanism adapted to release the retaining-pawl of one drum by the revolution of another drum.

JOSEPH PALLWEBER.

Witnesses:

LEWIS DILL,  
CHRISTIAN ZEISS.