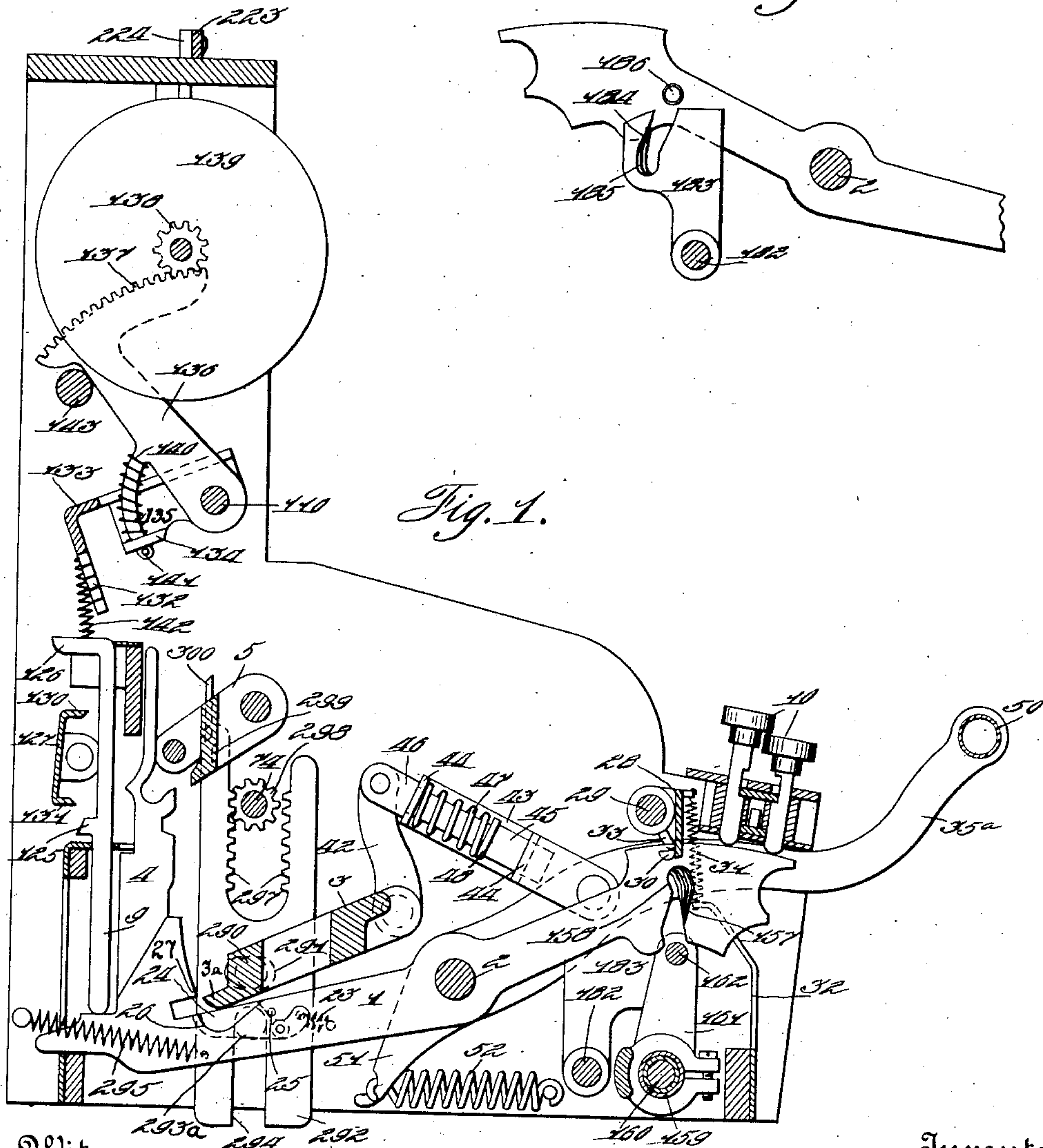


No. 864,510.

PATENTED AUG. 27, 1907.

T. CARNEY.  
CASH REGISTER.  
APPLICATION FILED DEC. 18, 1903.

4 SHEETS—SHEET 1.



Witnesses  
W. M. Carthy  
John J. Ungváry.

Inventor  
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By Charles R. Davis  
Attorneys

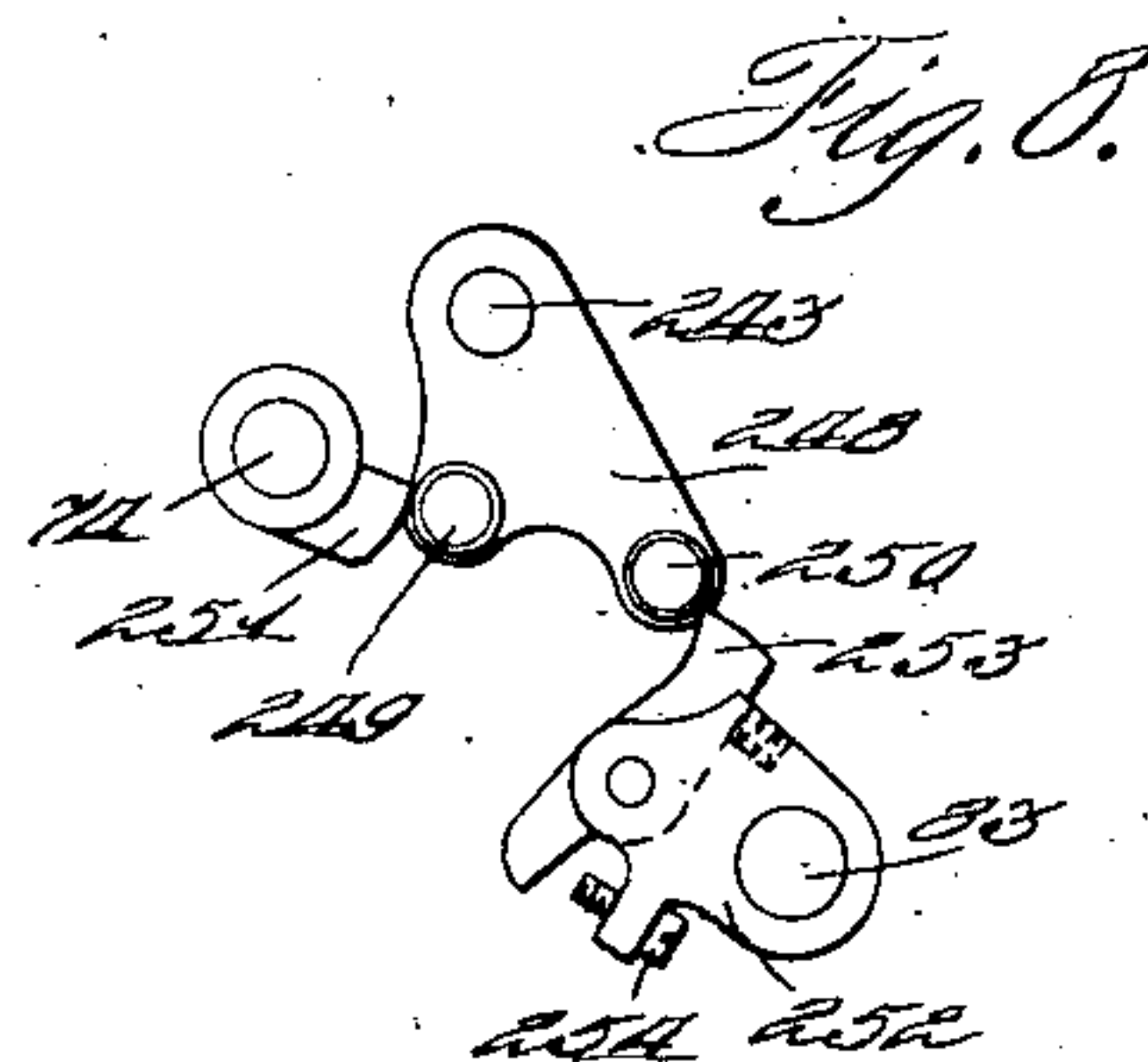
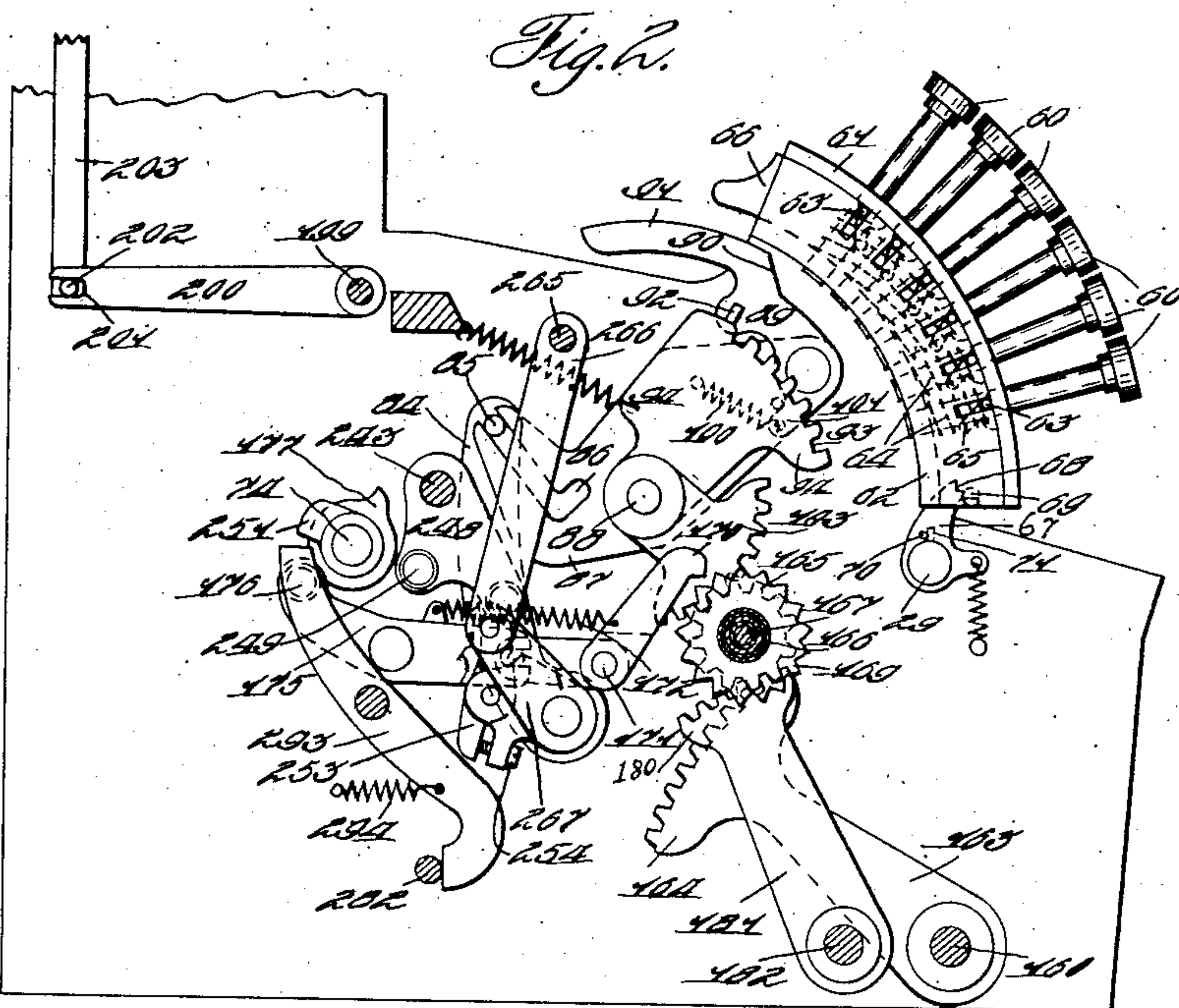
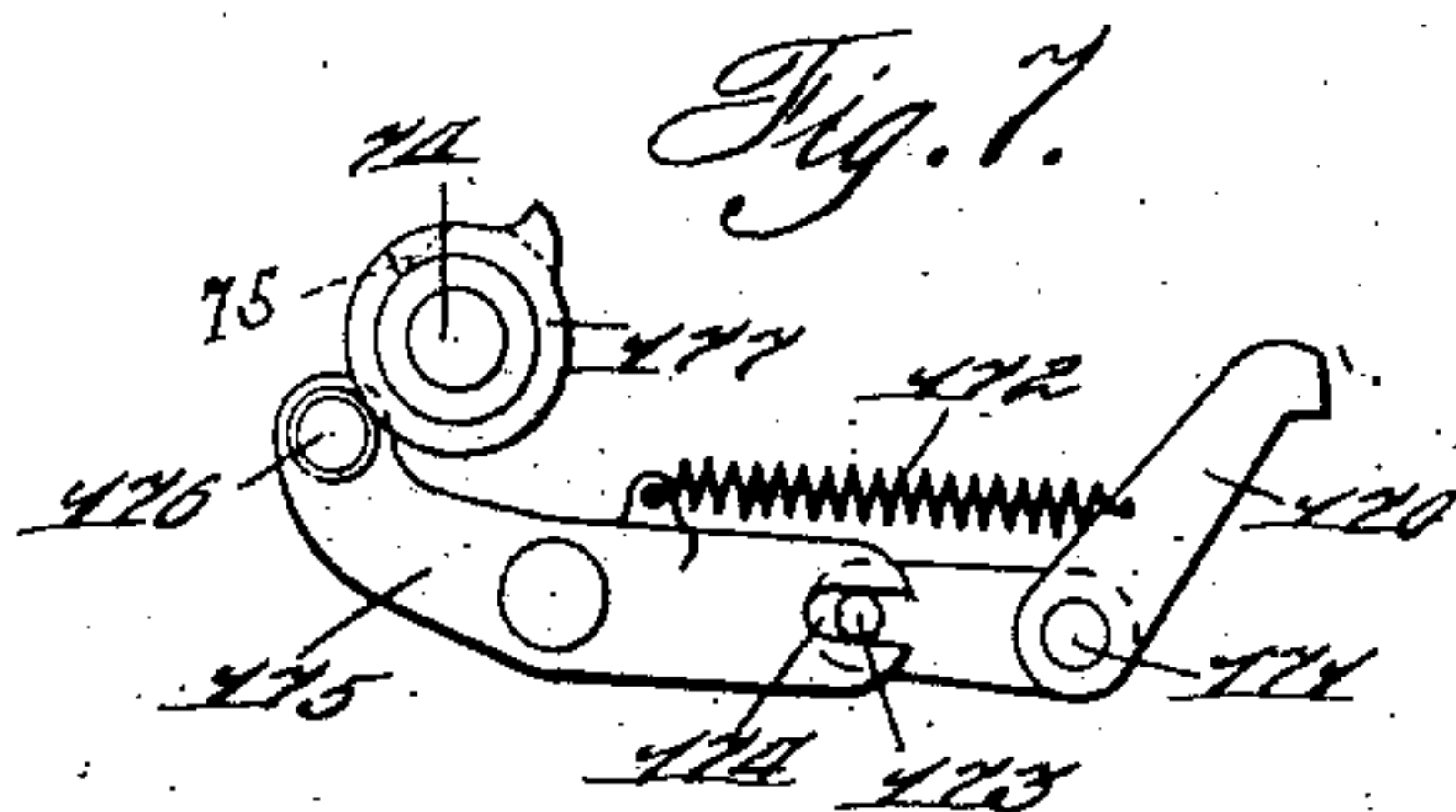
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4 SHEETS—SHEET 2.



Witnesses  
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*John J. Ungvár*

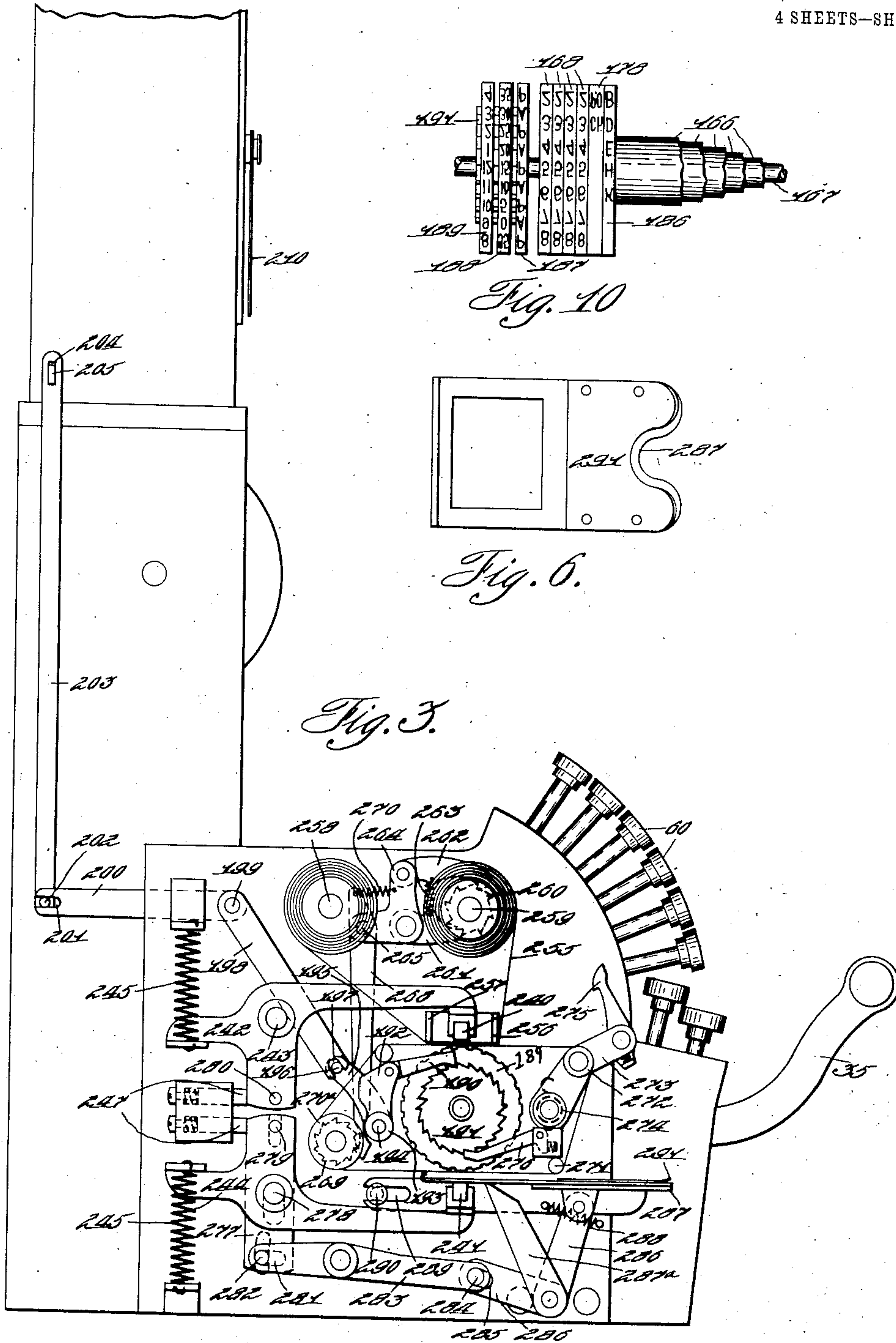
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4 SHEETS—SHEET 3.



Witnesses  
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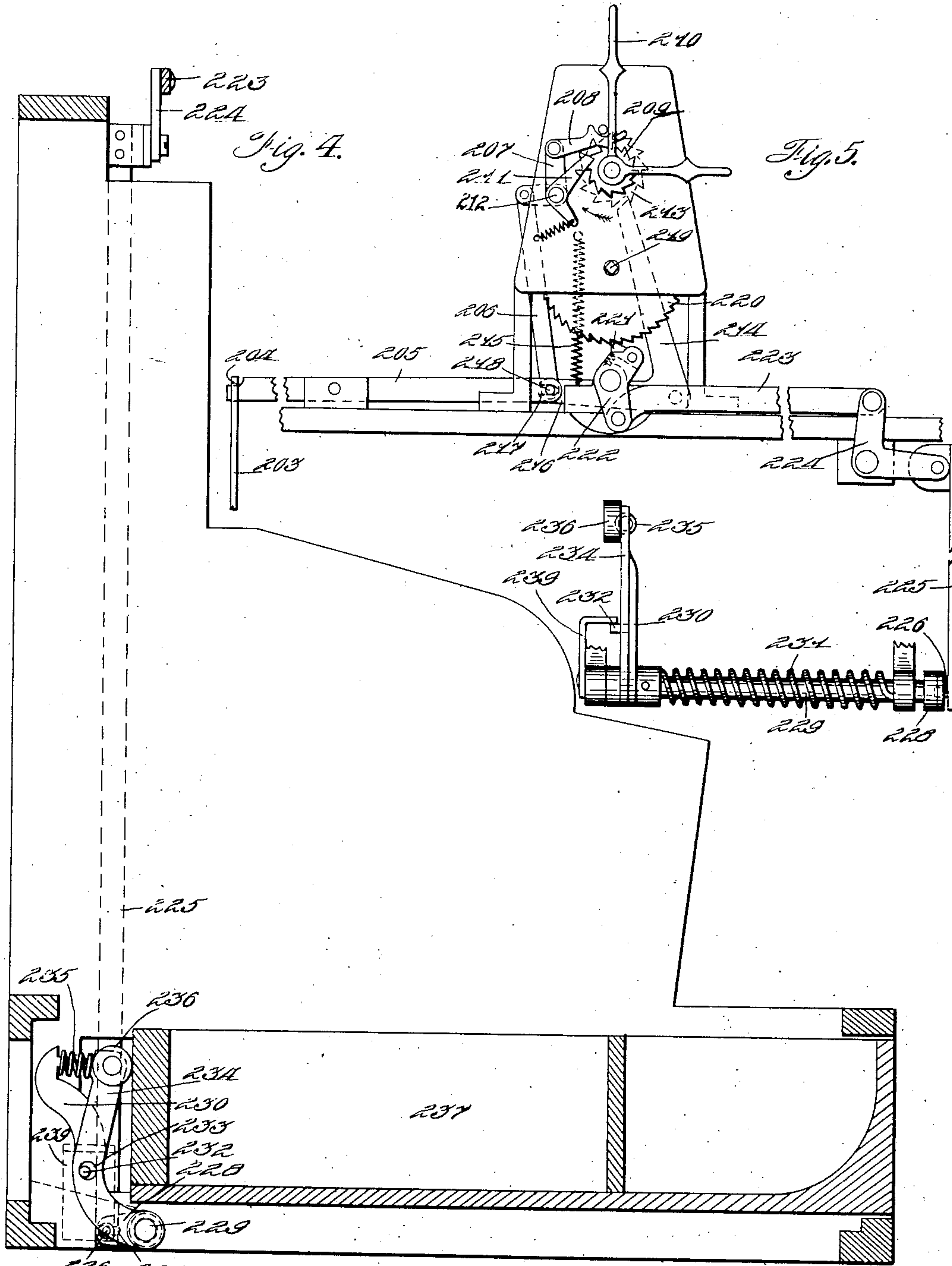
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4 SHEETS—SHEET 4.



Witnesses

U. M. McCarthy  
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# UNITED STATES PATENT OFFICE.

THOMAS CARNEY, OF DAYTON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE  
NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO,  
(INCORPORATED IN 1906.)

## CASH-REGISTER.

No. 864,510.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed December 18, 1903. Serial No. 185,696.

*To all whom it may concern:*

Be it known that I, THOMAS CARNEY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain  
5 new and useful Improvements in Cash-Registers, of which I declare the following to be a full, clear, and exact description.

This invention relates to improvements in cash registers and has more particular relation to improvements  
10 in registers of the so-called two-motion type in which certain keys or setting elements are first operated and a handle or lever subsequently moved to complete the operation of the machine.

One of the several objects of the invention is to provide a cash register with an improved printing mechanism.

Another object is to provide improved time printing devices.

The invention consists of certain novel constructions, combinations and arrangements of parts, all of which  
20 will be hereinafter more particularly set forth and claimed.

In the accompanying drawings forming part of this specification: Figure 1 represents a vertical transverse  
25 section through a machine of the class mentioned, with my improvements applied thereto. Fig. 2 also represents a section through the same, taken to the left of the bank of clerks' keys. Fig. 3 represents an end elevation of the machine, showing the printing mechanism.  
30 Fig. 4 represents a vertical section through the machine illustrating the operation of the machine in connection with the clock winding mechanism. Fig. 5 represents a detail front elevation of the clock mechanism and connections with the dial removed. Fig. 6  
35 represents a top plan view of the check carrier or table. Fig. 7 represents a detail side elevation of the printer alining pawls and connected parts. Fig. 8 represents a detail side elevation of the platen operating devices. Fig. 9 represents a detail side elevation of one of the  
40 special keys and cooperating parts; and Fig. 10 represents a detail front elevation of the printing wheels.

As a number of the parts shown in the present invention are similar to the machine patented to me June 23,  
45 1896, No. 562,707, I will refer to said patent for such detail description of the parts as is not hereinafter given.

The operation of the key levers, keys, indicators and connections form no part of the present invention but are included in a co-pending application Serial No. 185,697 filed December 18, 1903. It will be necessary,  
50 however, in order to secure an understanding of the devices covered by the present invention to describe a number of the parts of the machine which are intimately connected with the constructions covered by the present application. Described in general terms, however, the  
55 machine may be said to comprise a series of pivoted

key levers 1 mounted upon a transverse shaft 2 and arranged to become coupled at their rear ends to a key coupler 3 so that when said coupler is actuated by an independently movable means, the key levers will  
60 move with said coupler and thus actuate the parts connected to said levers. Each of the key levers is provided with an operating standard 4, these standards having hook projections which engage and actuate rocking frames 5 carrying counter operating segments. As  
65 shown in the aforesaid patent, the rear ends of the key levers support indicator standards so that when said levers are operated by the movement of the key coupler, the indicators, which are of tablet formation, will be raised into exposed positions and so latched. In the  
70 present machine, however, I have replaced these indicator standards or stems by a number of vertically movable standards similar thereto but having no tablet plates at their upper ends. These indicator standards  
75 9 control the movements of the rotary indicators as will be hereinafter more particularly described.

*The keys and key levers.*—Reverting now to the key levers 1, I will describe how these levers are constructed so that they may be given an initial movement to bring them into coupling relation with the key coupler  
80 3. Located across the front of the machine are a number of keys 10 arranged in two transverse rows. The keys proper in the present illustration have suitably marked heads and pendent shanks. When one of the keys proper is depressed the lower end of its shank, which is normally resting upon the upper forward edge  
85 of one of the key levers, rocks said key lever upon its pivot against the tension of a spring 23 which connects the key lever to a pivoted pawl 24 mounted thereon and normally engaging the flange 3<sup>a</sup> of the key coupler to  
9 force the key lever downward into its normal position.

When any one of the keys 10 is depressed it depresses the forward end of its respective key lever 1 and thereby elevates the rear end of this lever. As the rear end of the lever moves upward the pawl 24 is rocked downward against the tension of its spring 23, and the upper  
95 hooked end 27 of the key lever is moved to a position above the coupling flange 3<sup>a</sup> of the key coupler. When the key coupler is now operated its flange 3<sup>a</sup> will engage under the hook projections 27 of all of the operated key levers and thus simultaneously actuate all of said  
100 levers. When the key coupler is finally returned to its normal position the key levers are given an additional downward movement by the pawls 24, which thereby return said key levers to their normal positions. Whenever any one of the key levers 1 is given its initial  
105 movement by the depression of its respective key, it is held in its depressed position by one of a series of rock detent plates 28. These plates are loosely journaled upon a transverse shaft 29 and are formed upon their lower edges with a series of notches through which the  
110



respective key levers pass. Each of the key levers is provided with a locking projection 30, and the detents 28 are normally held against these projections by coil springs 31 which connect said detents to a slotted guiding plate 32, mounted on the main frame. There is one of the detents 28 for each of the banks of keys as well as a special detent for each of the special keys hereinafter described.

When a key lever is depressed in a manner before described, its projection 30 will force its detent 28 slightly forward until the projection has passed free of the detent, when the latter will resume its normal position over the key projection and lock the key lever in its depressed position. While all of the key detents 28 are independently movable upon the shaft 29, they are arranged to be simultaneously actuated by the shaft to release all of the key levers. For this purpose the shaft is provided with a plurality of radial arms 33, one for each of the detents, and so positioned that when the shaft 29 is rocked all of the detents will also be rocked. The rocking of the shaft 29 is automatically accomplished (by means not shown herein) upon each operation of the machine to permit all of the key levers to return to their normal positions.

As before stated, the key levers are first moved into coupling position in relation to the key coupler 3 and the latter then operated to complete the movements of the key levers. This operation of the key coupler is accomplished by an arm 42 fast to one end thereof, as shown in Fig. 1. This arm 42 is connected to a lever 35<sup>a</sup>, similar to the lever 35, but located at the opposite end of the machine. The connection is established by a link 43 provided with two spaced apertured lugs 44. The lower lug 44 forms a guide for sliding a sleeve 45 fast to a bar 46 pivoted to the outer end of the arm 42. Said bar 46 passes through the upper lug 44 thereby forming a guide for the same. A coil spring 47 is interposed between the upper lug 44 and a flange 48 formed on the sleeve 45.

By the above described connections the movements of the lever 35<sup>a</sup> will be communicated to the key coupler, but should the lever 35<sup>a</sup> be violently operated the key coupler 3 will not immediately follow these violent operations as the spring 47, which is interposed between the parts, will absorb the shock. In order that the levers 35 and 35<sup>a</sup> may be more conveniently operated the same are connected across the front of the machine by a hand bar 50 which extends directly in front of the banks of keys. The levers 35 and 35<sup>a</sup> are pivoted upon the key shaft 2 and each of the same is provided with a pendent arm 51, which is connected by a coil spring 52 to the main frame. By this means, after the bar 50 has been depressed it is automatically returned to its normal position when released.

In the above description I have set forth the construction and operation of the several banks of amount keys and their connections. At the left-hand side of the machine, however, is located what might be termed an independent bank of keys 60 representing the different departments or clerks, as desired. These keys are mounted radially in guide plates 61 and 62 secured to the main frame and are provided with pins 63 which contact with coil springs 64 mounted about the shanks of the keys and between the pins 63 and the plate 62.

These pins effect the return of the keys to their normal

positions when they are otherwise unrestrained. Each of the pins 63 also projects into one of a series of diagonal slots 65 formed in a sliding segmental plate 66, mounted between the plates 61 and 62.

It results from the above construction that when any one of the keys 60 is depressed the plate 66 is forced upward and rearward and remains so as long as the key remains in its lower position. When the plate 66 is forced upward in this manner it is latched in its upper position by a spring actuated pawl 67 loosely mounted upon the shaft 29, as shown in Fig. 2, and formed at its end with a locking notch 68 which, when the plate 66 is elevated, receives a pin 69 mounted on said plate and thus latches the latter in its elevated position. The latching pawl 67 is provided with a laterally projecting pin 70 which is arranged to be engaged by a pin 71 mounted on the rock shaft 29, upon which the pawl 67 is journaled.

It will be seen from the above that when the shaft 29 is rocked as before stated, the pawl 67 will be moved rearward and its notch 68 disengaged from the pin 69, which action will permit the plate 66 to resume its normal position.

By reference to Fig. 2 it will be seen that there are six of the keys 60, representing six different clerks or departments. As the operation of the different keys in this bank must result in or control the movements of certain parts to graduated degrees, I provide the extended trunnion 83 of the key coupler with an upwardly projecting lever 84, best shown in Fig. 2. This lever is provided at its upper end with a pin 85 which projects into an angular cam slot 86 formed in the lever 87, which is journaled upon a short transverse shaft 88 mounted in the main frame. The lever 87 is provided near its forward end with a pivoted segmental arm 89 having an inclined edge 90 and a curved edge 91. When the arm 84 is actuated by the movement of the key coupler the lever 87 will be correspondingly moved by the pin 85 traveling down in the operative portion of the slot 86. When the lever 87 is so rocked the pivoted arm 89 is moved forward until its inclined edge 90 contacts with the lower end of the stem of the depressed key. The continued movement of the lever 87 causes the arm 89 to be cammed downward and backward until the lower end of the key stem rides over the curved surface 91. When the arm 89 is cammed downward, as above described, a lug 92 mounted thereon is forced into one of a series of recesses 93, formed in the periphery of a plate 94 which is fast on the shaft 88. The plate 94 is thus picked up sooner or later and thus given a greater or less movement by said lever. The lug 92 is drawn out of the recesses 93 by a coil spring 100 one end of which is fastened to a lug 101 formed on the arm 89 and the other end to a pin on the lever 87.

In the above description I have set forth in detail the construction and operation of the different banks of keys and their cooperating devices and I will now describe the connections and operation in conjunction therewith of the several indicators.

*The indicators.*—As before stated, the plate 94 of the special key bank is moved different positions according to the operated value of the key 60 depressed. I therefore utilize this movement to set a suitable special indicator by interposing any suitable mechanism between the plate 94 and said indicator. As these connections,



however, form no part of the present invention I have not shown the same in the drawings.

As before stated, each of the key levers of the amount banks is arranged, when operated, to elevate a standard 5 or rod 9. Each of these rods is provided with a latching projection 125 and a lifting projection 126. A rocking plate or yoke 127 is pivotally mounted at the rear of the machine. This rocking plate or back rod is operated to release or support the standards in a manner well 10 known in the art and needing no further description here.

As before stated, each of the rods 9 is provided at its upper end with a lifting projection 126. When one of the rods 9 is elevated its projection 126 will engage one 15 of a series of steps 132 formed upon a rocking frame 133, which is journaled upon the shaft 110, as best shown in Fig. 1. As the different steps 132 are located at different distances above the lifting projections 126 of their respective keys, it will be seen that the operation of the 20 different rods 9 will operate the frames 133 correspondingly. Each of these frames 133 is provided with a laterally projecting lug 134 through which projects an arm 135 formed on a lever 136 which is journaled upon the shaft 110, and is provided at its upper end with a 25 segmental rack 137 meshing with a pinion 138 of its respective rotary indicator 139. A coil spring 140 surrounds the arm 135 and bears with its opposite ends against said arm and the lug 134. A pin 141 mounted in the arm 135 below the lug 134 prevents said arm from 30 passing out of the aperture in the lug and thus holds the parts in their normal set positions. Should one of the rods 9 be raised over rapidly and thus engage the frame 133 with considerable force, the spring 140 will yield and thus prevent any shock to the indicator. The 35 subsequent expansion of the spring, however, will cause the indicator to take up the proper set position even after the movements of the frame 133 have ceased. Such a violent impact of the lifting projection 126 with the frame 133 would also cause the frame to be thrown 40 upward a distance in excess of the movement imparted to it by the lifting standards or rods. The frame, however, is eventually returned to a position in which it engages the lifting projection of its rod 9 by a coil spring 142 which connects said frame 133 to the main 45 frame. The levers 136 rest against a transverse rod 143 when in their normal positions.

It will be seen from the above that after one of the rods 9 is elevated it is latched in its elevated position 50 by the flange 130 of the back rod 127. When latched in this position its projection 126 will support its respective frame 133 in a position equivalent to the value of the operated key, and the indicator 139 will thus display the proper amount at the indicator openings in the cabinet of the machine.

As shown in said copending application a number of 55 special keys, representing "Charge," "Paid out," "Received on account" and "No sale" are located at different points along the regular amount key-board. The operations of these keys and key levers are substantially the same as the amount keys and key levers 60 excepting, as before stated, that each of these special key levers is provided with an individual detent whereby it may be operated independently of the keys of any amount bank. These special key levers have no ele- 65 vating standards 4 as they are not connected with the

counter actuating devices but each of the same is provided with one of the operating standards 9. These standards 9 of the special keys are connected to a suitable indicator by any known and desirable devices.

*Printing devices.*—Each of the amount key levers is 70 formed with a slot having a cam portion 157 and a concentric portion 158. Mounted transversely of the machine are a series of nested sleeves 159 supported by a shaft 160. Each of the sleeves 159 as well as the shaft 160 is provided with two upwardly projecting arms 161. 75 Each pair of these arms is connected to a transverse bar 162 which projects under the lower ends of the cam slots 157 of the key levers of the bank to which the particular bar 162 pertains. When the key lever is depressed at its forward end the walls of its particular cam 80 slot will engage its respective bar 162 and thereby rock the arms 161 and the shaft or sleeve connected thereto to a greater or less extent. After the arms 161 are rocked to their full extent the continued movement of the key levers will cause the bars 162 to pass into the 85 concentric slots 158, whereby the bars will be locked into the positions to which they have been set during the period of the free movement of said key levers.

By reference to Fig. 2 it will be seen that the outer end of the shaft 160 and also the outer ends of the sleeves 90 159 are provided with arms 163 formed with segmental racks 164. These racks mesh with pinions 165 mounted upon the inner ends of a series of nested sleeves 166 and a supporting shaft 167. These sleeves and shaft are provided at their outer ends with a series of type car- 95 riers 168, best shown in Fig. 10. Each of the sleeves and shaft is also provided with a star wheel 169 with which an alining pawl 170 coöperates to correct any misalignment of the printing type wheels. The pawl 170, as best shown in Fig. 7, is of bell crank formation and is 100 pivoted upon the main frame at 171 and normally held retracted by a coil spring 172. The rear end of the pawl is provided with a pin 173 which projects into a notch 174 formed in a pivoted lever 175 to which the rear end of the spring 172 is connected. The rear end of the 105 lever 175 is provided with an anti-friction roller 176 which engages a cam 177 mounted upon the rotation shaft 74. The formation of the cam 177 is such that the lever 175 is operated at the proper period to bring the pawls 170 into locking and alining engagement 110 with the star wheels.

The above description covers the connections between the amount key levers and their printing type wheels. Located beside the main printing type wheels 115 is a type wheel for printing special characters representing the special keys. This type wheel is actuated through the medium of a segmental rack 180 mounted on an arm 181 which is fast to a transverse rock shaft 182, as best shown in Fig. 2. This shaft, as best shown in Fig. 9, 120 is provided with a series of upwardly projecting plates 183 formed with slots having cam portions 184, and concentric portions 185. Anti-friction rollers 186 are mounted on the respective special key levers and operate in the cam slots substantially in the same manner 125 as the bars of the amount key banks operate in the cam slots of the amount key levers. Located beside the special character printing wheel 178 is a clerk's character printing wheel 186. This wheel is mounted in a similar manner to the remaining wheels and its sleeve is provided with a pinion which meshes with a seg- 130



mental rack 103, before described. All of the printing wheels are provided with double sets of types arranged upon diametrically opposite sides whereby duplicate impressions may be taken for both the detail strip and the check.

Loosely journaled upon the shaft 167 to the left of the amount printing wheels are three time-printing wheels 187, 188, and 189. The wheel 189 is provided with duplicate sets of type numerals extending from 1 to 12. The wheel 188 is provided with duplicate type numbers representing the different multiples of 5 and extending from 5 to 55. The type wheel 187 is provided with two series of letter types which are alternately "A" and "P" as representing ante-meridian and post-meridian. The three wheels 187, 188, and 189 are actuated by a three-pronged pawl 190 which coöperates with ratchet wheels 191 secured to the said type wheels. The pawl 190 is of a variety having a plurality of different lengthed tines which coöperate with deep tooth ratchet notches in the wheels 191 to provide for transferring movements to move one wheel after the preceding wheel has moved a half revolution, which operation is old and well known in the art. The pawl 190, as best shown in Fig. 3, is pivoted into the upper end of the arm 192 fast to the sleeve 193 which is journaled upon a short shaft 194, secured to the main frame. The sleeve 193 also carries an arm 195, provided with a pin 196. This pin projects into an elongated slot 197 formed in the lower end of an arm 198 which is fast to a short shaft 199, journaled on the main frame, as clearly shown in Fig. 3. The shaft 199 carries a rearwardly extending arm 200 which is formed at its rear end with an elongated slot 201. This slot receives a pin 202 mounted on the lower end of a rod 203. The rod 203, as best shown in Fig. 5, is formed with a slot or aperture 204 at its upper end for the reception of the end of a lever 205, which is journaled upon the main frame. The lever 205 is connected by a link 206 to a pivoted bell crank 207. This bell crank carries an actuating pawl 208 which engages a ratchet wheel 209, fast to the arbor of the minute-hand so that any movement imparted to the lever 205 will be transmitted to the minute-hand 210. A spring actuated retaining pawl 211 is mounted upon the pivotal shaft 212 of the bell crank 207 and engages the ratchet 209 to prevent retrograde movement of the same. The clock mechanism may be of any suitable construction, and upon the minute arbor of the same I mount an operating ratchet 213. This ratchet coöperates with the upper beveled end of a bell crank lever 214 which is journaled upon the main frame, and is held in its normal position, by a coil spring 215 which connects it to the frame of the clock work. The lever 214 is provided with an extension 216 having a slot 217 formed in its end to embrace the connecting pin 218, forming the joint between the link 206 and the lever 205.

By means of the above construction the movement of the ratchet 213 will gradually cam the lever 214 to the left thus depressing the inner end of the lever 205. When the tooth of the ratchet finally passes free of the upper end of the lever 214 the latter resumes its normal position under the impulse of the spring 215. The teeth of the ratchet 213 are so arranged that one of the same will actuate the lever 214 every five minutes.

It will be seen from the above that when the lever 205 is actuated the minute-hand is moved through a distance equal to five minutes and the minute printing wheel is moved one notch. Mounted upon the winding arbor 219 is a winding ratchet 220. This ratchet is engaged by a spring-pressed pawl 221 mounted upon a short lever 222 which is pivoted upon the main frame and is connected by a link 223 to a bell crank lever 224. This lever, as best shown in Figs. 4 and 5, is pivotally connected to a vertically movable rod 225. This rod is provided at its lower end with a laterally projecting pin 226 which extends into an elongated slot 227 formed in an arm 228. This arm is fast upon a transverse shaft 229 which is suitably journaled in the main frame. This shaft carries a vertically extending arm 230, said arm, together with the shaft, tending to rock forward under the impulse of a coil spring 231 which surrounds the shaft, and is connected at one end to the arm 230 and at its opposite end to a stationary part of the frame. The arm 230 is provided with a laterally projecting pin 232 which extends into an enlarged aperture 233 formed in a lever 234 which is pivotally mounted upon the shaft 229 and is normally forced forward by a coil spring 235 interposed between it and the lever 230. An anti-friction roller 236 is mounted upon the upper end of the lever 234. When the cash drawer 237 is released the action of the spring 231 tends to force the arms 230 and 234 forward and partly eject the drawer from the cabinet or casing. The forward movement of the levers or arms 230 and 234 are limited by the pin 232 which strikes against the underside of a stationary bracket 239 mounted on the main frame. When the shaft 229 rocks forward upon the opening of the cash drawer the pawl 221 is retracted through the connections before described so that when the cash drawer is again closed and the pawl moved forward it will engage and actuate the ratchet wheel 220 and thus wind up the clock spring. When the tension of the clock spring exceeds the tension of the spring 235 the movement of the cash drawer will no longer wind the clock spring as the closing movement of the drawer will simply cause the lever 234 to move rearward without any movement being imparted to the lever 230. As most of the devices in connection with this time printing mechanism are shown and claimed in my co-pending application No. 64,558, I will not enter into any further description here.

The devices for securing the impressions from the respective type wheels comprise two platens 240 and 241, (see Fig. 3). The platen 240 is mounted upon the platen lever 242 which is fast to a shaft 243 passing through the main frame, while the platen 241 is journaled upon a similar lever 244. The platen levers are actuated by coil springs 245 which connect them to the main frame. These platen levers are normally held out of contact with the type wheels by spring-pressed plungers 247 mounted upon the main frame and engaging their respective platen levers, as clearly shown in Fig. 3. The movement for operating the platens is primarily applied to the shaft 243 by means of devices illustrated in Figs. 2 and 5. These devices comprise a plate 248 fast to the inner end of said shaft and provided with two spaced anti-friction rollers 249 and 250. The rotation shaft 74 is provided with



a locking and releasing cam 251 which coöperates with the roller 249 while the extended journaled end 83 of the key coupler has fast thereon a block 252 carrying a spring-pressed pawl 253 which is limited in its movements by an adjustable stop screw 254. When the key coupler is being elevated the pawl 253 engages the roller 250 and rocks the shaft 243 to elevate the platen against the tension of its spring. Just prior to the time when the pawl passes free of the roller 250 the cam 251 engages the roller 249. Upon the backward movement of the key coupler and the attendant rotation of the shaft 74 the cam 251 is advanced far enough to release the platen lever and permit the same to take an impression from the type wheels. The above construction also relieves the rotation shaft 74 of the duty of raising the platen lever against the tension of its spring and throws this strain upon the key coupler which more directly receives the applied power.

By the above described means the platen lever 242 is actuated upon each movement of the key coupler. As the movement of the platen lever 242 is constant this lever is utilized to accomplish the printing of the detail strip 255. This strip passes between the platen 240 and the type wheels and under two guiding bars 256 and 257. The strip is led from a supply roller 258 and is fed forward by a feeding roller 259. This latter roller is provided with a winding ratchet 260 fast thereto. The ratchet 260 is engaged by a retaining pawl 261 and an operating pawl 262, said pawls being connected by a coil spring 263. The pawl 262 is pivotally mounted upon a bell-crank lever 264. A pin 265 mounted on one end of this bell-crank projects through the frame of the machine and is connected by a link 266 to a crank arm 267 fast to the extended journaled end 83 of the key coupler. By this means the bell crank lever 264 is oscillated upon each operation of the machine and feeds the detail strip forward a suitable distance. The pin 265 also supports a pendent hooked bar 268, the lower end of which is normally held into engagement with a ratchet wheel 269 by a coil spring 270 which connects the upper end of the hooked bar to the bell crank lever. The ratchet 269 is secured to one end of an absorbent inking and feeding roller 270\*, journaled upon the main frame. The inking ribbon passes about this roller and also about suitable guiding studs 271 mounted upon the main frame. The ribbon also passes about an anti-friction roller 272 mounted upon a lever 273 which is journaled upon the main frame and is normally forced forward by a coil spring 274, which surrounds its journal and bears with one end against said lever and the other against the main frame. The ribbon is thus normally held taut and under tension. When it is desired to change the ribbon or re-ink the absorbent roller the lever 273 is moved rearward and is retained in this rearward position by a hooked pawl 275, which is hooked over the guide bar 256. A series of spring-pressed retaining pawls 276 are mounted upon the main frame and are arranged to engage the ratchet wheels 191 of the time printing types to prevent retrograde movement of the same. The lower platen lever 244 for securing an impression upon the check is arranged to be coupled to the upper lever 242 by a sliding plate 277 slotted to receive a journal pin 278 of the lower platen lever and a pin 279 secured to the upper portion of the platen lever.

The upper slot of the plate 277 is arranged to receive a pin 280 mounted upon the upper platen lever, when the plate is raised in the manner to be now described.

The lower portion of the plate 277 is formed with a horizontal slot 281 into which projects a pin 282 mounted upon a pivoted lever 283. This lever 283 is provided with a pin 284 which projects into an elongated notch 285 formed in the rear arm of a bell crank lever 286. The upper arm of this bell crank lever is pivoted to a check holder or slide 287, which slide is normally retracted in the position shown in Fig. 3 by a coil spring 288 which connects it to the main frame. The rear end of the slide is formed with a slotted arm 289 which receives a guiding pin 290, fast to the main frame. The forward end of the slide is provided with a spring clip 291 for securing the check upon the slide. The rear portion of the check holder is suitably apertured to permit of the passage of the platen 241 therethrough, whereby the check is forced against the types. After the check has been inserted in the holder 287 the holder is forced rearward. This movement of the check holder rocks the levers 286 and 283 and elevates the slide 277 to couple the two platen levers together. When the slide 277 is so elevated the pin 282 passes above the lower end of a hooked lever 293 and thus permits said lever to be drawn rearward under the pin by a coil spring 294 which connects the lever to the main frame. This lever, as best shown in Fig. 2, engages the cam 75 fast on the shaft 74 as shown in dotted lines in Fig. 7 and is thereby operated at the proper time to permit all of the check holding devices to return to their normal positions and leave the lower platen lever inoperative. A rigid arm 287\* projects up through the aperture formed in the carrier 287 to support the check in proper position before the check printing platen is elevated to effect the impression.

It will be seen from the above that the operation of inserting the check and pushing the check holder rearward couples the lower platen to the upper platen so that the check will be printed and that the parts there- after automatically return to their normal positions in which the check platen lever is inoperative. By this means the check printing devices remain inactive unless a check is desired.

The rotation shaft 74, before mentioned, receives a complete rotation upon each operation of the machine through the medium of the key coupler 3. To accomplish this result the key coupler is provided at its right-hand end with a laterally projecting pin 290 which extends into a horizontal slot 291, formed in a vertically movable rack plate 292. This plate is guided at its lower end by a pin 293\* mounted upon the main frame and projecting into an elongated slot 294 formed in said plate. A coil spring 295 connects the plate to the main frame in such manner that the tension of the spring is alternately exerted above and below the pin 293 which acts as a fulcrum upon which the plate 292 rocks. The upper portion of the plate 292 is formed with two vertical arms 297 formed upon their inner edges with rack teeth. The shaft 74 is provided with a pinion 298 which is arranged to be alternately engaged by the rack teeth on the arms 297 as the plate 292 is rocked upon its fulcrum. The plate 292 is held to vertical movement in its different adjusted positions by a lug 299 which co-operates with a stationary flange 300 of the main frame.



The above construction is old and well known in the art and no further description of the same is thought to be necessary.

While I have shown in the drawings certain connections for securing the desired results I do not care to limit myself to such constructions as many other similar mechanisms may be employed for the purposes set forth without departing from the spirit of this invention.

The key mechanisms, connected parts, indicators, etc., shown in the present case are included and claimed in my companion application Serial No. 186,697 executed on even date herewith.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a cash register, the combination with a printing mechanism, of two platens cooperating with the same, a movable check holder, and means connected to the check holder and arranged to couple the platens for conjoint operation.
2. In a cash register, the combination with a printing mechanism, of two platens cooperating with the same, means for normally operating one of said platens, a movable check holder, and means controlled by the check holder for coupling the two platens together.
3. In a cash register, the combination with a printing mechanism, of a platen, a platen operating device, a movable check holder, and means controlled by said holder for coupling the platen to the operating device.
4. In a cash register, the combination with a printing mechanism, of a platen, a movable check holder, an operating device, means for coupling the platen to the operating device controlled by the check holder, a latch for securing the check holder in its operated position, and means for operating the latch upon each operation of the machine.
5. In a cash register, the combination with an operating mechanism, of a printing device including time printing type carriers, a clock mechanism for actuating the carriers, a movable cash receptacle, a lever operated by said receptacle, a second lever having connections with the winding arbor of the clock, and a spring interposed between the two levers.
6. In a cash register, the combination with a printing mechanism, of platens for printing both the check and the detail strip, a movable check holder normally in non-printing position, and means for coupling the platens together when the check holder is moved to printing position.
7. In a cash register, the combination with an operating mechanism, of a printing mechanism, platens for printing both the check and the detail strip, a movable check holder, means controlled by the check holder for coupling the two platens together, and a latch for said coupling means actuated by the operating mechanism to permit the check holder to return to its normal position upon each operation of the machine.
8. In a cash register, the combination with a series of key levers, of a movable member common thereto, a rotation shaft, means intermediate the common member and said rotation shaft for actuating the latter, a printing mechanism including a movable spring actuated platen, means connected to the movable member for moving the platen against the tension of its spring, and means connected to the rotary shaft for holding the platen in its set position and finally releasing it.
9. In a printing attachment for cash registers, the combination with a printing mechanism including a normally

disabled platen, of an operating mechanism for operating said platen, and means controlled by the insertion of a check into the machine for causing the operating mechanism to operate the platen to print upon the inserted check.

10. In a printing attachment for cash registers, the combination with a printing mechanism including a normally inoperative platen, of an operating mechanism for said platen, a movable check holder, and means controlled by the check holder for causing the operating mechanism to operate said platen.

11. In a printing attachment for cash registers, the combination with a printing mechanism including a platen, of an operating mechanism for said platen, a movable check holder, and means controlled by said check holder for controlling the effectiveness of the operating mechanism upon said platen.

12. In a printing attachment for cash registers, the combination with the printing mechanism, and an operating mechanism for the cash register, of a movable check holder, and means controlled by said holder for causing the operating mechanism to actuate the printing mechanism to print upon the check.

13. In a printing attachment for cash registers, the combination with a printing mechanism for printing upon inserted checks, of an operating mechanism for the cash register, and means controlled by the insertion of the check for causing the operating mechanism to actuate the printing mechanism to print upon the inserted check.

14. In a printing attachment for a cash register, the combination with a printing mechanism including type carriers of normally inoperative means for taking impressions therefrom, an operating shaft, and a slidable check holder for connecting the impression-taking means to the operating shaft when a check is to be printed.

15. In a printing attachment for a cash register, the combination with an operating mechanism, of a pivoted platen normally disconnected therefrom, a device on said platen for connecting same to said operating mechanism, a slidable check holder and levers connecting said holder to said connecting device.

16. In a printing attachment for a cash register, the combination with a series of type carriers and means for setting same, of an impression-taking means therefor, an operating mechanism, means for connecting the impression taking means to the operating mechanism at will, and a lever for latching said connecting means in operated position.

17. In a cash register, the combination with a main operating mechanism and a cash receptacle, of a printing mechanism controlled by the main operating mechanism and including type carriers, a clock having a spring for driving said printing mechanism and mechanism for winding the spring, said latter mechanism being operated by the cash receptacle.

18. In a cash register, the combination with a main operating mechanism and a cash receptacle, of a printing device operated by the main operating mechanism, time controlled mechanism for setting the printing device, power mechanism for operating said time controlled mechanism, and means for storing energy in said power mechanism but prevented from over accumulation thereof, said storing means being operated by the cash receptacle.

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

THOMAS CARNEY.

Witnesses:

HERBERT C. WOOD,  
WM. O. HENDERSON.