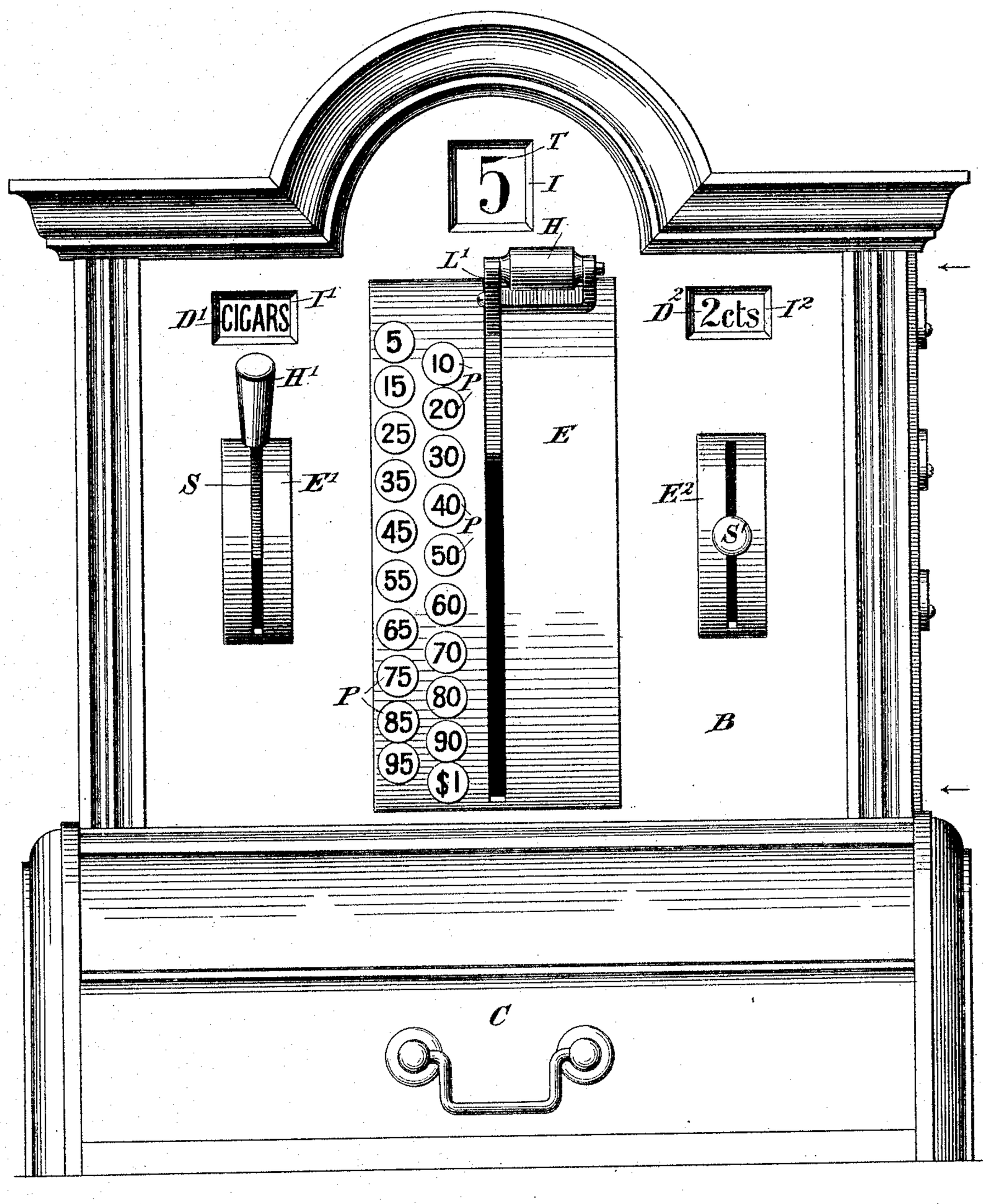
(No Model.) 6 Sheets—Sheet 1.

W. F. Z. DESANT.

CASH REGISTER AND INDICATOR.

No. 492,761. Patented Feb. 28, 1893.

Fig. 1,



Witnesses
C. E. Ashley
H. W. Lloyd.

Inventor
Wm F. Z. Desant
By his Attorney
Charles J. Kintner

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(No Model.) 6 Sheets—Sheet 2.

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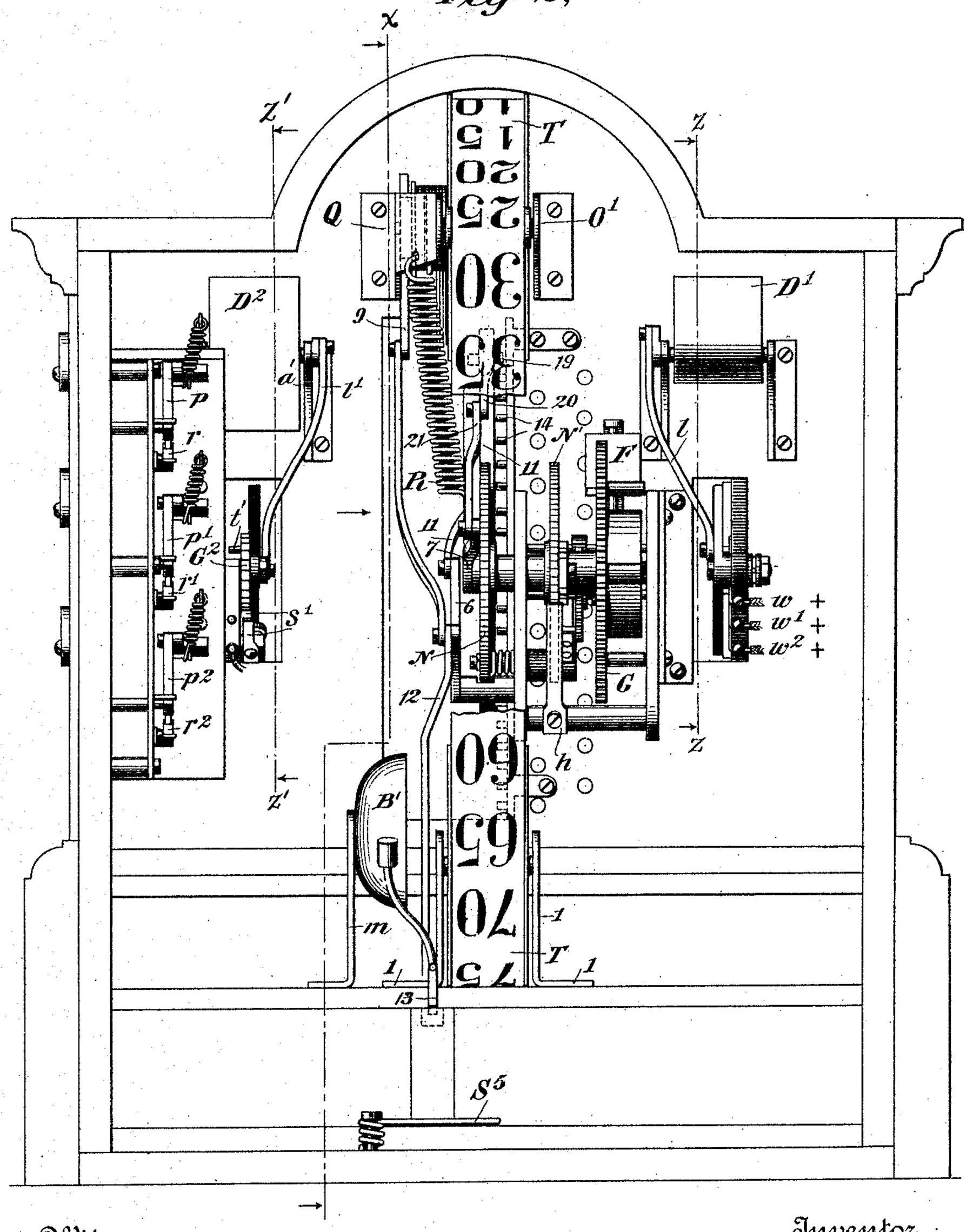
Fig. 2,



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H. W. Lloyd.

Inventor
Wm F. Z. Desant
By his Attorney
Charles J. Kintner

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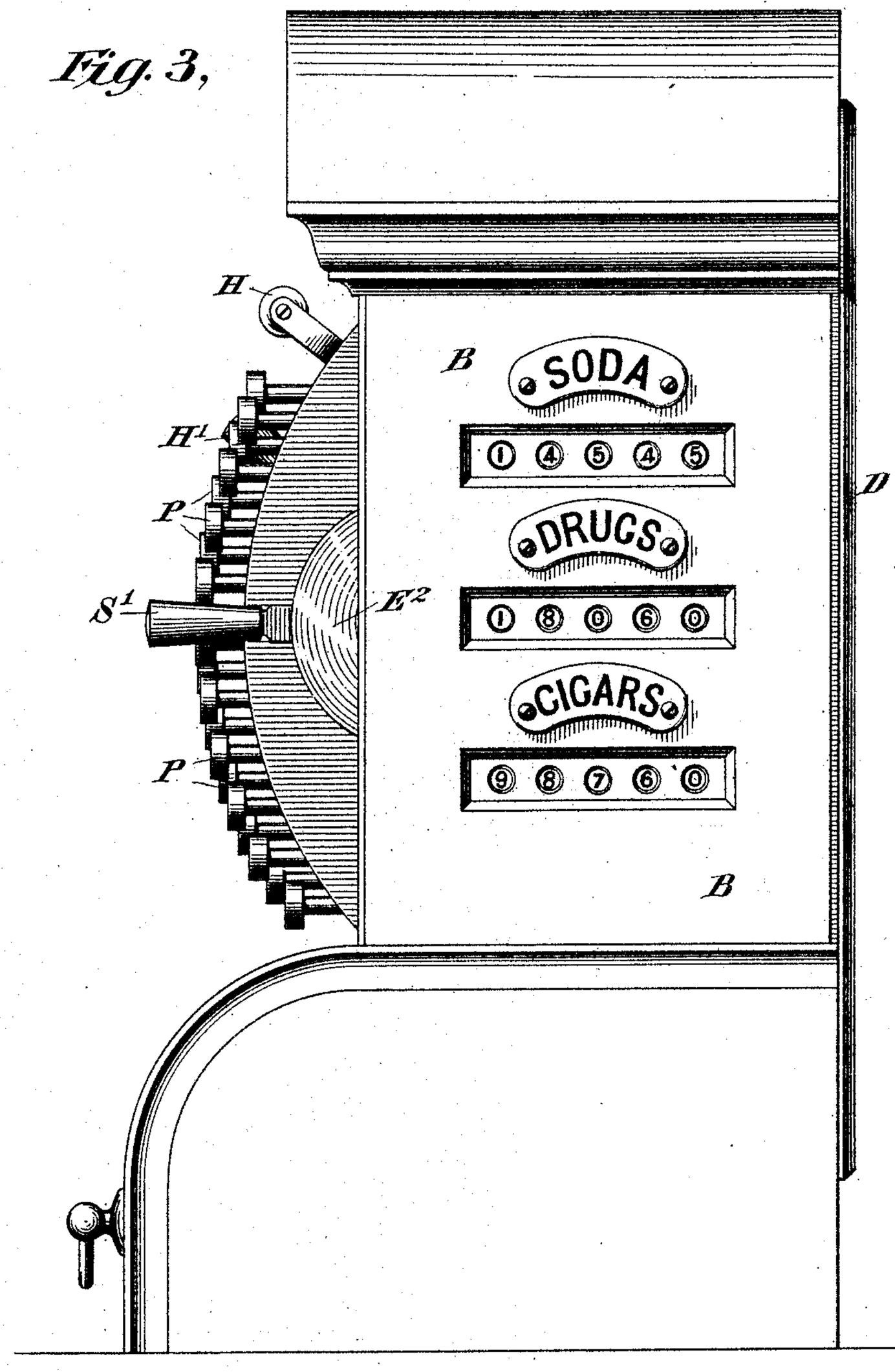
Fig. 3,



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C. E. Ashley
H. W. Lloyd.

Inventor
Wm. F. Z. Desant
By his Attorney
Charles J. Kintner

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 10,

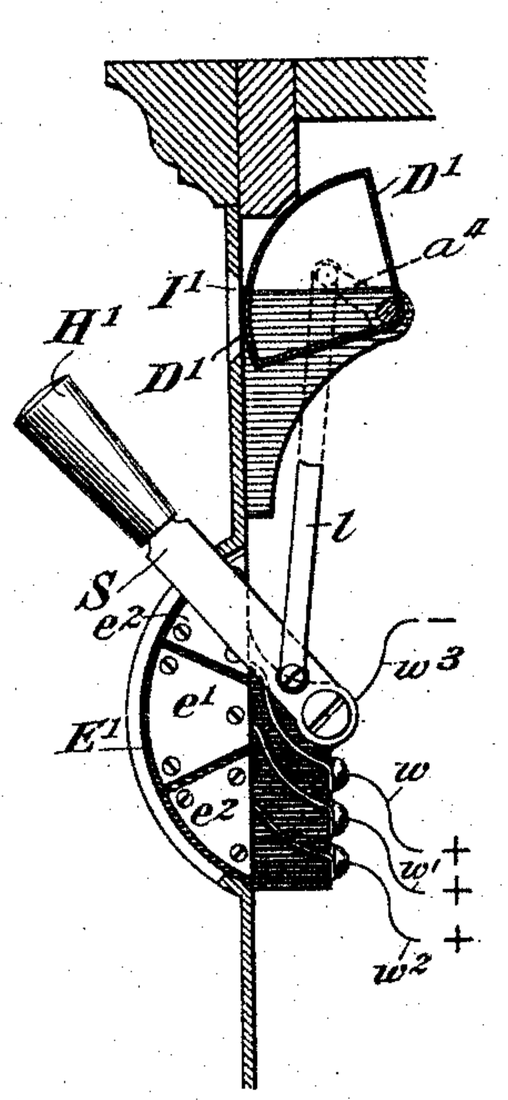

Fig. 4,

Witnesses
C. E. Ashley
H. W. L Loyd

Inventor
Wm F. Z. Desant
By his Attorney
Charles J. Kintner

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 5,

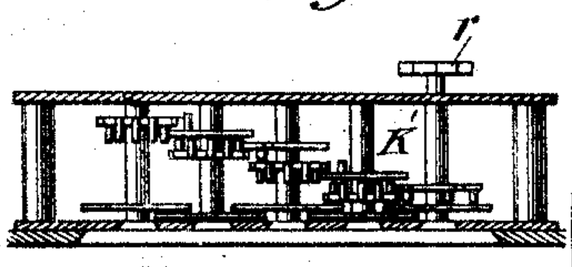


Fig. 11,

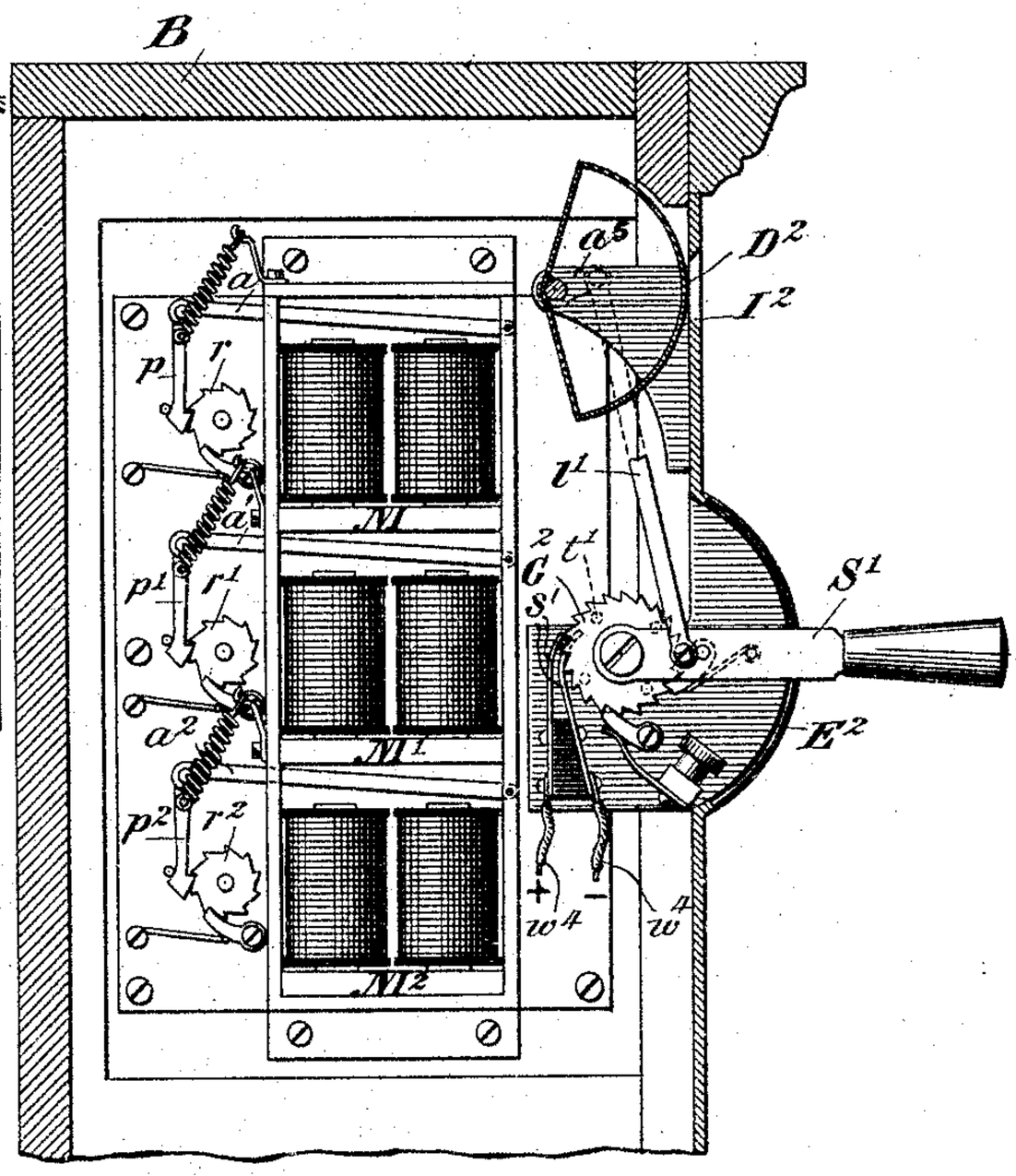


Fig. 6,

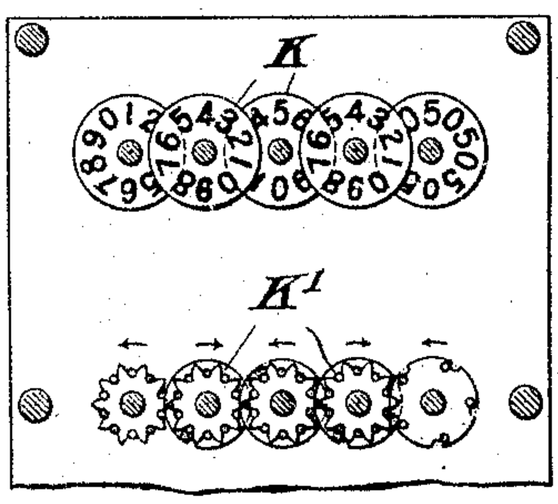


Fig. 8,

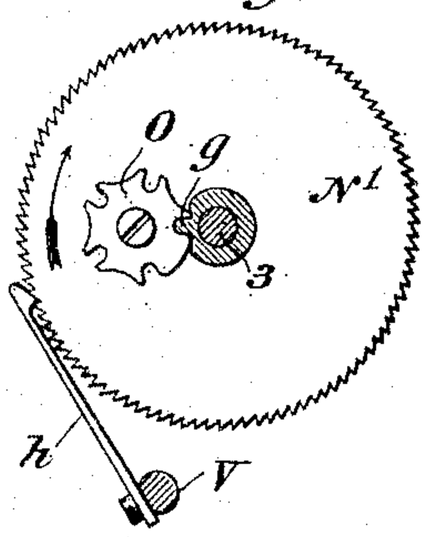


Fig. 9,

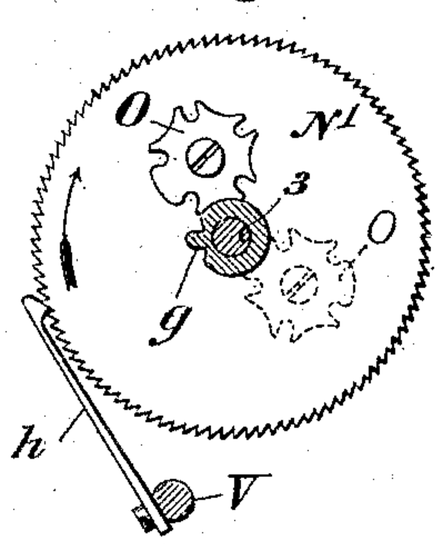
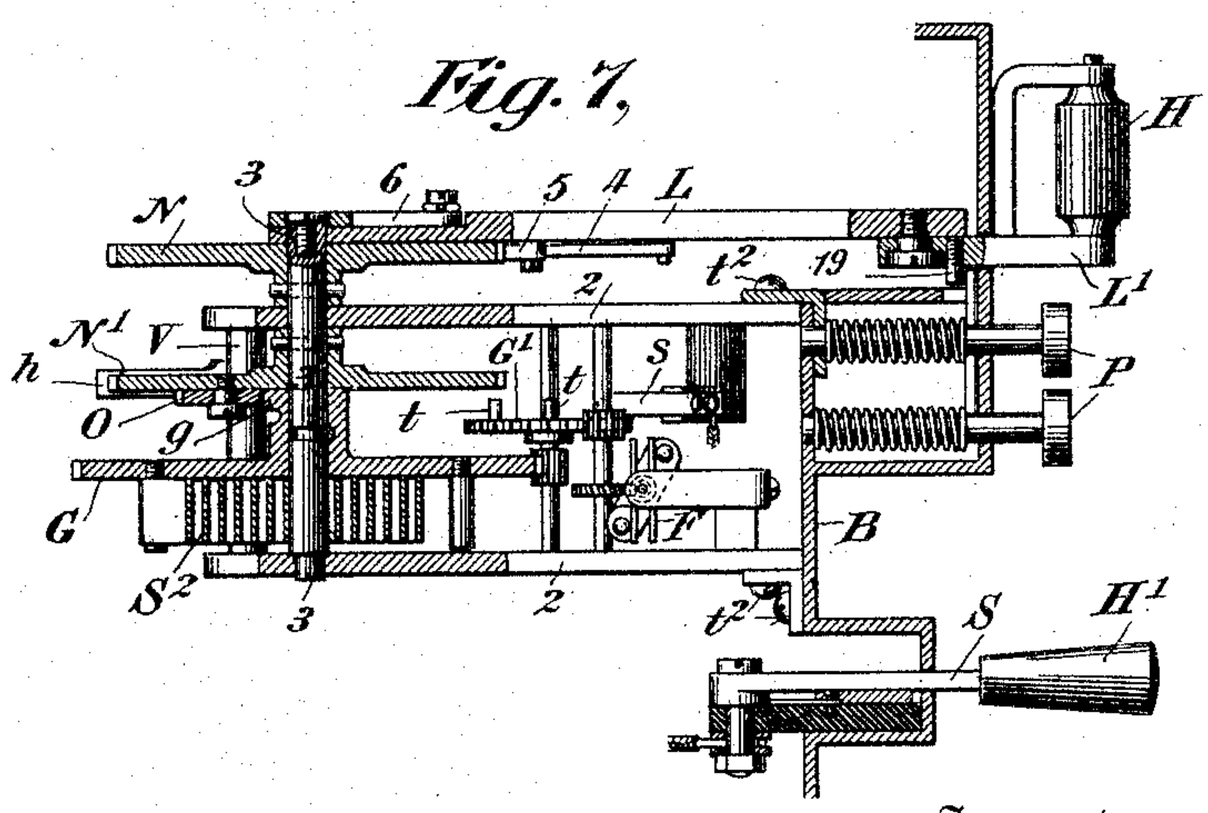


Fig. 7,



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(No Model.)

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W. F. Z. DESANT.

CASH REGISTER AND INDICATOR.

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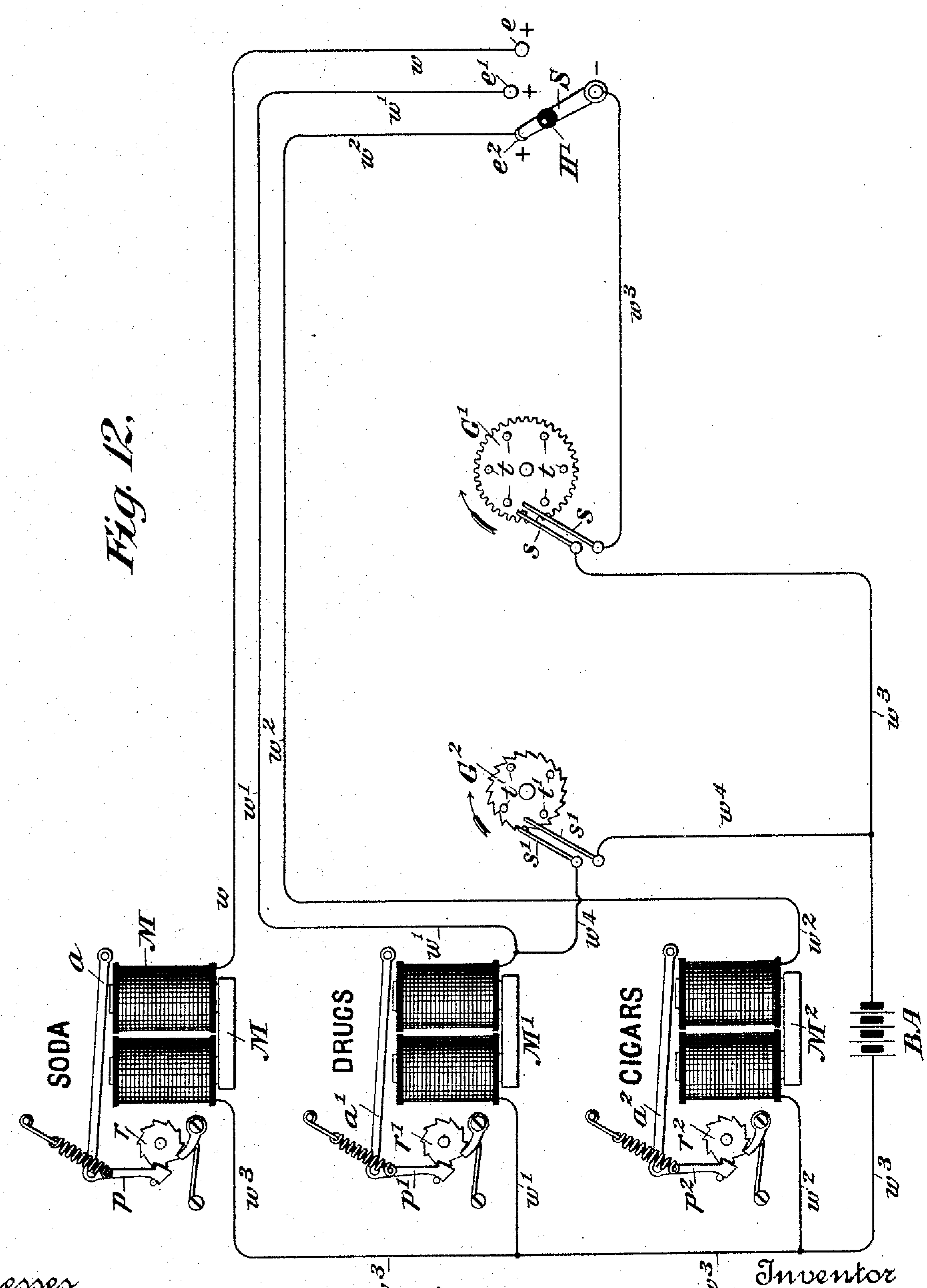
Fig. 12.



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UNITED STATES PATENT OFFICE.

WILLIAM F. Z. DESANT, OF NEW YORK, N. Y., ASSIGNOR TO THE DESANT ELECTRIC COMPANY, OF SAME PLACE.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 492,761, dated February 28, 1893.

Application filed April 25, 1892. Serial No. 430,611. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. Z. DESANT, a citizen of the United States, residing in the city, county, and State of New York, have made a new and useful Invention in Cash-Registers, of which the following is a specification.

My invention relates particularly to improvements in cash registers of that type in which the amount of a purchase is prominently indicated to the purchaser by the machine at the time of the making of the purchase and a permanent registration thereof is simultaneously made; and its objects are as follows. First the construction of a cash register of the type named which shall indicate the amount of the purchase made and simultaneously put in operation mechanism which will run continuously and effect a successive registration of any number of purchases no matter how frequently or how many times the apparatus be actuated. Second the construction of a cash register which indicates to the purchaser at each operation the amount of the purchase and is caused to simultaneously register the same on any one of two or more separate registering apparatus designed to be used each for an independent class of sales, as for instance, soda, drugs, or cigars. Third to construct a cash register which shall at each operation leave an indication of the amount of the last purchase until again actuated, and simultaneously actuate registering mechanism in any one of two or more independent sets of registering apparatus the separate amounts of such purchases. Fourth the construction of a cash register adapted to display to the purchaser the amount of his purchase until a second or additional purchase is made, and to simultaneously make a registration thereof in any one of a series of independent registering apparatus located either in the body of the machine or at one or more distant points. Fifth to construct a cash register adapted to indicate to the purchaser the amount of the purchase and to simultaneously make a registration thereof upon registering mechanism, and this entirely independent of the amount of the purchase and with a minimum number of operating parts. Sixth to devise a register of the type named in which the amount of each purchase is left prominently displayed to the purchaser until the machine is actuated to register a new purchase and to simultaneously make a registration of each purchase at one or more distant points. Seventh the construction of a cash register of the type named having the several characteristics pointed out in connection with the description of the apparatus and of its mode of operation. These several objects are effected by my novel cash register, for a full understanding of which reference is had to the following specification, the especial features of novelty in my invention being particularly pointed out in the claims at the end of this specification.

Reference is also had to the accompanying drawings which fully illustrate my improved cash register, Figure 1 being a front elevational view of the entire apparatus. Fig. 2 is a rear elevational view of the same with the back or door removed for the purpose of illustrating the interior operative parts of the apparatus. Fig. 3 is a side elevational view of the machine as seen looking at Fig. 1 from the right to the left hand side of the drawings in the direction of the arrows. Fig. 4 is a vertical sectional view taken through the body of the machine on line *x*—*x* Fig. 2, and as seen looking from the left toward the right hand side of the drawings in the direction of the arrows. Figs. 5 and 6 are detail sectional and side elevational views of the registering apparatus. Fig. 7 is a broken sectional view taken on the zigzag line *y*—*y* Fig. 4. Figs. 8 and 9 are detail views of the gearing and connections between the operating handle and the source of power which impels the registering mechanism. Fig. 10 is a vertical sectional view taken on line *z*—*z* Fig. 2, and as seen looking from the left toward the right hand side of the drawings, illustrating the switching apparatus and indicator for the three independent electrical circuits running to the three independent registering electro-magnets shown in Fig. 11, which is a vertical sectional view taken on line *z'*—*z'* Fig. 2, illustrating said electro-magnets and their operative parts in elevation. Fig. 12 is a diagrammatic view illustrating the registering electro-magnets, their mechanical connections

with the registering apparatus, and electrical and mechanical connections with the machine, illustrating also the controlling battery in circuit.

The present invention is in a measure an improvement upon a prior invention in cash indicators and registers disclosed in a patent granted to me on the 31st day of March, 1891, No. 449,108. In that patent I described and claimed an apparatus designed to prepare a check and simultaneously indicate or make a secret registration of the amount of the purchase, but no indication of the amount of such purchase was displayed in the apparatus to the view or observation of the person making the purchase. The apparatus as there described was so constructed that the operator was required to wait a definite time after each purchase dependent upon the amount of the same, in order that it might make a registration thereof.

The present invention is an improvement upon the aforesaid patented apparatus to the extent that the amount of each purchase is prominently displayed on the face of the machine for a definite length of time so that the purchaser may see the same, and is left so displayed until the next or succeeding purchase is made. It is also an improvement to the extent that any number of purchases may be made in immediate succession after each other and the registering mechanism successively wound up and left to make the registration at a speed dependent upon the regulation of a governor or fly fan. Further, to the extent that with the present invention I am enabled to make a registration of any amount from one cent upward and at a speed dependent only upon the capacity of the operator to manipulate the operating arm.

In order that my invention may be fully understood, constructed and used by those skilled in the art to which it is most nearly related, reference is had to the following description and to the accompanying drawings in all of which like letters and figures of reference represent like parts wherever used.

B represents the inclosing box made of metal or other durable material and provided with a door D on its rear face which affords access to the interior mechanism.

C represents the cash drawer of usual pattern located in the base of the apparatus and held in its inward position by a locking dog 13, and adapted when released from the influence of this dog to be thrust outward in the position shown in dotted lines in Fig. 4 by a strong spiral spring S^5 secured in the rear and at the base of the machine, see also Fig. 2.

L represents the operating lever loosely pivoted on the outer end of the main shaft 3, journaled in the side pieces 2, 2, of the frame, which side pieces are in turn secured by screws t^2 on the inside of the box B, see Fig. 7. The operating lever L is provided with a pivoted extension L′ extending through a vertical slot in an oval projecting portion E on the front side of the machine, H being an operating handle for manipulating the lever L, extension L′ and their connecting parts. The extension L′ is pivoted to the upper end of the operating lever L on a pivot 16 and is provided with a bell crank arm 9 and a pair of pins 15, 15, adapted to come into mechanical contact with the opposite edges of the lever L so as to allow the pivoted extension L′ and its connected parts to assume two different positions, shown in full and dotted lines respectively.

P P represent push buttons with numerals on their faces indicating the amounts of purchases, there being twenty of these buttons with pins extending through the projecting portion E and the face of the box B. The inner ends of these pins are surrounded by spiral springs 17 adapted to restore them to their outer position. Said pins are also provided with lateral projections or arms 14, adapted to slide in slots into the path of a pin 19 on the upper end of lever L.

N is a ratchet wheel rigidly secured to the shaft 3, and having ratchet teeth adapted to receive an actuating pawl 5, normally held in position against its face by a yielding spring 4, said pawl and spring being carried on the inner face of the operating arm L, see Figs. 4 and 7.

18 is a holding or retaining pawl secured to one of the side pieces 2 2 and adapted to retain the ratchet wheel N from advancing under stress of a main spring S^2 secured at one end to the shaft 3 and at the other to a main driving gear wheel G loosely pivoted on the shaft 3, see Fig. 7.

N′ is a second ratchet wheel the duplicate of the ratchet wheel N, with the exception that the ratchet teeth incline in the reverse direction from those of the former ratchet wheel so as to enable a retaining hook or pawl *h* secured to a cross rod V to prevent motion in the direction of the arrow, see Figs. 8 and 9. This ratchet wheel N′ is, like its companion ratchet wheel N, rigidly secured to the shaft 3 so that they both move together under the downward influence of the operating lever L, but the wheel N′ carries on one of its faces a loosely pivoted notched and grooved stop wheel O of well known form, the grooves of which fit accurately the conformation of the hub of the loosely pivoted gear wheel G, *g* being a tooth upon one side of this hub adapted to mesh with the notches of the stop wheel, there being shown five such notches and four grooves, such apparatus being well known in time mechanism, music boxes and other devices for preventing overwinding. The gear wheel G meshes with a pinion journaled in the side pieces 2 2 on a shaft carrying a second gear wheel G′ provided with a definite number of pins *t t* located at equal distances apart on one of its lateral faces and adapted to place the springs *s s* in contact with each other and afterward

permit the interruption of such contacts as the wheel rotates in the direction of the arrow, see Fig. 12. This gear wheel meshes with a second pinion carried by a second shaft provided with a worm gear adapted to impart a rotary motion to a governing fly fan F supported by a vertical shaft journaled in bearings carried by one of the side supports 2 2, see Figs. 2, 4 and 7.

D^3 and D^4 are drums, the former journaled in a pair of standards Q Q′ at the top of the machine and the latter in standards 1, 1 at the bottom of the machine, the function of these drums being to carry the indicating tape T permanently attached at one end to the drum D^3 and at the other to the drum D^4.

S^3 is a spiral spring having one end secured to one of the standards 1, 1, and the other under tension to some portion of the drum D^4.

The indicating tape T has printed or otherwise displayed upon its outer surface a series of numbers or characters corresponding with the numbers or characters on the outer faces of the push buttons P P, the characters or numbers of smaller dimension being near that end of the tape secured to the drum D^3 and increasing as they near the end attached to the drum D^4, as clearly shown in Fig. 2, the relation between these numbers on the tape T and those on the push buttons P being such that when the pin 19 on the upper end of the operating lever L rests against any one of the stop pins 14 the number on the face of that push button will correspond with the number on the tape T at that instant visible in the opening I at the top of the box, see Fig. 1.

G^3 is a ratchet wheel carried on the same shaft which supports the upper drum D^3 and c is an operating chain attached at one end to a drum upon this shaft and at the other to the upper end of the operating lever L.

10 is a pivoted arm provided with a pawl 12 adapted to enter the ratchet teeth of the ratchet wheel G^3 this pivoted arm being connected by a long link 11 with a bell crank lever 7 pivoted to one of the side pieces 2. One of the arms of this bell crank lever 7 is adjustably connected through a second long link 25 with the pivoted dog 13 at the base of the machine, while the other end thereof is connected through a link 8 with the arm 9 of the pivoted extension L′. To the upper end of arm 9 is connected by screws an angular arm 20 substantially parallel with the operating lever L and having its free end secured through a long link 26 to one of the arms of a second bell crank lever 6 pivoted to the lower end of the operating arm L. The other end of the bell crank lever 6 is secured to the lower end of a strong spiral spring R having its upper end attached to the standard Q, the function of this spiral spring being to restore the operating lever after each operation.

B′ is a tap bell secured by a standard m to the base of the machine and c^2 is a clapper therefor carried on the free end of the pivoted locking dog 13 and adapted to ring the bell each time the cash drawer is opened, as shown in dotted lines.

M M′ and M^2, see Figs. 11 and 12, are electro-magnets located in circuit with the battery BA through conductors w w' w^2 and w^3 said magnets being provided with armature levers a a' and a^2, the usual retractile springs and impelling pawls p p' and p^2 adapted to impart rotary motion step by step to ratchet wheels r r' and r^2 operatively connected with registering mechanism such as is shown in Figs. 5 and 6 and where each forward step of the ratchet wheel makes an individual record of a stated amount say five cents, such registering apparatus being well known in the art. The ratchet wheels r r' and r^2, Fig. 12, are provided with holding or locking pawls of known form for preventing backward motion.

S, Figs. 1, 10 and 12, is a switch lever having a handle H′ extending through a vertical slot in a second projecting portion E′ in the face of the box B. This switch lever S is connected by a link l with a bell crank lever a^4 attached to the axis of a rotary quadrant D′ journaled on the inside of the machine in the rear of an opening I′ and carrying on its face an indication of three classes of purchases, as for instance "Soda" "Drugs" "Cigars," see Figs. 1 and 10. This switch lever S is adapted to contact with conducting plates e e' and e^2 connected respectively to conductors w w' and w^2, the arrangement being such that when the lever S is in contact with any particular one of the plates e e' or e^2 the rotary quadrant D′ will be so located as to indicate which class of purchases will be registered or recorded on actuating the machine.

The registering mechanism shown in Figs. 5 and 6 and the controlling electro-magnets with their electrical and mechanical connections shown in Fig. 11, are all secured at one side of the box shown in position on the left in Fig. 2, so that the registration or indication of the amounts purchased appears through openings in the lateral face or side of the box, as shown in Fig. 3, the operating battery BA being preferably inclosed in the box out of access of the operator and all under lock and key.

The apparatus as so far described is designed to give individual registration of fixed amounts in multiples of five on three different individual registers controlled by the electro-magnets M M′ and M^2. With this apparatus therefore, I am enabled to register any amount from five cents upward and on any one of the individual registers. In some classes of purchases, however, notably drugs, dry goods, stationery and the like, it often occurs that purchases amount to less than five cents and for the purpose of providing for this exigency I use an individual or supplemental registering device operatively connected with one of the registers, indicated in Figs. 11 and 12 as "Drugs" and additional means for effecting this registration.

G^2 is a ratchet wheel carried by a shaft journaled in standards on the inside of the box and having attached to it an operating lever S′ extending through a vertical slot in a third projecting portion E^2 on the front face of the box, the ratchet wheel being provided with four equally distributed pins t' t' adapted to successively close and interrupt the circuit of the battery BA through the yielding springs s' s' and the shunt w^4 and electro magnet M′. The lever S′ is connected by a link l' to the free end of a bell crank lever a^5 attached to a shaft carrying a rotary quadrant D^2 similar in all respects to the above described rotary quadrant D′, see Fig. 10, and having printed or otherwise indicated on its surface the characters "1 ct." "2 cts." "3 cts." "4 cts." in sequence, the arrangement being such that when this lever is in its uppermost position the character "1 ct." is displayed at the opening I^2, see Fig. 7, and when in its lowermost position the character "4 cts." is likewise displayed, the characters "2 cts." and "3 cts." being indicated for intermediate positions.

The operating lever S′ is provided with a propelling pawl, and a locking pawl is also provided, as in Fig. 11, for preventing backward motion of the ratchet wheel G^2.

Having thus described in detail all the parts of my improved cash register, I will now proceed to describe its mode of operation. On inspection of Fig. 1, it appears that the last purchase made was for "cigars" as indicated at the opening I′ on the left, and the amount of the purchase was five cents as indicated on the tape T through the central opening I at the top. The total amount of all the previous purchases upon all the registers is indicated by the numbers appearing through the openings in the side face of the machine under the words "Soda" "Drugs" "Cigars," the total number in each instance representing the number of five cent pieces and any amount less than five cents being indicated on the supplemental indicator through the opening I^2 on the front side of the machine, as shown in Fig. 1. Suppose now that a purchase of cigars to the amount of fifty cents is made, the operator first takes hold of the handle H and moves it gently in the direction of the arrow (see Fig. 4). In doing this he turns the pivoted extension L′ about its pivot pin 16, causing the arms 9 and 20 and their connected parts to assume the positions shown in dotted lines. The arm 9 therefore transmits motion through link 8, bell crank lever 7, link 25, and pivoted dog 13, at the bottom of the box, thus causing this dog to release the change drawer C and allow it to assume the position shown in dotted lines at the bottom of the drawing, Fig. 4, under the influence of the strong spiral spring S^5. At the same time that the dog is released a forward motion is imparted to the clapper c^2 secured to its free or upper end and the bell is rung. Returning now to the bell crank lever 7, motion is also transmitted through a second long link 11 to the lower end of the pivoted arm 10 causing it to assume the position shown in dotted lines, thereby releasing the ratchet wheel G^3 from the holding pawl 12, and allowing the drum D^3 to be rotated to the right in the direction of the full line arrows under the influence of tape T, impelling drum D^4 and spiral spring S^3. This causes the tape to return to its starting point so that the character "5" disappears from the opening I, and the word "Change" appears at the opening. The operator now with his other hand firmly presses in the button P having the number 50 upon its face and at the same time continues the forward movement of the handle H in the direction of the arrow until the stop pin 19 comes into mechanical contact with a like stop pin 14 carried by the pin which supports the button 50. This forward movement of the extension L′ and operating lever L imparts through pawl 5 a corresponding forward motion of the ratchet wheels N and N′ thereby winding up or putting under stress the main spring S^2 attached at one end to the shaft 3, and at the other to the main driving gear wheel G. The stop wheel O carried by the ratchet wheel N′ advances with the ratchet wheel and permits the spring S^2 to cause the gear wheel G to follow with a speed dependent upon the strain upon the spring S^2 and the regulating influence of the fly fan F. There is a fixed angular relation, of course, between the location of the push buttons P and a corresponding relation between the gearing and the pins t carried by the gear wheel G′ such that the circuit will be made and broken between the springs s s, see Fig. 12, a definite number of times for each position of the operating arm L corresponding to each particular push button P. In the case in hand this relation is such that the gear wheel G′ will make two complete revolutions thereby making and breaking the circuit of the battery BA through the springs s s, conductor w^3, magnet M^2 conductor w^2 and switch S ten times, and hence imparting to the ratchet wheel r^2 ten steps forward indicating on that register at the bottom of Fig. 3, ten more nickels; in other words the next registration would be 98770. As the operating arm L descends the chain c attached to its outer end causes the drums D^3 and D^4 and also the tape T carried by them to move in the direction of the dotted arrows so that when the arm reaches its lowest position opposite the push button 50, the character 50 on the tape will appear at the opening I at the top of the machine. When the operator releases the handle H it is returned to its normal position under the influence of the strong spiral spring R, the first effect of which, however, is felt through the bell crank lever 6 and link 26 and arm 20 to restore the pivoted extension L′ to the position shown in full lines, and also permitting the latter through its arm 9, link 8, bell crank lever 7, link 11, and pivoted arm 10, to replace the locking pawl 12

into engagement with the teeth of the ratchet wheel G^3 thereby locking the drum D^3 in the position it assumed when the operating lever was in its lower position and displaying the character 50 on the tape T opposite the opening I, in place of the character 5 which originally appeared before that opening. There thus appears to the purchaser an indication of the amount of his purchase and this amount continues to be thus indicated until a succeeding purchase is made when, through a like manipulation, the tape T is released and allowed to return to normal position, after which the apparatus is actuated as before. By virtue of the relation of the two ratchet wheels N N′, the stop wheel O and the loose gear wheel G, I am enabled to cause any number of registrations to any amount to be made in rapid sequence, the total amount of the purchases being governed only by the number of teeth in the stop wheel O. For ordinary uses a stop wheel having five teeth, like that shown in the drawings, will give sufficient range, so that it will be understood that the operating lever L may be manipulated as often as desired in sequence and that the amount of each purchase will appear at the opening I in sequence and that the registering mechanism will continue to run after a series of such purchases has been made for a length of time dependent upon the total amount of the purchase, the operator never having to wait for the apparatus to register. When it is desired to register a purchase on the "soda" register the switch S is simply turned to the lower position in contact with the plate *e* thereby disconnecting the magnet M^2 and connecting the magnet M in circuit. In like manner for registering a purchase of "drugs" the switch is turned to the middle position in contact with the plate *e′* connecting the magnet M′ in circuit. Suppose now that a purchase is to be made in "drugs" and that the amount is one, two, three or four cents more or less, the supplemental register shown on the right in Fig. 1 and also in Fig. 11, is brought into play. If the purchase amounts to, say, fifty-two cents, the registering mechanism will be operated as before and in place of 18060 on the "drug" register, Fig. 3, 18070 will appear, and 50 will appear as before at the opening I, Fig. 1, thus showing a purchase of fifty cents. The additional two cents is registered by the supplemental register by turning the switch S′ to the position shown in Figs. 1 and 11. No registration will be made, however, on the "drug" register proper until the switch handle S′ has been advanced through three additional forward steps, thereby causing one of the pins *t′* carried by the ratchet wheel G^3 to momentarily close the shunt circuit w^4 through the magnet M′. In other words, the supplemental apparatus controlled by the switch S′ is an indicating device only for amounts of less than five cents, but registers all amounts aggregating that amount. Of course it will be understood that these supplemental devices might be applied to each of the other individual registering circuits if desired.

I do not limit myself to the specific mechanism herein described and shown for attaining the objects enumerated at the commencement of this specification as I believe it is broadly new with me to effect the results named and in the manner specified without relation to any special form of mechanism, and many of the details of my apparatus may be materially departed from and still come within the scope of my claims hereinafter made.

I have illustrated and described electrically controlled recording or registering mechanism, but it will be readily understood by those skilled in the art that the power impelled gear wheel G′ may actuate mechanically the registering devices. To illustrate my meaning, there might be three such wheels on a single shaft only one of which is provided with teeth and geared to the source of power, but each provided with an equal number of pins *t t* adapted to actuate pivoted lever carrying pawls *p* on their free ends for positively propelling ratchet wheels *r* connected directly to registering devices, as now, any mechanical means in the nature of sliding supports being utilized for sliding the pivoted levers laterally into and out of the paths of the pins *t* on the separate wheels, the pawl levers being provided with retractile springs as before. My claims are therefore directed generically to a cash register having the characteristics described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A cash register having an indicator for indicating the amount of each purchase to the purchaser, a power impelled registering mechanism for registering the same, in combination with a single operating arm or lever adapted to set the indicator and to simultaneously revive the source of power each time a purchase is registered, and mechanical connections between the operating arm and the power impelled mechanism whereby the mechanism may be operated an indefinite number of times and allowed to register the summation of the purchases at a given or normal speed substantially as described.

2. A cash register having indicating and power impelled registering devices, a single operating arm or lever geared to both and adapted to simultaneously set the indicator and wind up the source of power, and mechanical connections between the operating arm and the power impelled registering mechanism whereby the apparatus may be operated an indefinite number of times and allowed to make a summation of the registration of the purchases thereafter, substantially as described.

3. A cash register provided with power impelled registering mechanism, an indicator, a

series of indicating stops, an operating arm or lever adapted to simultaneously set the indicator and restore or bring into action the source of power, and mechanical connections between the operating arm or lever and the power impelled registering mechanism whereby the source of power may be continuously replenished as the operating arm is successively actuated and the registering mechanism allowed to complete a summation of the registration after all of the purchases have been made substantially as described.

4. A cash register provided with an indicator for indicating to the purchaser the amount of each purchase; a single operating handle or lever connected thereto with indicating stops for limiting the movement of said lever, in combination with one or more electro-magnetic registering devices operatively connected to power impelled mechanism controlled by the same handle, substantially as described.

5. A cash register having an indicator for indicating to each purchaser the amount of his purchase, a power impelled mechanism geared to registering mechanism and a single operating handle or lever, in combination with a series of indicator stops for limiting the throw of the lever, substantially as described.

6. A cash register provided with a single indicator for temporarily displaying the amount of each purchase and two or more independent registers operatively connected at will to a single operating lever and adapted to make each a registration of a different class of purchases, in combination with mechanical connections between the indicator and each register whereby it may indicate for any one of the registers as desired, substantially as described.

7. A cash register having two or more independent registering devices; an indicator common to all of said registers but adapted to indicate for one at a time only, and an operating handle or lever in combination with indicating stops for limiting the throw or movement of said handle, substantially as described.

8. A cash register having a single indicator for displaying to each purchaser the amount of his purchase, in combination with two or more electro-magnetic registering devices operatively controlled by the same means which controls the movement of the indicator, substantially as described.

9. A cash register having an indicator adapted to display the amount of each purchase during the interval of time between succeeding purchases in combination with an electro-magnetic registering device and power impelled circuit breaking mechanism operatively connected to a single operating lever which sets the indicator and simultaneously replenishes the source of power, said indicator being also provided with mechanism for releasing and restoring it to normal position after each purchase, substantially as described.

10. A cash register having an indicator adapted to display the amounts of purchases during intervals of time between succeeding purchases, in combination with two or more independent electro-magnetic registering devices each adapted to make a registration of an independent class of purchases and intermediate mechanical and electrical connections whereby the indicator answers for either register at will, substantially as described.

11. A cash register provided with positively impelled registering mechanism and indicating mechanism for indicating to the purchaser the amount of his purchase, in combination with a cash drawer and intermediate gearing and mechanical connections between said registering and indicating mechanism and the cash drawer, whereby successive purchases may be indicated, the cash drawer released and locked and the registering mechanism continuously re-wound at each purchase and left to run continuously after a series of purchases until the total registration is effected, substantially as described.

12. A cash register provided with positively impelled registering mechanism in combination with indicating mechanism for indicating to the purchaser the amount of his purchase, and intermediate gearing whereby successive purchases may be indicated and the registering mechanism continuously rewound at each purchase and left to run continuously after a series of purchases until the total registration is effected, substantially as described.

13. A cash register provided with positively impelled registering mechanism and indicating mechanism for indicating to the purchaser the amount of his purchase, and intermediate gearing whereby successive purchases may be indicated and the registering mechanism continuously re-wound at each purchase and left to run continuously after a series of purchases until the total registration is effected, in combination with a supplemental register adapted to register amounts smaller than the smallest amount indicated on the main register and having operative connections with the main register, whereby when the summation of the amounts on the supplemental register equals the smallest amount indicated on the main register such additional amount will be registered on said main register, substantially as described.

WM. F. Z. DESANT.

Witnesses:
C. J. KINTNER,
ROBERT C. MARA.