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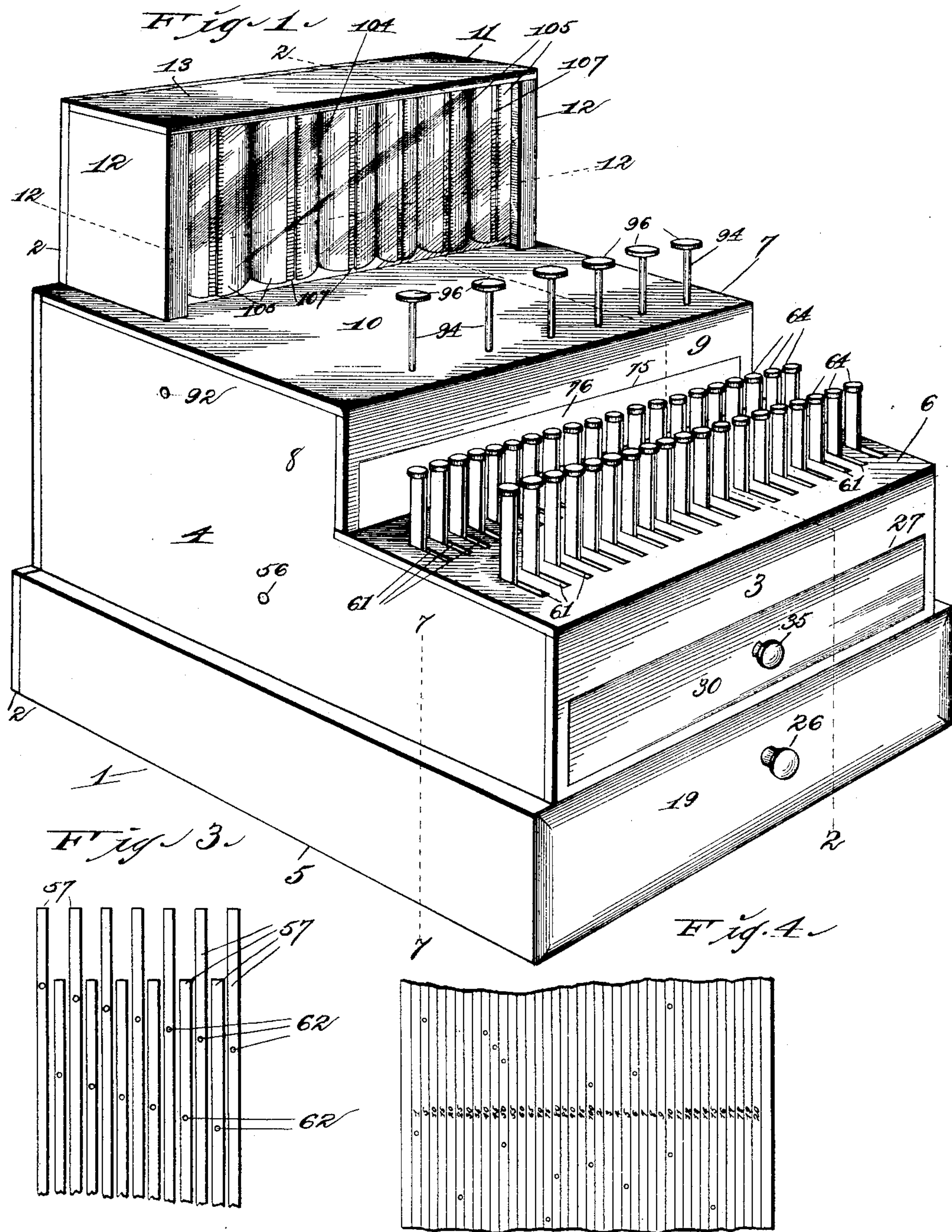
3 Sheets—Sheet 1.

A. N. ROOKS.

COIN DELIVERING AND CASH RECORDING DEVICE.

No. 535,628.

Patented Mar. 12, 1895.



Attest  
W. Smith,  
Att. Blunkmeister,


Inventor:-  
Alva N. Rooks.  
By Higdon & Higdon Longan.  
Attys.

3 Sheets—Sheet 2.

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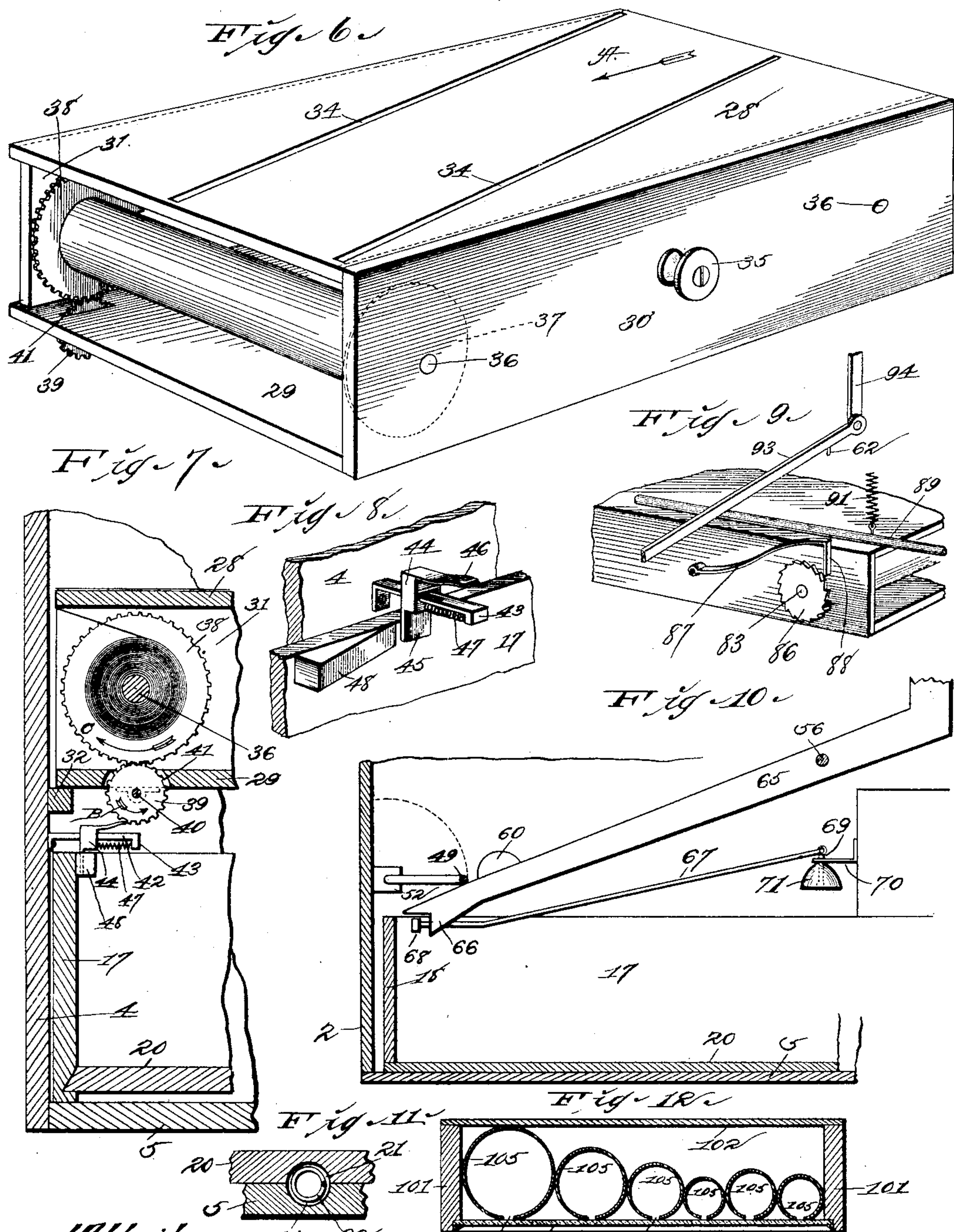
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Attys.



# UNITED STATES PATENT OFFICE.

ALVA N. ROOKS, OF IUKA, ILLINOIS, ASSIGNOR OF ONE-HALF TO W. C. HINDERER AND W. C. IRWIN, OF SAME PLACE.

## COIN-DELIVERING AND CASH-RECORDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 535,628, dated March 12, 1895.

Application filed September 10, 1894. Serial No. 522,530. (No model.)

*To all whom it may concern:*

Be it known that I, ALVA N. ROOKS, of the city of Iuka, Marion county, State of Illinois, have invented certain new and useful Improvements in Cash-Recorders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a cash recorder, the object of my invention being to construct a device of this character that will be extremely simple in construction and operation.

A further object of my invention is to construct a combined cash recorder and money changer that will keep an exact account of all the monies passed into or taken from the device.

A further object of my invention is to record upon endless rolls of paper the various amounts that are passed into or taken from the device, and immediately after such record is made automatic devices will feed or move the paper from one roll onto the other.

A further object of my invention is to locate among the ordinary keys a novel combination key that will normally lock the drawer, or prevent its being opened until this combination key is pressed downwardly, together with one of the recording keys.

I attain these objects by the various devices and arrangement of parts and mechanism illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of my complete recorder and money changer. Fig. 2 is a vertical sectional view taken approximately on the indicated line 2—2 of Fig. 1. Fig. 3 is a bottom view of a portion of a series of keys of which I make use in carrying out my invention. Fig. 4 is a plan view of a portion of the roll of paper used in connection with the cash recorder. Fig. 5 is a view in perspective of the rear end of the money drawer, a rock-shaft that operates immediately above the end of said money drawer, and a catch for normally holding said money drawer in a closed position. Fig. 6 is a view in perspective of the frame work containing the drums upon which the paper is rolled, and also the plate having therein the diagonal slots through which the pins on the lower sides of

the rear ends of the keys pass in making a record. Fig. 7 is a detail sectional view taken approximately on the indicated line 7—7 of Fig. 1, and showing in elevation the mechanism I employ for automatically winding upon the drum the roll of paper. Fig. 8 is a view in perspective of this mechanism. Fig. 9 is a view in perspective of the mechanism used to automatically feed or roll upon one of the shafts or drums the paper upon which the transactions of the money changer are recorded. Fig. 10 is a longitudinal sectional view of the lower and rear portion of the device, showing the combination key holding the drawer in a locked position and the alarm that is operated by said combination key. Fig. 11 is an enlarged sectional view taken approximately on the indicated line 11—11 of Fig. 2. Fig. 12 is a horizontal sectional view taken approximately on the indicated line 12—12 of Fig. 1.

Referring by numerals to the accompanying drawings, 1 indicates the base structure of my cash register and money changer, the same comprising the back 2, front 3, sides 4 and bottom 5. The back 2 is approximately twice as high as is the front 3 and also serves as a back for the structures about to be described. A top 6 is provided for this structure 1, said top 6 extending but a portion of the distance toward the back 2.

A rectangular structure 7, comprising the sides 8, front 9 and top 10 is located upon the structure 1, the front 9 rising from a point where the top 6 terminates. The back 2, previously mentioned, forms the back for this structure 7. A casing 11 that contains the coin tubes is located on the top and rear of the structure 7, the top 10 forming a base for said structure 11 and the back 2 forming the back therefor. Said structure is complete with the sides 12 and top 13.

Midway between the sides 4 of the structure 1 and formed in the bottom 5, is a semi-circular groove 14, the purpose of which will be presently shown.

In the lower portion of the front 3 and extending from side to side is a rectangular opening 15 through which the money drawer 16 passes. This drawer is a rectangular box-like structure comprising the sides 17, rear



end 18, front 19 and bottom 20. The front 19 of this drawer has its edges formed so as to overlap the edges of the opening 15, this being the construction of an ordinary drawer.

5 Midway between the sides 17 and formed in the bottom 20 and extending forward from the rear end thereof a short distance is a semi-circular groove 21. Thus for some distance between the bottom 20 of the money drawer  
10 and the bottom 5 of the structure 1 a circular groove is formed, in which circular groove is adapted to be located a coil-spring 22 the action of which is to expand.

The money drawer 16 is divided by a cross  
15 partition 23 and by numerous horizontal partitions 24. The front or forward row of receptacles formed by this partitioning is lined with suitable sheet metal 25, the same being rounded in the forward corner thereof to facilitate the removal of coins from these recep-  
20 tacles.

An ordinary knob or drawer pull 26 is centrally located upon the outside of the front 19 of the money drawer.

25 Immediately above the rectangular opening 15 in the front 3 is a narrower rectangular opening 27 through which is adapted to pass a rectangular frame work comprising the top plate 28, base 29, front 30 and rear 31. This  
30 frame work slides upon cleats 32 that are secured to the sides 4 of the structure 1. Stops 33 are provided at the rear ends of these cleats 32 to prevent this frame work from being pushed too far into the interior of the structure. The top plate 28 of this frame work is  
35 provided with a pair of parallel diagonal slots 34. Centrally located on the outside 30 of this frame work is an ordinary drawer pull 35. Shafts 36, the forward ends of which bear  
40 in the front 30, and the rear ends of which bear in the blocks 31, are located at each end of this frame work and have mounted near each end and adjacent the front 30 and the rear blocks 31, disks 37. The rear one of  
45 these disks and the one toward the left hand is formed into a gear-wheel 38.

A pinion 39 mounted upon a shaft 40 mounted in bearings passing to the underside of the base 29, extends through a slot 41  
50 formed in the base 29 and meshes with the teeth of the gear-wheel 38. The paper that passes over the slotted plate 28 is first wound upon the shaft 36 to the right of the frame work. From here it passes over the plate 28 in  
55 the direction of the arrow "A," and is wound upon the shaft 36 to the left of the frame work, and upon which the gear-wheel 38 is located.

Secured to the side of the structure 1 and extending toward the center thereof at a point  
60 directly beneath the pinion 39 is a rectangular bar 42, the outer end of which is turned vertically downward as indicated by 43. Mounted for longitudinal movement upon the bar 42 is a rectangular block 44 provided  
65 with the integral depending portion 45, and a horizontally extending spring-tongue 46. The outer end of this spring tongue 46 normally

lies in the plane occupied by the lower teeth of the pinion 39.

Between the block 44 and the depending  
70 end 43 is interposed a coil-spring 47, the tendency of which is to normally hold the point of the spring-tongue 46 away from the teeth of the pinion 39.

Secured to the inner surface of the upper  
75 end of the left hand side 17 of the money drawer is a wedge-shaped block 48 that tapers from the front of the drawer toward the rear thereof. This wedge-shaped block 48 is so  
80 positioned upon the left hand side 17 as that when the drawer is closed this wedge 48 will contact with the depending portion 45 of the block 44 and cause the point of the spring-tongue 46 to engage against the teeth of the  
85 pinion 39 and move said pinion in the direction of the arrow "B" in Fig. 7.

A rock-shaft 49 has its ends 50 bent rearwardly and thence at right angles, said right angled portions 51 operating in bearings 52  
90 secured to the sides 4 of the structure 1. This rock-shaft is pivoted and operates immediately above the rear end of the money drawer 16.

A catch 53 is held by a staple 54 to the rear  
95 2 of the structure 1, and is provided on its lower side with the downwardly depending portion 55 that engages the top edge of the rear 18 of the money drawer, and from thence extends forward, and is pivoted at a point on  
100 the rock-shaft 49 approximating its center.

At a point slightly above and in front of the upper inner corner of the frame work that carries the roll of paper upon which the sales transactions are made and extending from  
105 one side of the structure 1 to the other, is a shaft 56. Pivoted upon this shaft 56 and extending from side to side on the interior of the structure 1 is a series of keys 57, said keys comprising the body portions 58, the  
110 rear ends of which are cut away and attenuated as indicated by 59, and weights 60 are provided on the upper sides of the rear ends of these body portions. The attenuated ends  
115 59 of the keys lie beneath and are adapted to engage against the rock-shaft 49. The forward ends of these keys extend vertically upward through a series of rectangular slots or  
120 openings 61 formed in the top 6 of the structure 1. As these rectangular slots 61 are formed in the top 6 in two rows, half of the keys 57 will necessarily be made slightly  
125 longer than the other half, in order that the same may extend upwardly through the foremost row of rectangular slots 61.

On the bottom sides of the keys 57 and so  
125 located as to pass through the diagonal slots 34 are pins 62. The location of these pins on the keys 57 is similar to the bottom plan view (Fig. 3). Stops 63 are formed on the vertical portions of the keys 57 and are adapted to  
130 engage against the under side of the top 6. This prevents the rear ends of the keys from passing too far away from the rock-shaft 49. On the tops of the vertical portions of the



keys 57 are located the finger-plates 64, the tops of which are provided with indicating numerals or characters.

Mounted upon the shaft 56 at a point preferably about midway between the sides 4 is the combination key 65 which is in every way similar to the keys 57 with the exception that it is not provided with the attenuated end 59. The lower end of this combination key is provided with a triangular lug 66 that lies directly in the path of travel of the money drawer 16, and until said key is pressed downward and the rear end carrying the lug raised, it will be impossible to open the drawer. The rear end of a rod 67 passes horizontally through this triangular lug 66 and is there provided with a head 68. The forward end of this rod 67 terminates directly in front of one of the blocks 31 of the frame work, over which the strip of paper passes, and is there pivoted to the upper end of the bell striker 69, said bell striker being pivoted to a bracket 70 that is secured to one of the blocks 31 and passes downwardly and into the interior of a bell or gong 71 that is hung upon the bracket 70.

Adapted to slide in and out through a rectangular opening 75 formed in the front 9 of the structure 7 is a rectangular frame work comprising the front 76, bottom 77, top 78 and rear 79, said frame work being similar to the frame work previously described. This frame work slides upon cleats 80 fixed to the side walls 8 of the structure 7, stops 81 being positioned upon the rear ends of the cleats 80. The top 78 of this structure is provided with a single diagonal slot 82. Mounted upon shafts 83 that pass through the rear and front of this frame work and near the ends thereof are disks 48, a strip of paper 86 being adapted to be rolled upon one of these shafts between the disks 84, from thence over the top 78 having therein the diagonal slot 82, and onto the other shaft 83 at the other end of the frame work. Upon the shaft 83 to the right and on the outside of said frame work is a ratchet-wheel 86.

Rigidly secured to the outside of the rear 79 of the frame work and adjacent the ratchet-wheel 86 is a compound curved spring 87, the same extending over the ratchet-wheel 86, it being provided with a vertical pin 88. The lower end of this vertical pin 88 is adjacent to and adapted to engage with the teeth of the ratchet-wheel 86.

A rock-shaft 89, in every way similar to the rock-shaft 49, is pivoted in bearings 90 fixed to the interior of the sides 8, the body portion of said rock-shaft lying immediately over the upper end of the spring 87. A coil-spring 91 fixed to this rock-shaft 89 and to the underside of the top 10 serves to retain said rock-shaft in position.

Located approximately at a central point in the structure 7 and extending from one of the sides 8 to the other thereof, is a shaft 92. Mounted upon this shaft 92 is a series of bell-

cranks 93, the long arms of which extend forward and terminate at a point immediately below the top 10 adjacent the front 9. Here they are pivoted to vertical rods 94 that pass through apertures 95 located in the top 10, said rods 94 having mounted on their upper ends finger-plates 96 upon which are placed indicated numerals or characters. To the under sides of the long arms of these bell-cranks 93 are secured pins 97 similar to the pins 62 and which are adapted to pass through the diagonal slot 82 in the top 78. The short arms of the bell-cranks 93 extend upwardly and rearwardly a slight distance from the shaft 92 and are there pivoted to the front ends of rods 98, the rear ends of which are bent vertically upward and pass through slots 99 formed in the rear portion of the top 10. Coil-springs 100 secured to the short arms of the bell-cranks 93 and to pins in the rear serve to retain the bell-cranks in their proper positions.

Positioned in the forward portion of the upper casing 11 is a casing comprising the sides 101, back 102, base 103 and front, which is of glass or other transparent material, 104. Vertically positioned within this casing in such a manner as that their fronts contact with the glass 104, is a series of coin tubes 105, said coin tubes being of different sizes which adapts them to hold the different sized coins. These tubes have their upper ends formed into circular flanges 106 by means of which they are securely positioned within the casing. Extending vertically the entire length of the tubes and in the front thereof are slots 107. One edge of these slots 107 is graduated, so that a person upon glancing at the coin tubes can instantly ascertain the number of coins in said tubes.

The rear ends of the rods 98 that are bent vertically upward pass through rectangular plates 108, one of these plates passing beneath each of the coin tubes 105.

The operation is as follows: At the beginning of a day's business the coin tubes are filled with coins of different denominations, or a given amount of money represented by numerous coins of various denominations placed in the tubes. It is required that the strips of paper on which the records of the various transactions are made be of such length as that the entire day's business may be recorded thereon. When a sale has been made and the money for the purchase tendered the salesman, said salesman presses in on the key corresponding to the amount of money he receives and also the combination key. With this movement the indicating key pressed downwardly, which is one of the keys 57, will assume the position as indicated by dotted lines in Fig. 2 and the combination key 65 will assume a like position. As the rock-shaft 49 is raised by the rear end of the key 57, the forward end of the catch 53 will be raised which will necessarily disengage the downwardly pending portion 55 of said



catch from the rear upper end of the money drawer 16. As the rear end of the combination key 65 is by this time raised, there will be nothing to intercept the money drawer 16.

5 Consequently, the coil-spring 22 will act and the power stored therein will throw said drawer open to the desired point. Should at any time the salesman desire to open the money drawer for various reasons, and without making a record, he can do so by pressing downwardly on the combination key 65. This will raise the rock-shaft 49, which, in turn, will raise the downwardly pending portion 55 of the catch 53, which will allow the

10 drawer to be opened by the action of the coil-spring 22. With the downward movement of the key 57 that corresponds with the amount received by the salesman, the pin 62 on said key will pass through the strip of paper upon the plate 28 and through one of the diagonal slots 34. The strip of paper is ruled as clearly shown in Fig. 4, and at various points in its length between said rulings are indicated by numerals the amounts corresponding to the

25 keys, the pins of which record between the rulings. Thus a perforation is made in the paper, said perforation being between the rulings and in alignment with the indicating numerals corresponding to the key that is pressed in. For instance, as shown in Fig. 4, the first amount received by the salesman was ten dollars, the second five cents; the third, fourth and fifth were respectively forty, forty-five and fifty cents; the sixth six dol-

35 lars and the seventh one dollar. After the keys have been pressed down, the record made and the drawer opened, the money received is placed in its proper receptacle within said drawer and by means of manual operation the drawer is closed. As said drawer closes, the wedge-shaped block 48 on the inside face of the left hand side 17 of the drawer will engage with the downwardly pending portion 45 of the horizontally moving block 44. This

45 will move the point of the spring-tongue 46 in a horizontal direction and said point of the tongue will engage with the teeth of the pinion 39 and move same a slight distance in the direction of the arrow "B" (Fig. 7). This

50 pinion 39 meshing with the larger pinion 38 upon the shaft 36, said larger pinion will be moved in the direction of the arrow "C" (Fig. 7), which will necessarily wind the paper passing over the slotted plate 28 upon the

55 shaft 36. As this movement is very slight, consequently but a slight amount of paper will be moved forward over the plate 28 and wound upon said shaft 36. I will assume that the amount of money given the salesman by the purchaser was five dollars; the amount of his purchase being three dollars and seventy-five cents, the salesman having recorded five dollars by means of the corresponding key which is one of the keys 57, and places

65 said five dollars into the money drawer. He now presses in upon the plate 96 that is directly in front of the tube containing the dollars, said plate having the proper indicating numeral or mark thereon, which plate being connected to the bell-crank 93 by the vertical rod 94, causes said bell-crank 93, to assume the position as shown by dotted lines in Fig. 2. This movement necessarily draws forward the rod 98 which has the upwardly bent rear end passing through one of the plates 75 108. This movement throws said plate forward, which, engaging against the lowermost one of the dollars in the coin tube, throws said dollar out upon the top 10 of the structure 7. With this downward movement of 80 the bell-crank 93, the pin on the under side of said long arm of the bell-crank 93 will pass through the strip of paper that passes over the top 78 and through the diagonal slot 82 in said top plate. This will record one dollar 85 in its proper line. Simultaneous with this movement the long arm of the bell-crank 93 strikes against the rock-shaft 89. Said rock-shaft 89 will engage against and depress the spring 87, the point 88 of which will engage 90 between the teeth of the ratchet-wheel 86 and turn said ratchet-wheel a slight distance, thereby turning the shaft 83 which moves the strip of paper a slight distance over the plate 78 and rolls the same upon the shaft 83. As 95 the salesman removes his hand or finger from the plate 96 the power stored in the coil-spring 100 will cause the bell-crank 93 and rod 98 carrying the plate 108 to reassume their normal positions. As said bell-crank moves up- 100 wardly, the rock-shaft 89 and spring 87 will reassume their normal positions, said rock-shaft 89 being acted upon by the coil-spring 91. The salesman now presses the key in front of the tube containing the twenty-five 105 cent pieces, said key having such denomination plainly indicated thereon, and movements in every way similar to the ones just described take place and a twenty-five cent piece is thrown forward onto the top 10. The 110 salesman now removes the dollar and the twenty-five cent piece from the top 10 and hands the same to the purchaser, and the record of the amount of money received and the change given is made upon the corresponding 115 strips of paper.

At the close of a day's business the money within the money drawer is counted as is the money within the coin tubes 105. Then by withdrawing the frame work containing the 120 strips of paper in which the records have been made, the record of each transaction made and the amount of the day's business can be easily ascertained.

One advantage gained by recording the en- 125 tire amount given the salesman by the purchaser is that said amount can be quickly and easily ascertained should there be any controversy over the amount. Very often after a purchase is made and the change handed 130 the purchaser, said purchaser is in doubt as to the amount of the bill or coin he handed the salesman. The salesman by withdrawing the frame work that carries the strip of paper



upon which the amounts are recorded can instantly tell the exact amount handed him by the purchaser by glancing at the last puncture or record in said strip of paper.

5 It is obvious that when the exact amount of the purchase is handed the salesman, the use of the change making devices are unnecessary.

10 By providing the combination key 65 and the alarm device, the liability of the opening of the money drawer by unauthorized persons will be greatly reduced, as said unauthorized persons are not supposed to know of the existence of the combination key. Therefore, 15 should they try to open the drawer by pressing any one of the keys 57, the bell or gong will be sounded and the attention of the salesman or proprietor called to the fact that the cash recorder was being tampered with.

20 When one of the ordinary keys 57 is pressed downwardly, the downwardly pending portion of the latch 53 is necessarily disengaged from the upper end of the rear of the money drawer 16, and said money drawer is thrown 25 forward by the action of the coil-spring 22.

As the combination key 65 is not pressed downwardly simultaneously with the key 57, the upper rear end of the drawer 16 will strike or engage against the head 68 of the rod 67. 30 This head being a slight distance away from the rear end of the triangular lug 66, said head will be thrown against said lug, the rod 67 thrown forward, and the lower end of the bell striker 69 thrown against the bell or gong 35 71, thereby sounding an alarm.

The front row of keys records the amount beginning with 1, 5, 10, 15, 20, 25 and so on up to one dollar, said keys being so indicated on the plates 64. The inner row of keys records the 40 dollars from two to twenty, though a greater or less number of keys may be used without departing from the spirit of my invention.

Thus it will be seen how I have constructed a cash recorder that is simple in operation, not 45 easy to get out of order, and one that is complete and efficient in operation and cannot be opened easily by an unauthorized person or persons.

What I claim is—

50 1. A cash recorder, comprising a rectangular frame work, a money drawer operating within the bottom of said frame work, a coil-spring for operating said money drawer located in semi-circular grooves formed in the 55 bottom of the money drawer and in the bottom part of the frame work, a frame work carrying a pair of shafts upon which a strip of paper is adapted to be rolled, the top plate of said frame being provided with diagonal 60 slots, a series of keys pivoted upon a shaft extending longitudinally in the main frame work, pins rigidly mounted on the lower sides of the keys and adapted to enter the diagonal slots in the top plate of the hereinbefore mentioned frame work, a rock-shaft pivoted above 65 the rear end of the money drawer and adapted to be operated upon by the rear ends of the

keys, a latch carried by said rock-shaft and adapted to normally hold the money drawer in a closed position, a series of coin tubes vertically positioned on top of the rectangular 70 frame work, bell-cranks mounted upon a shaft extending longitudinally within the frame work, said bell-cranks operating rods, and plates, said plates adapted to discharge one 75 coin at a time from the coin tubes, and pins attached to the under sides of the bell-cranks and adapted to pass through a strip of paper passing over a frame work provided with 80 shafts upon which the paper rolls.

2. In a cash recorder, a rectangular frame work mounted to slide in the forward side of the main frame work, a top plate for said frame work provided with a pair of diagonal slots, a pair of drums mounted transversely 85 within said frame-work, disks mounted upon the ends of said drums, the same being adapted to retain and guide the paper that rolls upon the drums and over the slotted plate, one of said disks being constructed with 90 gear teeth, a pinion passing through a slot in the bottom of the frame work and meshing with the teeth of the disk, and bearings secured to the under side of the frame work in which the shaft of the pinion is mounted. 95

3. In a cash recorder, a wedge-shaped block secured to the inner side of one of the side walls of the money drawer, a rectangular bar secured to the inside of the side wall of the main structure, a rectangular block mounted 100 for longitudinal movement upon said rectangular bar, a depending portion from the inner side of said rectangular block, a spring-tongue formed integral with the upper end of the rectangular block, a coil-spring inter- 105 posed between the rectangular block and the downwardly turned end of the rectangular bar, a shaft upon which the recording paper is wound, a gear-wheel mounted upon said shaft, and a pinion meshing with said gear- 110 wheel with which the end of the spring-tongue engages.

4. In a cash register, a rectangular bar rigidly fixed to the inside of the frame work, a block mounted for horizontal movement upon 115 said bar, said block being constructed with an integral horizontally projecting spring-tongue and a depending portion, a spring interposed between said horizontally moving block and the end of the bar, and a wedge-shaped block 120 fixed to the edge of the money drawer and which is adapted to engage the depending portion of the horizontally moving block.

5. In a combined cash register and money changer, a frame work comprising a top plate 125 in which there is a diagonal slot, shafts located at either end of said frame work upon which are mounted disks, between said disks and upon said shafts is adapted to roll a strip of paper, a ratchet-wheel mounted upon one 130 of said shafts, the compound curved spring mounted upon the rear side of said frame work and provided with a depending portion adapted to engage between the teeth of the



ratchet-wheel, said spring adapted to be operated by the movement of any one of the series of bell-cranks, and a rock-shaft, said rock-shaft being suspended and pivoted directly  
5 above said compound curved spring.

6. In a combined cash register and money changer, the combination key mounted upon a shaft upon which a series of keys are mounted, the rear end of said combination key being provided on its under side with a triangular lug that lies within the path of travel  
10 of the money drawer, a rod, the rear end of which passes horizontally through the triangular lug and is there provided with a head,

the forward end of said rod being pivoted to the upper end of the bell striker, a bracket secured to the frame work and upon which said bell striker is pivoted, and a bell or gong secured to the under side of said bracket within which the lower end of the bell striker  
20 operates.

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

ALVA N. ROOKS.

Witnesses:

MAUD GRIFFIN,  
JNO. C. HIGDON.