S. G. KNIGHT.

COIN RECORDER

APPLICATION FILED AUG. 24, 1915.

1,189,972.

Patented July 4, 1916.

3 SHEETS—SHEET 1.

Fig. 1.

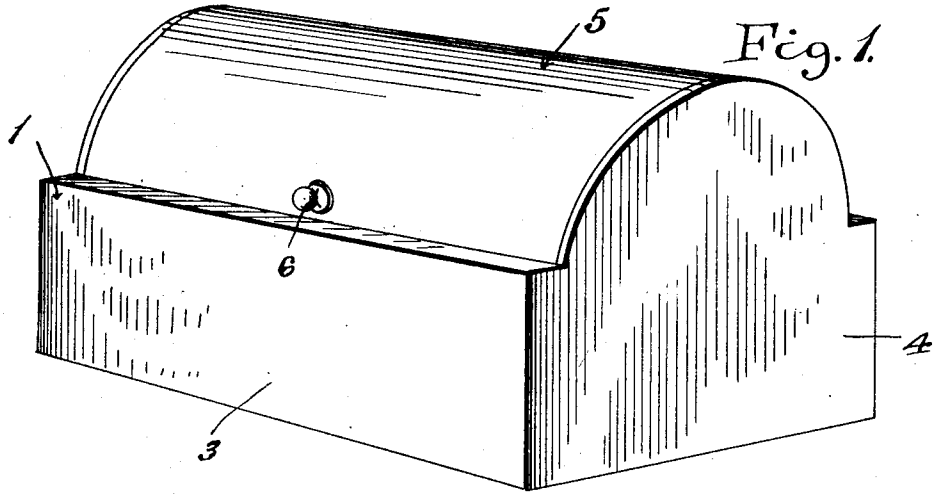


Fig. 5.

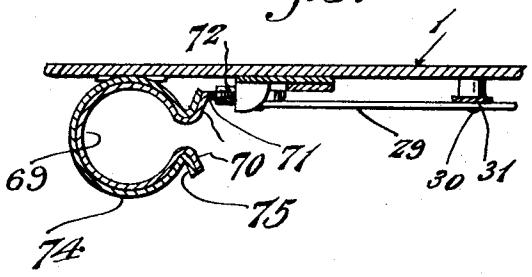


Fig. 4.

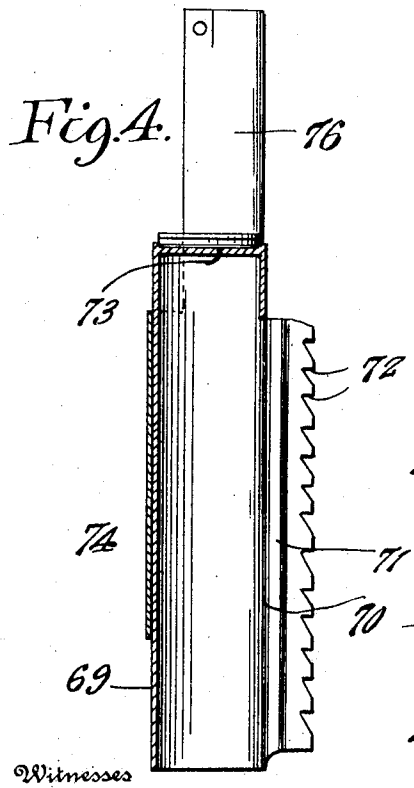


Fig. 6.

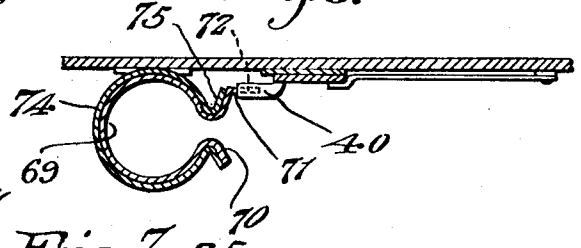
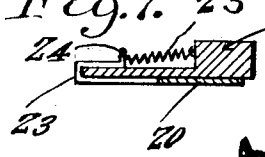


Fig. 7.



Witnesses

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3 SHEETS—SHEET 2.

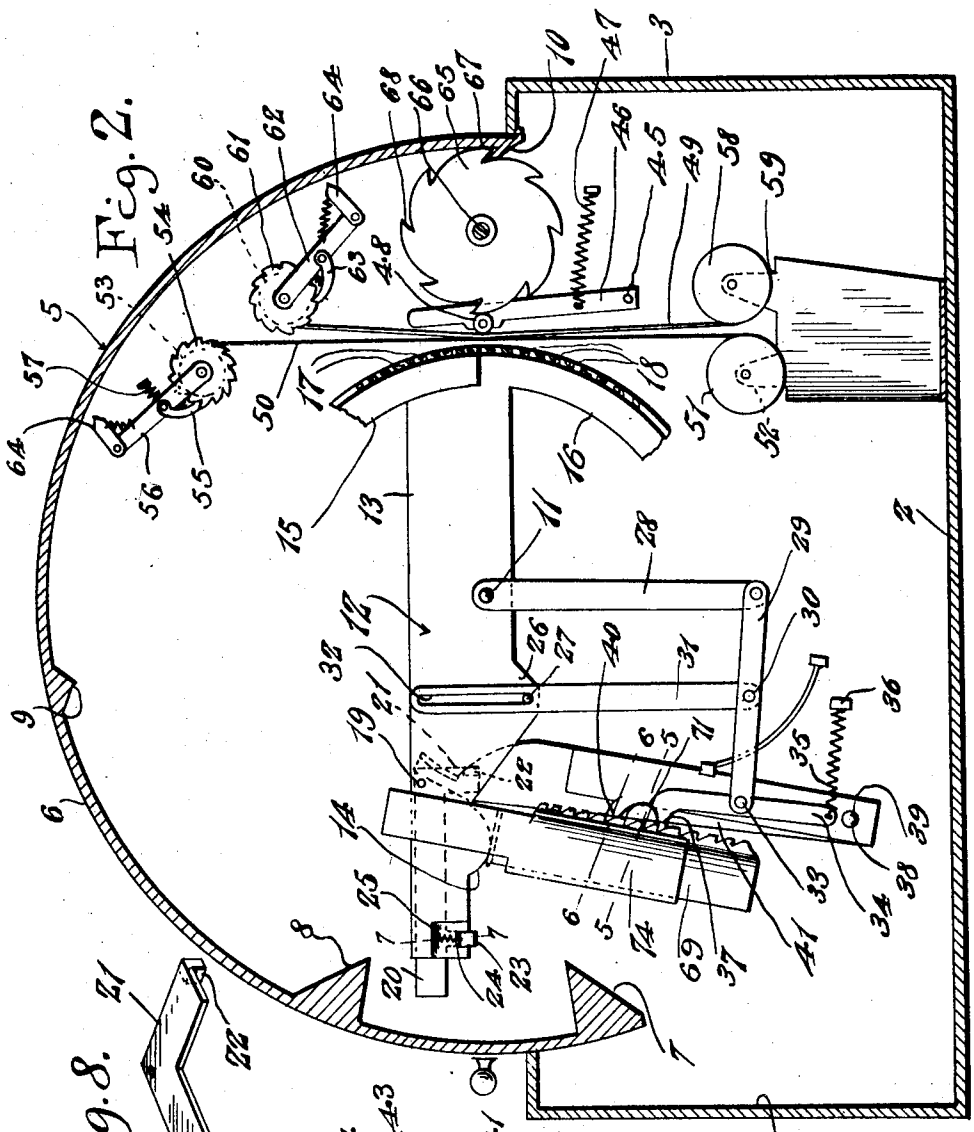


Fig. 2.

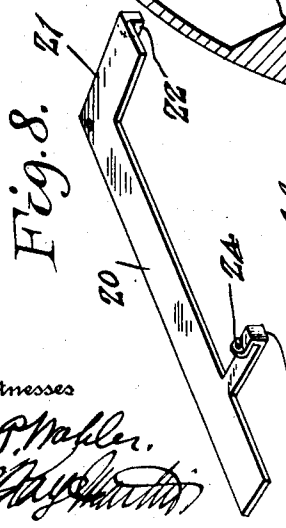


Fig. 8.

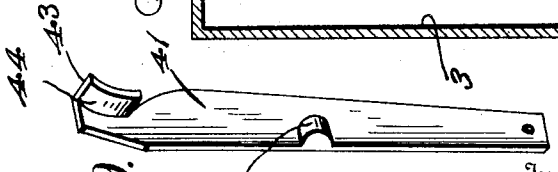


Fig. 9.

Witnesses

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COIN RECORDER

APPLICATION FILED AUG. 24, 1915.

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3 SHEETS—SHEET 3.

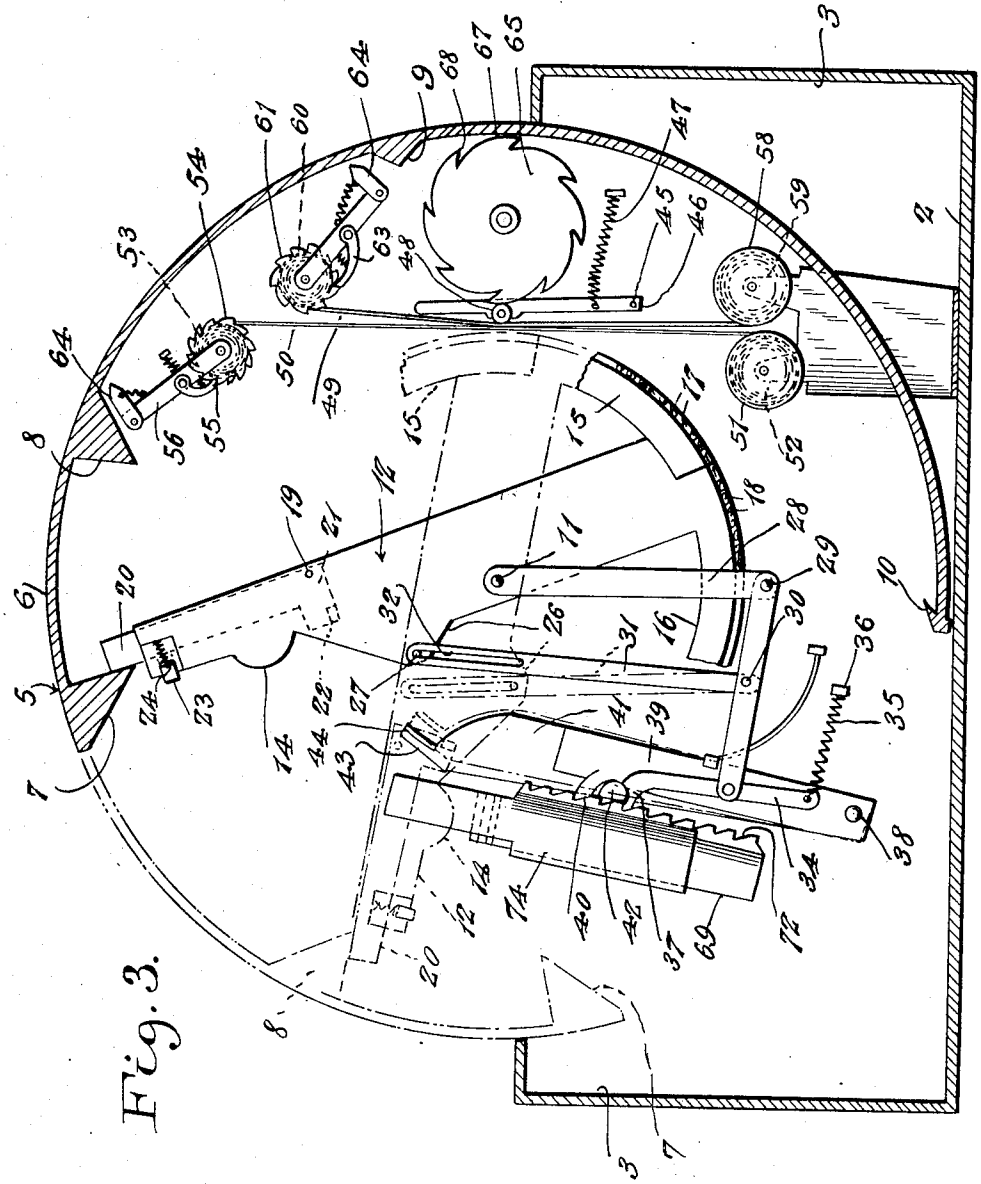


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL G. KNIGHT, OF RANDALL, MINNESOTA.

COIN-RECORDER.

1,189,972. Specification of Letters Patent. Patented July 4, 1916.

Application filed August 24, 1915. Serial No. 47,177.

To all whom it may concern:

Be it known that I, SAMUEL G. KNIGHT, a subject of the King of Great Britain, residing at Randall, in the county of Morrison and State of Minnesota, have invented certain new and useful Improvements in Coin-Recorders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in coin recorders and the principal object of the invention is to provide a money handling device which will accurately record the amount put in and removed therefrom.

Another object of the invention is to provide a device which will give a printed record in two separate columns, one of the columns being for the amount placed in the device and the other column being for the amount removed therefrom.

A further and more specific object of the invention is to provide a device which will prevent the removal of coins from the receptacles without making a record thereof, so that the amount placed in and removed from the device may be at all times readily ascertained.

With these and other objects in view, the invention consists in the novel combination and arrangement of parts which will be fully set forth in the following specification and accompanying drawings, in which:—

Figure 1 is a perspective view of a coin and bill recorder constructed in accordance with this invention. Fig. 2 is a transverse sectional view through one section of the device showing the same in its normal closed position. Fig. 3 is a view similar to Fig. 2, showing in full line, the device in its open position and illustrating in dotted and dash lines, the relative position of the parts after the placing of the coin on the coin supporting slide. Fig. 4 is a sectional view through the coin supporting slide illustrating the ratchet formed thereon. Fig. 5 is a horizontal sectional view through the coin supporting slide and guide therefor, taken on line 5—5 of Fig. 2. Fig. 6 is a sectional view similar to Fig. 5, taken on line 6—6 of Fig. 2. Fig. 7 is a sectional view on line 7—7 of Fig. 2. Fig. 8 is a perspective view of the stripping bar, and Fig. 9 is a perspective view of the latch actuating bar.

Referring now to the drawings by characters of reference, the numeral 1 designates as an entirety, the casing of the device comprising the bottom 2 to which the front and rear walls 3 are secured. The end walls 4 are secured to the bottom and connect the front and rear walls at their opposite terminals and the whole is provided with the semi-cylindrical cover designated generally by the numeral 5, having secured thereto the knob 6. This cover is pivoted so as to swing down into the casing 1, when the device is operated.

The cover comprises the semi-cylindrical body 6 carrying at its front edge a series of teeth or lugs 7 and 8, which are spaced inwardly from the edge for a short distance as clearly shown in Figs. 2 and 3. A suitable V-shaped lug 9 is formed intermediate the edges of the body 6 and is arranged for engagement with the ribbon and paper feeding mechanism, which will be more fully hereinafter described. Formed at the edge of the body 6 opposite the front edge are the hook members 10 for engagement with the ratchet wheel which operates the printing mechanism as will be more fully hereinafter described.

The cover is mounted at opposite ends on a suitable longitudinally extending shaft 11 on which the arm 12 is pivotally mounted intermediate their ends. The arm comprises the body 13, the front end of which is weighted and provided with the enlargement 14. The rear end of the body 13 carries a pair of oppositely disposed arcuate members 15 and 16 carrying on their outer faces a series of numerals 17 and 18 respectively. These numerals are formed so that the numerals carried on the arcuate member 15 will print in a column on the right hand side of the recording strip, while the numerals carried on the member 16 will print on the left hand side of the strip. Pivotally connected near the weighted end of the arm 12 as at 19, is the trip arm designated by the numeral 20, one end of which is formed with the angular extension 21 carrying the lug 22, the use of which will appear as the description proceeds. The opposite end of the trip arm extends beyond the end of the arm 12 and is arranged for engagement with the lugs 7 and 8 hereinbefore described. A suitable hook member 23 having the ear 24 formed at its free end is formed integral with the trip arm 20 near the end opposite the one on which angular extension 21 is formed and this hook member is arranged to

embrace the lower edge of the arm 12 and held in such position by means of the retractile coil spring 25. A suitable enlargement 26 is formed at the lower edge of the body 13 and carries the pin 27 to which the slotted links which will be more fully hereinafter described are connected.

Extending downwardly from the rod 11 is a suitable arm 28 having pivotally secured to its lower end, the link 29. Secured intermediate the ends of the link 29 as at 30 is a link 31 having formed in its upper end the slot 32, through which the pin 27 extends. The forward end of the link 29 is pivotally secured as at 33 to the lifting pawl 34, the lower end of which has connected thereto the contractile coil spring 35, one end of which is secured to a suitable support 36. The upper end of this lifting pawl 34 is provided with a suitable tooth or lug 37 for engagement with the coin support which will be more fully hereinafter described. This lifting pawl 34 is also provided with a second tooth or lug for engagement with the releasing lever 41. Pivotally connected to the support 38 located near the bottom 2 of the casing 1, is the supporting pawl 39, the upper end of which is provided with the hook 40 which engages the coin supporting member to hold the same against downward movement under normal circumstances. In order to render this pawl operative to allow the coin support to be lowered, there is provided the releasing bar 41, which is pivoted to this support 38 beneath the pawl 39. This latch releasing bar is formed intermediate its ends with the outstanding lug 42, which is arranged for engagement with the pawls 34 and 39 and the upper end of said bar is provided with the outstanding extension 43, having the arcuate cam face 44 for engagement with the lug 22 previously referred to.

Pivotally mounted on a suitable support 45 is the arm 46 having connected thereto the retractile coil spring 47 and this arm extends upwardly from the pivot 45 and carries the pressure roller 48, which engages the paper strip 49 and presses the same against the ribbon 50, which is interposed between the roller 48 and the type bars 15 and 16. The ribbon 50 is carried on a suitable reel 51 which is mounted in suitable bearings 52 and extends upwardly from said reel 51 to the reel 53 carrying the ratchet wheel 54, which is actuated by means of the pawl 55 carried on the lever 56. A suitable compression coil spring 57 engages the arm 56 and is arranged to force the same normally in such a position as to cause the pawl 55 to rotate the ratchet wheel 54. The rotation of the ratchet wheel 54 causes the reel 53 to give a partial turn, thus winding the strip 50 thereon. In order to support the strip 49, there is provided the reel 58, which is supported in suitable bearings 59, near the lower end of the casing and this strip 49 is wound upon the reel 60, which carries the ratchet wheel 61, which is actuated by the lever 62 and pawl 63 in a manner similar to the ratchet wheel 54. At the free ends of each of the levers 56 and 62, there are provided the arms 64, which are engaged by the lug 9 of the lid or cover 6 and thus it will be seen that as the lug passes the arms, the same will be forced downwardly thereby causing the ratchet to turn the respective ratchet wheels and cause the paper strip and the ribbon to be moved up upon each operation.

In order to cause the stamping roll or pressure roll 48 to be forced against the paper 49, so as to cause the paper to be forced against the ribbon and type to receive the imprint thereof, there is provided the cam wheel 65, which is rotatably mounted as at 66 and this cam wheel is formed with a plurality of peripheral cam faces 67, which also form the ratchet teeth 68, which teeth are engaged by the lug 10 so that when the lid is closed, the wheel will be turned, thereby throwing the cam face at the point directly opposite the shoulder which is being engaged by the lug 10 into active position with relation to the rolls 48, thereby causing an impression to be made on the paper.

It will be apparent from the foregoing that in use the lid is thrown back and this causes the lug 7 to engage the arm 12 and thereby causes said arm to swing to a vertical position. The coins are then placed on their respective supports and upon moving the lid downwardly, to return the same to its closed position, it will be apparent that the trip arm 20 will be engaged, thereby swinging the arm 12 down, so that the enlargement 14 of the weighted end thereof rests upon the uppermost coin. It will be evident that this will cause the type faces 17 on the type bar 15 to aline with the roll 48 according to the number of coins placed on the support and upon forcing the lid to its closed position, it will be evident that the lug 10 will cause the wheel 65 to rotate and thus force the roll 48 against the paper ribbon 49 and against the ink ribbon 50 and said ink ribbon against the type, thereby giving the impression on the paper amounting to the number of coins placed in the machine. In order to bring the arm 12 to its neutral position the lid is forced downwardly so that the lug 8 again engages the trip arm which will move downwardly while its rear end moves outwardly as the arm 12 is held stationary thereby causing the lug 22 to engage the cam face 44 and throw the releasing lever 41 into operative position with relation to the lever 39 and lifting the pawl 34, thereby releasing the pawl 40 and lug 37 which allows the coin

carriage to be lowered by the engagement of the arm 12 with the coins on the coin carriage. When the arm 12 reaches neutral the lug 22 automatically releases from the face of the cam 44 and allows pawl 40 and lug 37 to again engage ratchet 72 on the coin carriage.

Upon raising the lid to remove the coin and removing one or more of the coins from the coin carriage, it will be apparent that upon closing the lid the arm 12 will fall to a point so that the figures 18 of the type bar 16 will aline with the roller 48 and upon the closing of the lid it will be seen that the impression of the column figures 18 will be given on the strip 49, thereby indicating the number of coins removed. It will also be apparent that upon closing the lid the pin 27 will engage the lower end of the slot 32, thereby forcing the links 31 and 29 downwardly, the downward movement of which moves the pawl 34 downwardly and causes the lug 37 to be lowered a number of ratchets equal to the number of coins removed from the carriage so that the arm 12 again touches the top coin. The opening of the machine to replace or remove coins will swing the bar 12 to a vertical position, thus bringing the pin 27 into engagement with the upper end of the slot 32 and this action will cause the links 31 and 29 to move upwardly, thereby lifting the pawl 34 and moving the coin carriage until the arm 12 upon its descent will register neutral and lie in such a position as to bring the roller 48 between the columns of type 17 and 18 on the type bars 15 and 16.

The coin carriage previously referred to is best illustrated in Figs. 4 to 6 inclusive and this coin carriage comprises the tubular body 69 which is formed of a single sheet of material and the adjacent edges of this body are provided with the flanges 70, one of which terminates in the flange 71 formed with a plurality of ratchet teeth 72. These ratchet teeth 72 are engaged by the pawl 40 and lug 37 previously referred to. A suitable end closure 73 is secured in the upper end of the coin carriage and forms the rest on which the lowermost coin is supported. The coin carriage 69 is slidable in the cylindrical guide 74, which is formed of a single sheet of metal and the adjacent edges of this guide are provided with the outturned flanges 75, which conform to the shape of the flanges 70. This guide is provided with a suitable pair of oppositely disposed arcuate coin guides 76, which project upwardly therefrom and hold the coin against accidental displacement.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that such changes may be made in the combination and arrangement of parts as will fall within the spirit and scope of the appended claims.

What is claimed is:—

1. A device of the character described including a pivoted cover, an arm movable on the pivot of the cover, a lug on the cover to engage the arm to swing the same to a vertical position, a coin carriage beneath the cover, a weight on the arm to cause the same to swing downwardly against the coin carriage and normally remain in a horizontal position, the arm being inclined when a coin is placed on the coin carriage and means to record the number of coins placed on the coin carriage and removed therefrom.

2. A recorder of the character described including a casing, a cover pivoted to the casing, an arm pivoted within the casing, means carried by the cover to swing the arm upon movement of the cover, a coin carriage, an extension on the arm engaging the upper end of the coin carriage, the said arm being normally in a horizontal position and being inclined upwardly or downwardly upon the placing or removal of a coin with relation to the coin carriage, means to lower the coin carriage upon the positioning of a coin thereon, means for raising the coin carriage upon the removal of a coin therefrom and means for recording the number of coins on or removed from the coin carriage.

3. A device of the character described including a vertically movable coin carriage, an arm normally raised on said coin carriage, means to swing the arm into a vertical position, the arm being inclined upon the positioning of a coin or upon the removal of a coin from the coin carriage, and means to record the number of coins placed upon or removed from the coin carriage, means to raise the coin carriage upon the removal of a coin therefrom and to lower the same upon the placing of a coin thereon.

4. A recorder of the character described including a coin carriage, a horizontal pivoted arm, type bars carried by the arm, a coin carriage, coins on the coin carriage, the arm being inclined upon the positioning of additional coins on the coin carriage or upon the removal of coins from the carriage to incline the arm and remove the type bars into operative position, means to take an impression from the type bars to make a record of the number of coins placed on or removed from the coin carriage.

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

SAMUEL G. KNIGHT.

Witnesses:
C. E. CHAPMAN,
L. M. CHAPMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."