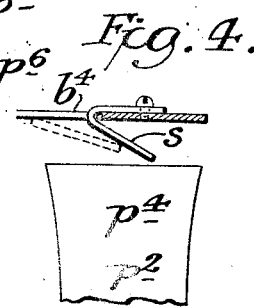
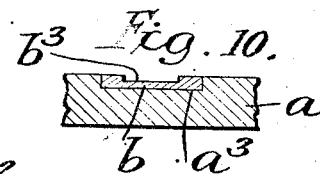
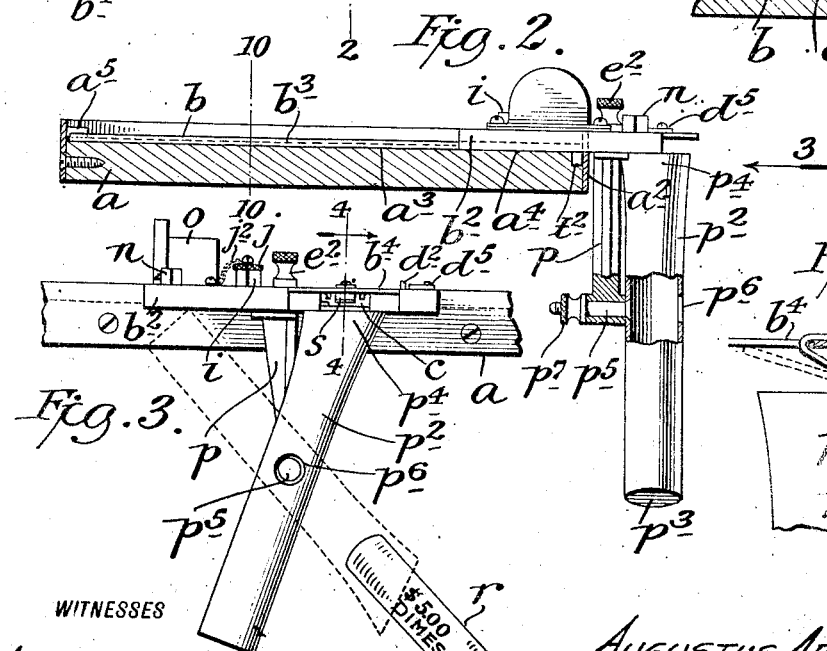
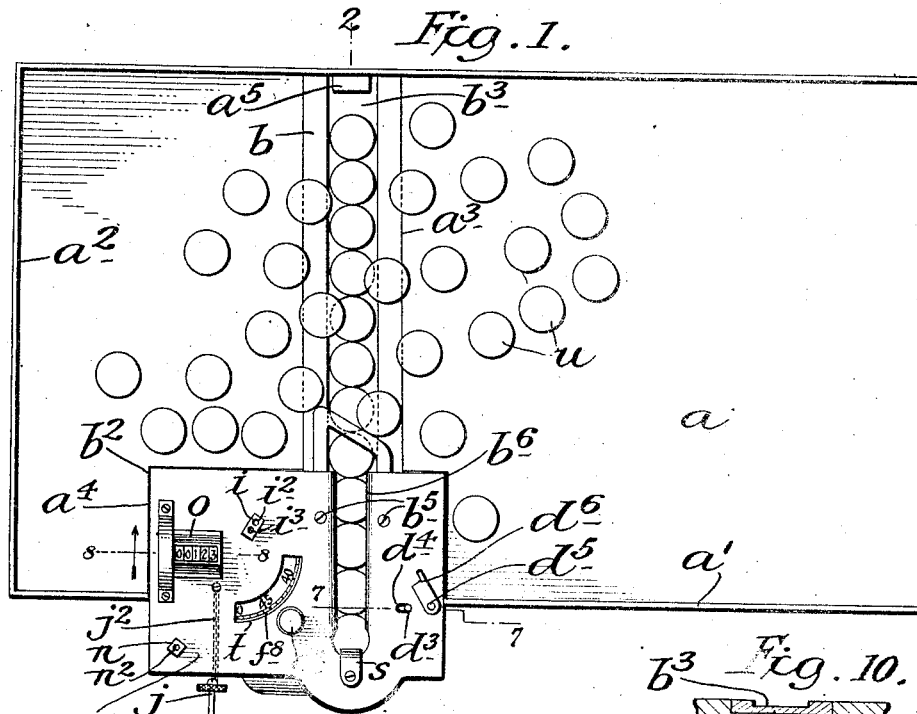


A. ABBOTT.
 COIN COUNTING AND PACKAGING DEVICE.
 APPLICATION FILED SEPT. 15, 1911.

1,037,405.

Patented Sept. 3, 1912.

2 SHEETS—SHEET 1.



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Fig. 5.

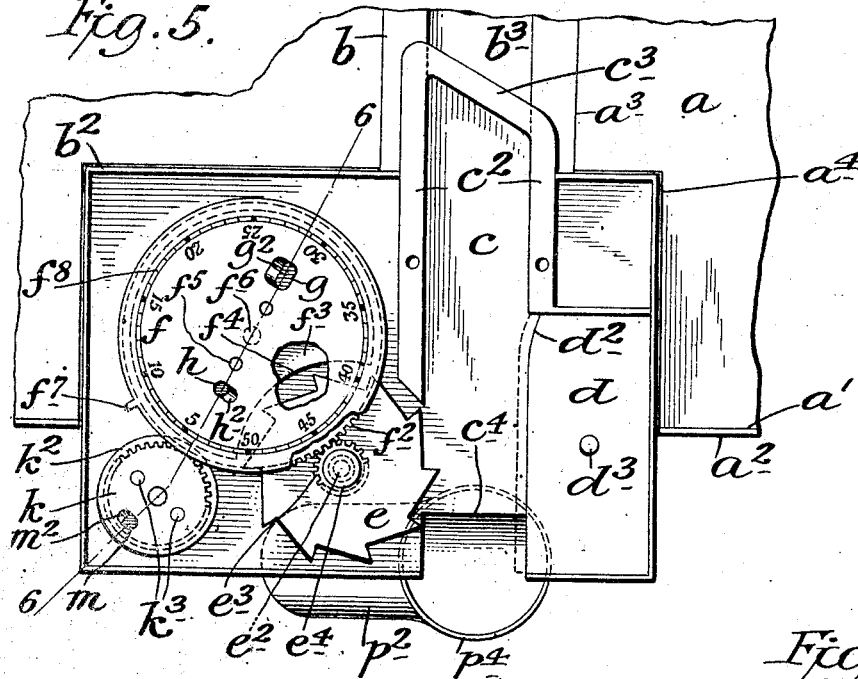


Fig. 6.

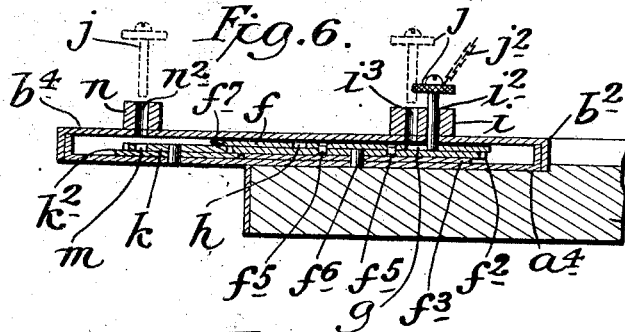


Fig. 8.

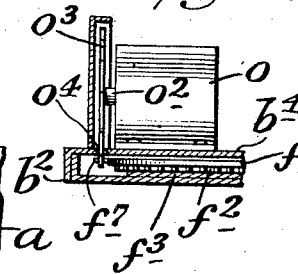


Fig. 7.

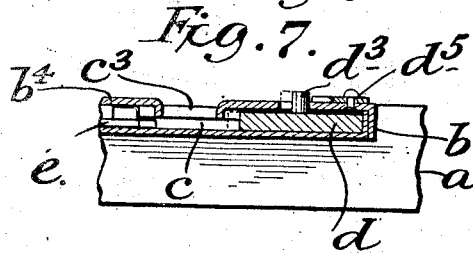
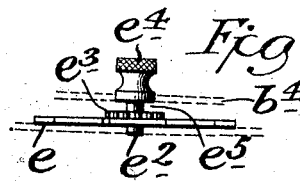


Fig. 9.



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UNITED STATES PATENT OFFICE.

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COIN COUNTING AND PACKAGING DEVICE.

1,037,405.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed September 15, 1911. Serial No. 649,427.

To all whom it may concern:

Be it known that I, AUGUSTUS ABBOTT, a citizen of the United States, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Coin Counting and Packaging Devices, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to coin counting devices, and the object thereof is to provide an improved device of this class whereby coins of any denomination may be quickly and easily counted and put in packages of the required amounts; a further object being to provide a device of the class specified which is simple in construction and operation and which involves a board or plate on which the coins to be counted may be quickly and easily swept or moved into and through the counter and into packages; and with these and other objects in view, the invention consists in a device of the class specified, constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a plan view of a device of the class specified, constructed according to my invention; Fig. 2 a partial section on the line 2—2 of Fig. 1; Fig. 3 a front view of the device as shown in Fig. 1 and looking in the direction of the arrow 3 of Fig. 2; Fig. 4 a partial section on the line 4—4 of Fig. 3; Fig. 5 a view similar to Fig. 1, but showing only a part of the operative mechanism on an enlarged scale and showing the top plate of the casing of the operative mechanism removed, and also showing parts broken away; Fig. 6 a section on the line 6—6 of Fig. 5; Fig. 7 a section on the line 7—7 of Fig. 1 and on an enlarged scale; Fig. 8 a partial section on the line 8—8 of Fig. 1 and on an enlarged scale; Fig. 9 an edge view of a star-wheel which forms part of the operative mechanism and showing also other parts connected therewith, and Fig. 10 a section on the line 10—10 of Fig. 2.

In the accompanying drawing I have shown my improvement applied to a coin counting device designed for use in counting pennies and dimes, but the said device may be used for counting nickels, quarters, half dollars and dollars, all that is necessary being to make such changes in the construction herein shown and described as will hereinafter appear.

In the practice of my invention, I provide a board, plate or table a which is rectangular in form and also preferably provided with a metallic rim a^2 which extends above said board and the dimensions of which are preferably from twelve to thirteen inches in one direction and from fourteen to fifteen inches in the other, and for the purpose of this description the edge a' of said board will be called the front edge thereof.

The board a is provided with a flat, forwardly and backwardly ranging groove a^3 which extends to the back edge of said board and the front end of which communicates with a rectangular recess a^4 formed in the top surface thereof and the said groove is rectangular in cross section as shown in Fig. 10.

The operative parts of my improved coin counting device comprise a trough b having a head b^2 adapted, respectively, to fit in the groove a^3 and the recess a^4 , said head being provided with the necessary counting mechanism as hereinafter described.

The trough b is provided with a groove b^3 the transverse dimensions of which are similar to the transverse dimensions of the coins to be counted, and the head b^2 is box-shaped and rectangular in form and consists of a casing having a removable cover b^4 which is held in place or in connection with the trough b by means of screws b^5 , and the trough b together with the head b^2 thereof are detachable from the board a , and the groove a^3 in said board is provided at its rear end with a forwardly directed stud a^5 , and all that is necessary to connect the trough and its head with said board is to insert the rear end of the trough into the rear end of the groove a^3 and drop said trough and head onto said board, in which position the head of the trough rests in the recess a^4 , and when the parts are thus placed in position for use the head b^2 projects forwardly of the board as shown in Figs.

1 and 5, and the rim a^2 is cut out at the front of the board to permit of this operation. The top of the trough b when thus placed in position is flush with the top surface of the board a , and the head b^2 of said trough is provided with a groove or passageway c which forms a continuation of the groove in said trough and which ranges forwardly and backwardly through said head, and the rear side walls of said groove are formed by a yoke-shaped device c^2 , the cross head portion c^3 of which projects backwardly of said head over the trough b and forms a diagonal guard for the coins as they pass forwardly through said trough in the operation of the device as hereinafter described.

The bottom of the groove c through the head b^2 is cut out at the front end thereof to form a rectangular recess c^4 , and the front right hand wall of said groove is formed by an inwardly and outwardly movable plate d the rear inner corner of which is beveled as shown at d^2 , and said plate is provided centrally with a pin d^3 which passes upwardly through a transverse slot d^4 formed in the cover b^4 of the head b^2 , and to the right of which is pivoted a dog d^5 having a recess d^6 in the end thereof and which operates in connection with the pin d^3 to lock the plate d in its innermost position, or in the position shown in dotted lines in Fig. 5.

The cover b^4 of the head b^2 is provided with a forwardly and backwardly ranging slot b^6 which corresponds with the groove c , and through which the coins may be seen as they pass through the head b^2 , and in the left hand side of said head at the front end of the left side of the yoke-shaped device is mounted a star-wheel e the teeth of which project into the groove or passageway c as shown in Fig. 5.

The star-wheel e is rigidly secured to a pin e^2 which passes through the cover b^4 of the head b^2 and into the bottom plate of said head, and said star-wheel is also provided with a pinion e^3 and with a head e^4 by which it may be manipulated, and between said head and the pinion e is an annular space e^5 and the relative position of the top of the cover and bottom plate of the head b^2 , and the star-wheel e and pinion e^3 is shown in Fig. 9.

Mounted in the head b^2 and rearwardly of and slightly to the left of the pin e^2 is an indicating dial disk f provided on its under side with a gear f^2 which meshes with the pinion e^3 , and beneath the gear f^2 is a plate f^3 which rests on the bottom of the head b^2 and which is cut out segmentally as shown at f^4 to provide a recess in which the star-wheel e operates.

In the construction shown the plate f^3 is secured to the bottom of the head b^2 , and the

indicating dial disk f and gear f^2 are formed separately and secured together by means of rivets f^5 and mounted on a pin f^6 which is secured in the bottom of the head b^2 and the plate f^3 , but said disk and gear may be formed in any desired manner and may be formed integrally if preferred.

The indicating disk f is slightly greater in diameter than the gear f^2 and is provided at one side thereof with a trip finger f^7 , and said disk is provided on the face thereof with a scale f^8 , which represents the unit of the coins to be counted. In other words, if pennies are to be counted this scale will represent pennies, and if dimes are to be counted it will represent dimes, and the said scale is divided as will be seen into multiples of five. The disk f is also provided on the opposite sides of the center thereof with recesses g and h , and the walls of these recesses are beveled in the direction of the operative movement of said disk, as clearly shown at g^2 and h^2 and the recess g is oblong in form radially of said disk.

Mounted on the cover b^4 of the head b^2 inwardly of the center of the dial disk f is a block i having an inner hole i^1 and an outer hole i^2 , this construction being clearly shown in Figs. 1 and 6, and a headed lock-pin j is connected with the cover b^4 of the head b^2 by a chain j^2 and is adapted to be passed through the hole i^2 in the block i and into the outer half of the recess g in the operation of counting fifty coins of any denomination.

The recess g is twice the radial dimensions of the recess h and the inner half of the recess g is on the same circle as the recess h , and in counting twenty-five coins of any denomination the pin j is passed through the hole i^2 in the block i and enters either the inner half of the recess g or the recess h alternately.

It will be understood that in the use of the pin j it is simply dropped into the block i and rests on the dial disk f and as said dial disk is turned it drops into the corresponding recess by gravity.

At the left of the star-wheel e is mounted a gear k which meshes with the gear f^2 and beneath which is a plate k^2 secured thereto by rivets k^3 . The plate k^2 corresponds with the plate f^3 and is intended only to raise the gear k so that it will mesh with a gear f^2 , and said gear k is provided with a recess m one wall of which is beveled in the direction of the operative rotation of said gear as shown at m^2 , and mounted on the cover b^4 of the head b^2 is a block n having a hole n^2 through which the pin j is also adapted to be passed as indicated in Fig. 6, and the ratio of the gears k and f^2 is 2 to 5, and the ratio of the pinion e^3 to the gear f^2 is 5 to 1.

Mounted on the left hand side of the head b^2 is an adding register o , the shaft o^2 of which is provided with a star-wheel o^3 the teeth of which project through a slot o^4 in the cover b^4 of the head b^2 and into the plane of rotation of the dial disk f and at each complete revolution of said disk the star-wheel o^3 of the register o is moved one step by the trip finger f^7 of said disk and registers one package of fifty coins of the denomination that is being counted. The registering device o will only register fifty coins, or a package of fifty coins of any denomination, but the device herein shown and described will form packages of twenty and twenty-five coins of the desired denomination, as well as fifty, but the registering device o as shown and described will not register packages of twenty and twenty-five, except as hereinafter described.

Beneath the front part of the head b^2 is a hanger p to which is pivoted a stacker tube p^2 the bottom p^3 of which is closed, and the top p^4 of which is slightly enlarged and open. The stacker tube p^2 is connected with the hanger p by a pin p^5 passed through an aperture p^6 in the outer side of said stacker tube and through the inner side of said tube and the hanger p and provided with a thumb nut p^7 as clearly shown in Fig. 2, and said stacker may thus be rotated vertically and when in its normal position the enlarged upper end p^4 thereof presses on the bottom of the head b^2 directly under the recess c^4 in the front end of the bottom of the groove or passageway c through said head, and the said stacker tube is normally retained in this position by gravity, but may be turned into the position shown in dotted lines in Fig. 3 by simply raising the lower end thereof at which time a fibrous tubular package r , one end of which is closed, may be inserted into the larger end of said stacker tube and into which the coins within said stacker tube will pass, after which the said package may be withdrawn and the open end thereof folded or closed in any desired manner.

A buffer spring s is secured to the cover b^4 of the head b^2 over the recess c^4 as clearly shown in Figs. 1 and 4, the object of which is to direct the coins downwardly into stacker tube p^2 , this operation being also shown in Fig. 4. The cover b^4 of the head b^2 is also provided with a segmental slot or opening t through which the dial disk f may be seen and the scale thereon read, and the bottom of the head b^2 is provided with a lug t^2 which fits in a corresponding recess back of the front part of the rim a^2 as clearly shown in Fig. 2, and the object of which is to prevent the counter proper, including the trough b and head b^2 , from moving forwardly in the operation of counting coins,

as hereinafter described. In practice the said counter, including the trough b and head b^2 thereof, is placed in position on the board a as shown in Fig. 2 and a number of coins u to be counted are also placed on said board.

If the coins are to be placed in packages of fifty, the pin j is dropped into the outer hole i^2 so that it rests on the dial disk f , the pin e^2 is then turned by means of the head e^4 thereof until the gear f^2 is turned so that said pin will drop into the outer half of the recess g , and the counting mechanism is then in condition for operation. The pin j is then raised slightly and the wheel f^2 given a slight turn by means of the pin e^2 so that said pin j will rest on the indicating dial disk f on the edge of the recess g . The coins are then moved by hand across the board a into the trough b and by a forward movement of the hand or the fingers thereof said coins are passed through said trough and through the groove or passageway c which forms a continuation thereof, and in this operation said coins each, successively, make contact with a tooth of the star-wheel o^3 and said star-wheel is rotated one step by each of said coins, and as the said coins pass through the head b^2 they drop into the stacker tube p^2 . At the end of a complete revolution of the disk f the pin j drops into the outer half of the recess g and fifty coins are counted and indicated on the register o as one package, and the dropping of said pin into the recess g locks the mechanism. The stacker tube p^2 is then partially turned and the tubular package r one end of which is open is inserted therein, after which the stacker tube is turned into the position shown in dotted lines in Fig. 3 and the coins pass therefrom into the package tube r as will be readily understood, and this operation may be repeated as long as it is desired to count and form packages of fifty coins.

In forming packages containing twenty-five coins the pin j is used in the inner hole i^2 of the block i exactly as hereinbefore described, except that the indicating disk f or counting mechanism will be locked at each one-half revolution, as the pin j drops into the inner half of the recess g or into the recess h alternately, and at each of these operations of said pin, a package of twenty five coins will be formed, but these packages will not be counted as such on the register o , but said register will operate and each complete revolution of the disk f will count fifty coins, and a division of the number of coins so counted by two will give the number of packages containing twenty-five coins.

In counting packages of twenty coins the pin j is placed in the block n and manipulated the same as hereinbefore described in

the operation of counting fifty coins, except that said pin will drop into the recess *m* in the wheel *k* at each revolution of said wheel, and during this time the disk *f* will rotate two-fifths of a revolution and a package of twenty coins will be formed, but this package of twenty coins will not be counted by the register *o* as such, but the total number of packages thus formed may be ascertained at any time by dividing the total number shown by the register *o* by two and one-half.

The plate *d* is used to adjust the transverse dimensions of the groove or passageway *c* through the head *b*² opposite the star-wheel *e* in counting coins of different denominations as for instance, in counting pennies the plate *d* would be in the position shown in full lines in Fig. 5, but in counting dimes said plate would be moved inwardly and locked in the position shown in dotted lines in Fig. 5, this construction being necessary in order that the transverse dimensions of the groove or passageway *c* opposite the star-wheel *e* may be always regulated so as to compel the coins passing through the device to operate said star-wheel.

From the foregoing description it will be seen that the operation of my invention depends entirely on the method of connecting the counter proper, including the trough *b* and the head *b*² thereof with the board *a* so that the said trough will be flush with the surface of said board, and so that the coins may be swept into the trough by moving the hand in either direction, and passed through said trough and through the head thereof by moving the hand forwardly, and in this operation the guard *c*³ serves to guide the coins into the head *b*² and prevent said coins from jumping out of the groove in the trough onto the head in case one should rest upon another, in which event the top coins will be directed off to one side and back to the surface of the board from which they may be swept or slid into the trough, as will be readily understood.

In the foregoing description I have described the use of my counter in counting coins and placing them in small packages only, but it will be understood that my improved coin counting device may be used for counting coins and placing the same in bags containing any number, in which event, the pivoted stacker *p*² may be detached and a bag suspended beneath the front portion of the head in any desired manner, and in this operation as will be readily understood, the pin *j* will not be used, the operation of the disk *f* and register *o* being continuous.

It will also be understood that my invention is not limited to the particular count-

ing mechanism in the head *b*² constructed and operating as herein shown and described, and many changes in and modifications of said counting mechanism may be made, within the scope of the appended claims, without departing from the spirit of my invention, and by making the said counter, including the trough *b* and the head *b*² detachable from the board *a* a number of different forms of counters intended for different purposes or for counting coins of different denominations may be employed and interchanged or substituted one for another, and used in connection with the same board, table or other support whenever desired.

In the form of construction shown, the trough *b* and the head *b*² thereof are connected by means of the yoke-shaped device *c*² which may be secured to said trough and head in any desired manner and to which the cover *b*⁴ of said head is secured by means of the screws *b*⁵, but said parts may be connected in any desired manner.

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

1. A coin counting device of the class described, comprising a board having a transverse groove, and a counter comprising a trough and a head and adapted to be connected with said board so that the trough will fit in said groove and the top surface thereof be flush with the top surface of the board, said head being provided with a coin passage way which communicates with said trough, and with a coin counting mechanism operated by the coins as they are passed therethrough, whereby coins placed on said board may be swept into said trough and moved forwardly therethrough and through said head and counted by a transverse and forward movement of the hand over said board and trough.

2. In a coin counting device of the class described, a board provided with a transverse groove, and a counter comprising a trough and head, said trough being fitted in said groove with the top surface thereof flush with the top surface of the board, and said head being provided with a coin passage way which communicates with said trough and with a coin counting mechanism operated by the coins as they pass through said head, and a coin stacker pivotally supported beneath the front portion of said head and adapted to receive the coins as they pass therethrough, said stacker being adapted to swing in a plane parallel with the front edge of said board.

3. In a coin counting device of the class described, a trough provided with a head having a transverse groove or passage which communicates with said trough, said head

being provided with a coin counting mechanism operated by coins as they pass therethrough, and a coin stacker pivoted beneath said head and adapted to receive coins as they pass therethrough; said stacker being adapted to swing in a plane at right angles to said trough.

4. A coin counting device having a head or casing provided with a coin passage there-
10 through through which coins are adapted to be passed and a coin counting mechanism operated by the coins as they pass there-
through, and a coin stacker pivotally sup-
ported beneath said head or casing and
15 adapted to receive the coins after their pas-
sage therethrough, said stacker being closed at one end and open at the other and being normally held by gravity with its open end directed upwardly and being adapted to be
20 turned on its pivotal support so as to dump the coins therein into a package.

5. In a coin counting device a coin trough having a head provided with a transverse passage which communicates therewith, one
25 side of said head being provided with an adjustable device to regulate the transverse dimensions of said passage and the opposite

side being provided with a star-wheel, the teeth of which operate in said passage, hand operated means for turning said star-wheel, 30 an indicating disk geared in connection with said star-wheel and a registering device operated by said indicating disk, said indicating disk being provided with diametri-
cally arranged recesses on the opposite sides 35 of the center thereof and the radial dimensions of one of which is greater than the radial dimensions of the other, and the cover of said head being provided with a block having radially arranged holes adapted to 40 register with the larger of said recesses and one of which is adapted to register with the other of said recesses, and a pin adapted to be passed through said holes and to rest on said disk and enter said recesses. 45

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 14th day of September 1911.

AUGUSTUS ABBOTT.

Witnesses:

C. E. MULBRYANT,
FRANK G. AT LEE.