No. 875,585. PATENTED DEC. 31, 1907.

J. M. JOHNSON.

COUNTING MACHINE.

APPLICATION FILED DEC. 12, 1906.

3 SHEETS—SHEET 1.

Fig. 1

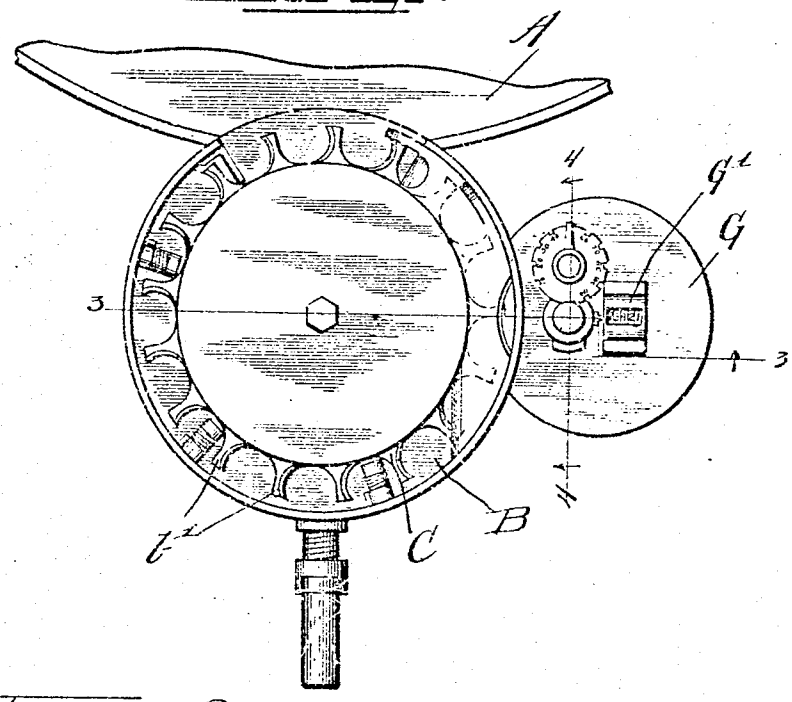
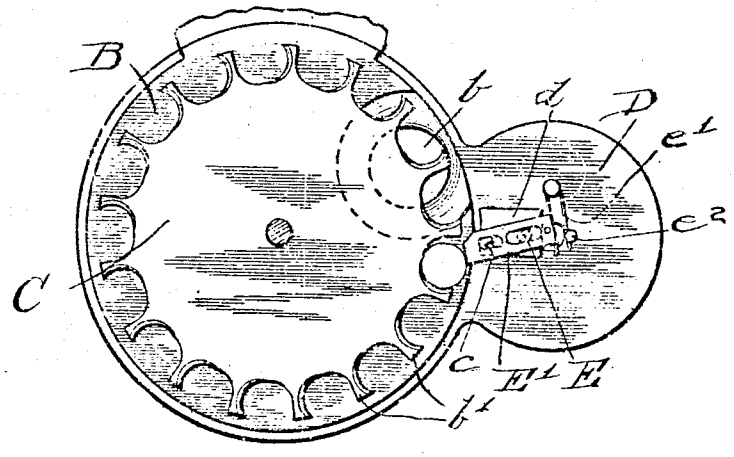


Fig. 2



Witnesses

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3 SHEETS—SHEET 2

FIG. 3

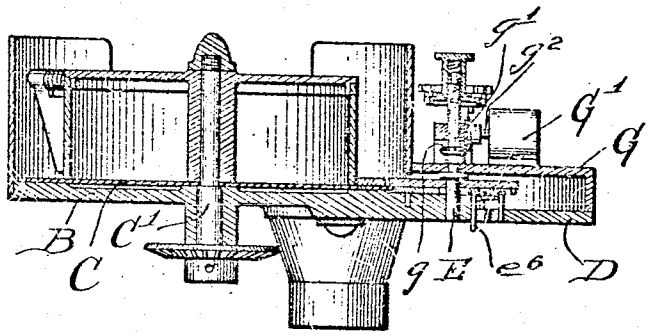
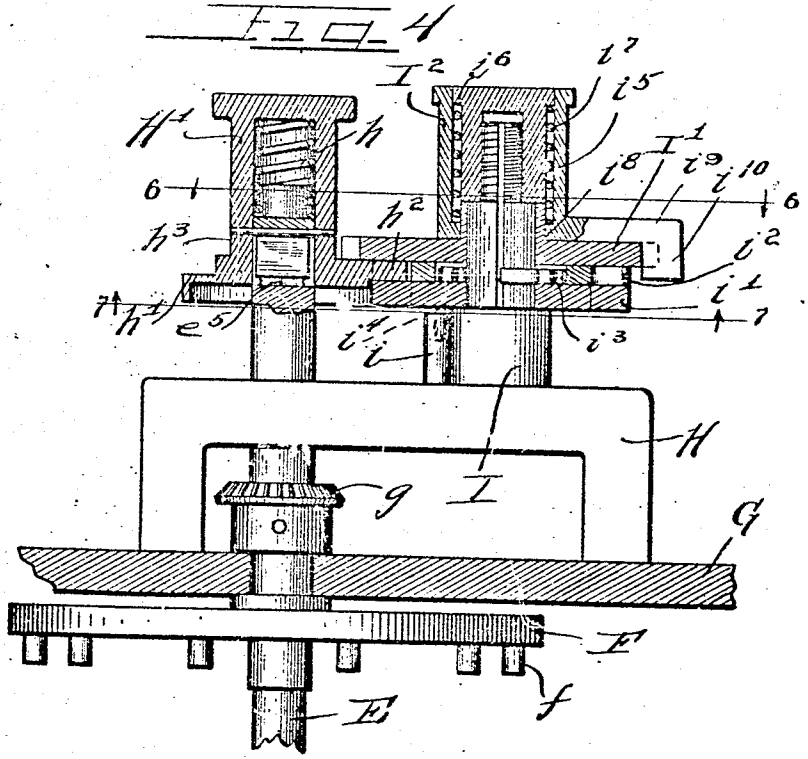


FIG. 4



Witnesses

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3 SHEETS—SHEET 3.

Fig. 5

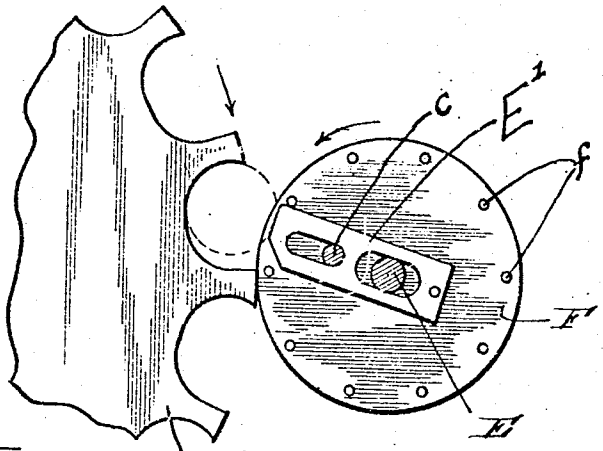


Fig. 6

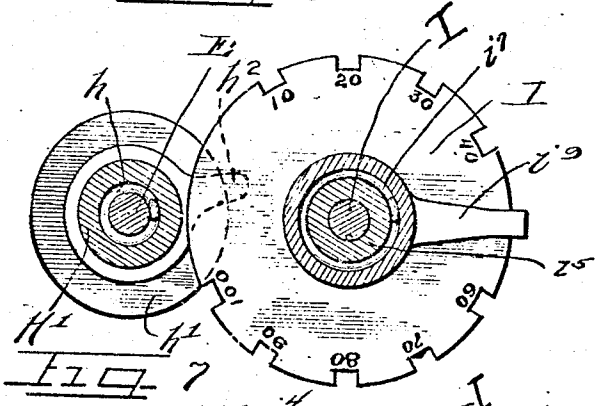


Fig. 8

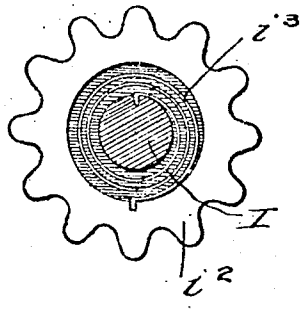
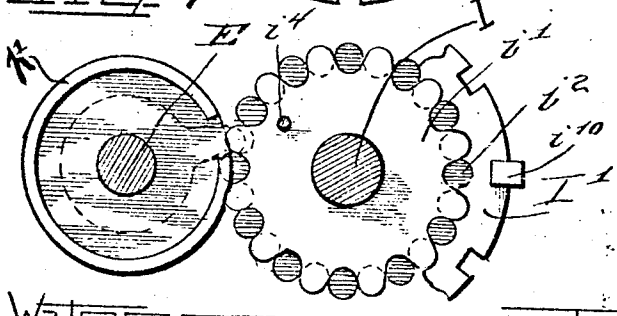


Fig. 7



Witnesses

J. W. Angell.

H. C. Hannah

Inventor

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by Charles W. Fier Atty

UNITED STATES PATENT OFFICE.

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COUNTING-MACHINE.

No. 875,585. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed December 12, 1906. Serial No. 347,500.

To all whom it may concern:

Be it known that I, JAY M. JOHNSON, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Counting-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in counting machines and more particularly to improvements in that class of counting machine set forth in my prior patent coin counting machines No. 824,794, issued on the 3rd day of July 1906. In inventions of this class speed of operation and absolute accuracy in counting are imperative and to secure these results must be constructed to prevent more than one coin passing on a single count and also to prevent the registering means from making a false record because of thin coin or because of speed of actuation.

The object of this invention is to provide a mechanism of the class described in which the count is effected by utilizing the moving article to be counted, usually a coin, to actuate the counter and in which it is impossible for the coin, no matter how rapidly it moves, to throw the counting mechanism more than sufficient to count one, for each moving coin as they successively pass counting position.

It is a further object of the invention to afford a mechanism enabling the coin to be accurately counted in bulk, that is to say, in selectively and continuously for any desired number, or serially or in groups of a definite number and mechanism locking the machine from action when the desired number of coin has been counted.

It is also an object of this invention to afford in connection with a counting machine a register therefor which can be instantaneously set back to zero.

The invention embraces many novel features and consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

On the drawings: Figure 1 is a top plan view of a device embodying my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a section taken in line 3—3 of Fig. 1. Fig. 4 is an enlarged sectional detail of the registering and counting mechanism. Fig. 5 is an enlarged fragmentary detail showing the underside of the escapement wheel. Fig. 6 is a section taken on line 6—6 of Fig. 4. Fig. 7 is a section taken on line 7—7 of Fig. 4. Fig. 8 is a face view on the inner notched wheel.

As shown in the drawings: A indicates a pan or hopper for the coin or articles to be counted, and from which the same are delivered into the counting tray B, which as shown, is shallow and circular in form and provided near its periphery at a point near the pan A with a discharge aperture *b* for the counted coin. Within said coin tray fits a rotatable carrying wheel C provided with radial teeth *b'* which are slightly curved forwardly and serve to push the coin around the periphery of the tray to the discharge aperture. Said teeth, as shown, are each slightly reduced in thickness at its front edge or that engaging the coin is reduced to correspond approximately with the thickness of the thinnest coin of the denomination to be counted.

Integrally connected with the coin tray, and near the discharge aperture *b* is a plate or table D which is shown circular in shape, and which affords a support for the registering and counting mechanism. Said plate, as shown, is provided closely adjacent to the pheriphery of the tray B with a raised face *d*, extending through which is a rotatable vertical counting shaft E. Slidably secured on said raised face on said plate D is an escapement or detent E' which is longitudinally slotted to receive the shaft E and a pin *c* set in said plate. Said detent is at a level with the counting wheel and projects toward and sufficiently near the same for its end to be positively engaged and forced rearwardly by each coin carried by said teeth in passing. A pin e^2 is secured in the base D and a pushing spring *e'* is secured on said plate and bears against the end of said detent and against said pin e^2 and acts to hold the same normally in its forward position to be engaged by the coin.

Rigidly secured on the registering shaft E, above the detent E' is an escapement wheel F, provided with downwardly projecting teeth *f* ten in number arranged equal distances apart near its periphery and between which the escapement detent E' projects normally to lock said registering shaft from movement. Inclosing the escapement wheel and detent is a casing G, which is rigidly se-

cured to the base D and on which is centrally secured a register of any suitable kind arranged to indicate by tens to any desired number. As shown, a beveled gear g is rigidly secured on the shaft E and meshing therewith is a corresponding beveled gear g' of equal size which actuates the shaft g^2 of the register G'. The upper end of the shaft E is slotted longitudinally and provided at the bottom of the slot with a groove e, extending transversely thereof. Yieldingly supported upon the upper end of said shaft by means of a spring h which bears on the end of said shaft and in the cap is a cap H' provided with a pin h^3 extending therethrough and through the slot. The lower end of said head is enlarged to provide an integral friction wheel or pulley h', having a down turned peripheral flange and above the friction pulley is provided a finger h^2 which projects beyond the periphery of said pulley. Beneath said finger said flange is omitted.

Rigidly secured on the casing G and through which the shaft E projects is a frame H. A stud shaft I provided on one side with a stop i, is secured on said frame parallel the shaft E and thereon is a rotative element comprising a wheel i' provided with twelve equally spaced peripheral teeth having round points and affording rounded notches between the same. Said wheel is of a diameter to bring two of said teeth normally in bearing contact with the periphery of the friction pulley h' on the register shaft E. A corresponding wheel i^2 having the same number of teeth is secured thereon so that the teeth of one registers with the notches in the other. Said wheel i^2, is rigidly secured to the wheel i' and a concentric channel is provided around the shaft within said wheel i^2 in which is secured a strong spring i^3 one end of which is engaged in a suitable groove in the side of the stud shaft and the other end of which is engaged in a notch in the inner periphery of said wheel as shown in Figs. 4 and 8, thereby acting normally when rotated to return the wheel to the starting position which is determined by a pin i^4 set in the wheel i' to engage the stop i on the stud shaft. Rigidly secured on the two wheels, just described, is a wheel or dial I' provided about its periphery, as shown, with notches corresponding with the teeth on said wheel i^2 and which are marked respectively from 10 to 100 by tens having a space of two notches between the ten and the hundred notch. The upper end of the shaft I is reduced in diameter and threaded to receive a nut i^5, on which as shown, is a peripheral flange i^6 at its upper end to afford a stop for the spiral spring i^7 which engages around said nut and at its lower end bears against an inwardly turned flange i^8 of a sleeve I^2 which fits around the nut i^5, and bears on the dial I'. Said sleeve is provided on one side at its bottom with an arm i^9 having a down turned end i^{10} which engages in any of the notches of the dial plate I', and serves also as a stop therefor by engaging against the cap H', at the completion of the count indicated by the notch on the dial in which said arm is engaged.

The operation is as follows: The coin are dumped into the pan A, and from there delivered into the counter tray B and are singly swept by the teeth on the counting wheel around the periphery of said tray by rotation of the carrying wheel C actuated by the shaft C' and are brought successively into contact with the sliding escapement detent E' which normally holds the escapement wheel from movement. This being pushed back by the coin the coin next engages the adjacent tooth f on said wheel, rotating said wheel and all parts driven thereby one space or one-tenth of a revolution. As the coin slips past the escapement detent this slides forwardly and engages the succeeding tooth f on said wheel affording an effective lock thereby preventing a greater movement of said wheel and register shaft than one-tenth of a revolution. For the purpose of facilitating the return movement of said detent when the coin has passed, the rear corner of the same, is cut away to afford an incline which permits the detent to slide down into locking position immediately after the coin has passed. In counting coins in bulk or in large quantities the head H' is pressed down engaging the pin h^3 therein in the groove of the bottom of the slot, in the shaft E. This brings the finger h^2, out of engagement with the toothed wheels i and i^2 and enables the shaft E to rotate continuously and without effecting the stop mechanism. When it is desired to count serially the head is elevated bringing the finger h^2 into position to engage the wheel i^2, which normally under the action of its spring stands with the stop i^4 engaged with the stop i at which time the one hundred and the ten notch in the dial are on opposite sides of a line drawn between the shafts E and I. Having adjusted the arm i^9 so that its detent i^{10} engages in the notch in the dial indicating the number of coin it is desired to count serially, as for instance 50 as shown in Fig. 6, the coin are fed into the machine as it is actuated. The rotation of the shaft C' and the coin carrying wheel brings the coin against the escapement detent retracting the same and successively engaging the teeth on the toothed or escapement wheel F, rotating the same and the shaft E and head H' until, as it completes its revolution the finger h^2 engages a tooth of the wheel i^2 and rotates the same one tooth or one tenth of a revolution. This is possible for the reason that the flange is omitted beneath the finger h^2, permitting the tooth of

the brake wheel to enter beneath the finger as the dial revolves. This is repeated until the shaft E has revolved five times, bringing the end of the arm i^{10} in contact with the end of the finger h^2 and rigidly locking the machine from action. The head is now pressed downwardly to release the finger h^2, whereupon the spring acts instantly to return the dial to its starting position as shown. In the same manner should the detent i^{10} be adjusted in any of the other notches, the count will be completed to the exact number indicated in the notch in the dial, and the machine will then lock but will automatically set back the dial by merely pressing down the head preliminary to another count. In setting back the register G' the detent E' is retracted out of engagement with the teeth f on the escapement or toothed wheel F, by means of a pin e^6, which projects through the base D and the head H' is pushed down to release the finger h^2 from the toothed wheel i^2. The counting shaft can now be rapidly rotated with the fingers to set back the register.

While I have described my invention as adapted for the counting of coin it is obvious that it may be used to count other articles and may be attached to any counting machine and that various details of construction and operation may be modified without departing from the principles of this invention.

I claim as my invention:

1. A registering mechanism of the class described comprising a rotating carrying wheel adapted to selectively engage the articles to be counted, a toothed counting wheel positioned adjacent the periphery of the carrying wheel, a detent acting normally to engage one of the teeth on the counting wheel and to lock said counting wheel from movement and adapted to be automatically retracted by contact with the article to be counted, a shaft rigidly engaged on said wheel, a gear thereon, a registering mechanism driven by said gear and means for manually retracting said detent in setting the registering mechanism to zero.

2. A registering mechanism of the class described comprising a rotative carrying wheel adapted to selectively engage the articles to be counted, a toothed counting wheel positioned adjacent the periphery of the carrying wheel, a sliding detent acting normally to engage one of the teeth on the counting wheel and to lock the same from movement and adapted to be retracted by contact with the article to be counted, a shaft rigidly engaged on said wheel, a gear thereon, and a registering mechanism driven by said gear.

3. A device of the class described the combination with a carrying wheel for the articles to be counted of an escapement wheel having downwardly projecting teeth each adapted to be actuated by the passing articles successively means locking said escapement wheel from movement and actuated by the article passing to permit the article to actuate said escapement wheel, means automatically returning said locking means to normal after the passage of each article and a register actuated by the escapement wheel.

4. A device of the class described embracing an escapement wheel adapted to be actuated by the passage of the article to be counted, a detent adapted to lock said escapement after each count and actuated by the passage of the article to be counted, a shaft driven by the escapement wheel and a registering mechanism actuated thereby.

5. In a device of the class described the combination with the actuating means for the articles to be counted of an escapement wheel actuated successively by the passing articles, a register actuated by the escapement wheel and an escapement detent adapted to be retracted by the articles counted.

6. In a device of the class described the combination with rotative means for selectively actuating the coin of an escapement wheel actuated by the coin successively, as they pass the same a register actuated by the escapement wheel and a lock admitting the passage of but a predetermined number of coin and means automatically returning said lock to normal position.

7. In a device of the class described, a tray, means delivering the articles to be counted therefrom singly to a discharge orifice, an escapement positioned adjacent the discharge orifice and partly in path of the passing articles, a locking detent for the escapement adapted to be retracted by each passing article permitting the escapement to move one space, a register actuated by the escapement and means locking the escapement from further movement after the passage of a predetermined number of the articles to be counted.

8. In a device of the class described a tray, means delivering the articles to be counted therefrom singly to a discharge orifice, an escapement positioned adjacent the discharge orifice and partly in path of the passing articles, a locking detent for the escapement adapted to be retracted by each passing article, a register actuated by the escapement, means locking the escapement after the passage of a predetermined number of articles to be counted, and release mechanism permitting the register to set back.

9. A device of the class described embracing a tray means passing the articles to be counted singly therefrom to a point of discharge, an escapement wheel, partly in the path of said articles, an escapement detent adapted to be retracted by each passing article permitting the escapement to be turned

thereby, a spring normally holding said detent in locking position a register operated by the escapement and an adjustable stop for said escapement adapted to be set to limit the number of articles to be counted.

10. In a device of the class described the combination with a tray of mechanism for delivering the coin singly from said tray, a shaft, an escapement wheel thereon, partly in the path of the coin, a spring controlled sliding detent, normally locking the escapement wheel and adapted to be retracted by each passing coin, a register operated by the escapement wheel, a rotative dial positioned adjacent the shaft of the escapement wheel and marked with numbers for serial counting, an adjustable stop adapted to be set on said dial and acting to lock the escapement when the number indicated at the stop has been counted.

11. In a device of the class described the combination with a carrying wheel of a rotative shaft, an escapement wheel thereon, driven by the articles to be counted successively, a detent therefor retractable by the articles passing the same, a register actuated from said shaft, a rotative dial adjacent said shaft and marked with numbers for serial counting, an adjustable stop, axially secured on said dial interfitting parts connected with said dial and carried on said shaft respectively and adapted to actuate the dial with each rotation of said shaft until arrested by said stop.

12. In a device of the class described the combination with a tray of means passing the coin singly from said tray to a point of discharge, of a rotative escapement wheel and sliding escapement detent, both partly in path of the coin to be counted, the latter adapted to be retracted by the coin, permitting the escapement wheel to move one space, a shaft for said escapement wheel, a register actuated thereby, a stud shaft parallel with the escapement shaft, a dial rotative thereon and marked with numbers to indicate serial counting, an adjustable stop on said dial, toothed wheels rigidly secured to said dial and a radial finger on said escapement shaft adapted to engage therein, whereby each rotation of the escapement shaft, rotates the dial one tooth, until arrested by the stop.

13. The combination with a coin carrying wheel adapted to move the coin in a tray to a point of delivery, of an escapement wheel provided with ten downwardly projecting teeth partly in the path of the coin, a sliding spring controlled detent normally locking the escapement wheel and adapted to be retracted by the passing coin, a register actuated from the escapement wheel, an automatic stop mechanism and a spring acting to return the dial to neutral position when the stop is released.

14. In a device of the class described the combination with a tray of a rotative carrying wheel adapted to deliver the coin singly to a point of discharge, an escapement wheel having ten downwardly projecting teeth partly in the path of the coin, a sliding spring controlled detent adapted normally to lock the escapement wheel and to be retracted by the passing coin, a shaft for the escapement wheel, a register actuated thereby a radial finger on said shaft, a dial marked by tens successively from ten to one hundred, to indicate numbers for serial counting, a rigid stop on the dial indicating neutral position, an adjustable stop for the dial adapted to be set at any of said numbers, a toothed wheel rigidly secured to the dial, a radial finger on the escapement shaft adapted to rotate said dial one notch with each rotation of the escapement shaft until the adjustable stop engages a stop and a spring acting to return said dial to neutral position when the adjustable stop is released.

15. The combination with mechanism for passing articles to be counted singly to a point of discharge, of an escapement wheel provided with ten downwardly projecting teeth partly in the path of the articles to be counted, a sliding spring controlled detent movable radially of said escapement wheel acting to lock the same from movement and to be retracted only by the passing coin; a register actuated by the escapement wheel and an automatically acting stop mechanism adapted to lock the escapement from movement after the passage of each predetermined number of coin, means returning the dial to normal position when the adjustable stop is released, and means retracting the detent to set back the recorder.

16. In a device of the class described the combination with a tray of means adapted to move the articles counted singly to a discharge opening, a reciprocating detent actuated by said articles, an escapement wheel having downwardly projecting teeth one of which is engaged by each article counted thereby actuating said escapement wheel and a register operatively connected with said escapement wheel.

17. In a device of the class described the combination with a tray of means adapted to move articles to be counted singly to a discharge orifice, a detent in the path of said articles adapted to be actuated thereby, an escapement wheel adapted to be normally locked from movement by said detent and adapted to be actuated by the articles counted after the detent has been actuated, a registering mechanism connected with said escapement wheel and means retracting said detent whereby the register may be set back.

18. In a device of the class described the combination with a tray of means adapted to move articles to be counted singly to a dis-

charge opening a rotatable element in the path of the article to be counted, a detent normally locking said rotatable element from movement and adapted to be retracted by the article counted prior to actuation of said rotatable element, means forcing the detent to normal position, a register operated by said rotatable element and means adapted for actuation to release said detent to permit the rotatable element to rotate freely during the set back of the register.

19. In a device of the class described the combination with a tray of means moving articles to be counted to a point of discharge, a rotatable element, a reciprocating element, each actuated by the articles to be counted and one of said elements adapted to lock the other from movement after each count and prior to the next count and a registering device operated by one of said elements.

20. In a device of the class described the combination with a tray of means moving articles to be counted to a point of discharge, a reciprocating and a rotatable element actuated by contact with the articles counted and one adapted to lock the other from further movement after the passage of each article until the passage of the next article, a register connected with one of said elements to make the count and means releasing said locking element to permit the set back of the register.

21. In a device of the class described the combination with a tray of means adapted to move articles to be counted to a point of discharge, a rotatable element adapted to be actuated by the articles counted, a detent adapted to be actuated by the articles counted prior to actuation of the rotatable element, a shaft connected with the rotatable element, a dial adjacent said shaft and means carried by said shaft adapted to rotate said dial a fraction of a revolution for every revolution of said shaft.

22. In a device of the class described the combination with a receptacle of means adapted to move articles to be counted to a point of discharge, an escapement wheel adapted to be actuated a fraction of a revolution by each article to be counted, a shaft movable with the escapement wheel, a dial adjacent the same, means actuated by said shaft adapted to impart a fraction of a revolution to said dial for each revolution of the escapement wheel, said means adapted to be adjusted to permit rotation of the shaft without actuation of the dial, means locking the same in said adjustment and a register operatively connected with said shaft for continuous counting.

23. In a device of the class described the combination with a tray of means adapted to move articles to be counted to a point of discharge, an escapement wheel adapted to be actuated by the articles to be counted, a locking detent for said wheel actuated by said articles prior to the actuation of the escapement wheel, a shaft engaged to the escapement wheel, a dial journaled adjacent the shaft having notches therein marked for serial counting, and means moving said dial one notch when the number of articles corresponding to the series have been counted by the escapement wheel.

24. In a device of the class described the combination with a tray of means adapted to move articles to be counted to a point of discharge, an escapement wheel adapted to be actuated by the counted articles, a dial having peripheral notches marked successively with higher numerals corresponding to the number of articles passing said escapement wheel for one revolution, means adapted to advance said dial one notch for each revolution of said escapement wheel and means automatically returning the dial to normal after the count.

25. In a device of the class described the combination with a tray of means moving articles to be counted to a discharge opening, an escapement wheel having teeth projecting in the path of the articles counted and adapted to be actuated thereby, a shaft engaged to said escapement wheel, a dial journaled adjacent the shaft having notches therein numbered successively and increasing by the number of teeth on said escapement wheel, a lock adapted to engage any notch to be set for a predetermined count, means advancing said dial one notch for each revolution of the escapement wheel and automatically locked from movement after the count is made and means automatically returning the lock and dial to normal prior to another count.

26. In a device of the class described the combination with a tray of rotatable means delivering articles to be counted to a point of discharge, a wheel provided with teeth projecting into the path of the articles counted and adapted to be advanced one tooth for each article, a dial having notches each numbered and the number of each successive notch increasing by the number of teeth on said wheel, a spring controlled arm adapted at one end to engage any notch for any desired count, depressible means adapted to advance the dial one notch for each revolution of the wheel, said dial adapted to stop further counting upon the completion of the count for which set.

27. In a device of the class described the combination with a tray of rotatable means delivering articles to be counted to a point of discharge, a wheel provided with teeth projecting into the path of the article counted and adapted to be advanced one tooth for each article, a dial having notches each numbered and the number of each successive notch increasing by the number of teeth on said wheel, an arm adapted at one end to en-

gage on any notch for any desired count, means adapted to advance said dial one notch for each revolution of the wheel, means adapted to stop said dial upon the completion of the count, and means adapted to automatically return said dial to normal.

28. The combination with means adapted to move articles singly past a given point, of a wheel having teeth adapted to be successively engaged by the articles counted, means adapted to lock said wheel from movement and retracted by the articles to be counted, a shaft rotatable with the wheel, a dial adjacent the shaft having a notched periphery and the successive notches marked by a higher numeral than its predecessor equal to the number of teeth on said wheel, a gear movable with the dial, means adapted to engage in any notch for a predetermined count, means on said shaft adapted to actuate the gear and dial one notch for each rotation of said shaft and to stop the movement of said shaft when the predetermined count as indicated on the dial is complete.

29. In a device of the class described the combination with a tray and means adapted to move articles to be counted to an opening of a shaft journaled adjacent the tray, means actuated by the passage of the articles counted adapted to actuate the shaft, a dial marked to represent different counts, an arm adapted to engage the dial, at any of said marks, means adapted to advance said arm a distance equal to the spaces between marks for a complete revolution of the shaft and adapted to stop further movement of said arm after the completion of the count said advancing means adapted to be depressed and means for returning said dial to normal when said means are depressed.

30. In a device of the class described the combination with a tray of means adapted to move articles to be counted to a discharge aperture, an escapement, a shaft rotated thereby, a finger longitudinally movable on said shaft, a flange having a notch therein adjacent the finger and movable therewith, a dial, gears rigidly engaged thereto, one adapted to bear against the said flange and acting as a brake for said dial and one positioned in the path of said finger and actuated thereby, means adapted to engage the dial to represent a desired count and adapted to contact the finger at the end of the count to prevent further actuation of the escapement.

31. In a device of the class described the combination with a tray of means adapted to move articles to be counted to a discharge aperture, an escapement wheel adapted to be actuated by the articles in counting, a shaft rotated by said escapement, a finger longitudinally movable on said shaft, a flange having a notch therein adjacent the finger and movable therewith, a dial, gears rigidly engaged thereto, one adapted to bear against the flange and acting as a brake for said dial and one positioned in the path of said finger and actuated thereby, means adapted to engage the dial to represent a desired count, means adapted when actuated to move said finger and flange out of alinement with said gears and means automatically returning the dial to normal.

32. In a device of the class described the combination with a receptacle having a discharge aperture therein, of means moving articles to said discharge aperture, a rotatable element actuated by the articles prior to exit through said discharge aperture, a finger rotatable with said element, a dial adjacent the same, marked for serial counting, an arm adapted to engage said dial at one of the marked places for any desired count, means actuated by the finger to impart a fraction of a revolution to the dial for a complete revolution of said finger, a brake locking said dial from movement except when actuated by the finger, said finger locked by said arm at the end of the count to prevent further actuation of the rotatable element.

33. In a device of the class described the combination with a receptacle having a discharge aperture, means moving articles to said discharge aperture, resilient means preventing more than a single coin at a time passing therebeneath to said discharge aperture, a shaft secured to said movable means, a dial journaled adjacent said shaft numbered for serial counting, means moving said dial to indicate the count, means coacting therewith to lock said dial at the end of a predetermined movement or count, means for releasing said coacting locks and means automatically setting the dial back to normal.

34. In a device of the class described the combination with a receptacle having a discharge aperture, a toothed wheel actuated by the articles to be counted, a shaft engaged thereto, a shaft approximately parallel therewith, coacting mechanisms on said shafts adapted to lock said toothed wheel from movement after a predetermined number of articles have been counted and the mechanism on one of said shafts adapted to be moved out of operative relation with the mechanism on the other shaft thereby permitting free and continuous operation of said toothed wheel and registering mechanism operated by rotation of the toothed wheel.

35. In a device of the class described the combination with a receptacle of means for successively moving articles to be counted to a point of discharge, parallel shafts secured adjacent the receptacle, one of which is rotated simultaneously as the articles counted are moved to the discharge aperture, mechanism on one of said shafts adapted to be set for any desired count, mechanism on the other shaft adapted to actuate the same and co-

acting therewith to lock the rotatable shaft from movement after making the count and means automatically returning said set mechanism to normal.

36. In a counting machine the combination with a receptacle having a discharge aperture of means moving articles to be counted to the same, a counting wheel actuated by each article counted, a shaft actuated thereby, a dial journaled adjacent the shaft, a gear movable with the dial, mechanism on the rotatable shaft adapted to engage said gear to actuate the dial a part of a revolution for each revolution of the rotatable shaft, said mechanism adapted to be moved out of operative relation with said gear whereby said counting wheel is continuously rotatable without actuating the dial, means securing said mechanism in both adjustments and a registering mechanism to receive the count.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JAY M. JOHNSON.

Witnesses:
C. W. HILL,
K. E. HANNAH.