

No. 751,246.

PATENTED FEB. 2, 1904.

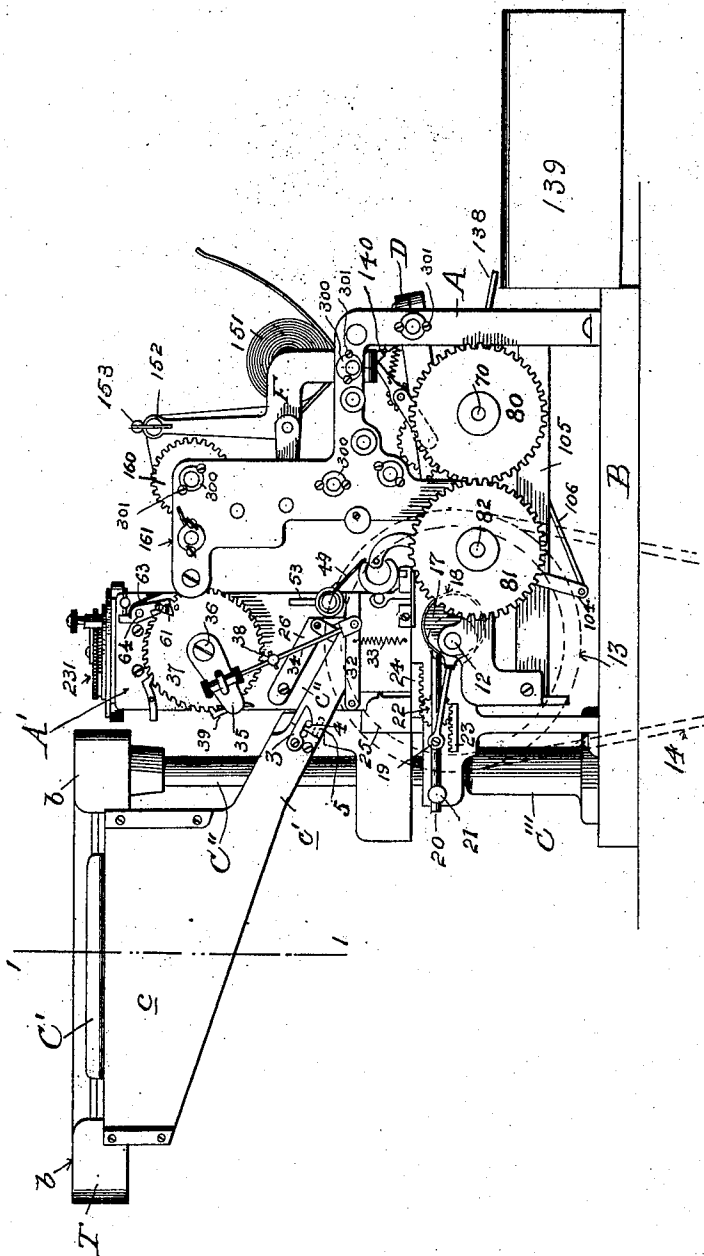
C. S. BATDORF.
COIN COUNTING, REGISTERING, AND WRAPPING MACHINE.

APPLICATION FILED MAR. 12, 1903.

NO MODEL.

8 SHEETS—SHEET 1.

Fig. 1.



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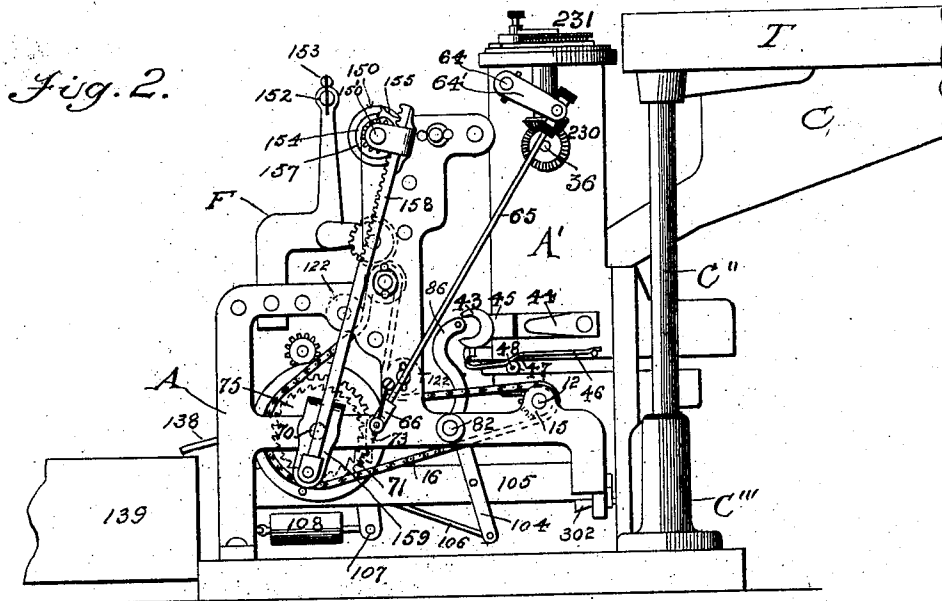
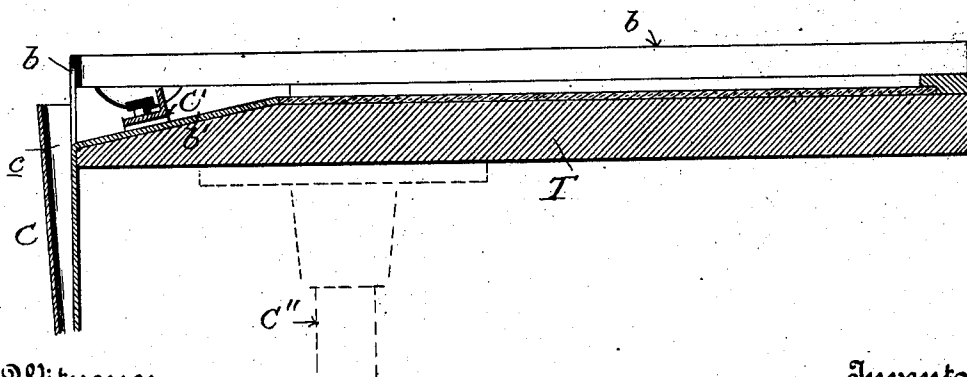


Fig. 4



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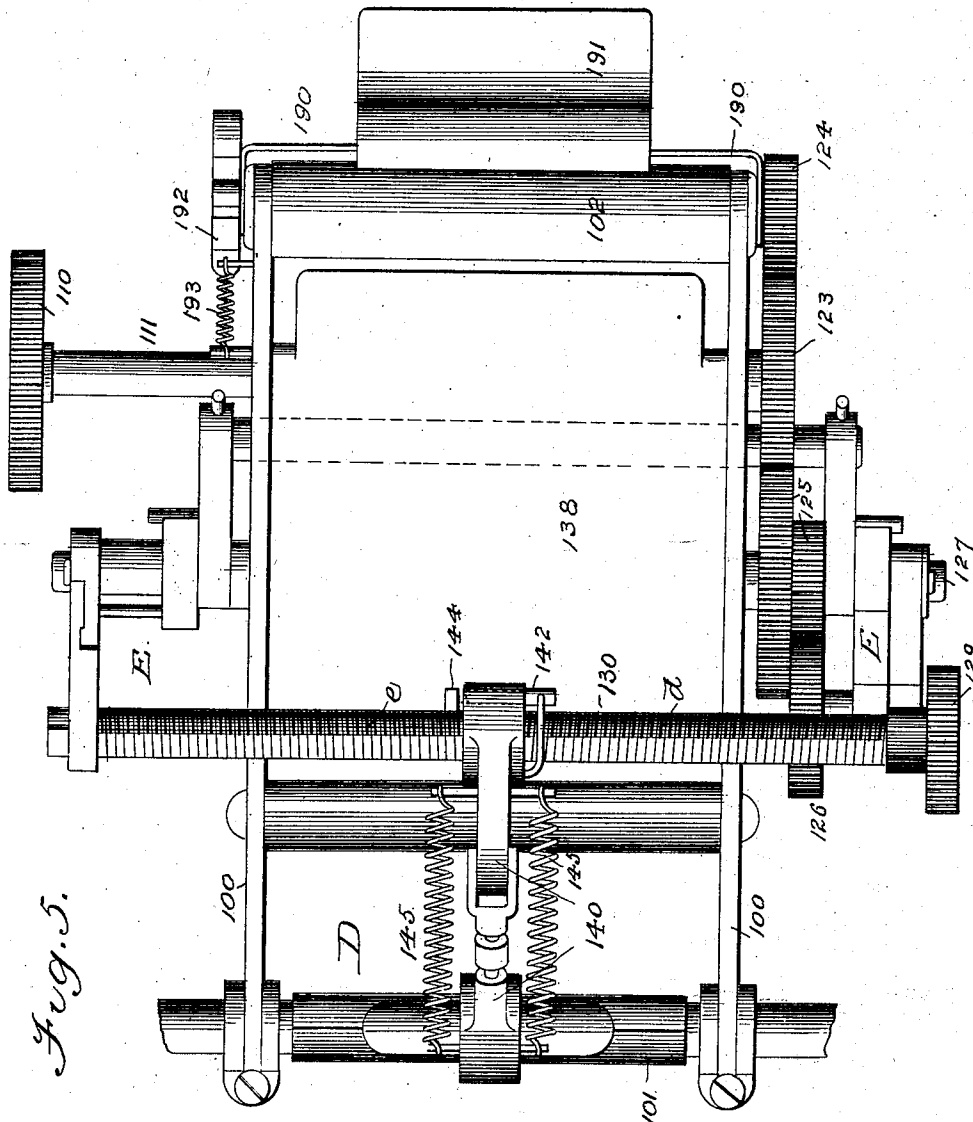
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8 SHEETS—SHEET 4.



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8 SHEETS—SHEET 5.

Fig. 6.

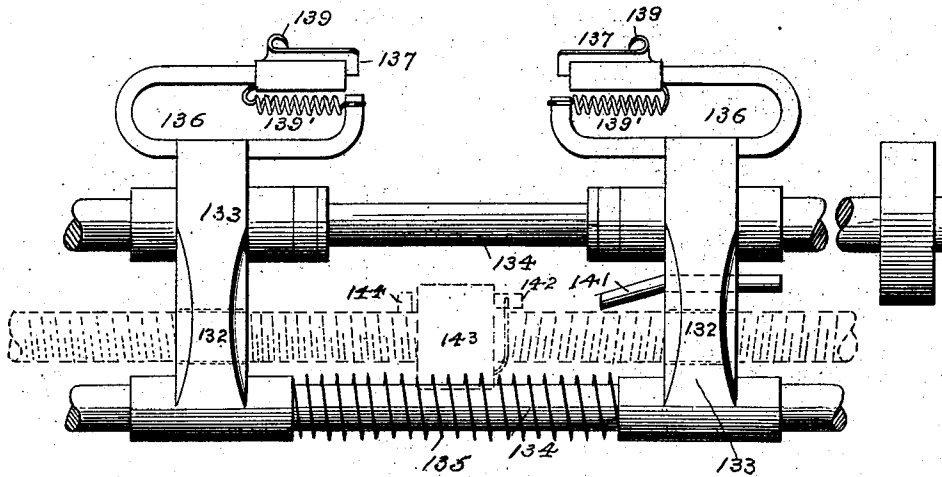
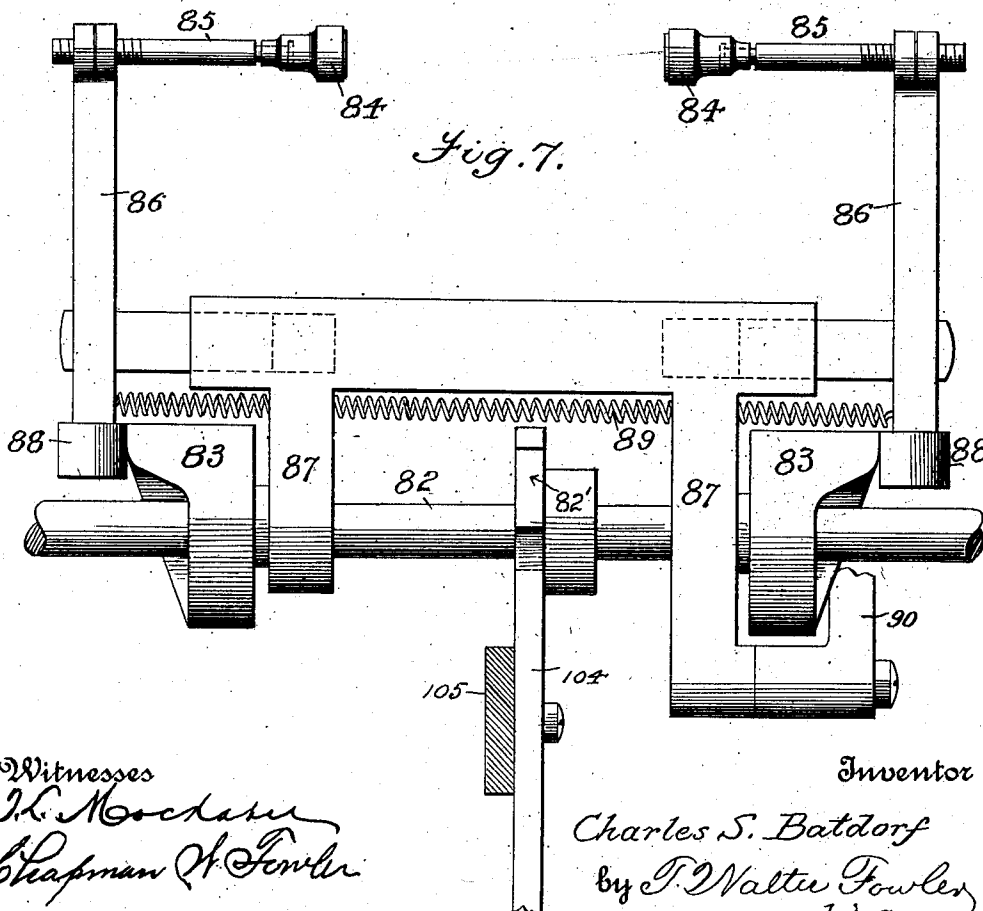


Fig. 7.



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8 SHEETS—SHEET 6.

Fig. 8.

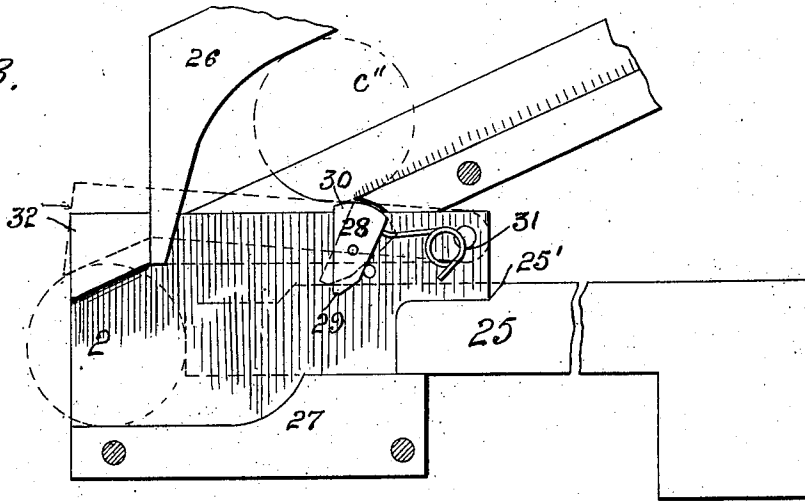


Fig. 9.

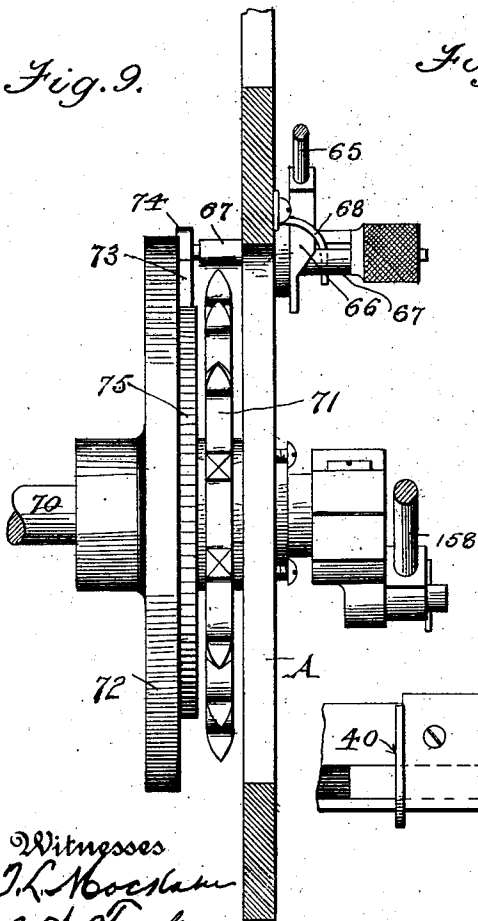


Fig. 10.

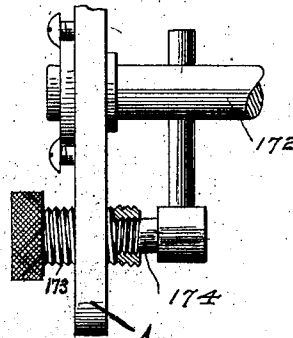


Fig. 11.

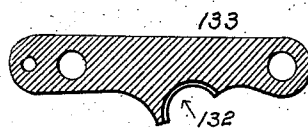
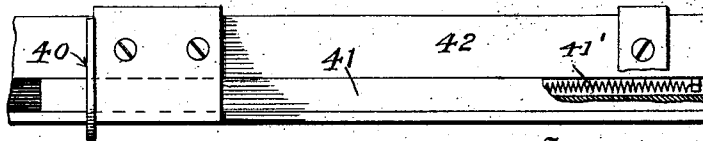


Fig. 12.



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Fig. 13

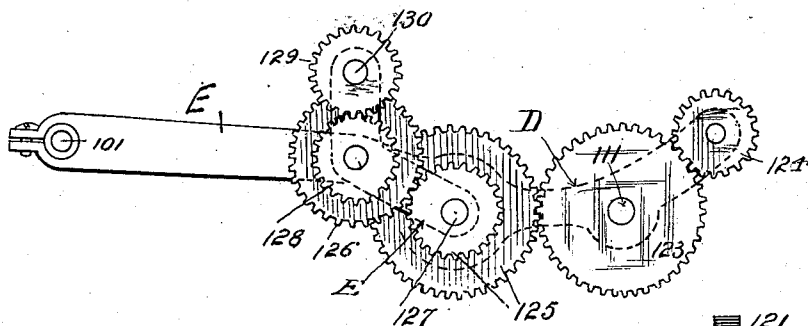


Fig. 14.

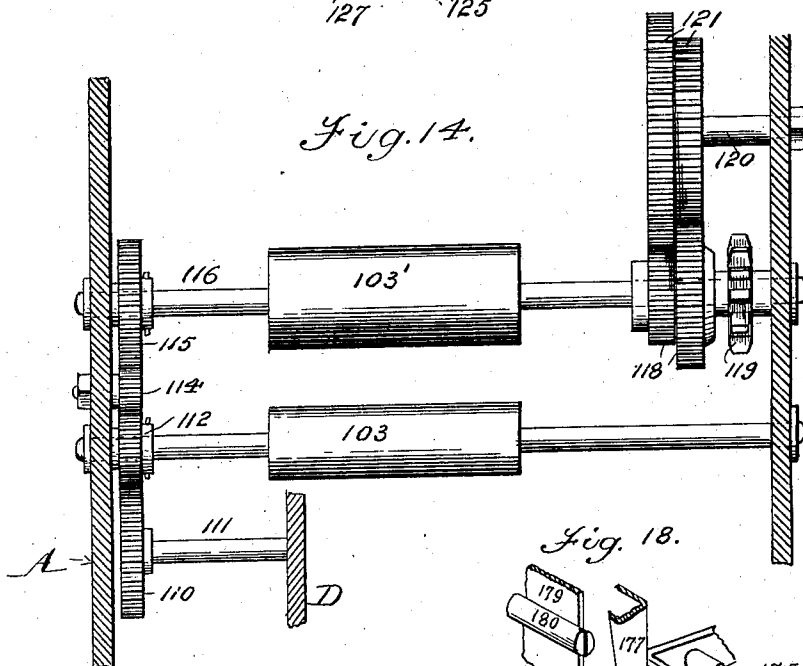


Fig. 18.

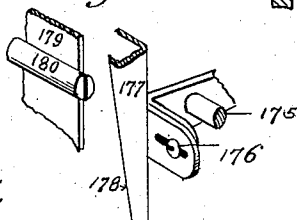


Fig. 19.

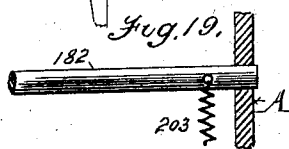


Fig. 15.

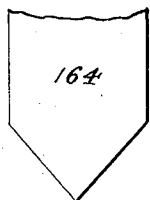


Fig. 16.

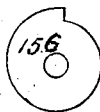


Fig. 17.



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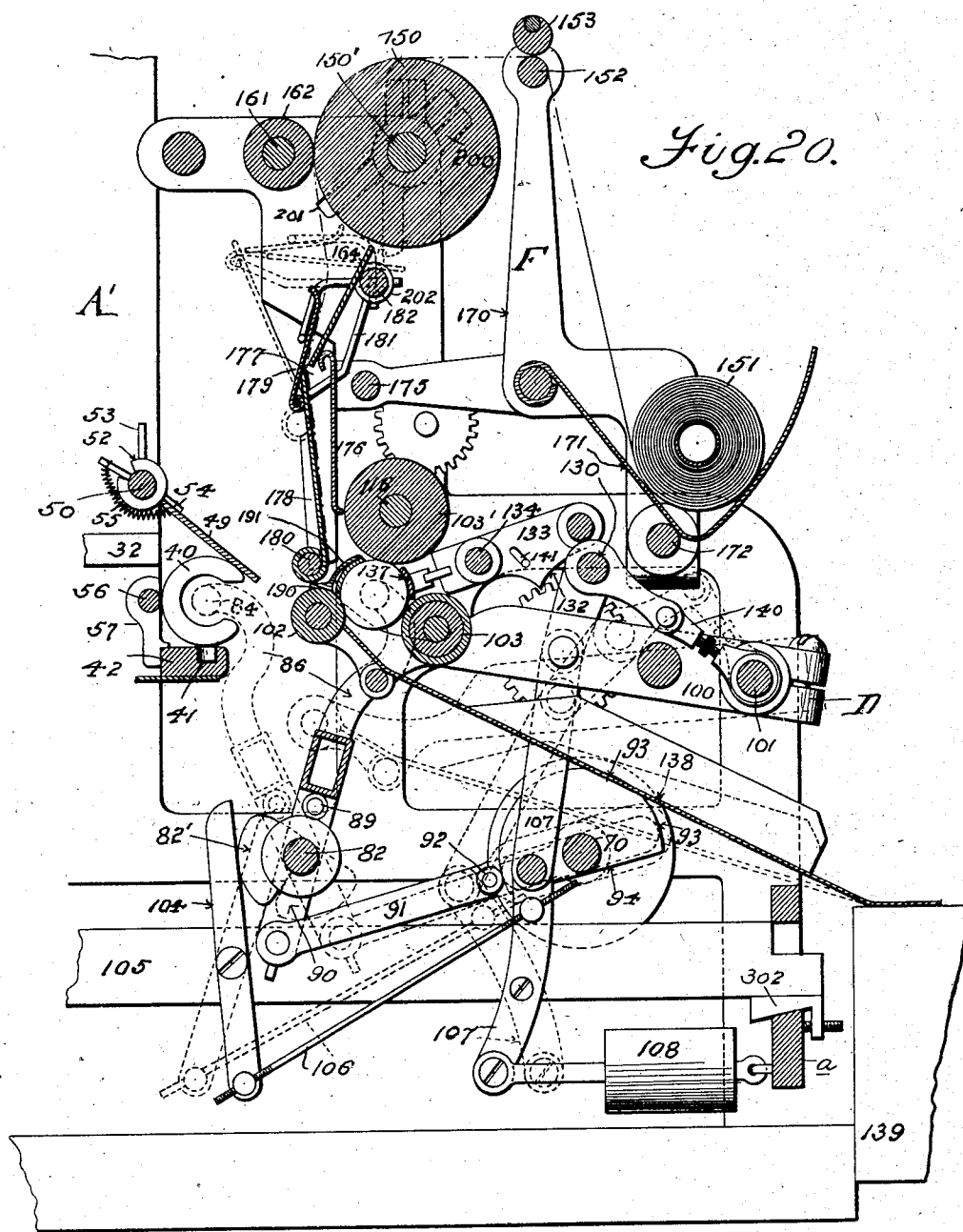
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NO MODEL.

8 SHEETS—SHEET 8.



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UNITED STATES PATENT OFFICE.

CHARLES S. BATDORF, OF BROOKLYN, NEW YORK.

COIN COUNTING, REGISTERING, AND WRAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 751,246, dated February 2, 1904.

Application filed March 12, 1903. Serial No. 147,459. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. BATDORF, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Coin Counting, Registering, and Wrapping Machines, of which the following is a specification.

Referring to the accompanying drawings, in which similar characters of reference indicate corresponding parts throughout the several views, Figure 1 is a side elevation of a coin counting, registering, and wrapping machine embodying my invention. Fig. 2 is a similar view looking toward the opposite side of the machine. Fig. 3 is an enlarged vertical sectional view taken through the center of the machine and showing a part of the table broken away. Fig. 4 is an enlarged cross-sectional view of the table on the line 1 1 of Fig. 1. Fig. 5 is an enlarged top plan view of the swinging frames D and E and their adjuncts. Fig. 6 is an enlarged plan view of the crimping devices, showing the feed-screw in dotted lines. Fig. 7 is an enlarged front elevation of the gripping mechanism. Fig. 8 is an enlarged detail showing a portion of the coin-conductor and its escapement and the push-bar. Fig. 9 is an enlarged plan view showing the means for throwing the wrapping mechanism into operation. Fig. 10 is an enlarged detail showing the means for adjusting the paper-carriage laterally. Fig. 11 is a sectional view of one of the arms 133, showing one of the open nuts. Fig. 12 is a detail showing in plan the slide-bar 41 with its jaw and returning-spring. Fig. 13 is a side elevation showing the swinging frames D and E and the gearing on one side thereof. Fig. 14 is a plan view showing the rolls 103 103' with their connected gearing. Fig. 15 is a detail showing a portion of the V-shaped blade or cutter. Fig. 16 represents the one-toothed ratchet 154, Fig. 17 showing the hook end of the arm 192. Fig. 18 represents portions of the paper-guide. Fig. 19 shows the spring for rocking the shaft 182. Fig. 20 is an enlarged sectional view of the right-hand portion of Fig. 3, showing the bunch of coins transferred to the wrapping devices.

My invention relates to certain new and useful improvements in a machine adapted particularly for automatically counting and registering coins and applying a wrapper to an assembled bunch of coins where the wrapping of the coins into convenient packages is desired.

The present invention is an improvement on my former patent, No. 691,435, dated January 21, 1902; and the invention consists of the parts and the constructions, arrangements, and combinations of parts, which I will hereinafter describe and claim.

The essential object of my invention is to provide a simple compact machine which will readily handle the accumulation of coins received from the now extensively-used slot-machines or coin-actuated machines, which vend articles or give information or some other return upon the deposit of a coin of predetermined size or value into the machine.

The proper counting and handling of the large number of coins obtained from the source above indicated, as well as the accurate counting of coins paid into large department and other stores, banks, &c., is a heavy task and necessitates the employment of clerks or others for the purpose, and such persons, unless specially skilled in counting, often find it difficult to continue the counting for any great length of time without great fatigue, while errors are likely to arise because of a miscount.

To meet the conditions above noted and to facilitate the easy and accurate handling of coins and to register the total number of coins and wrap the coins into packages convenient for commercial use, I have devised the present invention, which performs the entire labor automatically and in a very efficient and practical manner.

In carrying out my invention I employ a framework of any desired dimension, material, and design and including two sides or standards A and appropriate cross-bars a and a central vertical standard A'. This frame is mounted rigidly upon an appropriate base or table B, which may be supported upon legs or standards to appropriately elevate the machine above the floor of the store, apartment,

or counting-house, or other place in which the machine is located.

Within the main frame is suitably mounted a main shaft 12, carrying a pulley 13, to which power is applied either by a crank or handle for a hand-machine or through the medium of a belt 14, running from any well-known and desired form of motor. On the opposite end of this shaft is fixed a sprocket-wheel 15, over which passes a sprocket-chain 16, which communicates the motion of the main shaft to the wrapping mechanism, as I will hereinafter describe.

Near the center the main shaft has fixed to it a cam 17, around which is a strap 18, having a rod connected with a stud 19, projecting from a horizontal sliding rod 20, working in guides 21 and having a pinion 22 loose on the pin 22' and engaging upper and lower racks 23 24, one of which, 23, is fixed, while the other, 24, is attached to a reciprocating push-bar 25, the forward end of which works in the coin-passage 2 and is designed to engage and separately advance the coins passing into the machine from the coin-conductor.

The coins are placed upon a table T, having a surrounding rim *b* to retain the coins thereon, and said table has an inclined portion *b'*, over which the coins pass to the coin chute or conductor C and thence to the coin-passage 2, and to prevent the admission into the chute or conductor of a bent coin, the presence of which in the wrapped bunch would destroy to some extent the symmetry and compactness of the bunch, I prefer to have the coins pass under a guide-bar C', fixed to the inclined portion of the table, with its under surface removed therefrom a distance about equal to the thickness of a true coin, whereby only true coins will pass beneath this bar and the operator is able to instantly detect and discard a bent or irregular coin. This distributing-table is of great convenience in the handling of the coins, for the coins lie flat thereon and the operator is enabled to inspect and feel each coin as the same is slid over the glass or other hard surface of the table and under the space-bar to the hopper leading to the coin-conductor C. Because of this possible manipulation of the coins separately, following closely the hand movement usually adopted by banks and depositories of money for counting coins, the facility for detecting mutilated, bent, and counterfeit coins is greatly enhanced, as both the senses of sight and touch are brought into play by the skilled operator, and the danger of mutilated and counterfeit coins being assembled with good coins in a bunch is reduced to a minimum.

The table T is conveniently located at the front of the machine and so positioned that an operator seated alongside of the table is enabled to expeditiously direct the coins into the coin-conductor and separate all damaged, plugged, counterfeit, or bent coins. When

counting and wrapping new coins, the coins may be dropped directly into the coin-conductor; but when used coins are to be handled they are passed under the space-bar or detector C' to prevent crooked or bent coins reaching the conductor. The table has a vertical stem C'', which fits a socket or stand C''' on the bed or base of the machine, and a clamping-screw C⁴ is used to secure the stem of the table against rotation when the table is in use. When the table is not in use, the clamp is released and the table is turned about the bearing in the stand, so that it lies over the machine as a cover and protection therefor, and a cloth cover may then be put over the table and machine to cover all the parts and protect them from dust. The inclined side of the table communicates with the upper end of a hopper *c*, having an inclined bottom and a chute extension *c'*, which in turn communicates with a runway *c''* for the coins. This whole arrangement constitutes what I herein term a "coin-conductor." As I prefer for some purposes to detach the hopper from the runway, as when the machine is not in operation and the table is turned so as to lie vertically over the machine as a protection therefor and to enable a cover to be placed over the table and machine, I have shown a separable connection between the discharge end of the hopper *c* and the adjacent end of the coin-runway *c''*, said connection being herein shown as consisting of a latch or hook member 3 on the discharge end of the hopper and adapted to engage a catch or stud 4 on the runway, and pins 5 on one of said parts engaging sockets in the opposing part to form a rigid connection when the parts are assembled, as in Fig. 1.

The coin-runway is inclined and is fixed on central portion A' of the main frame in such relation that it communicates directly with the discharge from the hopper, said runway consisting of a plate 26, forming the top wall of the runway and having its lower end curved downwardly to direct the coins vertically in position in the path of the reciprocating push-bar 25, and to properly direct the coins in a forward horizontal direction I locate in the path of the coins as they drop vertically into the path of the push-bar a plate 27, having its upper surface curved downwardly and forwardly, so that when the coin is engaged by the front end of the push-bar it will be advanced to the mechanism which assembles the coins in proper bunches for wrapping.

The push-bar has a recessed portion to admit the before-described piece 27 and has a portion upon which the coins are received as they travel from the runway to the point where they are to be advanced horizontally to the assembling devices.

In the discharge end of the coin-conductor I locate an escapement, which I actuate by the push-bar 25 to allow each coin to escape sep-

arately and to be separately advanced by the push-bar to the bunching devices. This escapement may be of various kinds, and one well adapted for my purpose consists of a pivoted dog 28, having a toe portion 29, which projects into the path of the push-bar, so as to be struck by the latter and rocked about its pivotal axis, and thus cause a heel-piece 30 on the dog, and which normally projects into the coin-conductor, to serve as a stop or abutment against which the lowest coin—that is, the coin next above the push-bar—strikes, whereby said coin and those succeeding it in the conductor are held back while the push-bar is advancing the coin which has escaped from the conductor and has been carried to the bunching mechanism; but just before the push-bar has completed its forward reciprocation the shoulder portion 25' of said bar strikes the toe-piece of the dog and the dog yields under the pressure of a suitable spring 31, and the heel-piece is thus moved substantially out of the plane of the coins, and the upper edge of the dog now practically becomes a continuation of the floor or bottom of the coin-conductor, and the lowest coin rolls over this surface and drops upon the upper edge of the push-bar and remains supported thereon between the said toe-piece of the dog and the curved wall formed by the lower curved end of the plate 26 of the runway until the push-bar is drawn back by the cam and slide mechanism before described on the reverse reciprocation far enough to allow the coin to drop over the shoulder 25 and onto the top surface of the reduced end of push-bar, and just about the time this occurs the shoulder 25' escapes past the toe-piece 29 of the dog, and the said dog being now without resistance its spring exerts its influence to project the heel of the dog into the path of the next succeeding coin, and the toe-piece is returned to normal position in the path of the shoulder of the push-bar, to be actuated thereby on the next forward reciprocation. Thus on every forward reciprocation a coin, separated from all the others, is advanced out of the discharge end of the coin-conductor and is delivered to the bunching devices, and the escapement or dog 28 is at the same time actuated to release the next succeeding coin and deliver it in a loose condition, so that it may be supported by the push-bar. As said coin is released the coins above it in the runway all move down a distance, and this new position is such that the heel of the escapement is essentially in line with the space between the displaced coin and the one next above it. Now as the push-bar recedes the displaced coin drops over the front end of the now retreating push-bar and lies in the horizontal plane of the bar and in line with the channel 2, through which the coin is to be ejected, and the now free dog projects

its wheel into the path of the next succeeding coin and temporarily arrests its progress. 65

As the coins separately pass from the runway to the bunching devices they contact with the free end of a bar 32, pivotally mounted at one end and having a spring 33 connecting with an intermediate portion and adapted to hold the free end of the bar down in the path of said coins, and as each passing coin strikes this end the bar is lifted about its axis and against the pressure of its holding-spring. 75 This bar 32 has connected with it a rod 34, which is connected with an arm 35 on a shaft 36, carrying a ratchet-wheel 37, said rod having an escapement in the form of a pin 38 to engage the spaces between the ratchet-teeth 80 when the rod is lifted.

A spring-actuated pawl 39 on the arm 35 is adapted to engage the teeth of the ratchet-wheel and advance the wheel a distance of one tooth each time a coin passes beneath the free end of the bar. The spring 33 and weight of the parts return the bar 32 to normal position after the passage of the coin from beneath the front end of the pivotal bar. 85

The shaft of the toothed wheel 37 extends through the frame-standard A', and by means of bevel-pinions 230 a suitable total-adder 231 or register of any suitable character may be actuated to disclose the total value of coins passed through the machine and the total number of wrapped packages. 95

Just in front of and in line with the channel through which the coin is ejected by the push-bar is arranged a pair of jaws, forming a coin-holder and adapted to separate progressively as the coins are forced between them, and one of said jaws 40 is adapted to be advanced intermittently in a horizontal lateral plane as the bunch of coins increases in size by successive additions thereto. The jaw 40, which I will term the "movable" jaw, is fixed at one end of a horizontal bar 41, which has a guided sliding movement in a grooved bracket or bar 32, forming a part of the machine-frame structure. The other or fixed jaw 43 consists of a plate of spring metal or a plate backed by a leaf-spring 44, designed to secure a certain resiliency to this jaw and to store in it sufficient power for advancing the bunched coins laterally in the holder formed by the jaws and the slide-bar, which forms substantially the bottom support for the bunch of coins. Both jaws are preferably of substantially segmental form with open centers to expose the central portion of the end coins of the bunch and primarily to admit the grippers, which seize the bunch of coins at the proper period in the cycle of operation and transfer the same to the mechanism by which the wrapper is put upon the assembled bunch. 115 120 125

The fixed jaw 43 is shown in Fig. 2 as having a shank extending rearward and fixed to a stationary part of the frame, and bearing

upon this shank is the leaf-spring before noted. This jaw is offset at 45 to form a shoulder which stands in line with the channel through which the coins are ejected by the push-bar, and when the coin is ejected it strikes this shoulder and at the same time bears flatwise against the movable jaw 40, and as the push-bar completes its forward reciprocation it drives the coin between the rear ends of the slightly-separated jaws, the spring-jaw 43 yielding laterally against the resistance of its closing-spring power and permitting the coin to be seated and gripped between the jaws.

On one side of the vertical central stand-ard A' of the frame is fixed a plate or bar 46—say of spring metal—having an inclined portion 47, and on the push-bar is a roller 48, which rides under the inclined portion of the plate 46 and forces its free end into close frictional contact with the sliding bar 41.

It will thus be seen that as the coins are separately ejected by the reciprocating push-bar they are entered between the jaws of the holder and that in this operation the jaw 43 yields under the influence of the coin being introduced between it and its companion, as during this seating of the coin the lateral slide-bar 41, which forms the bottom support for the coins, is held against movement by the friction of the spring-plate 46 against it, due to the pressure exerted by the roller 48, bearing under the inclined portion of the plate. As the reciprocating push-bar recedes after seating a coin in the holder the pressure-roller 48 is removed from under the plate, and the slide-bar 41 is released from its locked position, and the power stored in the spring-shank of the jaw 43 is now set free and closes this jaw to normal position, but to regain which position it must first move the coin laterally a distance about equal to the distance the jaw 43 was expanded by the first introduction of the coin. In other words, the distance the spring-jaw moves in opening and closing is equal to the thickness of the single coin inserted, and thus as the jaw closes or resumes its normal position in line with the passage through which the coin is ejected by the push-bar 25 the inserted coin is moved sidewise in the holder to provide space alongside it for the next succeeding coin inserted. This operation occurs each time a coin is positioned in the holder, and the laterally-sliding bar, which forms the bottom support for the bunch of coins, is thus alternately locked and released at the right period of time to insure the successive step-by-step side movement of the coins until the desired number of coins are assembled, when the grippers act to remove the bunch through the open front of the jaws and transfer the bunch to the wrapping mechanism for performing the next operation.

The transversely-sliding bar 41, which forms the bottom support for the lower edges

of the coins in the holder, is connected with a spring 41' of sufficient strength to return the bar and its jaw to normal position, when the bunch is removed from the holder by the grippers, and a spring-pressed plate 49 bears upon the forward upper edges of the assembled coins and serves to retain the coins in an upright position in line and to prevent their being thrust too far. This plate rocks upon a horizontal rod 50 and is removably secured by hooking over the rod 50, and said rod has mounted upon it a loose collar 52, with a stem or handle portion 53 and a projecting stud or pin 54, which bears against the plate, said pin connected with one end of a spring 55, whose opposite end is connected to some fixed point. The tendency of the spring is to hold the plate down upon the coins with sufficient pressure to maintain the position of the coins and the continuity of the bunch, but is sufficiently weak to offer no great resistance to the removal of the bunch of coins by the grippers and the transfer devices. By making the plate removable access is readily had to the bunch whenever it is desired to remove the coins already assembled in the holder or when the machine is employed for counting alone and when it is not desired to wrap the coins in packages, or when the wrapping mechanism is thrown out of action. A transverse rod 56, parallel with and below the rod upon which the plate is hung and supported in bearings 57, rising from the bar or support, forms a rear support for the coins. When the desired number—say, twenty in a machine for wrapping half-dollars or fifty for wrapping pennies—has been assembled, as before described, the bunch will be ready for wrapping if such wrapping is desired, and the grippers operate to seize the bunch and transfer it to the wrapping mechanism, and the latter mechanism which up to this period is inoperative is automatically set in operation by the deposit of the last coin of the bunch, causing the registering devices to trip and set in motion the wrapping devices, as I will now describe. Referring particularly to Fig. 3, it will be seen that the toothed wheel of the register has a lug 60, which when the wheel has been advanced a number of teeth equal to the coins in the desired bunch strikes a toe-piece 61 on the lower end of a dog 62, pivotally mounted on the frame, and presses the dog to one side against the pressure of a returning-spring 63. The dog is fixed upon a shaft 64, which works in a long bearing extending transversely from the opposite side of the frame, and said shaft carries an arm 64', (see Fig. 2,) whereby when the shaft is rocked by the lug striking the dog said arm is also rocked. This contact of the lug with the dog occurs when the desired number—say, twenty half-dollars—of coins has been assembled in the holder, and it is substantially at this period of the operation—namely, at the end of a final movement of the register-wheel between the

starting and stopping of the counting of the twentieth coin—that the arm 64' is rocked. This arm is connected with a rod or connection 65, which is thus moved lengthwise said rod, carrying at its lower end a wedge-shaped member 66, which engages and rides past a corresponding wedge on a sliding pin 67, mounted in bearings in the frame of the machine and connected with a spring 68, which tends to normally hold the pin inward; but as the wedge member 66 of the rod is forced downward by the oscillation of the arm 64' the pin is forced outward, and as soon as the lug 60 on the toothed register-wheel escapes the dog 62 the spring rocks the dog and its shaft and the arm 64' on the opposite side and withdraws the wedge 66 and allows the spring 68 to again retract the pin to its normal position.

Mounted in a lower front portion of the frame is a shaft 70, on which is a loose sprocket-wheel 71, around which passes the aforesaid sprocket-chain 16, this wheel and chain being continuously in operation, and on this same shaft 70 is made fast a disk 72, provided with a spring-pawl 73, whose toe-piece is normally out of engagement with the teeth of a ratchet-wheel 75, also fixed to the sprocket-wheel and continuously rotating therewith, said pawl having a heel-piece 74, which is engaged by the inner end of the sliding pin 57 to hold the toe-piece out of engagement with the ratchet-wheel 75 when said pin is in normal position; but when the pin 67 is withdrawn by the mechanism before described its inner end is released from the heel of the pawl and the spring of the pawl projects the toe of said pawl into engagement with the ratchet-wheel, thus locking the disk to the loose constantly-operating ratchet and now connecting the disk and its shaft with the constantly - operating sprocket-wheel and power connections. The operations of the parts are so timed that as soon as the disk 72 is locked to the constantly-operating ratchet-wheel the pin 67 is released by the withdrawal of the wedge 66, and the inner end of the pin is thus returned to normal position and lies in the path of the heel of the pawl 73, so that when said heel strikes the pin, which occurs just when the disk has made a complete revolution, the pawl is rocked and its toe is lifted from engagement with the ratchet-wheel and the said disk and its shaft are automatically disconnected with the constantly-rotating parts. It is during the time the disk is locked to the ratchet-wheel 75 that the wrapping mechanism is actuated and the paper-feeding devices supply the paper for a succeeding bunch of coins, and it is when the disk ceases its rotation and is unlocked from the constantly-rotating parts that the wrapping mechanism becomes again inactive.

On the end of the normally idle shaft 70, to which the disk 72 is fixed, is a gear-wheel 80,

which meshes with a similar gear-wheel 81 on a shaft 82, parallel with the first-named shaft, said shaft having fixed to it suitable cams 83 for allowing the grippers to close to transfer the bunch of coins to the wrapping mechanism. The grippers herein shown consist of two oppositely-facing heads 84, carried on the inner ends of stems or rods 85, whose outer ends are fixed securely in the ends of vertical arms 86, having horizontal shanks 86', Fig. 7, slidably mounted in sockets in a yoke or frame 87, which in turn is pivotally mounted on the shaft 82, and the lower ends of the lever-arms are provided with antifriction-rollers 88, which travel in contact with the faces of the cams 83 to normally separate or spread the gripper-heads, whereby as the cams rotate when the wrapping devices are set in operation they enable the arms 86 to move inward and the gripper-heads to engage and press upon the end coins of the bunch, the pressure upon the bunch being occasioned by the spring 89 and the return of the grippers being effected by the rollers riding along the inclining portions of the cams.

The heads 84 of the gripper may be faced with some frictional substance, as soft metal, cork, &c., and are loose or swiveled upon the ends of the rods 85, so that when said heads are gripping the bunch of coins and the bunch is under rotation during the period of applying the wrapper the gripping-heads rotate in unison with the bunch of coins and no abrasion of the coins results. It will be seen, therefore, that when the wrapping mechanism is thrown in operation by the registering of the final coin of the bunch, as before described, the gear-wheels 80 81 are also set in motion and the shaft 82 is rotated, carrying with it the cams 83 and allowing the gripper-heads to take the bunch. The coin-carrier frame or yoke also has an arm 90, to which is connected an arm 91, having a slot through which extends the shaft 70, through which the continuously-operating sprocket transfers its motion to the wrapping mechanism, said arm carrying a loose roller 92, which is engaged by a cam 93 on said shaft and having one face 94, which engages the rollers to cause the arm to be moved lengthwise in a forward direction, which movement rocks the coin-conveyer or transfer-frame about the shaft 82 and advances the bunch of coins or package held by the gripping-heads to the wrapping devices, said arm 91 being returned to normal position when the cam has made a single revolution and the declining portion of the cam-face 94 meets the roller, when a spring 95, connected with the arm, draws the latter back and rocks the conveyer-frame back to its normal position ready to receive the coins for a new bunch.

The bunch of coins is transferred by the conveyer into the front end of a vertically-swinging frame D, consisting of side arms 100 and suitable connecting-rods, said arms hav-

ing their rear ends fixed to a cross-shaft 101, whose ends are mounted in the sides of the main frame. The front or receiving ends of the arms have a roller 102, mounted between
 5 them, and between this roller and rollers 103 103', mounted in the main frame, the coin-conveyer deposits the bunch of coins.

The vertically-swinging frame is lifted from a depressed or lowered position to an elevated
 10 operative position by means of a cam 82' on the shaft 82 engaging one end of a lever 104, pivoted on a bar 105, which extends lengthwise of the lower portion of the machine and has its ends mounted in the lower cross-bars
 15 of the main frame, said lever having its opposite end connected to a rod 106, which extends to a lever 107, also pivoted on said bar, and having one end connected to the swinging frame D and its opposite end connected with
 20 the piston of an air-cushion 108 for relieving the shock and deadening the noise due to the dropping of the swinging frame from its elevated to its normal lowered position. When the swinging frame D has been elevated by
 25 the mechanism just described, a gear-wheel 110, which is mounted on a shaft 111, which extends across the front of the swinging frame, is brought into mesh with a pinion 112, Fig. 14, on the axis of the roller 103, which pinion engages
 30 an idle pinion 114, that meshes with a gear-wheel 115 on the shaft 116, which carries at its central portion the roller 103'. On the opposite end of the shaft of the roller 103' is secured a double gear 118 of two diameters and
 35 a sprocket-pinion 119, over which the driving-chain passes, and on a stub-shaft 120, projecting from the frame just above the aforesaid double gear, is a second double gear 121, which is in mesh with the first-named double gear
 40 118. The sprocket-chain passes over suitable direction-pulleys 122, as shown, Fig. 2. The shaft 111 also carries at its opposite end a gear-wheel 123, Fig. 13, which meshes with a gear 124 on the shaft of the roller 102, and through
 45 a train of gears 125 motion is communicated to a gear-wheel 126, which is carried in a horizontally - swinging frame E, which frame swings about the stub-shaft 127 as a center. On the axis of the gear-wheel 126 is a pinion
 50 128, which meshes with a gear-wheel 129 on the end of a horizontal screw-shaft 130, which extends transversely across the frame and is provided with right and left threaded portions, as shown at *d e*.

55 When the wrapping mechanism is thrown into operation, as before described, and the train of gears 125 is set in motion thereby, the said train of gears causes the gear-wheel 126 of the swinging frame to climb around the
 60 final member of said train of gears 125, and thus swing the horizontal screw-carrying frame E forward until it assumes the position shown in Fig. 13. In the path of the swinging movement of the screw-carrying frame are
 65 two segmental nuts 132, opening downward

and adapted to receive the screw, said nuts having right and left threads to engage with the threads of the screw when the latter is seated therein. The nuts are carried by arms 133, having bearings which slide on transverse
 70 rods 134, mounted in the sides of the main frame, and a spring 135, surrounding one of these rods between the inner sides of the arms 133, tends to normally separate the arms. At
 75 the forward ends of the arms 133 are slotted yokes 136, upon which are slidably mounted a pair of crimpers consisting of curved plates 137, having their outer ends folded inwardly to form crimping-surfaces 139 held by appropriate springs 139' engaging their shanks, 80 which slide on the yokes 136.

From this description it will be seen that when the swinging frame E has been advanced to engage the right-and-left screw with the segmental nuts the train of gears 125 and
 85 the gears 128 129 communicate motion to the screw, and the nuts, with their arms and crimpers, are advanced along the screw in approaching directions, and the said crimpers engage the edge of the rolled sheet and tuck in and
 90 progressively crimp said edge to form a finished rolled and crimped package of coins. Between the right-and-left screw and the shaft upon which the vertically-swinging frame D is
 95 mounted is a toggle connection 140, and when the frame is elevated to connect its driving-train with the power and the screw begins to climb over the final gear of train of gears 125 the said toggle connection is straightened out
 100 until the joint in the connection is slightly out of line with a line drawn centrally through the members of the toggle, and the screw is thus held in proper engagement with the segmental nuts, and this condition is maintained until a
 105 pin 141, carried by one of the slidable arms of the crimper-frame and which is moved laterally by the screw-and-nut action before described, strikes a pin 142, slidably mounted in the collar 143 of the member of the toggle, which is
 110 mounted upon the screw. This action of the advancing gripper-frame arm and pin 141 causes the latter to engage one end of the sliding pin 142 and push said pin laterally until its opposite end is projected into the path of a pin or
 115 stud 144, fixed in the screw, thus arresting the rotation of the screw and exerting such a pressure upon the toggle that the joint thereof is broken and the springs 145, which connect the members of the toggle, draw the screw out
 120 of engagement with the segmental nuts and cause the arms to swing about their axes on the stub-shafts, and thus return the screw to normal inoperative position. This action takes place after the crimping has been completed, and through connections before
 125 described the vertical swinging frame D is allowed to drop, swinging about the shaft 101, and the train of gears 125 is removed from the driving connections when the power and wrapping devices cease their rotating, and the roll 130

102 recedes from the rolls 103 and 103'. This releases the roll-package, which drops into the incline chute 138 and is delivered at the rear of the machine into a suitable receptacle, as at 139.

The mechanism for supplying paper for the wrapping of the bunch of coins may be of any well-known and approved type; but the one herein shown I have found by experiment to be well suited for the purpose. It includes a drum or roller 150, mounted upon a shaft 150' in the upper part of the frame and over which the paper from a roll 151 passes after first passing between a roll 152 and a tension device 153. On one end of the shaft of the roll 150 is fixed a disk 154, to the side of which a pawl 155 is pivoted, and lying against this disk is a one-tooth ratchet 156, Fig. 16, with the shoulder of which the point of the pawl engages. A pinion 157 is fixed to the loose ratchet 156, and this is engaged by a rack-bar 158, which extends therefrom to a crank-arm 159 on the normally idle shaft 70 in the lower part of the frame, and which is periodically set in motion by the registering devices, as before described, so that when the wrapping mechanism is set in motion the rack-bar 158 is moved upward, rotating the pinion 157 and ratchet 156 without imparting motion to the paper-feed roll; but on the downward movement of the rack-bar the pawl 155, by locking behind the shoulder of the ratchet 156, connects the latter with the disk, and the disk and feed-roll are now caused to make one revolution, which feeds a fresh supply of paper for a succeeding wrapper. On the opposite portion of the shaft is a gear-wheel 160, which meshes with a pinion on a shaft 161, carrying a tension-roll 162, between which and the roll 150 the strip of paper passes. The strip of paper 163, after passing between the rolls 150 and 162, passes over a V-shaped plate or cutter 164 and then passes through a paper-guide and its end hangs loose in the path of the bunch of coins and just in front of the rollers 102 103 103'.

The roll of paper and the paper-guide are carried by a paper-carriage F, consisting of vertical side standards 170, in the top of which the roller 152 and tension device 153 are mounted, said standards having arms 171 fixed to a sliding rod 172, which permits the carriage to be adjusted laterally, which movement is desirable to properly center and adjust the paper-supply relative to the bunch of coins to be wrapped, said adjustment being accomplished by means of an adjusting-screw 173, having internal threads engaging an externally-threaded pin 174, fixed to said sliding rod. At the opposite end the paper-carriage has other arms which slide upon a rod 175, and to these arms the back plate 176 of the paper-guide is secured by screws 176', Fig. 18, working in slots, so as to secure an independent adjustment, if desired. The back plate of

the paper-guide has forwardly-extending side wings 177, with inturned edges 178, forming a vertical guide for the front or movable member of the paper-guide and which member consists of a plate 179, having a cross-bar 180, Fig. 18, with grooved ends working in the aforesaid guides, and an open wire loop 181, extending from its top edge rearwardly and having its ends fixed in a rock-shaft 182. On the shaft 150' is fixed an arm 200, the lower end of which is formed with a toe normally resting upon a shoulder 201 on a collar 202, fixed to the rock-shaft 182, whose ends are mounted in the main frame. This latter shaft has fixed to it the cutter or blade 164, and a spring 203, Fig. 19, connected to the shaft, serves to rock it downwardly, carrying the blade with it and feeding the paper forward when the pinion and rack devices impart movement to the shaft of the paper-feed roll. This shaft makes one revolution, and as the arm moves around with the shaft its toe strikes the shoulder of the collar and rocks the shaft upward, returning the blade and movable parts of the paper-guide to normal substantially horizontal position. When the parts are lowered, as just described, the paper hangs from the roll in substantially a loose and vertical position and may be readily fed forward, and when the parts are elevated again the toe of the arm locks behind the shoulder of the collar and the paper-feed is inactive.

The front end of the vertically-swinging frame D has a yoke 190, extending in front of the roll 102 and provided with a curved plate 191, which serves to tuck the lower V-shaped edge of the sheet of paper around the bunch of coins when said bunch is carried by the grippers to the wrapping mechanism. The bunch of coins is deposited just beyond this curved plate and as the coin-carrying frame is transferring the bunch to the wrapping devices, causing the curved plate 191 to close over the bunch of coins and tuck the end of the paper in place for the wrapping action. An arm 192 on the yoke has substantially a hook-shaped end, and when it is pressed forward—say by contact with the shanks of the gripper-heads—this end lightly hooks under the shaft of the wrapping-roll 103 to assist in holding the plate in its position. As the wrapping operation begins a pressure is brought upon the paper strip and the point of the V-shaped cutter first punctures the paper, and as the pressure on the paper continues the inclined sides of the cutter sever the paper in diagonal lines to form the wrapper, which wrapper is substantially of the form shown, described, and claimed in my former patent, No. 717,964, dated January 6, 1903.

When the wrapping is completed, the dropping of the vertically-swinging frame breaks the connection between the hook end of the arm 192 with the roll 103, and the weight of the curved plate, assisted by a spring 193,

Fig. 5, returns the parts to normal position. The curved plate 191 is bent upon itself or otherwise formed with a spring member 191' of slightly smaller radius and adapted to yield-
 5 ingly engage the back of the bunch of coins and prevent the rearward action of the point of the paper.

The several shafts and cross-rods hereinbefore referred to are when desired mounted in
 10 eccentric bushings 300, which permit of accurate adjustment of the parts, and locking-screws 301 are employed to maintain said adjustment. Provision is also made for adjusting vertically the longitudinally-extending
 15 bar 105 and its adjuncts by mounting the ends of this bar in slots in the cross-bars of the main frame and employing sliding wedges 302 and adjusting-screws therefor.

The operation of the machine will be readily
 20 understood from the foregoing description. Briefly stated, and supposing the machine to be one designed for bunching and wrapping ten dollars of coins of the half-dollar denomination, the coins are successively fed into
 25 the coin-conductor and are separately released at the outlet of the coin-conductor by the escapement being successively tripped by the push-bar. Each time the push-bar advances a coin to position in the coin-holder
 30 the register is moved one point, and when the last coin—say the twentieth in the ten-dollar package—is registered the pin on the register-wheel strikes the toe of the dog 62 and rocks this dog and its shaft and causes the rod 65
 35 to force down the wedge 66 and withdraw the spring-pin 67 from the heel of the pawl 73, thus connecting the constantly-operating sprocket-wheel with the disk and starting in motion the wrapping mechanism. Just as
 40 this movement occurs the gripper-heads seize the package of assembled coins in the coin-holder, and the bunch is lifted out of the holder, allowing the jaws to return to normal position, and the bunch is deposited in the
 45 front of the vertically-swinging frame, which has been elevated to receive it, and against the loosely-hanging paper sheet, and the lower end of the paper sheet is tucked in on the bunch by the curved plate. The roll now
 50 wraps the paper about the bunch of coins, the strip of paper for the wrapper is severed, the wrapping is completed, the ends of the rolled package are crimped, a fresh supply of paper for a succeeding wrapper is fed into
 55 position, the grippers and crimpers release the rolled package, the swinging frame drops to normal position, the wrapping mechanism is thrown out of action by the disk completing its single revolution, the grippers return
 60 to normal position, and the finished package is delivered at the rear of the machine.

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

65 1. In a machine of the character described,

the combination of a table upon which the coins are deposited and inspected; a coin-conductor communicating with the table and into which the coins are delivered from the table; means
 70 for advancing the coins separately from the conductor; means for registering the advance of each coin; and a wrapping mechanism normally inoperative and set in operation by the registering devices.

2. In a machine of the character described, 75 the combination of a table upon which the coins are deposited and inspected; a coin-conductor leading from one edge of said table and communicating with the surface of the table to receive the coins delivered therefrom; means for
 80 advancing the coins separately from the conductor; means for registering the advance of each coin; and a wrapping mechanism normally inoperative and periodically set in motion by the registering devices. 85

3. In a machine of the character described, the combination of a table upon which the coins are deposited and inspected, said table having a
 90 detector past which the coins move and adapted to check the passage of bent coins; a coin-conductor communicating with the table and receiving coins which pass the detector; means for advancing the coins separately from the
 95 conductor; means for registering the advance of each coin; and a wrapping mechanism normally inoperative and set in motion by the registering devices.

4. In a machine of the character described, the combination of coin-conducting means; an
 100 escapement controlling the advance of coins therefrom; and means for tripping the escapement to release a coin from the conductor and advance it to position before a succeeding coin is released.

5. In a machine of the character described, 105 the combination of a coin-conductor; an escapement therein and against which the first coin strikes and by which the travel of said coin is arrested; means for tripping the escapement to release the first coin and allow the next
 110 succeeding coin to advance to the position last occupied by the first coin; said tripping means advancing the first coin to the end of its travel before the next succeeding coin is released.

6. In a machine of the character described, 115 the combination of a coin-conductor; an escapement therein and against which the first coin strikes and by which the travel of said coin is arrested; a reciprocating push-bar operating to trip the escapement and release a coin
 120 and allow it to pass into the range of action of the bar, said bar advancing the released coin to the end of its travel before a succeeding coin is released; means for registering the advance of each coin by the push-bar; and a
 125 normally inoperative wrapping mechanism set in motion by the registering mechanism.

7. In a machine of the character described, the combination of an escapement-controlled
 130 coin-conductor; means operating the escape-

ment to release coins separately; means for advancing the separate coins; and means for registering each coin advanced.

8. In a machine of the character described, the combination of an escapement-controlled coin-conductor; means operating the escapement to release the coins separately; means for advancing the separate coins and finally depositing one coin before beginning the advance of another; means for registering each coin advanced; and a wrapping mechanism normally inoperative and set in motion by the registering mechanism.

9. In a machine of the character described, the combination of a coin-conductor into which the coins are delivered; an escapement controlling the discharge end of the conductor and consisting of a pivoted member having a heel-piece to release and arrest coins successively; a reciprocating push-bar for advancing the separate coins to final position, said pivoted member having a toe-piece normally disposed in the range of action of the push-bar whereby the member is tripped to cause its heel-piece to release a supported coin; and means for registering the advance of each coin by the push-bar.

10. In a machine of the character described, the combination of a coin-conductor, a pivoted escapement in the outlet thereof, having a heel-piece for arresting successive coins; a reciprocating bar for advancing the coins separately to final position, said escapement having a toe-piece normally disposed in the range of action of the bar whereby the reciprocation of the bar in one direction to advance a coin will trip the escapement and release a succeeding coin for advancement during a succeeding reciprocation of said bar; means for registering the advance of each coin; means for assembling the coin in a bunch; and a normally inoperative wrapping mechanism set in operation by the deposit of the final coin of the bunch.

11. In a machine of the character described, the combination of a coin-conductor; an escapement controlling the outlet therefrom; means actuating the escapement and advancing the coins separately; means for registering the advance of each coin; a normally inoperative wrapping mechanism; a constantly-operating driving mechanism; and means controlled by the registering mechanism for alternately connecting and disconnecting the wrapping mechanism with the constantly-operating driving mechanism.

12. In a machine of the character described, the combination of a coin-conductor including a plate having a downwardly-curved lower end forming a curved coin-guide and beneath which coins are advanced; an escapement and means for tripping the escapement to release a coin simultaneously with the advance movement of a preceding released coin.

13. In a machine of the character described,

the combination of coin-conducting means; a reciprocating push-bar; means for depositing coins separately into the range of action of the push-bar; and means for operating the push-bar including a fixed and traveling rack-bar and intermediate traveling pinion.

14. In a machine of the character described, the combination of coin-conducting means; a reciprocating push-bar; means depositing coins separately into the range of action of the push-bar; and means for operating the push-bar including a fixed rack-bar, a rack on the push-bar parallel with the stationary rack-bar; a power-driven slide, and a pinion thereon and engaging both racks to accelerate the movement of the push-bar.

15. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; bundling devices including a pair of jaws in the path of the coin-advancing mechanism and separable to receive the advanced coin one of said jaws yielding laterally to admit a coin and then closing to advance said coin and those preceding it in the bunch to provide space for the next advancing coin.

16. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; a pair of jaws between which the first coin is received one of said jaws rigid and the other jaw yieldable laterally to admit the coin; a slide connected with the rigid jaw; means for holding the slide stationary until the coin is in position; and means for releasing the slide to allow the yielding jaw to move the slide and assembled coin, or coins, one step sidewise to provide accommodation for the next advancing coin.

17. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin-assembling devices including a slide-bar having a rigid jaw located at one side of the coin-discharge; a spring-actuated jaw opposing the rigid jaw and engaged and moved laterally by the advanced coin; means actuated by one movement of the coin-advancing means for locking the slide-bar against movement while the advancing coin is being positioned, said coin-advancing means releasing the slide-bar by a return movement and to allow said spring-jaw to return to normal position and simultaneously advance the slide and the assembled coin, or coins a distance sidewise substantially equal to the thickness of a coin.

18. In a machine of the character described, a coin-bunching mechanism including a laterally-guided slide-bar and opposing members between which the coins are assembled one of said members carried by the said bar; means for alternately locking and releasing the slide-bar; and means for imparting to the slide-bar

and the assembled coins a step-by-step side movement.

19. In a machine of the character described, the combination of a coin-conductor; a reciprocating push-bar for advancing coins separately; means for registering the advance of each coin; a coin-bunching mechanism including a laterally-guided slide-bar and opposing jaws between which the coins are successively assembled; a spring-plate adapted to engage the slide-bar; a roller carried by the push-bar and engaging said plate to cause it to frictionally hold the slide against movement while a coin is being placed between the jaws said roller releasing the spring-plate and thereby disengaging the slide-bar as the push-bar makes its return reciprocation, one of said jaws spring-actuated to impart a side movement to the slide and assembled coins when said bar is released; and a spring for returning the slide-bar to its normal position when the bunch is completed and removed from the jaws.

20. In a machine of the character described, a pair of opposing grippers for transferring a bunch of assembled coins, said grippers having swiveled heads engaging opposite ends of the bunch.

21. In a machine of the character described, the combination with coin-bunching devices, of means for conveying the bunch including a swinging frame and a pair of opposing grippers having swiveled heads to engage opposite ends of the bunch.

22. In a machine of the character described, the combination with coin-bunching devices, of means for conveying the bunch of coins including a swinging frame; a pair of arms carried thereby and having inwardly-extending horizontally-guided shanks slidable toward and from each other; and gripping members carried by the arms and adapted to engage opposite ends of the bunched package.

23. In a machine of the character described, the combination with coin-bunching devices, of means for conveying the bunch of coins including a swinging frame, a pair of laterally-slidable arms; stems extending inwardly from the upper ends of the arms; swiveled heads upon the stems adapted to engage opposite ends of the bunched package; a spring adapted to move the arms toward each other to engage the bunched package, and cams adapted to separate the arms to cause the gripping-heads to release said package.

24. In a machine of the character described, the combination with coin-bunching devices, of means for conveying the bunch of coins including a horizontally-swinging frame having a grooved or recessed cross-bar; a pair of arms having shanks slidable in said cross-bar; a spring connecting the arms; stems extending inwardly from the upper ends of the arms and having loose heads upon their inner ends, adapted to clamp against opposite ends of the

assembled coins; and rotatable cams for spreading the arms and causing the heads to release the bunch of coins.

25. In a machine of the character described, the combination with coin-bunching devices and a wrapping mechanism; of means for transferring the bunch of coins to the wrapping mechanism, including a movable frame having means for holding the bunch of coins during the transfer to the wrapping devices; and a curved plate over which the bunch of coins is carried said plate actuated by the movable frame to close over the bunch and hold the end of the wrapper.

26. In a machine of the character described, the combination with means for advancing coins separately, and means for registering the advance of each coin, of a normally inoperative wrapping mechanism; means for transferring the bunch of coins; and means controlled by the registering mechanism for periodically setting in motion the wrapping mechanism, said wrapping mechanism including a vertically-swinging frame into the free end of which the bunch of coins is admitted, and a wrapping-roll carried by said frame; and a paper-feeding mechanism for supplying paper for the coin-wrapper.

27. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin-bunching mechanism; means for conveying the bunch of coins to the wrapping mechanism; a normally inoperative wrapping mechanism including a vertically-swinging frame into the forward end of which the bunch of coins is delivered and held by the transferring devices during the wrapping operation; a wrapping-roll carried by the frame; a swinging curved plate carried by the frame and adapted to close over the bunch of coins to tuck the interposed wrapping-sheet in position; and means for elevating the frame with its bunch of coins into operative connection with a constantly-operating part of the machine whereby the wrapping-roll is operated; and complementary paper-feeding mechanism.

28. In a machine of the character described, the combination of means for advancing coins separately, means for registering the advance of each coin; coin bunching and transferring mechanism; a normally depressed swinging frame into which the bunch of coins is transferred said frame carrying a wrapping-roll and gear-wheel; a constantly-operating gear and means for elevating the constantly-operating gear whereby the paper wrapper is applied to the bunch of coins; and means for lowering the frame to discharge the wrapped package.

29. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring

mechanism; a normally inoperative wrapping mechanism and means controlled by the registering devices for setting the same in motion said mechanism including a vertically-swinging frame forming a receiver for the bunch of coins; a paper-feed mechanism, means for applying a wrapper to the bunch; means for crimping the ends of the rolled package; and means for discharging the package.

30. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring mechanism; a normally inoperative wrapping mechanism set in motion by the registering devices; a paper-feed mechanism; and means for crimping the ends of the rolled package including laterally-movable arms carrying crimpers, and a screw for causing said arms with their crimpers to progressively approach and crimp the ends of the rolled package.

31. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring mechanism; a normally inoperative wrapping mechanism and means controlled by the registering mechanism for setting the wrapping devices in operation; a paper-feed mechanism; and means for crimping the rolled package including approaching crimpers, laterally-slidable arms carrying said crimpers and provided with segmental nuts, and a right-and-left screw engaging said nuts to cause the screw to advance the grippers toward each other.

32. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring mechanism; a normally inoperative wrapping mechanism set in operation by the registering mechanism; and means for crimping the ends of the rolled package including a pair of crimpers each consisting of a curved member having an intumed end, a laterally-slidable arm having an open nut portion; a spring interposed between the pair of crimpers and normally tending to separate them; and a right-and-left screw engaging the said open nut portion to advance the crimpers and cause the intumed ends thereof to crimp the rolled package.

33. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring devices; a normally inoperative wrapping mechanism set in motion by the registering devices; a pair of laterally-slidable crimping devices including arms with open nut portions; a right-and-left screw normally disengaged from the nuts and means for advancing the screw into engagement with the nut to cause the crimping devices to approach each other.

34. In a machine of the character described,

the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring devices; a normally inoperative wrapping mechanism set in motion by the registering devices; a pair of laterally-slidable crimping devices including arms with open nut portions; a right-and-left screw-shaft normally disengaged from the open nuts; and means including swinging arms and a train of gears for advancing the screw-shaft into operative connection with the open nuts, and imparting rotation to the screw-shaft.

35. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring devices; a normally inoperative wrapping mechanism set in motion by the registering devices; a pair of laterally-slidable crimping devices including arms with open nut portions; a right-and-left screw-shaft normally disengaged from the open nuts; means including swinging arms and a train of gears for advancing the screw-shaft into operative connection with the open nuts; a toggle-lever connection between the screw-shaft and a fixed portion of the machine, and straightened out when the screw is advanced into the open nuts; means for automatically breaking the toggle joint; and a spring for returning the screw-shaft to normal position.

36. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring devices; a normally inoperative wrapping mechanism set in motion by the registering devices; a laterally-slidable crimping mechanism having open nuts; a right-and-left screw-shaft normally out of engagement with the open nuts; means including swinging arms and gearing for moving the screw-shaft into engagement with said nuts; a toggle-lever connection between the arms and a fixed part and straightened out when the screw-shaft is in its advanced position; and means including a pin fixed on the screw-shaft, a sliding stop to be projected into the path of said fixed pin to hold the shaft against rotation and break the joint of the toggle connection, said slidable pin being disposed in the path of a member of the laterally-sliding crimping mechanism when the screw is advanced; and a spring for returning the screw-shaft and its adjuncts to normal position.

37. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring mechanism; a normally inoperative wrapping mechanism set in operation by the registering devices; a normally inoperative paper-feed mechanism actuated by the wrapping mechanism said feed mechanism including a later-

ally-movable paper-carriage and means for moving the same whereby the paper may be adjusted laterally relative to the bunch of coins to be wrapped.

5 38. In a machine of the character described, the combination of means for advancing coins separately; means for registering the advance of each coin; coin bunching and transferring mechanism; a normally inoperative wrapping
10 mechanism set in motion by the registering devices; a paper-feed mechanism normally inoperative and including a feed-roll having a fixed disk provided with a pawl, a loose ratchet alongside the disk and with which said
15 pawl locks to unite the disk thereto; a pinion on the side of the ratchet and a rack-bar controlled by the wrapping mechanism for actuating the pinion.

20 39. In a machine of the character described, the combination of coin-counting mechanism; coin-bunching mechanism; a coin-wrapping mechanism normally inoperative and set in motion by the coin-counting devices; a normally inoperative paper-feed mechanism controlled by said wrapping mechanism; and
25 means for severing wrapper-blanks from a strip of paper including a cutting-blade over which the paper passes and a paper-guide comprising a back portion with side wings and a
30 hinged front mounted to slide vertically between said wings and over the face of the paper strip.

40 40. In a machine having means for counting, bunching and wrapping coins, a normally inoperative paper-feeding mechanism set in operation by the wrapping mechanism and including a spring-actuated rock-shaft having a shouldered collar; a paper-feed roll and a shaft therefor having an arm to engage said
45 collar; a rack-and-pinion mechanism on said shaft and controlled by the wrapping mechanism for releasing said arm from the collar; a cutting-blade fixed to said rock-shaft and over which the strip of paper passes; a vertical paper-guide consisting of a fixed member having side wings and a hinged front suspended from said shaft and vertically reciprocable relative to the fixed member.

50 41. In a machine of the character described, the combination of means for advancing the coins separately; means for registering the advance of each coin; coin-bunching mechanism; a vertically-swinging frame into which the bunch of coins is delivered for wrapping; and
55 means for elevating said frame consisting of a normally inoperative shaft set in operation by the registering devices; a cam on said shaft; a bar extending longitudinally of the lower part of the machine; and means for vertically
60 adjusting said bar; a lever pivoted to the bar

having one end to engage said cam; a second pivoted lever on the bar and a connection from below the pivot of the first lever to a point above the pivot of the second lever said second lever connecting with the swinging frame. 65

42. In a machine of the character described, the combination of means for advancing coins; means for registering the advance of each coin; coin bundling and transferring devices; a normally inoperative wrapping mechanism set in operation by the registering devices; and an intermittent normally inoperative paper-feed mechanism including a normally locked spring-actuated rock-shaft having a cutter-blade fixed to it and normally horizontal; and over which the strip of paper passes; a paper-guide vertically disposed and substantially in line with which the blade is carried when the shaft is released; a collar on the shaft having a shoulder; and an arm on the feed-roll shaft normally in engagement with said shoulder and holding the rock-shaft against its spring power, said arm releasing said shoulder at the beginning of rotation of the feed-roll and again engaging the shoulder to return the parts to normal position at the completion of the revolution of the feed-roll. 75 80 85

43. In a machine of the character described, the combination of a coin-conductor; means for advancing coins separately; and means for registering the advance of each coin including a spring-pressed member lifted by each passing coin; a toothed register-wheel, a rod connecting the aforesaid member with the register-wheel; and an escapement on the rod adapted to enter a tooth-space of the wheel each time the spring-pressed member is lifted. 90 95

44. In a machine of the character described, the combination of coin-counting mechanism; coin-bunching mechanism; means for conveying the bunch of coins; and a wrapping mechanism normally inoperative and set in operation by the addition of a final coin to the bunch said wrapping mechanism including a pair of superposed rolls in the main frame of the machine and a vertically-swinging frame having a roll to oppose said pair of rolls and between which rolls the coins are wrapped; and a hinged flap to close over the bunch of coins and tuck in the end of the wrapper said flap having an elastic member yielding upon contact with the bunch of coins. 100 105 110

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES S. BATDORF.

Witnesses:

T. W. FOWLER,
C. W. FOWLER.