

UNITED STATES PATENT OFFICE.

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DISCOUNT-WHEEL.

SPECIFICATION forming part of Letters Patent No. 582,406, dated May 11, 1897.

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To all whom it may concern:

Be it known that we, JOHN M. WADDEL and DAVID R. CANNY, citizens of the United States, and residents of Greenfield, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Discount-Wheels, of which the following is a specification.

The object of our invention is a discount-wheel to be set in motion by a coin or token and provided with an indicator ribbon or band suitably numbered and an index to indicate when the wheel stops the amount of discount the customer is entitled to on any purchase made.

The invention consists in the novel combination and arrangement of parts hereinafter described in connection with the accompanying drawings and particularly referred to and pointed out in the claims. Both sides of the device are alike in construction, excepting that the bottom of the cabinet, at its rear, is provided with a tilting lid and lock-drawer for convenience of the clerk or attendant.

Referring to the drawings, in which like parts are indicated by similar reference-letters wherever they occur throughout the various views, Figure 1 is a rear elevation of the device with a portion of the edge of the cabinet and housing for the operating mechanism broken away to more clearly show the parts. Fig. 2 is an edge elevation with the upper and lower parts of the rim broken away, showing the parts of the case back of it in vertical transverse section and the tilting shelf and its operating parts in elevation. Fig. 3 is a detail view, partly in vertical section and partly in elevation, upon an enlarged scale of the mechanism for setting the wheel in motion. Fig. 4 is a detail view, in side elevation, of part of the case-rim, showing the coin-receiving lever in elevation. Fig. 5 is a detail view, in axial section, of the hub or spool of the wheel and its bearings.

The rim of the case or cabinet A is preferably made of a single piece of bent wood secured to a base A', the lower portion of the case being strengthened by a box or cabinet A², which is provided on one side with a drawer a, and above it a pivoted or tilting shelf a'.

The sides of the case above the lower cabinet are closed by glass plates which are held

in grooves formed by rabbets in the finishing-beads a² and the edges of the rim A. To the inside upper portion of the rim A is secured a U-shaped yoke B, which is similar to the fork and crown of the steering-wheel of the well-known safety-bicycle, and in the lower ends of the yoke-legs is journaled the wheel C, which is formed similar to the steering-wheel of a bicycle. The rim c is preferably painted or colored in imitation of a pneumatic tire to give it an attractive appearance. The spool c' is axially perforated to pass the shaft or axle D and is counterbored around the perforation to receive the ball-bearings d, which are held in place by the cones d', which are screwed onto the end of the axle D, the extended ends of which pass through the lower ends of the yoke-arms, the said arms being clamped firmly against the outer ends of the cones d' by the nuts d².

Interlaced through the spokes c' of the wheel is a band E, which has marked upon its opposite faces numerals to indicate the discount the customer is entitled to on his purchase, which is determined by the number opposite the pointer F when the wheel comes to a stop after being set in motion by a coin or token. The pointer is preferably a metal strip, secured upon the part A', extending above and alongside of the wheel-rim and holding at its upper end a flexible finger which extends between the spokes proper and the pins c², which are passed through the rim and perforations in the band E to assist in keeping the latter in place.

Motion is imparted to the wheel by a pawl G, pivoted on the depending arm h of the ring or perforated disk H, which fits loosely over the neck of the spool C'. The serrated upper end of the pawl G is inclined to slide freely over the neck of the spool while being moved to the position shown in dotted lines, Fig. 3, and to bear upon said neck and give an impetus to the wheel when swung toward the position shown in full lines. When it reaches this position, the teeth are disengaged from the neck, permitting the wheel to revolve until its momentum is spent.

The rim of the case is cut out on one side, and within the side walls of the perforation is journaled upon a fixed rod j a plate J, which has perforated lugs turned at a right

angle to its body to pass the journal-rod j . One of the lugs has a downwardly-extending arm j' , which is connected by a rod j^2 to the lower end of the pawl G. The plate J has a
 5 detent or short arm j^3 , extending down centrally from it to be engaged by a coin or token K, held in one arm of an angle-lever L, which, when said lever is thrown inwardly, throws the pawl to the position shown in dotted
 10 lines, Fig. 3. The spring j^4 , coiled around the pivot-rod j , has one end hooked around the lower edge of the plate J and its opposite end bearing against or fixed to the rim A. This spring returns the arm j' to its normal
 15 position, as shown in full lines, and starts the wheel revolving.

The angle-lever L is pivoted in a housing M, which is fixed to the outside of the rim A. The upwardly-extending arm L' of the lever
 20 L has its upper edge slotted to pass the detent j^3 when not covered by the coin or token K. To the inner face of the arm L' is secured an inclined bracket l to receive and hold a coin or token dropped through a slot in the
 25 top of the housing until the lever L is thrown up, when the coin drops from its bracket, strikes against the spring-arm n , which is secured upon a stud which holds a bell or gong N in front of the case side, as seen in Fig. 1.
 30 The coin rebounds from the spring, strikes the gong and gives audible notice that the device has been operated. When the coin or token has been released, the spring j^4 snaps the plate J and its arm j' back to its normal
 35 position, and by means of its connection with the pawl G sets the wheel in motion.

Upon the lever L is pivoted a plate l' , which is held in its normal position against the outer walls of the housing M by a spring l^2 , one
 40 end of which is secured to the lever-arm L' and its opposite end to the edge of the plate l' . When the lever is thrown up, the plate is moved inwardly until stopped by a rod l^3 in which position it guards the coin-receiving
 45 slot in the top of housing m and prevents the lever being tampered with until it is released. When the plate is in its normal position, it guards the lever-slot in the end of the housing and prevents tampering with the clutch-
 50 operating mechanism.

The tilting shelf a' is actuated by a cross-head O against the pressure of the spring o , which is secured upon a stud or shaft journaled in the rear wall of the cabinet A². The
 55 outer end of the shaft is made angular to receive a removable key o' , which is to be kept by the attendant, and the drawer a is provided with a lock a^3 , the key of which is kept by the proprietor.

60 The operation of the device is as follows: The coin or token being dropped into the slot in the housing M falls between the bracket l and the inner face of the lever-arm L', closing the slot in its upper end. The lever L
 65 now being tilted forward, the coin, striking the detent j^3 as the lever is moved upward, throws the arm j' and pawl G to the position

shown in dotted lines in Fig. 3 and discharges the coin or token, which, being deflected
 against the gong N, gives audible notice that
 70 the device has been operated. So soon as the coin has been dislodged from the bracket the spring j^4 returns the arm j and pawl G with a sudden movement back to the position shown
 in full line, Figs. 1 and 3, and imparts a
 75 rotary motion to the wheel C, which continues until its momentum is overcome, and when it has stopped the finger of the pointer F, which will stop between one of the spokes and inwardly-projecting pins, will indicate by the
 80 number above it on the index-strip the discount the customer is entitled to. The coin or token is discharged upon the tilting shelf in view of the attendant in order that he
 may see that it is a coin of the desired value or
 85 a token furnished the customer by the owner. So soon as the attendant has satisfied himself upon this point the shelf is tilted and the coin or token dropped into the drawer a , to be removed by the proprietor or book-
 90 keeper at any time desired.

It is obvious that many mere mechanical variations may be made in the operative mechanism without departing from the spirit
 or scope of our invention; and hence we do
 95 not desire to be limited to the precise details shown.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a discount-wheel the combination of
 100 the case, the wheel-fork secured thereto, the wheel journaled in said fork and suitably numbered, the finger fixed to the case to point to one of the numbers when the wheel
 is at rest, an angle-lever having a bracket to
 105 receive a coin or token, a swinging plate in the path of said coin or token when the lever is tilted, and a pawl mechanism on the hub of the wheel to impart motion to the wheel when the lever carrying the coin is tilted and
 110 released.

2. The combination of the case, the wheel-fork secured therein, a skeleton wheel journaled in the lower ends of said fork, an indexed or numbered strip interlaced between
 115 the spokes of said wheel, a plate or support secured to the case, a flexible index-finger held by said support and protruding between the spokes to point to the discount-number
 upon the strip when the wheel comes to a rest,
 120 a ring passed over the neck of the wheel-hub and having a depending arm, a pawl pivoted to said arm to bear against the wheel, a swinging plate having a depending arm pivoted in the case-rim, a rod connecting the lower end
 125 of the arm to the pawl, an angle-lever pivoted in the housing outside of the case and having a bracket-arm to receive a coin or token dropped through a slot in the housing, which coin engages a detent on the swinging
 130 plate when the lever is tilted to throw the pawl around on the neck of the wheel-hub, a spring to return the swinging plate and its depending arm to its normal position and set

the wheel in motion when the coin or token is discharged, and a housing having a slot to receive a coin or token and also slotted to pass the end of the actuating-lever for setting the wheel in motion, substantially as shown and described.

3. The combination as hereinbefore set forth of the case, the wheel-fork secured thereto, the indexed wheel having a spool-hub centrally perforated and its ends counterbored to receive ball-bearings, the journal-shaft passing through the said spool and wheel-fork, the cones screwed upon the ends of said shaft, the ball-bearings held between said cones and the recessed ends of said hub, the nuts to clamp the wheel-fork against the cone-bearings, a ring fitting loosely over one neck of the spool and having a depending arm, a pawl pivoted to the lower end of said arm having its upper end notched to engage the neck of the spool, a lever mechanism extending to the outside of the case and connected to the pawl to impart motion to the

wheel, and an index-finger to point to one of the numerals upon the wheel when its momentum is spent. 25

4. In a discount-wheel the combination of the case, the wheel-fork secured thereto, a wheel journaled in said forks, an angle-lever having a bracket to receive a coin or token, a swinging plate in the path of said coin or token when the lever is tilted, a pawl mechanism connected to the spool of the wheel, a rod connecting the swinging plate and pawl mechanism, and a gong or bell secured to the inside of the case below the lever mechanism upon which the coin drops when the lever is tilted to impart motion to the wheel for the purpose of sounding an alarm when the wheel has been operated, substantially as shown and described. 30 35 40

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Witnesses:

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