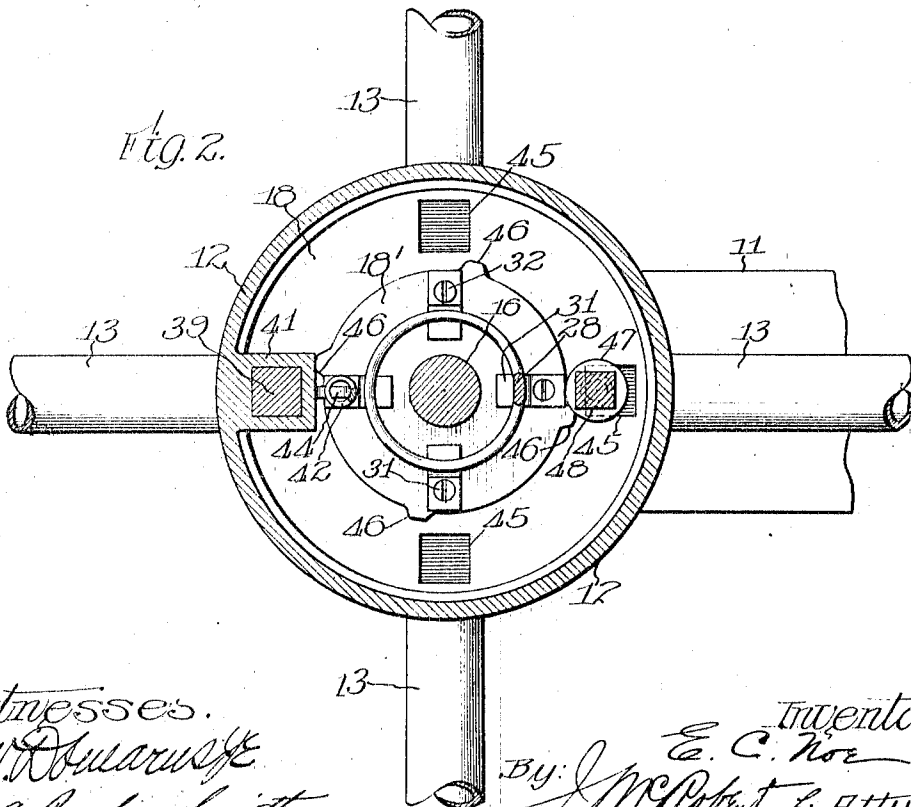
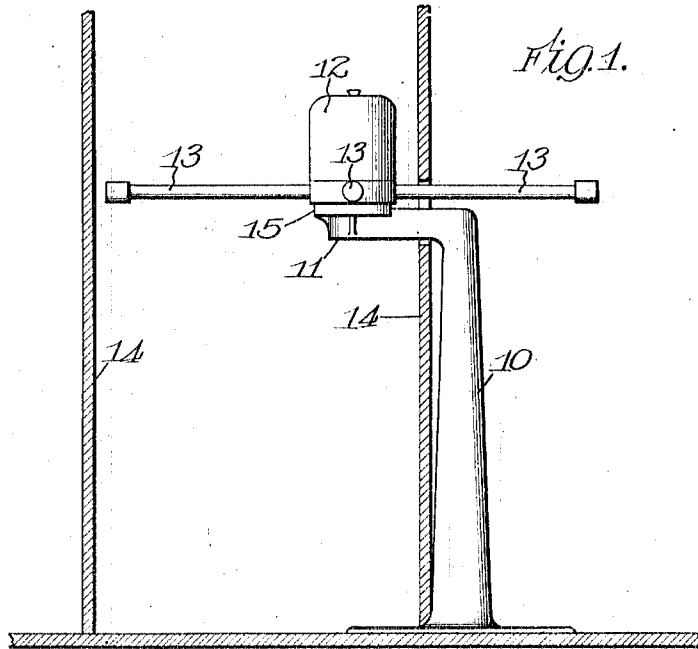


E. C. NOE.
TURNSTILE.
APPLICATION FILED JAN. 21, 1911.

1.059,384.

Patented Apr. 22, 1913.

2 SHEETS—SHEET 1.



Witnesses.

G. D. Dumas
G. A. Paulschmidt

Inventor:
E. C. Noe
By: M. C. White, Esq., Atty.

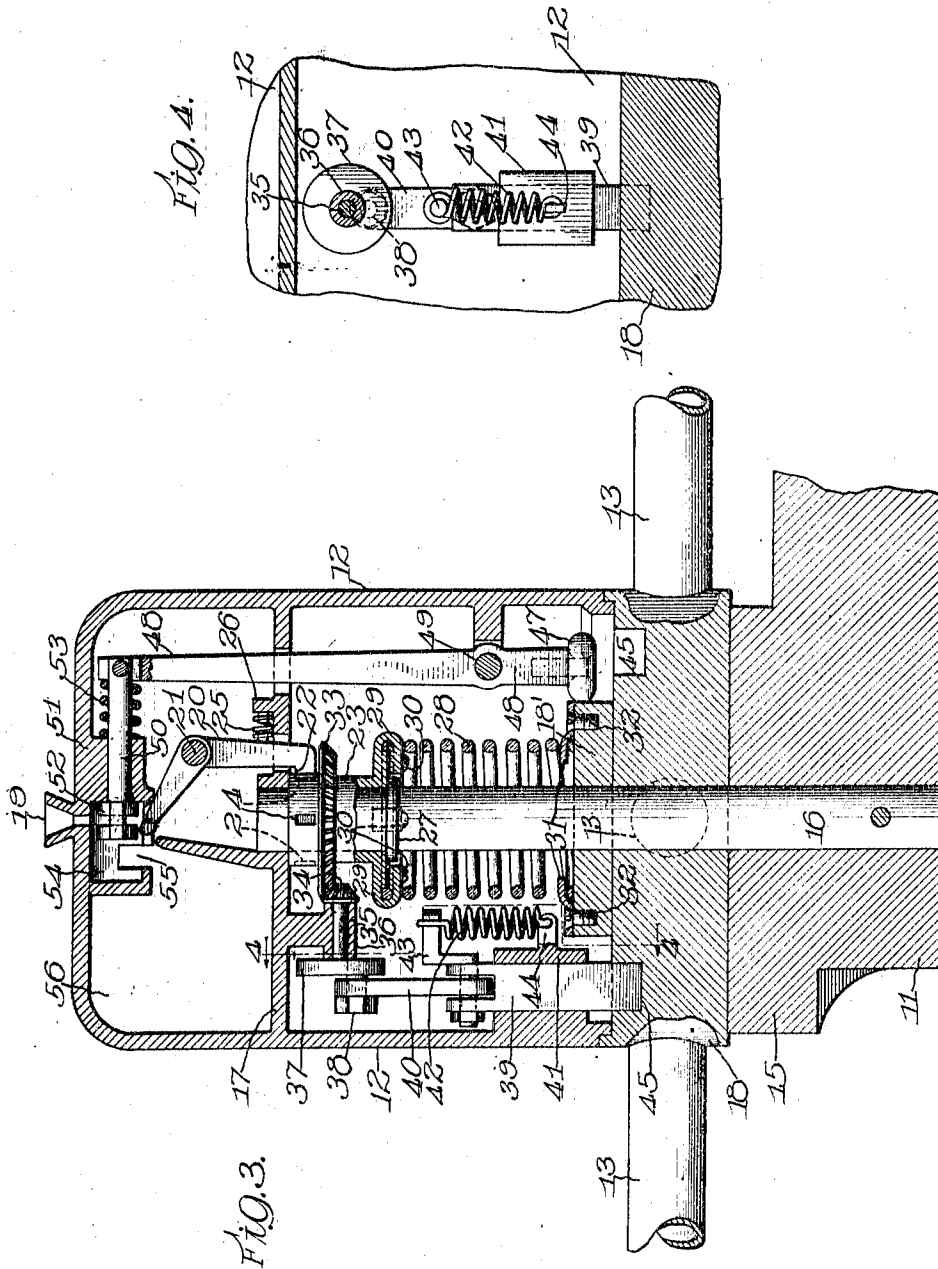
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Witnesses:
G. D. Dmarus Jr.
G. A. Paulschmidt

Inventor:
E. C. Noe
By: *[Signature]* his Attorney

UNITED STATES PATENT OFFICE.

ELZER C. NOE, OF CHICAGO, ILLINOIS.

TURNSTILE.

1,059,384.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed January 21, 1911. Serial No. 603,813.

To all whom it may concern:

Be it known that I, ELZER C. NOE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Turnstiles, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to coin-controlled turnstiles, and is especially intended to provide a revolving turnstile or gate for the entrance or passage of persons at any place where fare or admission is charged or collected in which the turning of the turnstile imparts or stores sufficient force or energy in the lock-operating mechanism to enable the latter to operate the lock when its retaining device is operated by the action of the coin or its equivalent.

The invention consists in the matters hereinafter described and then pointed out in the appended claims, an exemplification thereof being shown in the accompanying drawings in which—

Figure 1 is a view of a turnstile arranged in operative relation in an entrance or passage; Fig. 2 is a sectional view on the line 2—2 of Fig. 3 with the arms in plan view; Fig. 3 is a sectional view showing the interior construction of the casing or box, and Fig. 4 is a detail view on the section line 4—4 of Fig. 3.

Referring to the drawings in which the same reference numerals in the different views indicate the same parts, 10 is a post having its upper end 11 offset or laterally extended to support the box or case 12 in a plane at one side of the post so that the space below the box is left free and unobstructed for the passage of bundles, baskets, etc., carried by the person passing the turnstile, the box and its arms 13 being located in any passage or entrance formed by any suitable means, such for example as opposite posts or partitions 14, in any place where admission or fare is charged or collected or people are admitted one by one.

I make no claim in this application to this organization and arrangement of parts as the same forms the subject matter of my Letters Patent No. 1,036,462, dated August 13, 1912, based upon an application divisional hereof.

The offset end of the post is provided with a circular base 15 in which a stationary or

fixed shaft 16 is mounted, and the case or box 12 is provided with an intermediate cross-head or frame 17 secured to the upper end of the shaft. A revolving circular block 18 carrying the laterally projecting arms 13 is mounted on the shaft on the base 15 and closes the lower end of the box or case, the upper end of which is provided with a coin-entrance slot 19. A pawl or trigger in the shape of a bell-crank lever 20 is pivoted upon a cross-bar 21 carried by the upper portion of the case, the upper arm of the trigger lying below the slot and in the path of the coin, and the lower arm projecting vertically downward through an elongated slot in the cross-head and carrying an inwardly projecting dog 22 adapted to interlock with a sleeve 23 revolvably mounted on the shaft, the sleeve having a plurality of notches 24 corresponding in number and relative arrangement with the arms 13 and with which the dog 22 engages, the trigger normally occupying the position shown in Fig. 3 and having a light spring 25 expanding between its vertical arm and a stop 26 on the cross-head to return it to normal position after the weight of the coin is removed from its upper arm.

The sleeve 23 is revolvably supported upon a projecting ring or shoulder 27 of the shaft 16, and a coiled spring 28 surrounding the shaft is clamped at its upper end within turned collars 29 on the sleeve having suitable set-screws 30 to bind the free edge against the top coil of the spring to securely hold it in place, the lower coil of the spring being fixed to the upper reduced head 18 of the block 18 by clamping plates 31 secured in place by screws 32. The ring 23 carries a bevel gear 33 which meshes with a bevel pinion 34 secured on one end of a short counter shaft 35 journaled in a suitable bearing 36 on the underside of the cross-head, the other end of the counter-shaft having a disk 37 carrying a crank-pin 38 upon which a locking pin 39 is suspended by a pivoted link 40. The pin 39 is guided in its movements by a sleeve 41 on the side of the case or box and is held normally in its locking or operative position by the contracting force of a coiled spring 42 connected at one end to an offset projection 43 of the pin and at its other to an arm 44 on the part 41. The block 18 is provided with a plurality of recesses or openings 45 in its upper face to receive the locking pin 39, these openings

being arranged to correspond with the number and disposition of the arms 13 and notches 24.

The reduced head 18' of the block is provided with peripheral cams 46 corresponding in number and disposition with the arms 13 and co-acting with an anti-friction roller 47 on the lower end of an arm or lever 48 pivoted at 49 to the box or case. The upper end of the lever 48 is pivoted to a reciprocating rod or plunger 50 mounted to freely slide in a bearing 51 on the underside of the top of the casing and provided below the coin-slot 19 with a coin-catcher and ejector 52 composed of four sides and open at its bottom. The coin-catcher is normally below the slot 19 being held in position by the force of a coiled spring 53 surrounding the opposite end of the rod 50 and expanding between the bearing 51 and upper end of lever 48, the spring also serving to keep the roller 47 in the path of the cams 46. The coin-catcher or ejector is normally closed at its bottom by the upper arm of the trigger 20 and is adapted to reciprocate in a small compartment 54 into which the coin-slot leads and which is provided at the end not normally occupied by the coin-catcher with a coin-discharge slot 55 opening into a coin-chamber 56 formed by the walls of the case and an upwardly projecting partition 56'. The movement of the ejector into alinement with slot 55 serves to discharge the coin into the chamber.

When the machine is assembled the spring 28 is placed under coiled tension and with the various parts in the positions shown in Fig. 1 and Fig. 3. When a suitable coin is dropped into the slot its lower edge passes below the margin of the coin-catcher and rests upon the trigger 20 which its weight trips out of engagement with the sleeve 23, so that the latter is free to turn on shaft 16 under the action of spring 28 whose lower end is meantime held in fixed position by the block 18 which in turn is temporarily held in fixed position by the pins 39 interlocking with the stationary case 12. As the spring 28 then unwinds toward its neutral point it revolves the ring 23 whose bevel-gear 33 revolves the pinion 34 to rotate the crank-pin 38 which draws the pin 39 from engagement with the block 18 leaving the latter and its arms 13 free to be revolved by the person passing through the turnstile. As the block 18 is revolved its opposite cam 46 wipes against the roller 47 of the lever 48 which moves the coin-holder from position over the trigger to register with the slot 55 through which the coin then passes to the chamber 56. The person passing through the turnstile must give the associated arm 13 a quarter turn in order to clear the passage, and when the arm arrives at this cleared position the next arm is

brought across the passage as shown in Fig. 1 and the corresponding recess 45 in block 18 is brought into position to receive the pin 39 which is forced therein by the spring 42 and the turnstile is again locked against rotation, the springs of the levers 20 and 48 having returned them to their normal positions, the former for engagement with the next notch 24 of the sleeve 23 and the latter in the path of the next cam 46, and the spring 28 having been again placed under its coiled tension by the movement of the block 18 as the unwinding motion of this spring to attain its neutral position is less than the quarter turn of the block.

The turning of the turnstile or gate to admit a person stores sufficient energy in the coin-box mechanism to enable the coin-controlled unlocking and admitting device to unlock the gate when the next coin is dropped into the slot. While I have shown a suitable organization for this purpose it is obvious that other means may be employed. In practice the coin box may be located immediately at or on the turnstile or they may be located at distant or separated points, the character of the tripping device admitting change for this purpose.

I claim:—

1. The combination in a turnstile of a lock for preventing the turnstile from moving, and coin-controlled means for releasing the lock, including spring actuated means for releasing the lock, and a coin operated mechanism for unlocking said spring actuated means.

2. The combination in a turnstile of a lock for preventing the turnstile from moving and coin-controlled means for releasing the lock, including spring actuated gears, and a coin-operated mechanism to unlock the gears.

3. The combination in a turnstile of a lock for preventing the turnstile from moving, and coin-controlled means for releasing the lock, including power actuated releasing devices, and means operated by the movement of the turnstile for storing up power to actuate said releasing devices.

4. The combination in a turnstile of a lock for preventing the turnstile from moving and coin-controlled means for releasing said lock, including spring-actuated means for withdrawing the lock, a trigger to release the spring-actuated means, and a coin chute for directing a coin to the trigger for operating the same.

5. The combination in a turnstile of a lock for preventing the turnstile from moving, and a coin-controlled means for releasing the lock, including a string under-tension to move the lock, a trigger operated by the coin to release the spring, and means to put the spring under tension, operated by the movement of the turnstile.

6. The combination in a turnstile of a lock for preventing the turnstile from moving, and a coin-controlled means for releasing said lock, including spring-actuated means for withdrawing the lock, a trigger for releasing the spring-actuated means, a coin chute for directing a coin to the trigger for operating the same, and means operated by the movement of the turnstile for storing up power in said spring.

7. The combination in a turnstile of a lock for preventing the turnstile from moving, and a coin-controlled means for releasing said lock, including spring-actuated means for releasing the lock, a coin-operated mechanism for unlocking said spring-actuated means, a coin chute for directing a coin to said coin-operated mechanism, a coin-catcher below the coin chute, and means operated by a movement of the turnstile for moving the catcher to discharge the coin from the operating means.

8. The combination in a turnstile of a lock for preventing the turnstile from moving, a coin-controlled means for releasing the lock, means operated by a movement of the turnstile for storing up power to actuate said releasing means, a coin chute for directing the coin to the releasing means, a catcher below the coin chute, a cam moving with the turnstile, and devices operated by said cam for moving the catcher to discharge the coin from the operating means.

9. The combination in a turnstile of a lock for preventing the turnstile from moving, and coin-controlled means for releasing the lock, including a sleeve loosely mounted on the center post of the turnstile, a coil spring connected to the turnstile and to said sleeve, a pin movably mounted on a support for the turnstile for engaging and disengaging the same, to hold the same from movement, a crank for withdrawing said pin from engagement with the turnstile, gear connections between the crank and sleeve and a coin-controlled trigger for engaging the sleeve for preventing the withdrawal of the pin by the movement of the sleeve through the action of the spring.

10. The combination in a turnstile of a lock for preventing the turnstile from moving, and coin-controlled means for releasing the lock, including a sleeve loosely mounted on the center post of the turnstile, a coil spring connected to the turnstile and to said sleeve, a pin movably mounted on a support for the turnstile for engaging and disengaging the same, to hold the same from movement, a crank for withdrawing said pin from engagement with the turnstile, gear connections between the crank and sleeve, and a coin-controlled trigger for engaging

the sleeve for preventing the withdrawal of the pin by the movement of the sleeve through the action of the spring, a coin chute for directing the coin to the trigger, and means for discharging the coin from the trigger when the turnstile is moved.

11. The combination in a turnstile of a lock for preventing the turnstile from moving, and coin-controlled means for releasing the lock, including a sleeve loosely mounted on the center post of the turnstile, a coil spring connected to the turnstile and to said sleeve, a pin movably mounted on a support for the turnstile for engaging and disengaging the same, to hold the same from movement, a crank for withdrawing said pin from engagement with the turnstile, gear connections between the crank and sleeve and a coin-controlled trigger for engaging the sleeve for preventing the withdrawal of the pin by the movement of the sleeve through the action of the spring, a coin chute for directing the coin to the trigger, and means for discharging the coin from the trigger when the turnstile is moved, said last named means including a cam movable with the turnstile, a lever engaging the cam, and a catcher for discharging the coin from the trigger.

12. The combination in a turnstile of a lock for preventing the turnstile from moving, and a coin-controlled means for releasing said lock, including spring-actuated means for withdrawing the lock, a trigger for releasing the spring-actuated means, a coin chute for directing a coin to the trigger for operating the same, and means operated by the movement of the turnstile for storing up power in said spring, and a coin ejector operated by the movement of the turnstile for discharging the coin from the trigger.

13. The combination in a turnstile of a lock for preventing the turnstile from moving, and a coin-controlled means for releasing said lock, including spring-actuated means for releasing the lock, a coin-operated mechanism for unlocking said spring-actuated means, a coin chute for directing a coin to said coin-operated mechanism, a coin-catcher below the coin chute, and means operated by a movement of the turnstile for moving the catcher to discharge the coin from the operating means, and a coin ejector operated by a movement of the turnstile for discharging the coin from the trigger.

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

ELZER C. NOE.

Witnesses:

GEORGE R. HARBAUGH,
J. McROBERTS.