A. K. COLLINS.

TURNSTILE.

APPLICATION FILED FEB. 12, 1920.

1,342,253. **Patented June 1, 1920.**

2 SHEETS—SHEET 1.

Fig. 1.

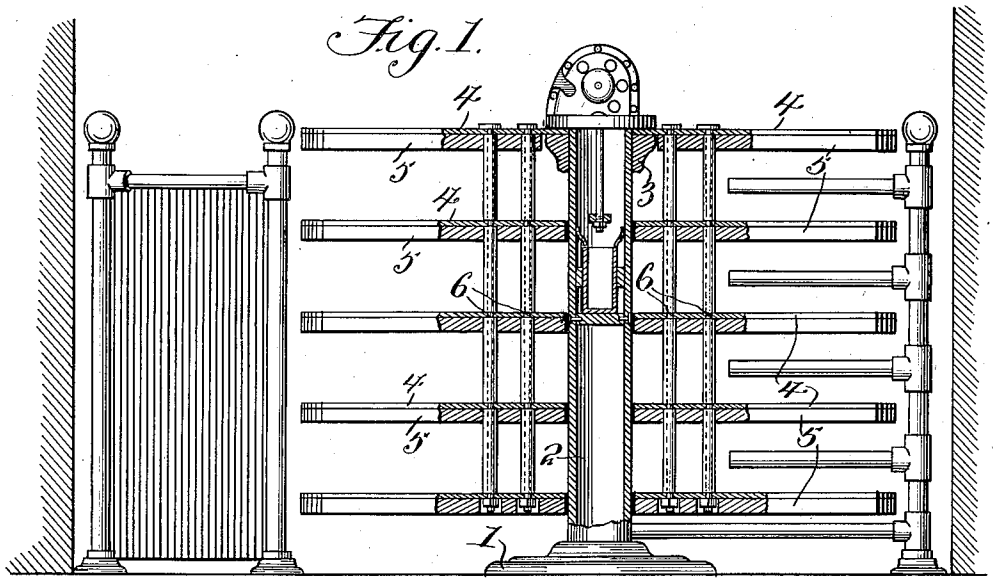
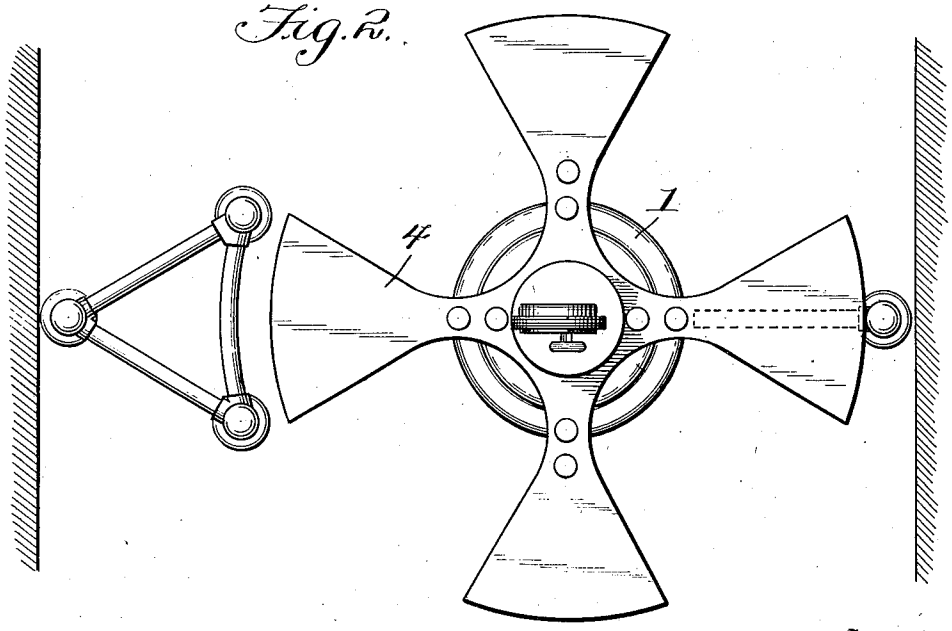


Fig. 2.



Inventor

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Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

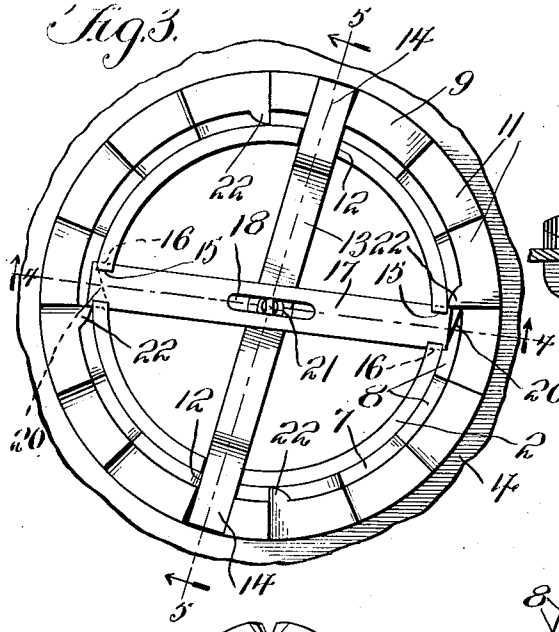


Fig. 6.

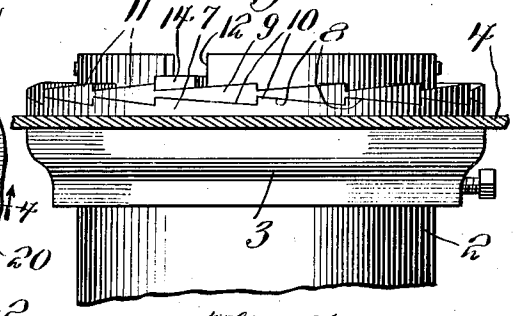


Fig. 7.

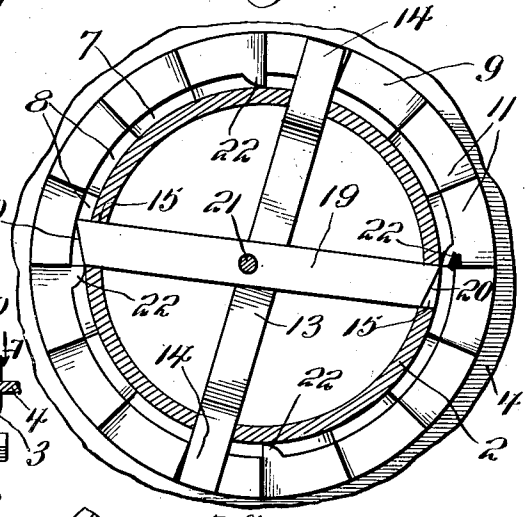


Fig. 4.

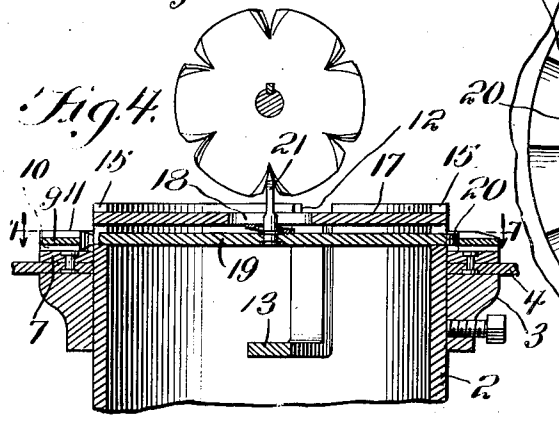


Fig. 5.

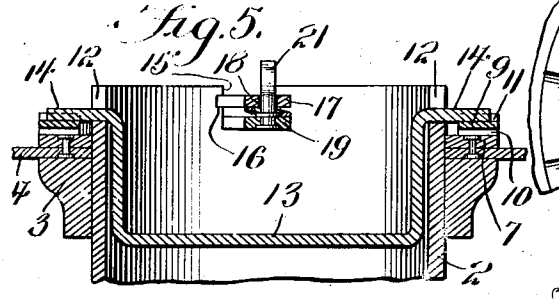
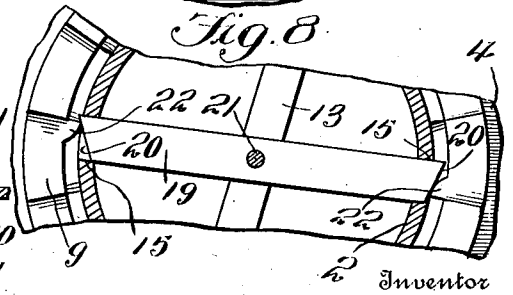


Fig. 8.



Witness

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UNITED STATES PATENT OFFICE.

ALBERT K. COLLINS, OF CHARLOTTE, NORTH CAROLINA.

TURNSTILE.

1,342,253. Specification of Letters Patent. Patented June 1, 1920.

Application filed February 12, 1920. Serial No. 358,197.

To all whom it may concern:

Be it known that I, ALBERT K. COLLINS, citizen of the United States, residing at Charlotte, N. C., have invented certain new and useful Improvements in Turnstiles, of which the following is a specification.

This invention relates to certain novel and useful improvements in turn stiles.

In carrying out the present invention, it is my purpose to provide a turn stile which may be used in connection with coin controlled apparatus and whereby persons may be permitted to pass through the turn stile singly in one direction, as coins are deposited in the coin controlled apparatus, and whereby persons may be permitted to pass through the turn stile in the opposite direction without depositing coins in the coin controlled apparatus, thereby enabling the turn stile to be used to control the admission and exit of persons to and from theaters, amusement parks, etc.

It is also my purpose to provide a turn stile which will operate efficiently and effectively under all conditions, and which will embody comparatively few parts and these so correlated and arranged as to reduce the possibility of derangement to a minimum and enable access to be readily had to such parts for the purposes of cleaning and repairing.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claims.

In the accompanying drawings:

Figure 1 is a view in side elevation of a turn stile constructed in accordance with the present invention.

Fig. 2 is a top plan view of the same, the train controlled apparatus being removed.

Fig. 3 is a horizontal sectional view through the turn stile.

Fig. 4 is a sectional view as taken on lines 4—4 of Fig. 3.

Fig. 5 is a section taken on lines 5—5 of Fig. 3.

Fig. 6 is a side elevation of a portion of the turn-stile head.

Fig. 7 is a horizontal section taken on line 7—7 of Fig. 4.

Fig. 8 is a fragmentary horizontal section in the same plane as Fig. 7 showing the sliding bar in released position.

Referring now to the drawings in detail, 1 designates a base, while 2 indicates a column upstanding from the base 1 and suitably secured thereto and of any desired height. Surrounding the column 2 adjacent to the upper end thereof and suitably fastened thereto is a collar 3, while encircling the column 2 and spaced apart equal distances vertically thereon are annuli 4 provided with radial arms 5. The top annulus 4 rests upon the collar 3 and passed through the arms 5 are vertical brace rods 6 that act to hold the annuli in proper relative positions upon the column. In the present instance, the arms 5 on each annulus are four in number and are spaced apart equal distances and aline vertically with the respective arms on the other annuli so that the rods 6 may be passed through corresponding arms to hold the annuli and arms in proper relative positions. Secured to the top annulus 4 and encircling the column is a ring 7 having the upper edge thereof formed with ratchet teeth 8, while resting upon the ratchet ring 7 and surrounding the column 2 is a ring 9 having the lower edge formed with ratchet teeth 10 adapted to interengage the teeth 8, and the upper edge formed with ratchet teeth 11. Formed in the upper end of the column 2 at diametrically opposite points are recesses 12. 13 indicates a substantially U-shaped yoke arranged across the upper end of the column 2, and the upper extremity of the limbs of the yoke are outturned as at 14 and lie in the recesses 12 respectively and engage the teeth 11 on the upper edge of the ring 9 so as to hold the ring 9 against rotation in one direction and permit rotation thereof in the opposite direction. Formed in the upper end of the column 2 at diametrically opposite points are recesses 15 arranged in the same plane as the recesses 12 and formed in the side walls of the recesses 15 are alining grooves 16 and secured within the grooves 16 is a cross bar 17 formed with an elongated slot 18. Disposed below the cross bar 17 and supported upon the bottom walls of the recesses 15 is a slidable bar 19 having the opposite ends thereof mitered as at 20. Secured to the slidable bar 19 is a vertical

pin 21 projecting through the slot 18 in the cross bar 17. Formed on the inner edge of the ring 9 are lugs 22 spaced apart equal distances and corresponding in number with the arms on each annulus.

Normally, the mitered end 20 of the slidable bar 19 is disposed in the path of movement of the adjacent lug 22 on the ring 9, thereby preventing rotation of the ring in one direction, and when the teeth on the lower edge of the ring 9 are in engagement with the teeth on the upper edge of the ring 7, the turn stile is held against rotation in one direction. The slidable bar 19 is under the control of suitable coin controlled mechanism and when the proper coin has been deposited in this mechanism and the mechanism operated the pin 21 moves one end of the slidable bar 19 out of the path of movement of the adjacent lug 22 and slides the opposite end of the bar into the path of movement of the lug 22 opposite. The turn stile may now be rotated and in the initial movement of the turn stile the lug 22 adjacent to the last-mentioned end of the bar 19 rides over the mitered end 20 of such bar and restores the bar to normal locking position immediately behind the released lug 22 so that after the turn stile has made a quarter of a revolution the following lug 22 will engage the locking end of the slidable bar 19 to hold the turn stile against movement until another coin has been deposited. In this operation of the turn stile, the two rings 9 and 7 revolve with the turn stile and the teeth on the upper edge of the ring 9 idle by the outturned ends 14 of the yoke 13. On the other hand, the turn stile may be revolved in the opposite direction at will and in this turning of the stile, the teeth on the upper edge of the ring 7 idle by the teeth on the lower edge of the ring 9, while the outturned ends of the yoke 13 hold the ring 9 stationary so as to prevent movement of the ring 9 relatively to the slidable bar 19.

In practice, one side of the turn stile is blind and stationary bars project into the spaces between the arms 5 so as to prevent the passage of persons through the turn stile at this side, while the other side of the turn stile is designed to control the entrance of persons to the theater, amusement park or the like, and permit the exit of such persons from the theater or park.

It will be noted that when the slidable bar is once moved out of locking position so as to admit a person to the turn stile, the turn stile will be enabled to make this one-quarter of a revolution at any time without necessitating the deposit of another coin, even though the turn stile is operated in the opposite direction succeeding the moving of the bar 19 to release position.

While I have herein shown and described one preferred form of my invention by way of illustration, I wish it to be understood that I do not limit or confine myself to the precise details of construction herein described and delineated, as modification and variation may be made within the scope of the claims and without departing from the spirit of the invention.

I claim:

1. In a turn-stile, a base, a vertical column secured to said base, annular members carrying radially projecting arms rotatably mounted on said column, a ratchet wheel mounted on the uppermost annular member, a ratchet wheel mounted on said column and superimposed on said first-named ratchet wheel, and means coöperating with said ratchet wheels to lock the annular members against rotation.

2. In a turn-stile, a base, a vertical column secured to said base, annular members carrying radially projecting arms rotatably mounted on said column, a ratchet wheel mounted on the uppermost annular member, a ratchet wheel mounted on said column and superimposed on said first-named ratchet wheel, and means including a horizontally disposed slidable bar adapted to coöperate with said ratchet wheels to maintain the annular members against rotation.

3. In a turn stile, a rotatable element, a ratchet ring secured to said element, a second ratchet ring having the teeth thereon meshing with the teeth of the first ring and disposed concentrically thereof, and means acting upon the second-named ratchet ring to hold the latter and the first-mentioned ratchet ring against rotation in one direction and operable to release the second-named ratchet ring.

4. In a turn stile, a rotatable element, a ratchet ring secured to said element, a second ratchet ring having the teeth thereon meshing with the teeth of the first ring and disposed concentrically thereof, means acting upon the second-named ratchet ring to hold the latter and the first-mentioned ratchet ring against rotation in one direction and operable to release the second-named ratchet ring, and means holding the second-named ratchet ring against rotation in the opposite direction whereby the teeth of the first-mentioned ring may idle by the teeth of the second-mentioned ring in the turning of the rotatable element in this direction.

5. In a turn stile, a rotatable element, a ratchet ring secured to said element, a second ratchet ring having the teeth thereon meshing with the teeth of the first ring and disposed concentrically thereof, lugs formed on the inner edge of the second-named ratchet ring and spaced apart equal distances, and a slidable bar having one end normally disposed in the path of movement

of one of said lugs to hold the parts against rotation in one direction and movable to withdraw such end from the path of movement of the lug and move the other end into the path of movement of the adjacent lug whereby said rotatable element may be rotated in one direction and the slidable bar restored to normal position in the rotation of the rotatable element.

6. In a turn-stile, a rotatable element, a ratchet ring connected to said element, a second ratchet ring having inwardly projecting lugs and disposed concentrically and meshing with said first-named ratchet ring, a horizontally movable arm engaging the lugs on said second-named ring, and means for releasing said arm from locking engagement with the lugs of said ring.

7. In a turn-stile, a base, a vertical column secured to said base, said column being formed with pairs of diametrically opposed recesses, a collar connected to the top of said column, an upper annular member rotatably mounted on said collar, annular members surrounding said column and spaced apart in vertical relation to said upper annular member, vertical rods connecting said upper and said second-named annular members, a ratchet ring secured to said upper annular member, a second ratchet ring in engagement with and superimposed on said first-named ratchet ring, a yoke member in the upper end of said column, the arms of said yoke member projecting through one pair of the side recesses of the vertical column, a cross-bar in said column, said bar projecting through the other pair of recesses, and a horizontally slidable bar operatively connected to said cross-bar and adapted to coöperate with said ratchet rings to secure the annular members against rotation.

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

ALBERT K. COLLINS.

Witnesses:
C. A. DUCKWORTH,
LOUISE K. WITHERS.