

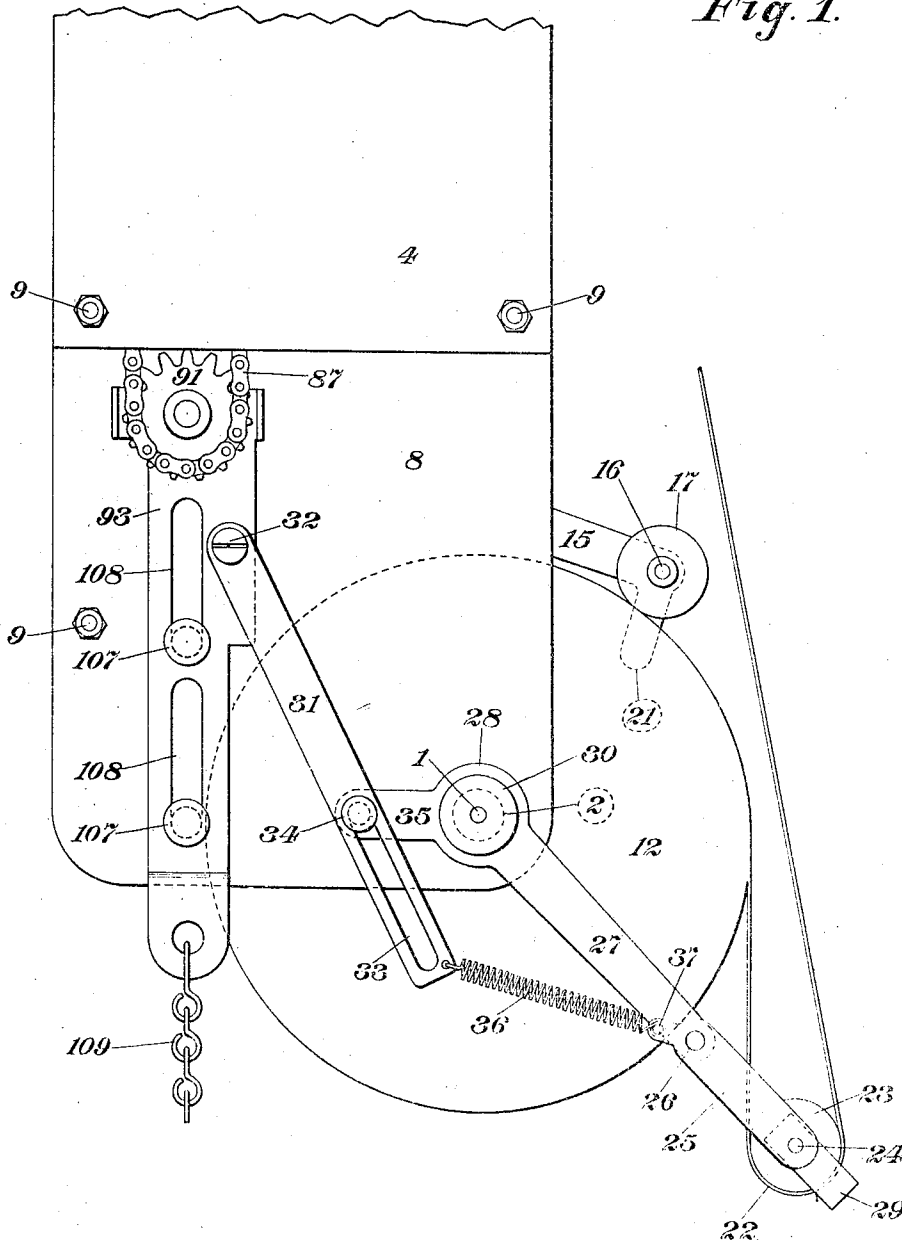
W. L. SULLIVAN.
TICKET MACHINE.
APPLICATION FILED OCT. 16, 1911.

1,039,212.

Patented Sept. 24, 1912.

3 SHEETS—SHEET 1

Fig. 1.



Witnesses:

Lottie M. Fox
Berth von Behrens

Inventor:

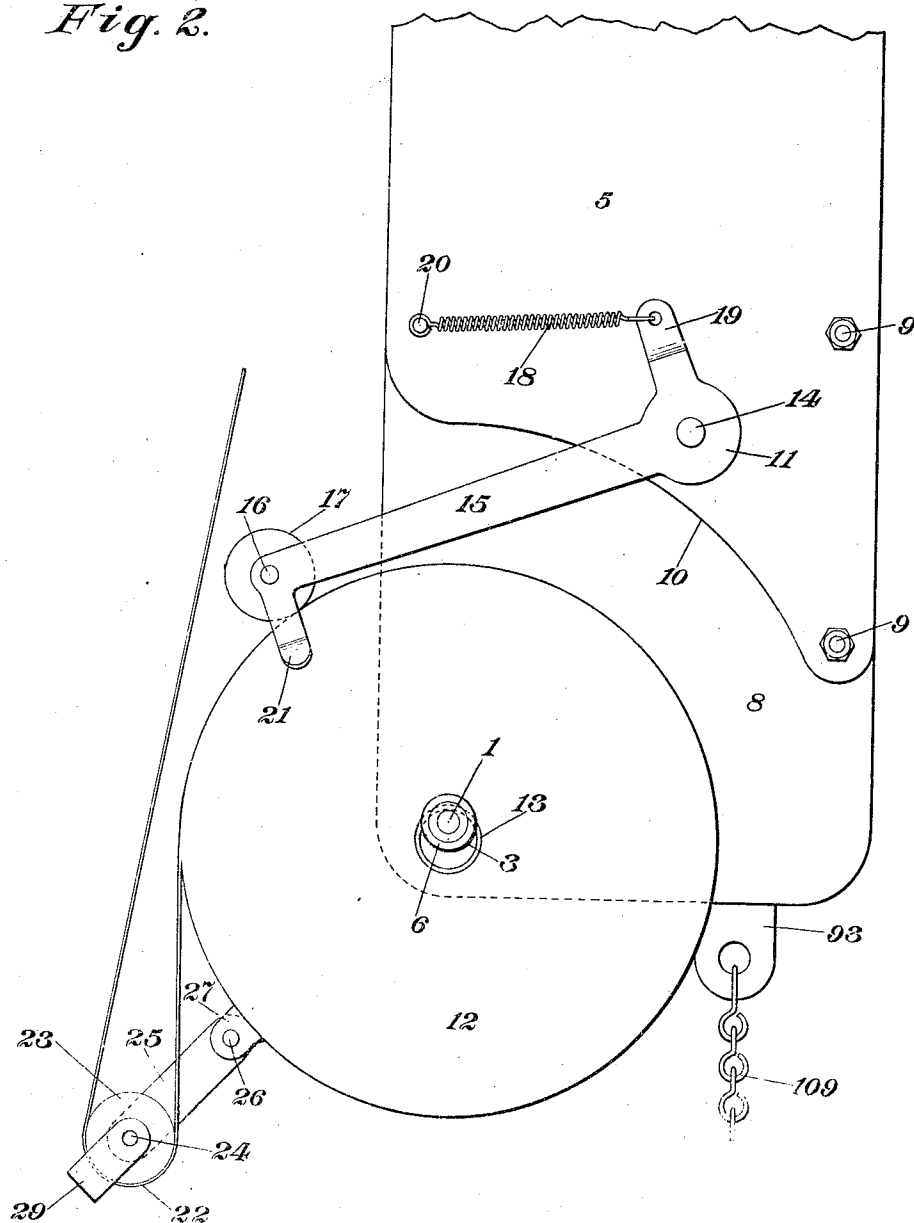
William L. Sullivan
By Hugh N. Wagner
His Attorney.

1,039,212.

Patented Sept. 24, 1912.

3 SHEETS—SHEET 2.

Fig. 2.



Witnesses:
Lottie M. Fox
Bertha von Behrens

Inventor:
William L. Sullivan
By *Hugh N. Wagner*
His Attorney.

W. L. SULLIVAN.
TICKET MACHINE.
APPLICATION FILED OCT. 16, 1911.

1,039,212.

Patented Sept. 24, 1912.

3 SHEETS—SHEET 3.

Fig. 3.

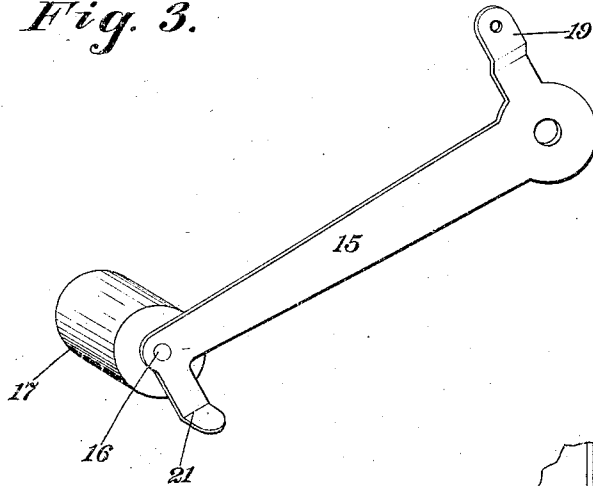


Fig. 5.

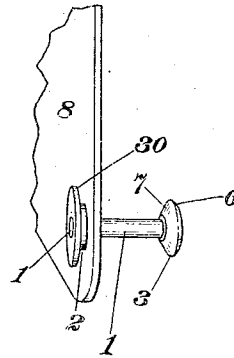
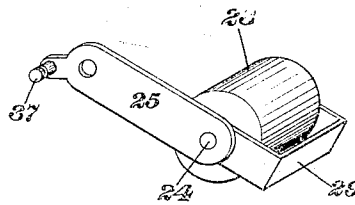


Fig. 4.



Witnesses:
Lottie M. Fox.
Bertha von Behrens.

Inventor:
William L. Sullivan
By *Hugh N. Wagner*
His Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM L. SULLIVAN, OF FERGUSON, MISSOURI, ASSIGNOR TO THE TEMCO MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

TICKET-MACHINE.

1,039,212.

Specification of Letters Patent. Patented Sept. 24, 1912.

Application filed October 16, 1911. Serial No. 355,910.

To all whom it may concern:

Be it known that I, WILLIAM L. SULLIVAN, a citizen of the United States, residing at Ferguson, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Ticket-Machines, of which the following is a specification.

This invention relates to certain new and useful improvements in ticket-vending and registering machines, and is particularly adapted for use in connection with the ticket-vending and registering machine that constitutes the subject-matter of the pending application of Albert J. Meier and myself, Serial No. 640,218, filed July 24, 1911.

The principal object of the present invention is to provide means for unwinding a sufficient number of tickets from the ticket roll to slacken the ticket strip between the ticket roll and the feeding drum, so as to prevent the pins borne by the drum from tearing or mutilating the tickets during the operation of feeding same from the machine.

In the accompanying drawings forming part of this specification, in which like numbers of reference denote like parts wherever they occur, Figure 1 is a left side elevation of part of a ticket-vending and registering machine with the unwinding means attached thereto; Fig. 2 is a right side elevation of same; and Figs. 3, 4, and 5 are perspective views of parts of the unwinding means.

In the following description, the parts of the machine that are illustrated in the drawings are referred to by reference numerals to agree with the designations of the corresponding parts in the above-mentioned application.

The side plates 4 and 5 and the division plate 8 are connected by the bolts 9 and are spaced apart by the usual means. The operating bar 93 is reciprocatively attached to the division plate 8 by means of the studs 107 that pass through slots 108 in said bar, and is guided in its movement by said studs, being preferably operated by a foot treadle (not shown) and connected therewith by a chain 109 or other suitable means. The sprocket-wheel 91 attached to the operating bar 93 actuates the chain 87, which, in turn, actuates the ticket-severing means and the ticket-feeding means in the manner fully described in the aforesaid application.

A pin 1 is secured to a stud 2 that is

fastened to plate 8, and has a washer or button 3 riveted or otherwise secured to its projecting end. The ticket roll 12, which is preferably wound on a hollow core 13, is rotatably mounted on the pin 1, said core being slightly larger in diameter than the washer 3, in order to allow the roll 12 to be mounted upon the pin 1. The outer face of the washer 3 is preferably provided with a peripheral bevel 6, in order to facilitate the mounting of the roll upon the pin 1, and the inner face of same is beveled at 7, as illustrated in Fig. 5, so as to prevent the core 13 from climbing up the inner face of same. Thus the bevel 7 prevents the roll from sliding off the pin 1. The lower part of plate 5 is cut away at 10, as best seen in Fig. 2, so as to allow the ticket roll to be mounted on or removed from the pin 1. A bell-crank 11 is pivotally attached at 14 to plate 5, and the arm 15 of same bears a pin 16 on which a roller 17 is rotatably mounted, which roller 17 rides upon the ticket roll 12. A spring 18, which is attached to the arm 19 of bell-crank 11 and, also, to plate 5 by means of a pin 20, or the like, tends to rotate said bell crank counter-clockwise, Fig. 2, and thereby holds the roller 17 in engagement with the ticket roll 12, so as to prevent backlash of the strip of tickets that constitutes the ticket roll. A finger or projection 21 borne by the arm 15 of bell-crank 11 overlaps the side of the ticket roll 12 and thereby affords additional means for holding same in place on the pin. When it is desired to mount a fresh ticket roll 12 upon the pin 1, it is necessary to hold the arm 15 of bell-crank 11 in a raised position, and, after the fresh ticket roll is mounted on said pin, the arm 15 is lowered until the roller 17 rests upon the ticket roll and the finger 21 overlaps the side of the ticket roll, the end of said finger being bent outwardly to allow said finger to find its place readily adjacent the side of the ticket roll. As the ticket roll 12 becomes smaller by virtue of the issuance of tickets therefrom, the spring 18 rotates the bell-crank 11 counter-clockwise, Fig. 2, and thereby causes the roller 17 to ride upon the ticket roll 12 until same has become exhausted.

The roll 12 consists of a continuous strip of paper, or the like, having the separate tickets printed on one or both sides thereof, so that, when the machine issues a ticket

or tickets, same will bear the customary subject-matter, the junction of each two adjoining tickets being perforated to allow the pins borne by the feeding drum (not shown) to enter same for the purpose of feeding a ticket or a plurality of tickets from the machine in the manner fully described in the above-mentioned application. The loose end of the strip of tickets extends downwardly from the ticket roll 12 and forms a loop 22, through which a roller 23 extends, and then the strip of tickets extends upwardly from said roller and passes over the feeding drum, said roller being rotatably mounted on a pin 24 borne by member 25, which is pivoted at 26 to the arm 27 of bell-crank 28. The pin 24 extends through openings in the sides of a U-shaped guide 29 and one of the sides of said guide is riveted or otherwise secured to the member 25. The strip of tickets passes between the sides of the guide 29 and is thereby prevented from sliding off either end of the roller 23. The bell-crank 28 is rotatably mounted on the stud 2 and is held in place thereon by the flange 30. A link 31, which is pivotally attached at 32 to the operating bar 93, extends preferably downwardly therefrom and contains a slot 33 through which a stud 34 projects from the arm 35 of bell-crank. A spring 36 connects the lower end of link 31 with a pin 37 borne by member 25 and holds said member normally in the position depicted in Fig. 1, so that the axis of said spring passes through the pivot 26. The pull of spring 36 tends to rotate the bell-crank 28 clockwise, Fig. 1, and thereby causes the stud 34 to seat in the upper end of slot 33 so that, when the operating bar 93 is pulled downwardly by the depression of the foot treadle to issue either one ticket or a plurality of tickets from the machine, the link 31 descends with the operating bar and pushes downwardly upon the stud 34, thereby causing the bell-crank 28 to rotate counter-clockwise, Fig. 1. The arms of the bell-crank 28 are predeterminedly arranged so that, when said bell-crank is caused to rotate counter-clockwise, Fig. 1, by the descension of the operating bar 93, as just described, the member 25 moves upwardly with the arm 27 of said bell-crank and thereby causes the roller 23 to move upwardly preferably faster than the loop 22, which is simultaneously pulled upwardly by the rotation of the feeding drum. By this arrangement, the roller 23 is prevented from retarding the upward movement of the loop 22. The strip of tickets that extends from the roll 12 to the feeding drum is thus allowed to become slack, so as to prevent the pins borne by said drum from tearing or mutilating the tickets during the feeding operation.

During the operation of feeding either one ticket or a plurality of tickets from the machine, the unwound strip of tickets that extends from the roll 12 to the feeding drum becomes shorter, but is prevented from becoming taut, for the reason that normally the length of the unwound strip is sufficient to allow the maximum number of tickets to be issued from the machine without unwinding more from the ticket roll. After the operation of feeding either one ticket or a plurality of tickets from the machine, the foot treadle is released, whereby the operating bar 93 returns to its normal position and draws with it the link 31, whereupon the pull of spring 36 causes the bell-crank 28 to rotate clockwise, Fig. 1, until same returns to its initial position. While the bell-crank 28 returns to its normal position, the member 25 moves downwardly with the arm 27 of said bell-crank and thereby brings the roller 23 into engagement with the strip of tickets before said member reaches its normal position, so that by the time the member 25 reaches its initial position, the roller 23 will have pulled upon the strip of tickets, so as to unwind a sufficient length of same from the ticket roll 12 to compensate for the number of tickets that was fed from the machine by the descension of the operating bar, thereby forming another loop 22 in readiness for the next feeding operation. In case, however, the operating bar 93 is allowed to return suddenly to its normal position, the slot 33 in link 31 permits said link to return quickly with the operating bar without exerting a sudden jerk upon the arm 35 of said bell-crank. Under such circumstances, the spring 36 is stretched suddenly, with the result that same causes the bell-crank 28 and member 25 to return to their initial positions, but, by reason of said member being pivoted at 26 to the arm 27 of said bell-crank, same is free to rock on said pivot, whereby the strip of tickets is prevented from being torn by the sudden engagement of the roller 23 therewith.

From the foregoing description the operation of the unwinding mechanism will be readily understood.

I claim:

1. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a pivoted bell-crank, a link connecting the operating means with one arm of said bell-crank, a member pivoted to the other arm of said bell-crank, a spring connecting said member with said link, and a roller rotatably attached to said member adapted to unwind part of the ticket strip after each feeding operation.

2. In a machine of the character de-

scribed, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a pivoted bell-crank, a link connecting the operating means with one arm of said bell-crank, a member pivoted to the other arm of said bell-crank, a spring connecting said member with said link, a roller rotatably attached to said member adapted to unwind part of the ticket strip after each feeding operation, and a guide borne by said member for preventing the ticket strip from sliding off said roller.

3. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip, a reciprocating operating bar for actuating same, a pivoted bell-crank having a stud attached to an arm thereof, a member pivoted to the other arm of said bell-crank, a link pivoted to said operating bar and having a slot to receive the stud borne by said bell-crank adapted to rotate same during the feeding operation, a spring connecting said member with said link adapted to hold said bell-crank normally in position to be actuated by said link, and a roller rotatably attached to said member for unwinding part of the ticket strip after each feeding operation.

4. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a pin projecting from the casing of the machine and supporting the ticket roll, a pivoted member provided at one end with a finger overlapping the adjacent side of the ticket roll to hold the latter in place upon said pin, and a roller carried by said member at such end and adapted to ride upon said ticket roll to prevent backlash of same.

5. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a pin projecting from the casing of the machine and supporting the ticket roll, a bell-crank lever pivoted at its apex to said casing, a roller carried by one arm of said lever at the end thereof and adapted to ride upon said ticket roll to prevent backlash of same, a finger provided

upon said arm and overlapping the adjacent side of the ticket roll to hold the latter in place upon said pin, and a spring connected to the other arm of said lever for holding said roller against said ticket roll.

6. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a pivoted element having an independently movable member, means carried by said member for unwinding part of the ticket strip from the roll after each feeding operation, a connecting member between said element and the operating means, and a spring connecting the first and second-named members.

7. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a pivoted element having an independently movable member, means carried by said member for unwinding part of the ticket strip from the roll after each feeding operation, a member pivotally connected at one end to the operating means and provided adjacent its other end with a slot, a stud borne by said element and engaged in said slot, and a spring connecting the first- and second-named members for normally holding said stud at one end of said slot.

8. In a machine of the character described, in combination with means for feeding tickets from a rolled ticket strip and operating means for same, a link pivotally connected to the operating means, an element pivoted intermediate its ends and having a loose connection at one end with said link, a member pivoted to the other end of said element for movement relative thereto, a roller carried by said member for unwinding part of the ticket strip after each feeding operation, and a spring connecting said link and said member.

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

WILLIAM L. SULLIVAN.

Witnesses:

LOTTIE M. FOX,

BERTHA VON BEHRENS.