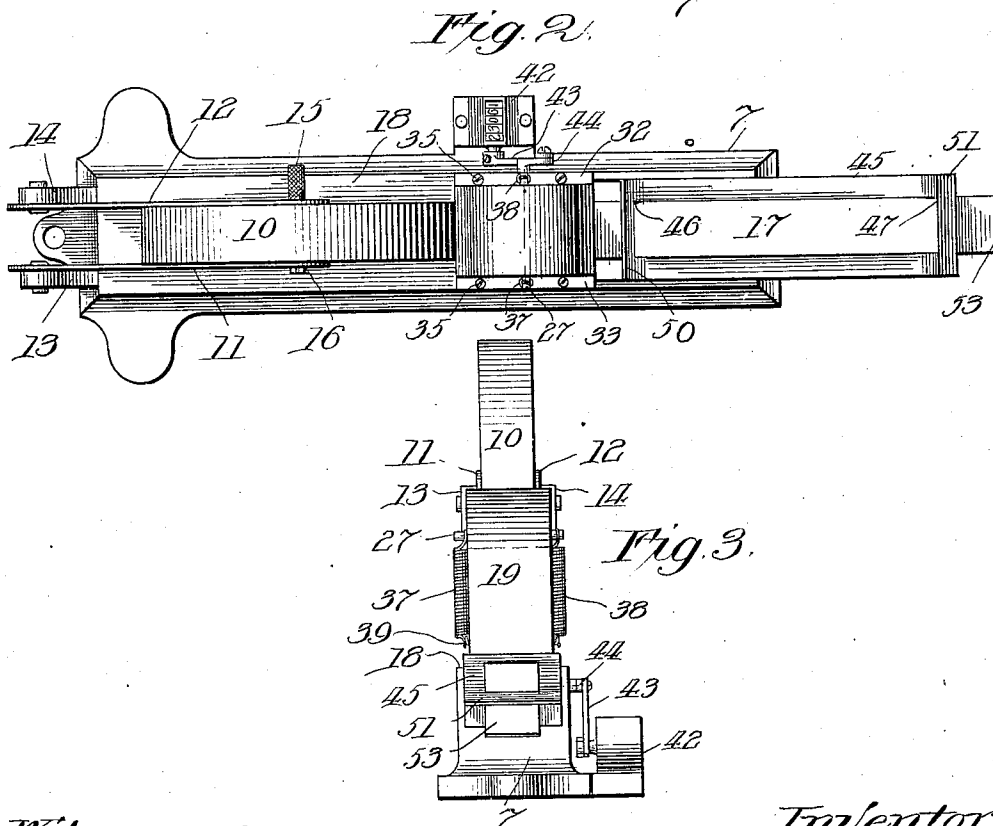
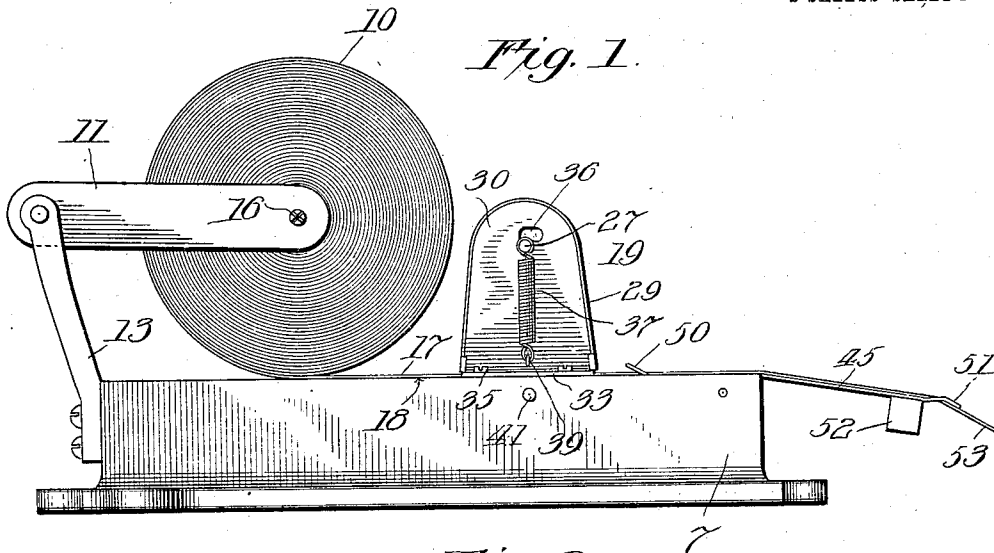


T. M. VAUGHAN.
TICKET PRINTING MACHINE.
APPLICATION FILED JULY 19, 1910.

980,711.

Patented Jan. 3, 1911.

2 SHEETS—SHEET 1.



Witnesses:

Harry S. Gaither
J. P. Bond

by

Inventor:

Thomas M. Vaughan
Banning & Banning
attys

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2 SHEETS—SHEET 2.

Fig. 4.

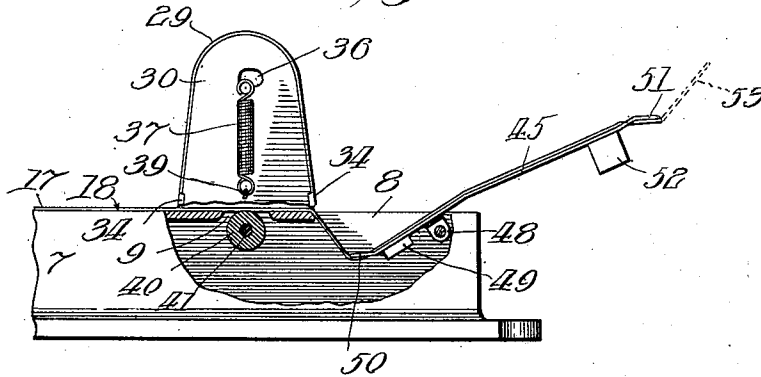


Fig. 5.

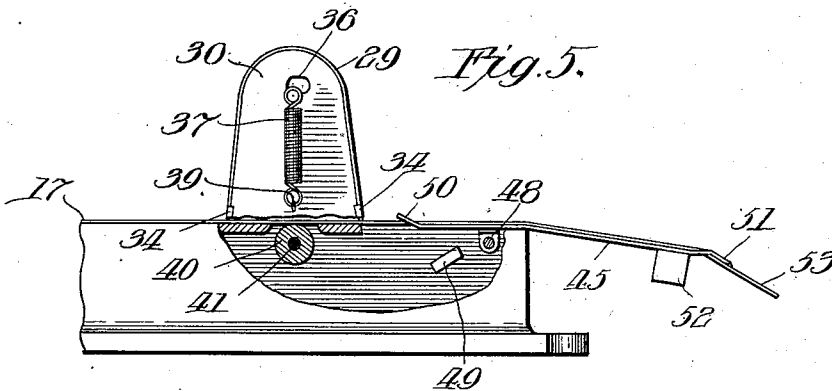
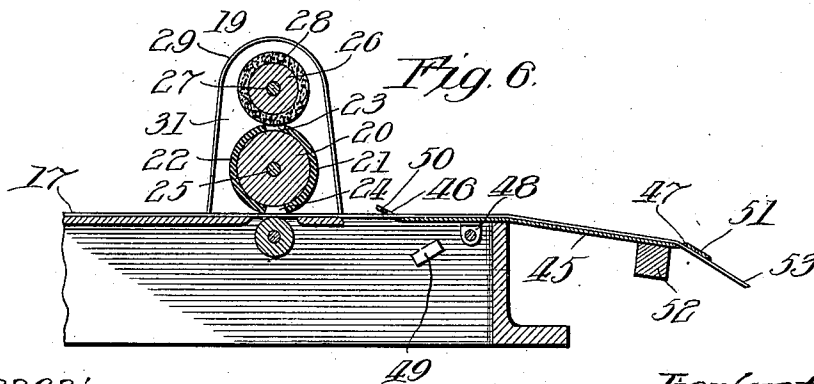


Fig. 6.



Witnesses:

Harry S. Gaither
J. M. Bond

Inventor:

Thomas M. Vaughan
by Ranning & Ranning
attys

UNITED STATES PATENT OFFICE.

THOMAS M. VAUGHAN, OF DETROIT, MICHIGAN, ASSIGNOR TO BOX OFFICE TICKET PRINTING MACHINE COMPANY, A CORPORATION OF ILLINOIS.

TICKET-PRINTING MACHINE.

980,711.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed July 19, 1910. Serial No. 572,657.

To all whom it may concern:

Be it known that I, THOMAS M. VAUGHAN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Ticket-Printing Machines, of which the following is a specification.

In selling tickets at small offices, such as the ticket offices of nickel theaters and small amusement parks, it has heretofore been customary to have the tickets printed in large numbers beforehand, each ticket being given a serial number and all of the tickets then being intrusted to the care of the agent at the box office. Where it is necessary to print the tickets for particular dates, or for special amusements, a sufficient number must be printed beforehand to fill all possible requirements. In cases where the exact number of sales cannot be anticipated or known beforehand, considerable loss of money frequently occurs by reason of having to print more tickets than were actually needed.

An object of this invention is to provide a machine intended to be placed in the box office or other location from which the tickets are sold, so that the ticket agent may draw from the machine a strip of paper or pasteboard having printed thereon the tickets in such quantities as may be necessary, each ticket impression being made on the strip at the time when the tickets are drawn from the machine; by the use of such a device only a sufficient number of tickets will be printed to fill the immediate requirements.

Another object of the invention is to keep an exact record of the number of tickets printed by the machine, and therefore a record of the number sold. Such a record will provide an immediate and accurate check upon the sales and will also have a moral influence upon the employees in whose hands the selling of tickets is placed.

Other objects of the invention are to provide an extremely simple machine which can be cheaply built and which will not become easily disarranged; to provide a machine into which the paper strip may be easily and quickly fed, and to provide a new and improved cutting device for severing the printed strip quickly and accurately without placing the operator to considerable inconvenience in originally grasping hold of the strip.

In the drawings—Figure 1 is a side elevation of my improved machine, the paper strip being in projected position with respect to the cutting edge, such as it would occupy immediately before being grasped by the operator; Fig. 2 is a plan view of the machine similar to Fig. 1; Fig. 3 is a front view of the machine similar to Fig. 1; Fig. 4 is a detail view of the front end of the machine, one portion of the casing being cut away and the strip cutter being in elevated position such as it would occupy during the severing process; Fig. 5 is a view similar to Fig. 4, the strip having been severed and the cutter being restored to its normal position, thus causing the strip to be projected beyond its end; and Fig. 6 is a cross-sectional view of the front end of the machine similar to Fig. 5, showing the manner in which the printing roll may be made with a plurality of projecting printing segments, there being spaces between them for facilitating counting of the tickets as they are printed.

In the drawings, the machine comprises a hollow base portion 7, having cut in its upper surface an opening 8 and a groove 9. The roll of pasteboard 10 is carried between arms 11 and 12 pivoted to lugs 13 and 14 properly attached to the base portion 7. The roll 10 is centered on a removable pin 15, which can be pulled out for replacing the roll, said pin being provided with a pair of cuts 16 in its end so that this end of the pin will spring into tight engagement with the arm 11. Supporting the roll in this manner on arms 11, which are pivoted to the lugs 13 and 14, permits the pin 15 to descend as the diameter of the roll diminishes, so that the strip 17 will always lie in flat contact with the upper surface 18 of the base portion 7.

A housing 19 is provided, in which are placed the printing and inking rolls. Referring to Fig. 6, the printing roll comprises a base 20, having mounted thereon a plurality of printing segments 21 and 22 in such way as to provide spaces 23 and 24 between the ends of the segments. The base 20 is mounted on a shaft 25, whose ends may slide horizontally up and down in slots in the side walls of the housing 19. The inking roll comprises a base 26, provided with a shaft 27 and an inking surface 28 of felt or other suitable ink-retaining material. The side walls and top of the housing comprise a flexible

strip 29 of substantially U-shape. The end walls of the housing comprise flat pieces 30 and 31 of a shape to fit within the portion 29 near its edges. Each of these flat end walls 30 and 31 is provided at its lower end with an L-arm 32 and 33, respectively, adapted to rest flatly upon the top surface of the base portion 7. The strip 29 is provided near each end with ears 34, bent over so as to engage and retain the lower portions of the end walls 30 and 31. The housing is retained in position on the main portion by means of screws 35, which pass through the L-arms and clamp them securely against the surface 18. The end wall is provided in its upper portion with an L-shaped slot 36, through which passes one end of the shaft 27 of the inking roller. Springs 37 and 38 are connected at their upper ends to the projecting ends of the shaft 27, and at their lower ends to lugs 39 properly secured to the end portions 30 and 31 so that the inking roller will always be drawn down against the upper portion of the printing roll. Since the ends of the shaft 25 of the printing roll pass through slots in the end walls 30 and 31, it is evident that the tension of the springs 37 and 38 will also serve to draw down the printing roll into contact with the strip 17 passing beneath. A supporting roll 40 is carried on a shaft 41 immediately beneath the printing roll, and provides a backing against which the strip 17 may rest during the printing operation.

A counter 42, of any suitable style, may be attached to one side of the base 7 and be operated by a link 43 attached to a crank 44 on a projecting end of the shaft 25 of the printing roll. When the printing roll is provided with two printing segments, this counter should be of a type which will register a unit every time the crank makes a half-revolution. If the printing roll were provided with but one printing segment, it is evident the counter should add but one unit for each revolution of the crank.

The cutting device 45 comprises essentially a plate having at one end a slot 46 and at the other end a slot 47, the plate being pivoted by means of ears 48 to the base portion 7 in such a manner that the end carrying the slot 46 may oscillate up and down in the opening 8. Stops 49 on each side of the base 7 serve to limit the downward motion of the end carrying the slot 46, and therefore the upward motion of the end carrying the slot 47. The end 50, which closes the slot 46, should be bent upward in such a manner that when the cutting device is thrown into the cutting position as shown in Fig. 4 the strip 17 will not be bent at too great an angle, as otherwise it might be broken off at this point during the cutting operation. The end 51 which bridges the slot 47 should be bent down substantially as shown and provided with a sharp cutting

edge so that the strip may be easily torn off against this cutting edge. A weight 52 serves to keep the cutting tool normally in a substantially horizontal position, so that the strip 17 passes directly across the opening 8.

When it is desired to tear off a portion of the strip 17, its projecting end 53 is grasped and pulled up into a substantially vertical position, as shown by the dotted lines of Fig. 4. This will tilt the cutting device upward until limited by the stops 49. Thereafter a length of strip may be drawn out from the machine corresponding to the number of tickets desired. This tilting will serve to draw through an additional portion of strip between the printing and supporting rolls, as will be evident from the position of the end 50 as shown in Fig. 4. Thereafter the strip may be torn off against the cutting edge by giving the strip a quick jerk. After the strip has thus been torn off, the weight 52 will restore the cutting device to its normal horizontal position and then the excess length of strip will be thrown out through the slots 46 and 47 and will project beyond the cutting device, as shown at 53 in Figs. 4 and 6. This projecting end 53 may then be easily grasped to withdraw an additional strip and tear off the same in the manner heretofore described.

It is evident that the printing roll will continue to print tickets so long as the strip is withdrawn in the manner above described. The cutting device should be so proportioned and located, with respect to the printing roll, that when it is desired to tear off the strip the impressions on the same will be properly related to the cutting edge, so that the strip will be severed between two consecutive impressions.

It is evident that the inking roll will seat within the spaces 23 and 24 each time it comes into engagement with said spaces. Therefore the tension necessary to draw the strip between the printing and supporting rolls will fluctuate according to the position of the printing roll with respect to the inking roll—that is, each time one of the spaces 23 or 24 passes the inking roll a slight additional tension will be necessary to withdraw the strip, and this additional tension will be noticed by the operator as a jerk on the strip. It will thus be possible for him to easily tell the number of tickets which have been withdrawn from the machine, because this number will be equal to the number of jerks which he has felt while withdrawing the strip. Thus the use of the machine will be greatly facilitated and danger of withdrawing more tickets than desired will be greatly reduced, although, of course, the machine will always keep a record of the number of tickets printed by means of the counting device 42.

I claim:

1. A ticket printing machine comprising a body portion, a web support, a printing roll, an inking roll and a cutting device, the cutting device comprising a plate having forward and rear web slots therein and being hinged to the body portion in a manner whereby the forward end of the plate may be tilted upward, a cutting edge on the forward end of the plate and means tending to normally retain the plate with its forward end in lowered position, and a stop on the body portion for limiting the amount of upward tilting of the forward end of the plate, substantially as described.

2. A printing machine comprising a body portion, web carrying means and printing means and a cutting device, said cutting device comprising a plate having therein a forward web slot and a rear web slot, the forward end of the plate being bent down to form a cutting edge and the cutting device being hinged to the body portion to permit the forward end of the cutting device to be raised with respect to the body portion, a stop on the body portion for limiting the amount of movement of the forward end of the cutting device, and a web support on the body portion adjacent the rear end of the cutting device, and means normally tending to retain the cutting device in substantially horizontal position, the cutting device, stop and web support being so positioned relatively that when the forward end of the cutting device is in

raised position an excess amount of web will be drawn through the printing mechanism whereby when the cutting device is restored to substantially horizontal position said excess web will be projected past the front end of the cutting device, substantially as described.

3. In a web tension ticket printing machine the combination with a frame, a printing roll flexibly carried thereby and having in its surface a longitudinal channel, an inking roll, and spring tension means for maintaining the same flexibly in engagement with the printing roll, of a cutting device in the form of a plate having therein a forward web slot and a rear web slot, and having its forward end bent down to form a cutting edge, and being hinged to the body portion to permit the forward end to be raised with respect to the body portion, a stop on the body portion for limiting the amount of movement of the forward end of the cutting device, the cutting device being so placed and proportioned with respect to the printing roll that when a channel of the latter engages the inking roll and the forward end of the cutting device is raised into cutting position, the web is severed between two consecutive ticket impressions, substantially as described.

THOMAS M. VAUGHAN.

Witnesses:

FRANCES STELLA WATSON,
F. D. TINDOLPH.