Feb. 8, 1944. H. M. BASCOM ET AL 2,341,011

TICKET CUTTER

Filed Dec. 26, 1942 2 Sheets-Sheet 1

FIG. 1

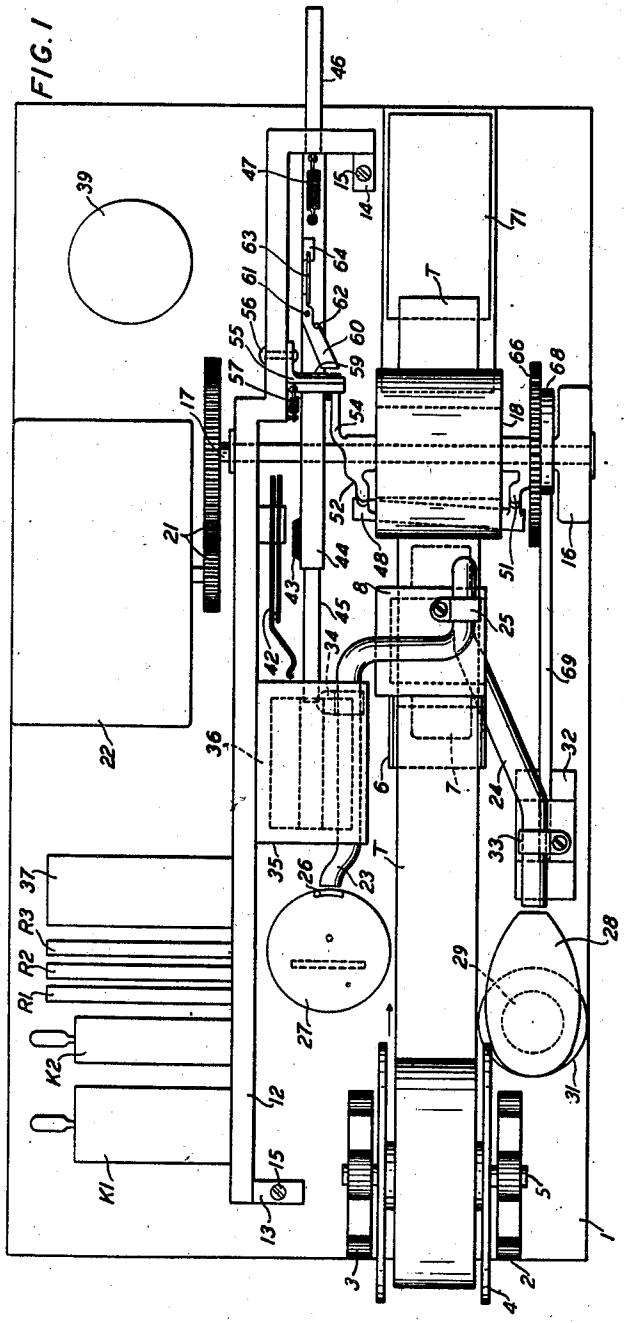


FIG. 5

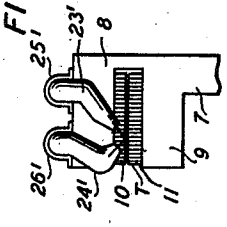


FIG. 4

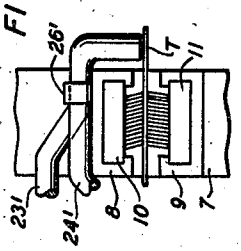
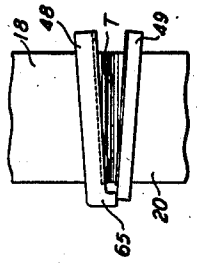


FIG. 3



INVENTORS: H. M. BASCOM
W. A. RHODES

BY P. C. Smith

ATTORNEY

Feb. 8, 1944. H. M. BASCOM ET AL 2,341,011

TICKET CUTTER

Filed Dec. 26, 1942 2 Sheets-Sheet 2

FIG. 2

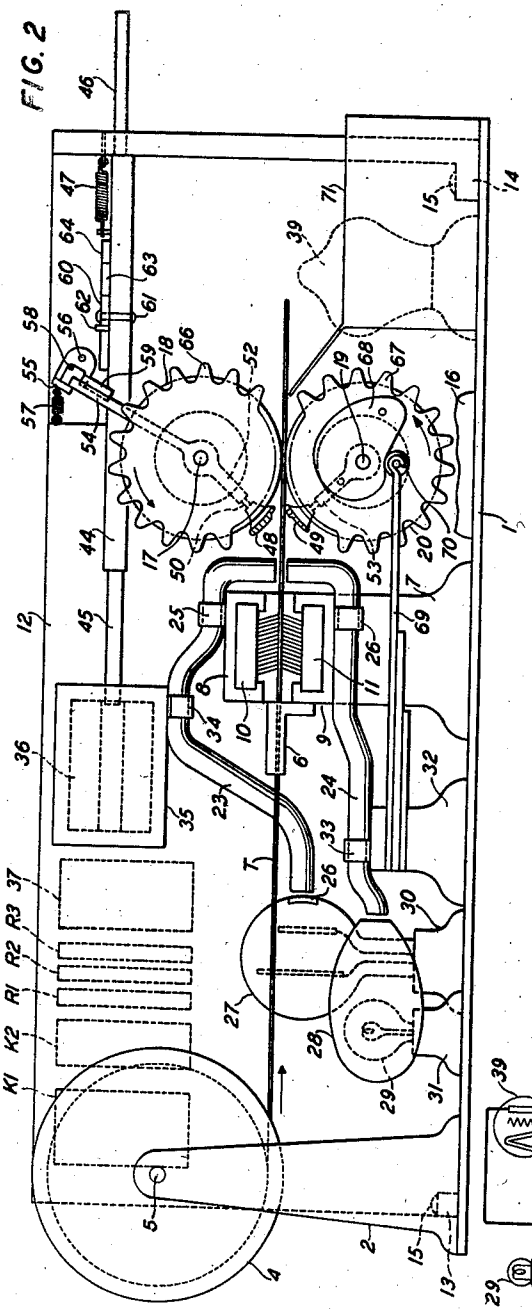


FIG. 7

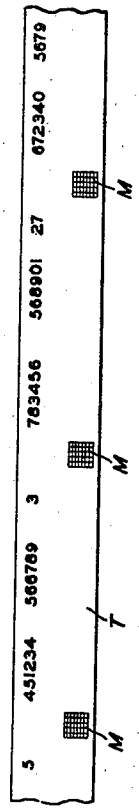
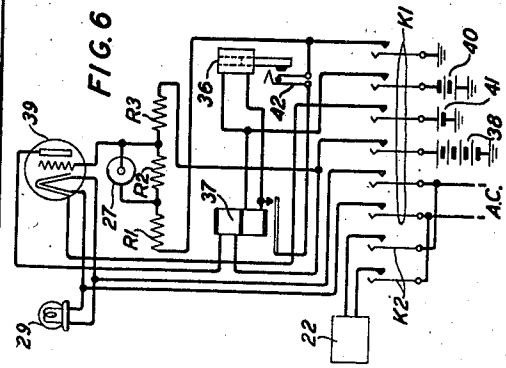


FIG. 6



INVENTORS: H. M. BASCOM
W. A. RHODES

BY P. C. Smith

ATTORNEY

Patented Feb. 8, 1944 2,341,011

UNITED STATES PATENT OFFICE

2,341,011

TICKET CUTTER

Henry M. Bascom and William A. Rhodes, New York, N. Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N. Y., a corporation of New York

Application December 26, 1942, Serial No. 470,273

9 Claims. (Cl. 164—68)

This invention relates to apparatus for cutting tickets or the like from a roll or tape and more particularly to apparatus for severing individual tickets relating to established toll calls from a roll of such prepared or printed tickets.

It has been proposed to enable calling subscribers to control the establishment of connections to lines terminating in nearby toll areas by dialing the directory numbers of such lines. In such a system, in response to the initiation of a call, a connection is extended to a trunk which is equipped with a toll ticket printer. The ticket printer is thereafter controlled to print on a toll ticket all of the data required for billing the call to the calling subscriber, such as the directory numbers of both the calling and called subscribers, the rate to be charged for the initial period of conversation, the elapsed time of the conversation, the month, day, hour and fractional division of the hour when the call was made, etc. The ticket thus printed may be used by the commercial department of the operating telephone company to prepare subscribers' bills in the same manner as the tickets usually prepared by the toll operators have been used.

An automatic toll ticketing system in which a toll ticket is printed for each completed toll call has been fully disclosed in the application of J. W. Gooderham, Serial No. 448,782, filed June 27, 1942. The ticket printer disclosed therein is provided with a cut magnet which is operated at an appropriate time to sever each printed ticket after it has been completely printed, from the tape or strip of paper which is fed through the printer. The tickets thus severed from the roll are deposited in a till from which they may be removed periodically and sent to the business office for use in preparing subscribers' bills. It is apparent that such tickets could be more easily handled if they could be rerolled after printing without severance and transmitted as a single roll rather than as a stack of several individual tickets. This procedure would, however, necessitate severance of the tickets from the roll at the business office with the added difficulty of determining the points on the tape between the ends of tickets and the beginnings of the next tickets for severing the tape.

It is the object of the present invention to enable printed tickets to be cut with speed and accuracy from a roll of tape on which they have been printed.

To attain this object, it is proposed to print a mark on the toll ticket tape immediately following the last item of a printed ticket and preceding the first item of the next ticket which may be used to control a ticket cutter. This mark could, for example, be printed under the control of the magnet of the ticket printer which is now used to sever the printed ticket from the tape. The ticket printer would also be provided with a reel for rolling up the printed tape preparatory to its transmission to the business office.

With a roll of printed tape thus prepared with marks to indicate the ends of individual tickets printed thereon, it is proposed in accordance with the present invention to provide a cutting mechanism through which the printed tape may be fed and which is equipped with a cutter controlled by a photoelectric cell responsive to the scanning of the printed end-of-ticket marks. The machine is provided with a pair of motor driven feed rolls which feed the printed tape between the ends of two tubes or rods of Lucite or similar material if the tape is of transparent or semitransparent material or past the angularly disposed ends of two such rods if the tape is of opaque material. The other end of one of such rods is associated with a light source and the other end of the other of such rods is associated with a photoelectric cell. As the tape passes the adjacent ends of the two rods, the printed end-of-ticket marks interrupt the transfer of light from the light source to the photoelectric cell thus so changing the impedance of the cell as to control the output of an amplifier tube associated with the cell. Control of the tube by the cell is such that when the impedance of the cell is increased by the scanning of a mark, the plate current of the tube is so increased as to cause the operation of a plate relay included in the plate circuit of the tube.

The relay in operating controls the operation of a cutter-operating solenoid so that by the time a mark on the tape scanned by the Lucite rods has passed to a point between or closely adjacent to the cutter blades, the blades are operated to cut the tape. When the solenoid armature approaches the end of its travel, it causes the opening of the locking circuit of the plate relay which thereupon releases in turn releasing the solenoid preparatory to the reoperation of the cutter blades when the next end-of-ticket mark is scanned.

For a clearer understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawings in which:

Fig. 1 is a top plan view of the ticket cutter of the present invention;

Fig. 2 is a side elevation view of the ticket cutter;

Fig. 3 is a detail view of the cutter blades;

Fig. 4 is a side elevational view of Lucite tubes or rods arranged for scanning a tape of opaque material;

Fig. 5 is an end elevational view of the Lucite rods disclosed in Fig. 4;

Fig. 6 is a diagram disclosing the circuit of the ticket cutter; and

Fig. 7 is a view of a section of a printed ticket tape disclosing the end-of-ticket marks printed thereon.

Referring particularly to Figs. 1 and 2, a base 1 is provided to one end of which are secured two upwardly and parallelly extending brackets 2 and 3 between the upper ends of which the tape reel 4 may be inserted and rotationally supported on the spindle 5. Aligned with a reel when inserted between the brackets 2 and 3 is a channel shaped tape guide 6 which is supported on the standard 7 also suitably secured to base 1. The standard 7 is provided with two parallel and forwardly extending portions 8 and 9 disposed above and below the guide 6. Each of these portions is formed as a channel serving as a holder for a brush, the brush 10 being held in the channel of portion 8 in such a position that the ends of its bristles engage the upper surface of a tape, such as T, when such tape disposed on the guide 6 and the brush 11 being held in the channel of portion 9 in such a position that the ends of its bristles engage the under surface of the tape. The brushes engaging with the tape tend to place a drag on the tape so that it is kept taut and smooth as it is pulled forward between the brushes as will be later described.

Extending lengthwise of the base 1 and perpendicular thereto is a wall 12 which is provided at one of its ends with a lug 13 by which it is secured to the base 1 and at its other end with a lug 14 also secured to the base 1 as by screws 15. Also secured to base 1 adjacent to its forward edge is a bracket 16. Journaled in aligned holes in the wall 12 and in the bracket 16 is an upper feed roll shaft 17 to which is secured a feed roll 18 having a friction surface of soft rubber. Also journaled in other aligned holes in the wall 12 and in the bracket 16 and directly beneath the shaft 17 is a second shaft 19 to which is secured a lower feed roll 20 also having a friction surface of soft rubber. The two rolls are so mounted with respect to each other that the engaged portions of their rubber surfaces are aligned with the guide 6 and grip the tape T when the tape is inserted through the guide and between the brushes 10 and 11 and engaged between the rolls. The upper roll 18 is driven through reduction gearing 21 by the motor 22 and through its frictional engagement with the roll 20 drives the latter roll. When the upper roll 18 is driven by the motor 22, the tape T is unrolled from the reel 4 at a constant speed, the tape being maintained taut as hereinbefore stated by the brushes 10 and 11, between such brushes and the rolls.

For scanning the end-of-ticket marks on the tape T, such as are indicated by the letters M on the sample tape disclosed in Fig. 7, two tubes or rods 23 and 24 of Lucite or a similar light conducting material are secured to the upper and lower faces of the portions 8 and 9 of the brackets 7 by the clips 25 and 26. These rods are provided at one of their ends with portions bent at right angles into alignment with each other and spaced apart sufficiently to permit the free passage of the tape T between them. These aligned ends of the rods are so positioned as to overlie the path of the end-of-ticket marks M as the tape is drawn through the machine. The other end of the rod 23 is positioned adjacent to a window 26 in the opaque surface of a photoelectric cell 27. The other end of rod 24 is positioned opposite the end opening in the parabolic reflector 28 within which the lamp 29 is positioned. The photoelectric cell 27 and the lamp 29 are mounted in sockets 30 and 31 which are suitably secured to the base 1. The end of rod 24 adjacent to the reflector 28 is supported on the upper end of the bracket 32 which is secured to the base 1 and is secured to such bracket by the clip 33. The rod 23 is also supported by the clip 34 secured to the field magnet shell 35 surrounding the solenoid coil 36. When the lamp 29 is lighted, light therefrom is concentrated by the reflector 28 upon the end of rod 24 and is conducted along the rod, transmitted through the transparent tape T when interposed between the ends of rods 23 and 24, and is then conducted along rod 23 and directed through the window 26 upon the light sensitive surface of the photoelectric cell 27.

Referring to the circuit diagram of Fig. 6, it will be noted that when the key K1 is operated, the lamp 29 is lighted from the source of commercial alternating current and that current is supplied to the potential divider comprising the three serially connected resistances R1, R2 and R3 from the source 38 which also applies potential to the electrodes of the photoelectric cell 27. The cell is connected in shunt of the middle resistance R2 of the potential divider. Key K1 also connects the positive terminal of battery 38 through the upper winding of plate relay 37 to the plate of amplifier tube 39; prepares a locking circuit from the source of current 40 for the lower or locking winding of relay 37 and for the operating circuit of solenoid 36; connects the battery 41 to the cathode of the tube 39 and connects the source of alternating current to the filament of the tube 39 for lighting such filament. With the photoelectric cell 27 illuminated by light from lamp 29 passing through the tape T, the cell 27 presents a certain impedance in parallel with resistance R2 which causes the application of such a potential to the grid of the tube 39 as to cause little or no plate current to flow through the tube 39. When, however, an end-of-ticket mark M on the tape T becomes interposed between the ends of the rods 23 and 24, the illumination of the photoelectric cell 27 is decreased whereby the impedance of the cell is increased and thereby the potential on the grid of tube 39 is increased to cause plate current to flow through the tube and through the upper winding of plate relay 37.

Relay 37 thereupon operates, locks through its lower winding over its contacts, the normally closed contacts 42 controlled by the cam surface 43 carried by the bar 44 to which the armature core 45 of the solenoid 36 is attached, and over the circuit prepared by the operation of key K1 to ground. Relay 37 also establishes a circuit in parallel with its locking winding through the coil 36 of the solenoid whereupon the solenoid draws the core armature 45 into the axial opening within itself. The key K2 when operated connects the source of alternating current to the driving motor 22 which drives the feed rolls 18 and 20 to advance the tape T through the machine in the direction of the arrow as disclosed in Figs. 1 and 2. The keys K1 and K2, resistances R1, R2 and R3 and relay 37 are mount-

ed on the rear face of wall 12 as best disclosed in Fig. 1. The solenoid 36 is attached by its magnet field shell 35 to the front face of wall 12 and the amplifier tube 39 is mounted on the base 1.

The slidable bar 44 has a reduced portion 46, square in cross section, which slides in a square opening in the forwardly extending portion of the wall 12, the movement of the bar being limited in its direction to the left when the core armature 45 is attracted by the energization of the solenoid coil 36, by the engagement of the left end of the bar with the field magnet shell 35 of the solenoid and being limited in its return movement, when restored by the spring 47, by the engagement of its shouldered right end with the inner surface of the forwardly extending end of the wall 12. The restoring spring 47 is attached at one of its ends to the bar 44 and at the other of its ends to an eyelet threaded into a tapped opening in the wall 12.

For severing the tape T two cutter blades 48 and 49 are provided. The upper cutter blade 48 is provided at each of its ends with a pin 50 extending at right angles therefrom, these pins slidably engaging in holes in the supporting arms 51 and 52 which are rotatably supported on the shaft 17 at the opposite ends of the upper feed roll 18. Interposed between the ends of the pins 50 and the bottoms of the holes in the arms 51 and 52 are spiral springs (not shown) against the tension of which the cutter blade 48 may move radially toward the surface of the feed roll 18. The lower cutter blade 49 is similarly supported on the two arms rotatably supported on the lower shaft 19 at the opposite ends of the lower feed roll 20, one of these arms 53 being shown in Fig. 2.

The arm 52 has an upwardly extending portion 54, the upper end of which is normally latched against movement by the latch 55 and is held against the latch by the weight of arm 52 and of blade 48. The latch 55 is pivoted to the wall 12 by the pin 56 and is normally held in its latching engagement with the upper end of the arm portion 54 by the spring 57 one end of which is hooked to a stud extending from the wall 12 and the other end of which is attached to an eyelet secured to the latch 55. The latching movement of the latch 55 is limited by the stop pin 58 attached to the wall 12. The latch 55 is also provided with an outturned arm 59 engageable by a pawl 60 pivoted by the pin 61 to the slidable bar 44. The pawl 60 is normally held in the position shown in Fig. 1 against the stop pin 62 by a leaf spring 63, one end of which is engaged against the tail portion of the pawl and the other end of which is secured by the stud 64 to the bar 44.

When the solenoid coil 36 is energized in the manner previously described, the attraction of the armature core 45 moves the bar 44 towards the left, as viewed in Fig. 2, whereby the pawl 60 carried by the bar 44 first engages the arm 59 of the latch 55 thereby rotating the latch against the tension of spring 57 to unlatch the portion 54 of the upper cutter blade supporting arm 52. Upon the continued movement of the pawl 60 it moves the unlatched portion 54 of the arm 52 thereby moving the cutter blade 48 in the direction of rotation of the upper feed roll 18. As the cutter blade 48 moves, the downwardly extending tongue 65 thereof engages the lower cutter blade 49 as disclosed in Fig. 3, thereby causing a rotation of the cutter blade 49 around the shaft 19. As the cutter blade 48 continues its movement between the yielding surfaces of the feed rolls 18 and 20, it forces the cutter blade 49 ahead, first by its tongue and then by the laterally moving engagement of its cutting edge with the cutting edge of the lower cutter blade 49 whereby the cutting edges of the cutter blades are engaged in a lateral movement across the tape T thereby severing the tape.

As the two cutter blades enter between the feed rolls 18 and 20, teeth of the gears 66 and 67, which are secured respectively to the arm 51 which supports one end of the cutter blade 48 and to the arm (not shown) which supports one end of the cutter blade 49, become engaged. As the gear 67 rotates, it causes the rotation of cam 68 secured thereto thereby depressing the free end of cantilever spring 69. The outer free end of the spring 69 carries a cam roller 70 which engages with the surface of cam 68 and the other end of the spring is clamped to the bracket 32. When the cutter blades have advanced between the rolls nearly to the point of their emergence from between the rolls, the cam 68 will have rotated to a point at which the cam roller 70 has passed over the high point on the surface of such cam, whereupon the pressure of the tensioned spring 69 will cause through the roller 70 the quick continued rotation of the cam 68 and associated gear 67 and the rotation of the intermeshed gear 66 even after such gears cease to be driven by the engagement of the cutter blades between the feed roll.

The continued rotation of gear 67 returns the cutter blade 49 to its normal position disclosed in Fig. 2 at which time the cam roller 70 is engaged in the depression in the surface of cam 68. The continued rotation of gear 66 returns the cutter blade 48 to its normal position at which time the arm 54 engages against the latch 55.

When the core armature 45 was fully attracted by the energization of the solenoid core 36, the cam member 43 carried by the bar 44 engaged the movable spring of the pair of springs 42 thereby disengaging such springs to open the locking circuit of relay 37 and the operating circuit of solenoid coil 36. Relay 37 thereupon released and the solenoid coil became deenergized whereupon the bar 44 was returned to its normal position by the spring 47. As the bar moved back to normal, the springs 42 were permitted to reclose and the pawl 60 was depressed against the tension of its leaf spring 63 as it cammed over the edge of the forwardly extending arm 59 of the latch 55 until it snapped over the arm 59 into the position disclosed in Fig. 1. When the arm 54 of the cutter support was rotated by the gear 66 into its normal position against the latch 55, it also cammed the pawl 60 out of its path if such pawl had at that time been restored to its normal position.

The cutter blades 48 and 49 are positioned ahead of the scanning ends of the lucite rods 23 and 24 sufficiently so that the tape T will be advanced after an end-of-ticket mark M thereon has been scanned to a point where the cutter blades will sever the tape at or closely adjacent to such mark when the cutters are actuated in response to scanning the mark. When the ticket has been severed and leaves the feed rolls 18 and 20, it becomes deposited in the bin 71 secured to the base 1.

In the foregoing description it has been assumed that the toll tickets have been printed on a tape of transparent or semitransparent mate-

rial and that the lucite rods 23 and 24 were therefore positioned to scan the tape by light transmitted through the tape and intercepted by the opaque end-of-ticket marks M printed on the tape. It will also be possible within the scope of the present invention to arrange the lucite rods to scan a tape of opaque material, such as paper, by reflected light. The alternative structure for scanning an opaque tape has been disclosed in Figs. 4 and 5.

By reference to Figs. 4 and 5, it will be noted that the scanning end of the lucite rod 24' which extends to the parabolic reflector 28 surrounding the lamp 29 and the scanning end of the lucite rod 23' which extends to the photoelectric cell 27 are both supported on the upper face of the channel portion 8 of the bracket 7 and are secured thereto by clamps 25' and 26'. The scanning ends of these rods extend downwardly nearly to the upper surface of the tape T and are bent toward each other as best seen in Fig. 5. Light conducted through the rod 24' from the lamp 29 is directed at an angle against the upper surface of the tape T as indicated by the dotted line in Fig. 5 from which it is reflected into the end of the rod 23' and conducted by such rod to the photoelectric cell 27, except when the poor reflecting surface of an end-of-ticket mark M becomes interposed in the light path.

It will, of course, be apparent that the light from the lamp may be transmitted to the tape by an optical system without employing a lucite rod or it may be transmitted from the tape to the photoelectric cell without the use of a lucite rod. If the direct transmission of light to and from the tape is employed, the compactness of the assembly would need to be sacrificed.

The employment of the photoelectric scanner for controlling the operation of the cutter blades permits tickets of different lengths such as short tickets for incompleted calls, short tickets for completed calls of short duration and longer tickets for calls of long duration to be accurately severed from the roll of printed tickets.

What is claimed is:

1. In a cutting apparatus, means for feeding therethrough a tape having distinctive marks formed in a longitudinally extending path therealong, tape cutting blades, a source of illumination, a photoelectric cell, a light conducting rod for conducting light from said source to a point in said path, a light conducting rod for conducting light from said path to said photoelectric cell, and means operable upon the response of said cell to light from said source as modified by the interpositioning of said marks in said path for causing the operation of said cutting blades to sever the tape at or closely adjacent to said marks.

2. In a ticket cutting apparatus, means for feeding therethrough a tape having tickets printed thereon and end-of-ticket marks also printed along a path adjacent to a margin of said tape and immediately following the ends of printed tickets, tape cutting blades, a source of illumination, a photoelectric cell, a light conducting rod for conducting light from said source to a point in said path, a light conducting rod for conducting light from said path to said photoelectric cell, and means operable upon the response of said cell to light from said source as modified by the interpositioning of said marks in said path for causing the operation of said cutting blades to sever the tape at or closely adjacent to said marks.

3. In a cutting apparatus, means for feeding therethrough a tape having distinctive marks formed in a longitudinally extending path therealong, tape cutting blades, a source of illumination, a photoelectric cell, a first light conducting rod extending from said source to a point on one face of the tape in alignment with said path, a second light conducting rod extending from said photoelectric cell to a point on the other face of the tape in focal alignment with the adjacent end of said first rod, whereby light from said source is conducted through said first rod, tape and said second rod to said cell, and means operable upon the response of said cell to light from said source as modified by the interpositioning of said marks between the adjacent ends of said rods for causing the operation of said cutting blades to sever the tape at or closely adjacent to said marks.

4. In a cutting apparatus, means for feeding therethrough a tape having distinctive marks formed in a longitudinally extending path therealong, tape cutting blades, a source of illumination, a photoelectric cell, a first light conducting rod extending from said source with one of its ends positioned adjacent to one face of the tape with its focal axis in alignment with the path of said marks, a second light conducting rod extending from said photoelectric cell with one of its ends positioned adjacent to the same face of the tape with its focal axis in alignment with the path of said marks, whereby light from said source is conducted through said first rod, reflected from the surface of the tape and conducted through said second rod to said cell, and means operable upon the response of said cell to light from said source as modified by the movement of said marks into the light path between said source and said cell for causing the operation of said cutting blades to sever the tape at or closely adjacent to said marks.

5. In a cutting apparatus, a pair of feed rolls for feeding therethrough a tape having distinctive marks formed in a longitudinally extending path therealong, said rolls having yieldable feeding surfaces, shafts for supporting said rolls, a pair of cooperating cutting blades, yieldable supporting arms for the ends of one of said blades journaled on one of said shafts, yieldable supporting arms for the ends of the other of said blades journaled on the other of said shafts, a source of illumination, a photoelectric cell, means for directing light from said source to a point in said path from which point the light is directed to impinge upon the light sensitive element of said cell, a solenoid operable by the response of said cell to light from said source as modified by the interpositioning of said marks in said path for causing the initial movement of said blade into engagement between the yieldable surfaces of said rolls, whereupon said rolls cause the continued movement of said blades in a shearing action with respect to each other to sever the tape, and means thereafter effective to restore said blades to their normal positions.

6. In a cutting apparatus, a pair of feed rolls for feeding therethrough a tape having distinctive marks formed in a longitudinally extending path therealong, said rolls having yieldable feeding surfaces, shafts for supporting said rolls, a pair of cooperating cutting blades, yieldable supporting arms for the ends of one of said blades journaled on one of said shafts, yieldable supporting arms for the ends of the other of said blades journaled on the other of said shafts, a

source of illumination, a photoelectric cell, means for directing light from said source to a point in said path from which point the light is directed to impinge upon the light sensitive element of said cell, a solenoid operable by the response of said cell to light from said source as modified by the interpositioning of said marks in said path for causing the initial movement of one of said blades into a position between the yieldable surfaces of said rolls, an extension on one of said blades for engaging said other blade for moving said other blade between the yieldable surfaces of said rolls, whereupon said rolls cause the continued movement of said blades in a shearing action with respect to each other to sever the tape, and means thereafter effective to continue the movement of said blades into their normal positions.

7. In a cutting apparatus a pair of feed rolls for feeding a tape therethrough, said rolls having yieldable feeding surfaces, shafts for supporting said rolls, a pair of cooperating cutting blades, yieldable supporting arms for the ends of one of said blades journaled on one of said shafts, yieldable supporting arms for the ends of the other of said blades journaled on the other of said shafts, a solenoid for causing the initial movement of said blades into engagement between the yieldable surfaces of said rolls, whereupon said rolls cause the continued movement of said blades in a shearing action with respect to each other to sever the tape, and means thereafter effective to continue the movement of said blades into their normal positions.

8. In a cutting apparatus, a pair of feed rolls for feeding a tape therethrough, said rolls having yieldable feeding surfaces, shafts for supporting said rolls, a pair of cooperating cutting blades, yieldable supporting arms for the ends of one of said blades journaled on one of said shafts, yieldable supporting arms for the ends of the other of said blades journaled on the other of said shafts, a latch for holding one of said blades in its normal position, a solenoid having a movable core-armature, a pawl connected to said armature and operable upon the operation of said solenoid to unlatch said one blade and to move said blade into a position between the yieldable surfaces of said rolls, an exension on said one blade engageable upon its initial movement to move said other blade between the yieldable surfaces of said rolls, whereupon said rolls cause the continued movement of said blades in a shearing action with respect to each other to sever the tape, and means thereafter effective to continue the movement of said blades into their normal positions.

9. In a cutting apparatus, a pair of feed rolls for feeding a tape therethrough, said rolls having yieldable feeding surfaces, shafts for supporting said rolls, a pair of cooperating cutting blades, yieldable supporting arms for the ends of one of said blades journaled on one of said shafts, yieldable supporting arms for the ends of the other of said blades journaled on the other of said shafts, a solenoid for causing the initial movement of said blades into engagement between the yieldable surfaces of said rolls, whereupon said rolls cause the continued movement of said blades in a shearing action with respect to each other to sever the tape, intermittent gears rotatable on said shaft and connected to said blades, respectively, said gears being normally out of mesh but brought into mesh when said blades enter between said rolls, a cam connected to one of said gears and a cantilever spring having a roller bearing agaist the surface of said cam, said cam being so shaped that said spring is tensioned during the initial rotation of said cam and that upon the emergence of said blades from between said rolls said tensioned spring continues the rotation of said cam and the rotation of said gears whereby said blades are returned to their normal positions.

HENRY M. BASCOM.
WILLIAM A. RHODES.