Nov. 15, 1960 H. PAUTZE 2,960,027

TICKET PRINTER

Filed Oct. 16, 1956 5 Sheets-Sheet 1

Fig. 1

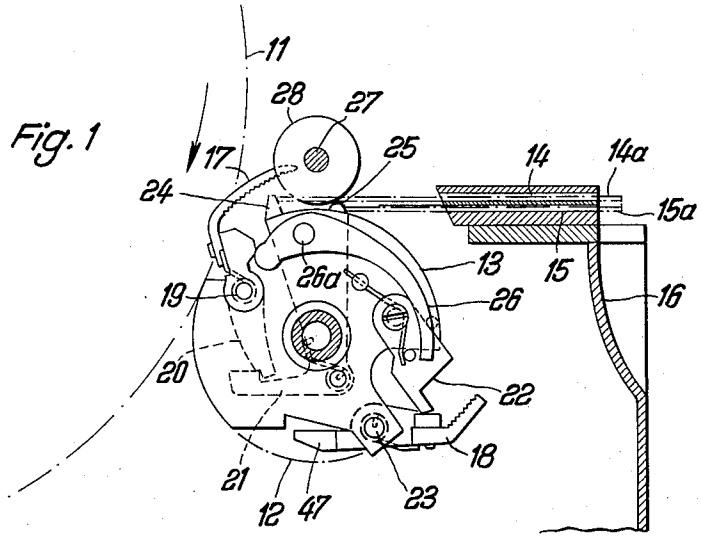

Fig. 2

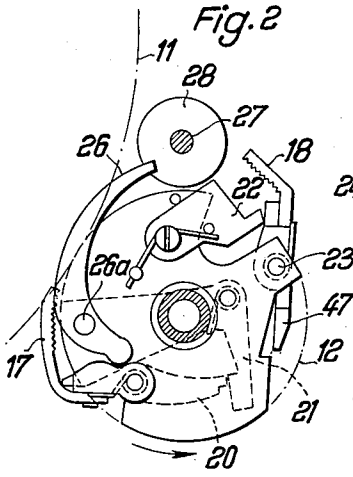

Fig. 3

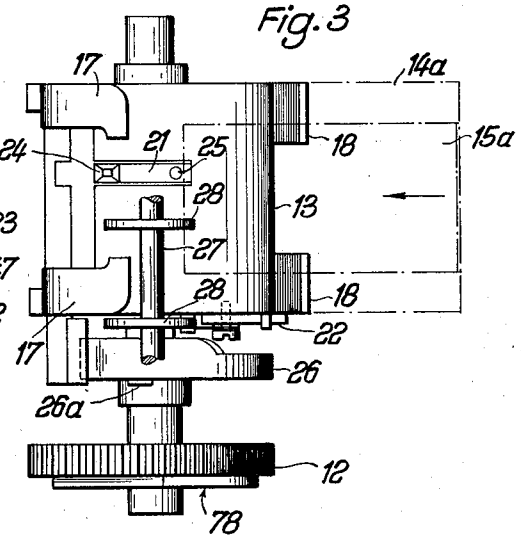

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Fig. 4

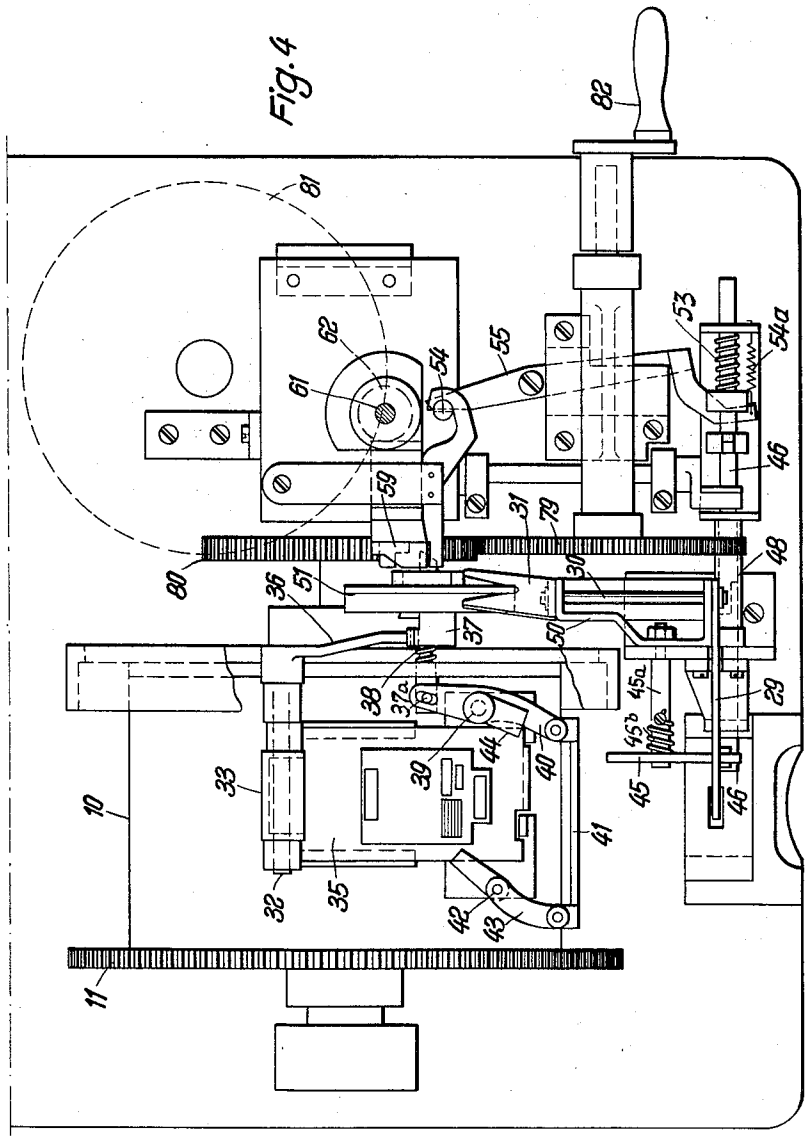

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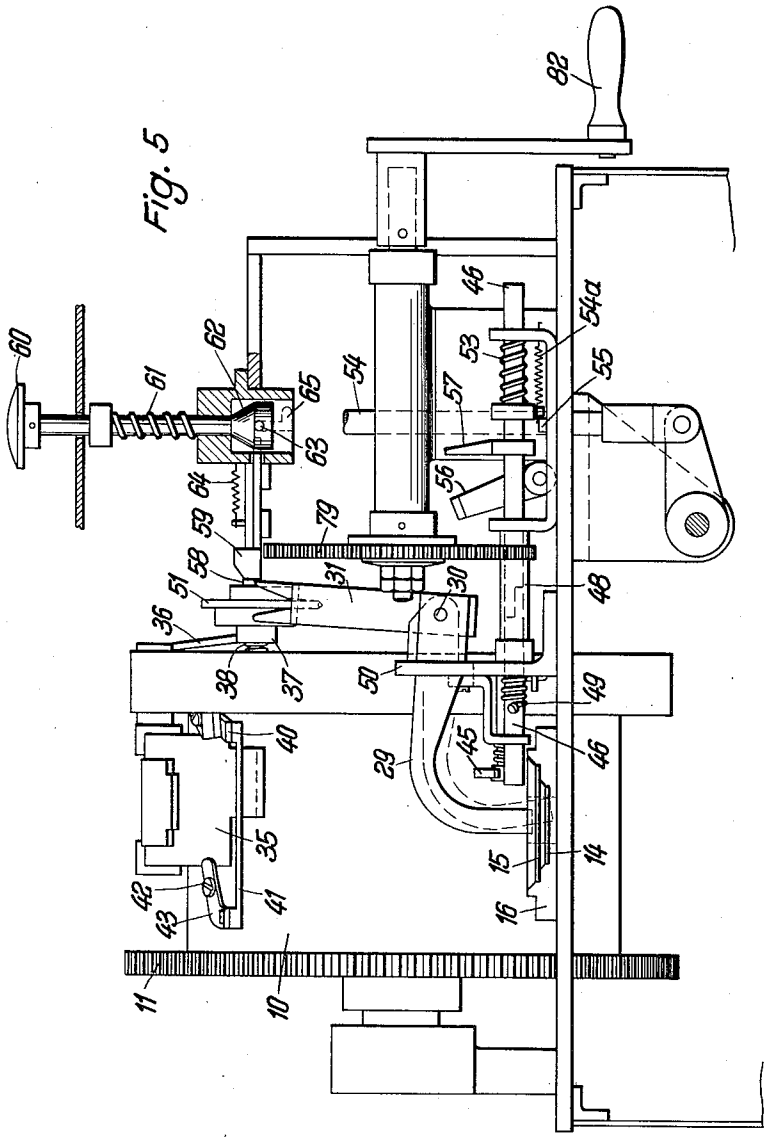
Fig. 5



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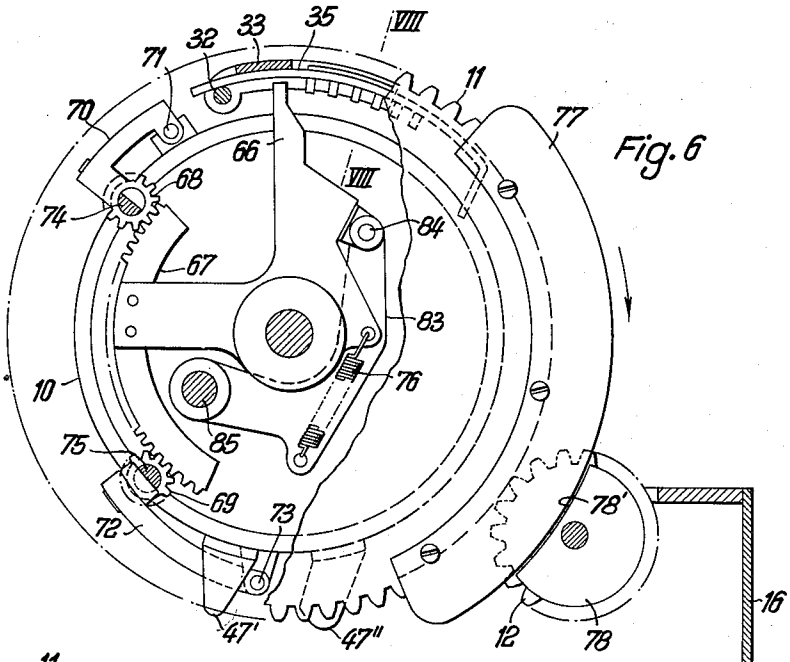

Fig. 6

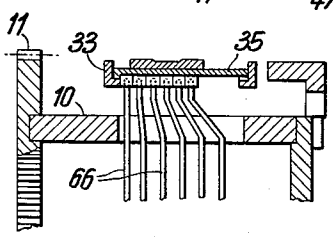

Fig. 8

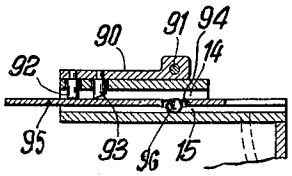

Fig. 10

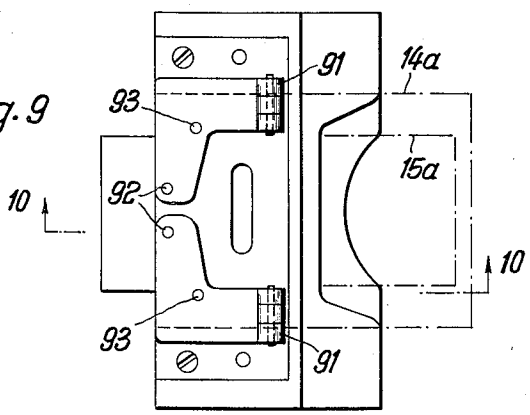

Fig. 9

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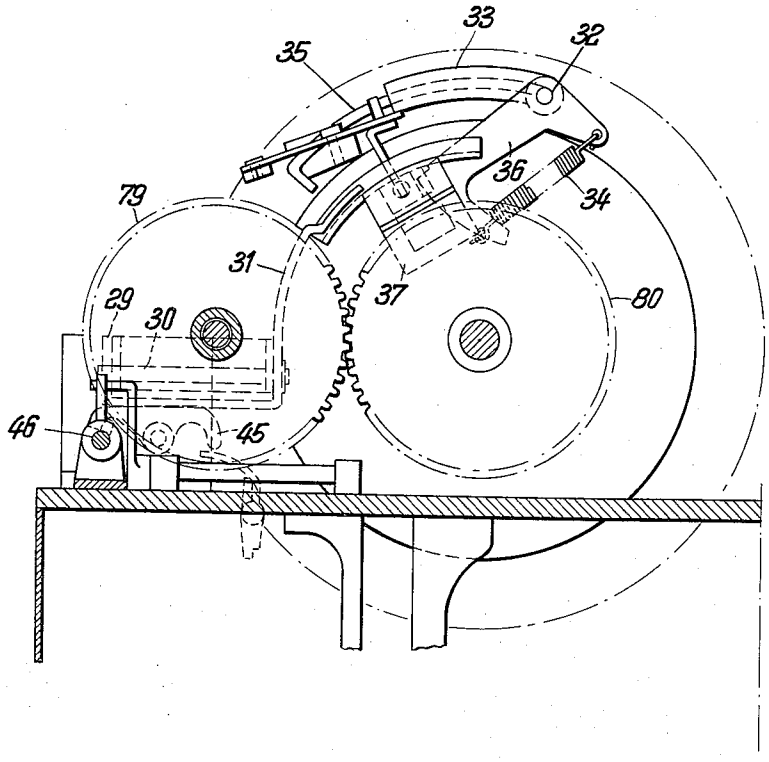
Fig. 7



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United States Patent Office

2,960,027

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TICKET PRINTER

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Filed Oct. 16, 1956, Ser. No. 616,166

Claims priority, application Germany Oct. 24, 1955

16 Claims. (Cl. 101—235)

The invention relates to a ticket printer into which cardboard blanks are inserted to receive certain data thereon. Machines of this type are known provided with a printing cylinder containing the printing devices, and a pressing roller which presses the blanks against said cylinder. The printing cylinder carries the printing plate which is provided, at its back side, with lugs by which the printing devices are adjusted during the rotation of the printing cylinder.

If such machines are driven mechanically, that is, by an electric motor or the like, the motor is switched on at the beginning of the operation and is coupled with the machine for each printing operation by means of a single-revolution coupling. Ticket printers are also known which are started by an abutment controlled by the inserted cardboard blank.

It is an object of the present invention to provide a machine in which the cardboard blank introduced in the machine abuts against an abutment and drives it so as to release grippers which then engage and hold the blank on the printing roller. At the same time a single-revolution coupling is closed by the said blank, said coupling connecting the printing cylinder with the drive.

When using the invention with cardboard blanks of different sizes, e.g. for printing tickets of the usual formate (Edmonson tickets) or for printing tickets of a larger formate (season tickets or the like) a plurality of slots are provided into which the blanks are introduced and the blanks are guided by said slots against abutments arranged a certain distance from each other.

To avoid misprints the slots are blocked by a blocking lever controlled by the printing plate carrier which receives the printing plate in such a way that it is only released if the printing plate is in its working position.

As the two mentioned kinds of tickets must partly be provided with different printing, e.g. the tickets of the usual formate must be provided with a date and the season tickets with lines on which the name of the owner is placed, at least one kind of the printing plates is provided with one or a plurality of additional lugs causing the printing types which are not required, to be disconnected and substituting them by the types required for printing the respective ticket.

At the end of each operation the printing plate is automatically released from the printing cylinder. However, also repeated printing by the same printing plate is possible, according to the invention, by blocking the releasing means.

The drawing shows by way of example an embodiment of the invention of a machine provided with two slots for introducing cardboard blanks of two different sizes.

In the drawing,

Fig. 1 is a vertical section through the printing roller and the blank supplying device, the printing cylinder being indicated by dash and dot lines,

Fig. 2 is a similar illustration as Fig. 1 but showing the grippers in the operative position,

Fig. 3 is a plan view of Fig. 1,

Fig. 4 is a plan view of the machine, the printing roller being omitted,

Fig. 5 is a front view of the machine partly in section according to Fig. 4, showing the blocking of the slots against inserting of a cardboard blank,

Fig. 6 is a partially sectional side view of the printing cylinder,

Fig. 7 is an end view partly in section showing the insertion of the printing plate,

Fig. 8 is a section through a part of Fig. 6 taken on line 8—8 of Fig. 6,

Fig. 9 is a plan view of the means through which the blanks are inserted, and

Fig. 10 is a vertical section taken on the line 10—10 in Fig. 9.

The ticket printer according to the invention comprises essentially the printing cylinder 10 and the pressing roller 13. The printing plate is fastened on the outer circumference of the printing cylinder, and the printing devices are arranged thereon. The machine illustrated in the drawings serves for printing tickets of different formates, e.g. of the small normal formate and of the larger season ticket formate. The printing plates for printing of at least one of these formates, preferably of the season ticket formate, are provided with several lugs causing the printing device to be switched over if required in a manner to be described.

The printing cylinder 10 is provided with a gear 11 and the pressing roller is mounted in front of the printing cylinder and is arranged on a shaft which also carries a gear 12 meshing with the gear 11 of the printing cylinder. The cardboard blanks to be printed are fed to the pressing roller through two slots 14 and 15 arranged one above the other on a supporting bed 16 (Fig. 1). The slots 14 and 15 are adapted to receive tickets of different formates and therefore are of different size.

Two grippers 17 and 18 are provided adapted to engage the blanks introduced into the slots and to hold them on the pressing roller. The front grippers 17 are carried by an arm of a doublearmed lever rockable about the axis 19, the other arm 20 of the lever being indicated in Fig. 1 in dash lines. The arm 20 is engaged by a pawl 21 which holds it in a position in which the gripper is open and does not engage a blank. When the said pawl 21 is released, the gripper 17 is rotated into the closed position by means of a spring wound around the axis 19, shown in Fig. 2, in which the grippers 17 engage a cardboard blank advanced through one of the slots and holds it against the pressing roller 13.

The rear gripper 18 is also mounted on a double armed lever and is held in the open position shown in Fig. 1 by a pawl 22 against the force of a spring wound around the axis 23 which supports the gripper 18. This gripper keeps the lower end of the blank against the pressing roller if the pawl is released.

The pawl 21 is one arm of a bell crank lever shown in Fig. 1 in dash lines for sake of clearness, the other arm of which lever is directed upwardly and is provided with two abutments 24 and 25. The abutment 24 is fastened on the lever while the abutment 25 is inserted into a hole provided in said arm and projects therefrom to be yieldingly held in its position by a spring so that it may be easily pushed fully into the hole.

When a cardboard blank is introduced in the lower slot 15 designed for tickets of the small formate the front edge of the blank strikes against the abutment 25 and turns the bell crank lever 21 in a counter-clockwise direction (Fig. 1). If, however, a cardboard blank of a larger formate is inserted into the upper slot 14 this blank passes above the abutment 25 or presses it into its hole in the bellcrank lever against the action of its spring, so that the said blank may strike against the

abutment 24 fixed on the bellcrank lever. The upper end of the abutment 25 is rounded or has a hemispherical shape to allow the blank of the larger formate to pass or to push the abutment 25 into its hole more easily. In both cases the bellcrank lever 21 is rotated by the cardboard blank in a counter-clockwise direction (Fig. 1), so that it fulfills two functions, first to release the lever 20 and second to turn a lever 26 supported on the pressing roller and rockable around a pivot 26*a* in a counter-clockwise direction, so that it moves from the position of Fig. 1 to the position shown in Fig. 2 in which its free end extends over the circumference of the pressing roller. In consequence of releasing the lever 20 the front grippers 17 have engaged the upper edge of the advanced cardboard blank so as to hold it against the circumference of the pressing roller.

If now the pressing roller 13 begins to rotate, in a manner to be described, disks 28 mounted on an axle 27 supported in the machine frame above the pressing roller, engage the locking lever 22 and turn it against the action of its spring, so as to release the grippers 18. Said grippers now engages the lower portion of the cardboard blank and maintain it against the pressing roller so that, during the further rotation of the pressing roller, the blank is pressed against the printing cylinder and now be printed. The two abutments 24 and 25 are spaced so as to cause the grippers 17 and 18 to hold the upper and lower end of the ticket respectively on the pressing roller, independently of the size of the blanks.

In the position of rest of the machine, the entry into the slots 14 and 15 is blocked to prevent inserting a cardboard blank by means of a lever 29, as may be seen on Fig 5, said lever 29 being at that time in the position indicated by dash lines. The lever 29 is mounted on a pin 30 supported in a fixed frame 50 (Fig. 4); at the other end of the pin a lever 31 is fastened extending obliquely and upwardly. By rocking this doublearmed lever 29, pin 30 and lever 31 in the clockwise direction in Fig. 5, the slots 14 and 15 are laid open so that a cardboard blank may be introduced thereinto. To avoid introducing a cardboard blank before a printing plate is correctly positioned on the printing cylinder, the rocking of the lever 29, pin 30 and lever 31 and therewith the freeing of the slots 14 and 15, is controlled by applying a printing plate to the printing cylinder 10 in the following way.

A printing plate carrier 33 (Figs. 4 and 6) rockable around an axis 32 supported at the printing cylinder, is constructed so as to receive the arcually formed printing plate 35. A double-armed lever 36 is connected with the printing plate carrier, one arm of said lever being pulled, by means of a spring 34 (Fig. 7), into a position in which the free end of the printing plate carrier and of the printing plate is moved away from the printing cylinder. When starting an operation, the printing plate 35 is inserted into the printing plate carrier 33 and the latter is pressed down thereby swinging on the axis 32 against the action of the spring 34, until the printing plate lies on the printing cylinder.

Before the printing plate carrier has been pressed down, the doublearmed lever 36 serving for locking a horizontal slide 37 slidably mounted in the machine frame. The lever 36 engages a slot provided on said slide (Fig. 4) under the action of a spring 38. In consequence of its rocking movement the lever 36 disengages from this slot and releases the slide 37 so that it may move under the action of the spring 38 to the lefthand side into the position shown in Figs. 4 and 5. Thereby it performs two functions, first blocking the printing plate pressed down onto the printing cylinder, in its working position, and further freeing the slots 14 and 15 so as to enable the introduction of cardboard blanks.

For the purpose of blocking the printing plate, a pin 37*a* is provided adjacent the slide 37, said pin engaging one end of a double-armed lever 40, pivoting around the pivot 39. The second arm of this lever is connected to another doublearmed lever 43 rockable around the pivot 42 by means of a rod 41. The pivots 39 and 42 are fastened on the plate carrier. If the slide 37 is released by the lever 36, the levers 40 and 43 are therefore rocked into the position shown in Fig. 4, thereby the upwardly extending arm of the lever 43 on the one hand and the arm 44 connected with the lever 40 and swinging around the same axis 39 on the other hand, move into the blocking position in which they are shown in Fig. 4 and keep the lower end of the printing plate firmly against the printing cylinder.

The second function of the slide 37 consists therein that a flange 51 in the form of a segment connected with said slide, engages a V-shaped recess of the lever 31, and if the slide 37 is released and moves towards the right-hand side (Fig. 4), it drives the lever 31 and swings it into the oblique position shown in Figs. 4 and 5. The blocking lever 29 performs the same swinging movement and attains the position shown in Fig. 5 in full lines, thereby freeing the slots 14 and 15.

Now the cardboard blank of the desired formate may be introduced in the respective slot and as soon as it strikes against the pertinent abutment 24 or 25 respectively it turns the blocking lever 21 and causes in the manner described above, the release of the grippers 17 which clamps the tickets on the pressing roller. Simultaneously a pawl 45 is released by the lever 29 of the front gripper, which pawl was blocked by the said lever (Fig. 4) and prevented coupling of the machine with the drive. The pawl is rotatably supported in the frame 50 and is actuated by a spring 45*b*, which tends to urge it into a recess provided on a coupling rod 46. The coupling, not shown in the drawing, is a single-rotation coupling which may be constructed in any suitable manner, and it rotates the printing cylinder 10 after being engaged for one single revolution.

In the embodiment of the invention shown in the drawing, the coupling is engaged by the coupling rod 46, consisting of two portions. The two abutting ends of the two portions are cut away up to the half of its diameter so that in the position shown in Fig. 5 they overlap each other and are coupled so as to rotate in common, while they are independent of each other if drawn apart. The coupling is encased by a sleeve 48. In the position of rest the two portions of the rod 46 are drawn apart and blocked in this position by the pawl 45. When releasing the pawl 45 first the blocked portion of the rod is turned by a spring 49 so that the two portions may come into the coupling position, whereupon the rod portions are axially displaced by a spring 53, thereby causing engagement of the coupling by any suitable means. When the coupling is engaged, a vertical coupling blocking rod 54 supported in the frame of the machine, is blocked by a pawl 55 (Figs. 4 and 5), this pawl engaging a recess of the rod 54 under the action of a spring 54*a* (Fig. 4). The pawl is released by the rotating printing cylinder at the end of each rotation, so that the coupling is disengaged by means of the abutments 56 and 57.

The slide 37 mentioned above is provided with an abutment 58 illustrated in Figs. 4 and 5 and extending from the slide towards the right hand side. The end of this abutment is bevelled. If one rotation of the printing cylinder is nearly finished, this abutment 58 engages a slide 59 guided in the machine frame and provided with a corresponding bevelled surface. If the two bevelled surfaces pass along each other, the slide 37 is displaced towards the lefthand side into its position of rest against the action of its spring 38 (Figs. 4 and 5). In this position the blocking lever 36 again engages the slot provided in the slide 37 and blocks it. By the said displacement of the slide 37 first the printing plate becomes free of the blocking levers 44, so that the printing plate together with the printing plate carrier are rocked off from the printing cylinder by the action of the spring 34

and may be removed. Simultaneously, by the said displacement of the slide **37**, the lever **31** is returned into its position of rest, thereby moving the locking lever **29** into the locking position shown in Fig. 5 by dash lines and preventing the introduction of a new cardboard blank into a slot until a new printing plate is inserted or the same printing plate is inserted once more.

If it is desired to print a plurality of equal tickets successively, releasing and reinserting the respective printing plate may be avoided when a button **60** (Fig. 5) is pushed down. This button is mounted at the end of a rod **61** urged upwardly by a spring, and provided at its lower end with a cone **62** and a blocking pin **63**. When the button **60** is pushed down against the action of its spring, the slide **59** mentioned before which generally causes returning of the slide **37** into its position of rest, is withdrawn from its working position, its rear end passing along the conical portion **62**. The rod **61** may be fixed in its lower position by the pin **63** sliding in a bayonet groove **65**. In this position of the slide **59**, the slide **37** cannot return into its initial position, i.e. the slide **37** and the levers **29**, **31** as well as the locking levers of the printing plate remain in their position shown in Fig. 4 and a further cardboard blank may be introduced into the respective slot and printed. Only if the bayonet catch is released by turning the button **60**, and the slide **59** is returned into its initial position, will the printing plate be released during the next working operation and the slots for introducing the blanks are locked.

When changing from printing usual tickets to printing season tickets it is necessary to adjust a part of the printing devices, thus the printing device printing the date which operates when printing the usual tickets, must be disengaged and another printing device must be engaged printing a number of horizontal lines on the season ticket on which the owner of the ticket inserts his name. This is done according to the invention in the manner shown in Fig. 7 by a special lug provided at the printing plates for the season tickets, which abutment is missing at the printing plates for the usual tickets. If the printing plate is attached to the printing cylinder in the manner described above, this abutment engages, during the rotation of the cylinder, a bell crank lever **66** (Fig. 6), to which a toothed segment **67** is secured. This segment meshes with two pinions **68** and **69**, the positions of the axes **74** and **75** of which extending beyond the pinions are cut away up to a plane containing the center line of said axes. These portions of the axes **74** and **75** are in contact with the date printing device **70** which is rockable around the pivot **71** and the printing device **72** for the lines to be printed on the season tickets respectively which latter printing device is rockable around the pivot **73**. In Fig. 6, the axle **74** is adjusted so that the printing device **70** is in its raised operative position, while the axle **75** holds the printing device **72** held down in its inoperative position. In Fig. 6 the said printing devices are in the position for printing usual tickets of small formate. If the bell crank lever **66** is turned by the special lug at the printing plate for season tickets the two printing devices are switched over as may be obviously understood.

The lever **66** is actuated in the same manner as the other adjusting levers by a lever **83** rockable about a pin **85** and provided at its free end **84** with an abutting plate. The lever is connected with the individual adjusting levers **66** by a spring **76**. By rocking the lever **83**, the levers **66** are carried along, the movement of said levers being limited by the lugs at the printing plate, so that in this way the printing device is adjusted. When the lever **83** is returned into its position of rest, the abutment **84** returns the levers **66** again into their initial position, as shown in Fig. 6.

At the end of the rotation of the printing cylinder the abutments **47'** and **47''** (Fig. 6) become effective. The first mentioned abutment engages the portion of the lever **26**, projecting from the pressing roller according to Fig. 2, thereby returning the locking lever **21** into its initial position and opening simultaneously the front gripper, while the abutment **47''** engages the arm **47** of the rear grippers **18**, thereby opening it. The printed ticket is therefore released and falls onto a receiving table.

To avoid misprints when the machine is started by inserting a small normal blank into the slot **14** intended for the broad season tickets **14***a*, two blocking devices are provided, comprising each an angularly shaped flap **90** rockable about an axis **91** (Figs. 9 and 10). The flaps are provided each with a locking pin **92** and a controlling pin **93**. The lower side of the pins **93** is bevelled while the pins **92** have the same cross section over the entire length. The pins **93** are so spaced that they cannot be engaged at the same time by a blank **15***a* of the smaller usual formate inserted into the broad slot, i.e. the distance between these pins is somewhat larger than the width of the small ticket. Therefore, if a small blank **15***a* is inserted, none or only one of these pins will be engaged and at least one of the blocking flaps remains in its locking position so that the blank cannot pass the respective pins **92**. If a blank **14***a* for a season ticket is inserted, this blank abuts simultaneously both pins **93** and rocks the flaps upwardly so that the pins **92** are retracted and the blank may pass along. The flaps **90** may be kept in the locking position by their own weight or by small springs which may be positioned suitably around their axle pins **91**.

As in the illustrated machine according to the invention the printing devices are adjusted and readjusted during the rotation of the printing cylinder, and it is suitable to start the rotation of the pressing roller not before the printing devices are correctly adjusted. As, to such an adjustment, about one quarter of one rotation of the printing cylinder is required, a transmission in the ratio 4:1 is provided between the gears **12** and **11**. During the first quarter of the rotation of the printing cylinder, the pressing roller is stopped. For this purpose a segment **77** is provided at the printing cylinder extending along one quarter of its circumference and the teeth of the gear **11** are omitted over the length of the said segment. In the same plane with the segment **77**, a disk **78** is fastened to the gear wheel **12**, the disk being provided with a recess **78'** formed in such a way that it closely engages the segment **77** as shown in Fig. 6. If, therefore, the segment **77** passes along the pressing roller, the engagement of the segment with the recess of the disk **78** prevents rotation of the gear wheel **12** and the teeth of said wheel **13** are not engaged during this interval. If the segment has passed, i.e. after about one quarter of a revolution of the printing cylinder, the teeth of the toothing **11** engage the teeth of the gear wheel **12** and the latter and therewith also the pressing roller **13** is driven. During the following three rotations of the pressing roller, the cardboard blank is provided with the required prints.

To allow the machine to be operated by hand, a handcrank **82** (Figs. 5 and 7) is provided by which a gear wheel **79** may be rotated. This wheel meshes with a gear wheel **80** mounted on the axis of the printing cylinder. Normally the machine is driven by a motor **81** (Fig. 4), driving the printing cylinder through a wormgear not shown in the drawing, and the coupling mentioned above.

To avoid as by inattention the simultaneous insertion of cardboard blanks in both the slots, i.e. a season ticket blank and a ticket blank of the usual formate, which blanks would then both be engaged and guided through the machine, thereby causing disturbances, a safety device may be provided, allowing each time for the introduction of only one blank into one of the slots, and simultaneously blocking the other slot. This may be done e.g. in this way that in the intermediate wall **95** (Fig. 9) between the two slots **14** and **15** a bore **94** is provided and a ball **96** is inserted loosely into this bore, the diameter of this ball being such that it can only

block one of the slots. If then a blank is introduced e.g. into the lower slot **15**, then the blank raises the ball so far that it touches the upper wall of the slot **14**, thereby blocking this slot and preventing the introduction of a blank into it. Vice versa, if a blank is introduced into the upper slot **14**, this blank prevents the ball to be raised, i.e. the ball remains on the lower wall of the slot **15** and blocks this slot.

While a particular embodiment of the present invention has been shown and described, it is apparent that changes and modifications may be made without departing from this invention in its broader aspects, and therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

I claim:

1. A ticket printer comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame and adapted to receive the cardboard blanks supplied to it for being printed, and to press them, during its rotation, against the printing cylinder, driving means for said cylinder and roller, coupling means controlled by a supplied blank and adapted to couple said driving means with said cylinder and roller for causing one revolution of the cylinder, a plurality of abutments movably arranged at said roller, guiding means provided on the machine frame and having a plurality of slots of different width adapted to receive and guide blanks of different kinds, said abutments being spaced one behind the other and being arranged so as to be adapted to be moved each by one kind of the supplied blanks, and blocking means adapted to block said slots so as to prevent blanks to be introduced, a printing plate carrier adapted to be applied to the printing cylinder, a printing plate carried by said printing plate carrier, and a leverage connected with said blocking means and controlled by said printing plate carrier and printing plate so as to release said blocking means when the printing plate is in its operative position and to allow the blanks to be introduced into said slots.

2. A ticket printer comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame and adapted to receive the cardboard blanks supplied to it for being printed, and to press them, during its rotation, against the printing cylinder, driving means for said cylinder and roller, coupling means controlled by a supplied blank and adapted to couple said driving means with said cylinder and roller for causing one revolution of the cylinder, at least one abutment movably arranged at said roller, guiding means provided on the machine frame and having at least one slot for guiding the supplied blanks against said abutment for moving it and blocking means adapted to block said slot so as to prevent blanks to be introduced, a printing plate carrier adapted to be applied to the printing cylinder, a printing plate carried by said printing plate carrier and a leverage connected with said blocking means and controlled by said printing plate carrier and printing plate so as to release said blocking means when the printing plate is in its operative position and to allow the blanks to be introduced into said slot.

3. A ticket printer as claimed in claim 2 in which said printing plate carrier is rockable about an axis supported in the printing cylinder, locking means are provided at the said cylinder for locking the printing plate carrier in its operation position, and means are connected with the said axis adapted to release the said blocking means blocking said slot so as to allow a blank to be inserted, and to cause the locking means for locking the printing plate carrier to lock said carrier in its operative position.

4. A ticket printer comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame and adapted to receive the cardboard blanks supplied to it for being printed, and to press them, during its rotation, against the printing cylinder, driving means for said cylinder and roller, coupling means controlled by a supplied blank and being adapted to couple said driving means with said cylinder and roller for causing one revolution of the cylinder, at least one abutment movably arranged at said roller, guiding means provided on the machine frame and having at least one slot for guiding a supplied blank against said abutment for moving it, front gripper means and rear gripper means supported by said roller and being adapted to engage the supplied blanks, said front gripper means being controlled by said abutment when moved by a supplied blank to engage said blank, blocking means provided at said roller for said rear grippers, stationary abutments adapted to release said blocking means and to allow said rear grippers to engage said blank, and abutments provided at the said cylinder and being arranged so as to bring during the last portion of the revolution of said cylinder, said front and rear grippers into their inoperative position.

5. A ticket printer as claimed in claim 2, in which the said coupling means comprise a slide provided with a bevelled face and slidably supported in the machine frame, the bevelled face of said slide engaging, at the end of the revolution of the printing cylinder, a second slide being an element of said coupling means, thereby moving said second slide so that it releases the locking means of the printing plate and returns the blocking means of the slots into the blocking position.

6. A ticket printer as claimed in claim 2 in which the said coupling means comprise a slide provided with a bevelled face and slidably supported in the machine frame, the bevelled face of said slide engaging, at the end of the revolution of the printing cylinder, a second slide being an element of said coupling means, thereby moving said second slide so that it releases the locking means of the printing plate and returns the blocking means of the slots into the blocking position, and means are provided to keep said slide in its inoperative position to avoid releasing of said locking means and returning of said blocking means into the blocking position.

7. A ticket printing machine comprising, in combination a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame and adapted to receive cardboard blanks supplied thereto to be printed, and to press them during its rotation against the printing cylinder, driving means for said cylinder and roller, coupling means controlled by a blank and adapted to couple said driving means with said cylinder and roller for causing one revolution of the cylinder, two abutments on said impression roller the one behind the other, said abutments being spaced one behind the other and arranged to be adapted to move each by one type of supplied cardboard blank, said machine frame being provided with two slots of different width arranged one above the other and adapted to receive and guide the blanks of two different sizes against said abutments into the nib between said cylinder and roller, said abutments having different heights, so that a blank inserted into the upper slot slides over the abutment associated to the lower slot and engages the abutment associated to the upper slot.

8. A ticket printing machine as claimed in claim 7, the abutment for the lower slot being supported yieldingly and being provided with a rounded head to enable the blanks inserted into the upper slot and sliding over

that abutment, to press it downwardly and out of their path.

9. A ticket printer as claimed in claim 1, in which said printing means comprise two printing devices and adjusting means for simultaneously adjusting alternately the one device into its operative position and the other into its inoperative position, and in which the printing plate for one kind of blanks is provided with an additional lug controlling said adjusting means.

10. A ticket printer as claimed in claim 1 in which said printing means comprise two printing devices, pivotally supported at the said printing cylinder, two axes also supported at the printing cylinder and having one end thereof cut away so as to form at each of them a flat surface, said surfaces being in reverse order and contacted each by one of the printing devices so that one of said devices is in its operative position while the other is inoperative, two pinions mounted each on one of said axes, a toothed segment rotatably mounted on the shaft of the said printing cylinder, said segment meshing with said pinions and being controlled by an additional lug provided at the printing plates for one kind of blanks.

11. A ticket printer as claimed in claim 1 in which two additional blocking devices are provided serving to avoid misprints by inserting a small blank into the slot destined for large ticket blanks, said blocking devices comprising each a flap pivotally mounted at the upper wall of the slot for large ticket blanks and provided each with a locking pin having an equal cross section along its entire length and with a controlling pin having a bevelled end face, the two controlling pins having a distance between them somewhat larger than the width of the small blank, while the two locking pins have a distance between them smaller than the width of a small blank.

12. A ticket printer as claimed in claim 1 in which a safety device is provided allowing always the introduction of only one blank into one of said slots, said safety device comprising a ball loosely inserted into a boring provided in the intermediate wall between the two slots, the diameter of said ball being such that it blocks at every time only one of said slots.

13. A ticket printing machine comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame, means for feeding cardboard blanks to be printed to the impression roller, said impression roller pressing the blanks during the rotation of the cylinder against the printing cylinder, driving means for said cylinder and roller, gripper means comprising front grippers and rear grippers movably supported by said roller into gripping and non-gripping positions, movable locking means supported by said roller and adapted to lock said gripper means in their non-gripping position, said gripper means extending, in the gripping position, over the circumference of said roller thereby forming abutments with the abutments of the front grippers being adapted to be engaged by said blanks, and said printing cylinder respectively thereby releasing said gripper means so as to engage said blanks and to hold them against said impression roller, coupling means controlled by said gripper means and adapted to couple said driving means with said cylinder and roller for imparting one revolution to the cylinder, said feeding means having a plurality of slots of different widths for guiding blanks of different width and causing said blanks to engage said abutments and to control said gripper and said coupling means, and additional abutments secured on the frame and engaging said locking means during the rotation of said impression roller thereby moving said locking means so as to allow said grippers to move into the operative position, in which they engage the blank.

14. A ticket printing machine comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame, means for feeding cardboard blanks to be printed to the impression roller, said impression roller pressing the blanks during the rotation of the cylinder against the printing cylinder, driving means for said cylinder and roller, gripper means movably supported by said roller, movable locking means also supported by said roller and adapted to lock said gripper means in their non-gripping position, said gripper means extending, in the gripping position, over the circumference of said roller thereby forming abutments, adapted to be engaged by said blanks, thereby releasing said gripper means so as to engage said blanks and to hold them against said impression roller, coupling means controlled by said gripper means and adapted to couple said driving means with said cylinder and roller for imparting one revolution to the cylinder, said feeding means having a plurality of slots of different widths for guiding blanks of different widths and causing said blanks to engage said abutments and to control said gripper and said coupling means, said printing cylinder and said impression roller being provided with teeth meshing with each other, the teeth of the printing cylinder extending only over about three quarters of its circumference, a segment secured to the printing cylinder and extending along the place where the teeth are missing, and a disk with a recess fastened to the impression roller, said recess being formed so as to closely engage the said segment to prevent the impression roller from being rotated during the passage of the segment along the said recess.

15. A ticket printing machine comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame, means for feeding cardboard blanks to be printed to the impression roller, said impression roller pressing the blanks during the rotation of the cylinder against the printing cylinder, driving means for said cylinder and roller, gripper means movably supported by said roller, movable locking means also supported by said roller into gripping and non-gripping positions and adapted to lock said gripper means in their non-gripping position, said gripper means extending, in the gripping position, over the circumference of said roller thereby forming abutments, adapted to be engaged by said blanks, thereby releasing said gripper means so as to engage said blanks and to hold them against said impression roller, coupling means controlled by said gripper means and adapted to couple said driving means with said cylinder and roller for imparting one revolution to the cylinder, and said feeding means having a plurality of slots of different widths for guiding blanks of different widths and causing said blanks to engage said abutments and to control said gripper and said coupling means, the two abutments connected at said impression roller one behind the other with each being adapted to be moved by a blank of a special size for printing purposes.

16. A ticket printing machine comprising, in combination, a machine frame, a printing cylinder rotatably supported in said frame, printing means accommodated in said printing cylinder, an impression roller rotatably supported in said frame, means for feeding cardboard blanks to be printed to the impression roller, said impression roller pressing the blanks during the rotation of the cylinder against the printing cylinder, driving means for said cylinder and roller, gripper means movably supported by said roller into gripping and non-gripping positions, movable locking means also supported by said roller and adapted to lock said gripper means in non-gripping position, said gripper means extending, in the other end posi-

tion, over the circumference of said roller thereby forming abutments, adapted to be engaged by said blanks, thereby releasing said gripper means so as to engage said blanks and to hold them against said impression roller, coupling means controlled by said gripper means and adapted to couple said driving means with said cylinder and roller for imparting one revolution to the cylinder, said feeding means having a plurality of slots of different widths for guiding blanks of different widths and causing said blanks to engage said abutments and to control said gripper and said coupling means, the said printing cylinder and pressing roller being in driving connection with a ratio of transmission between the printing cylinder and

the pressing roller amounting to 4:1, and means for causing the pressing roller to stop during approximately the first quarter of revolution of the printing cylinder.

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