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[33] **Germany**
[31] **P 17 74 373.6**

[56]

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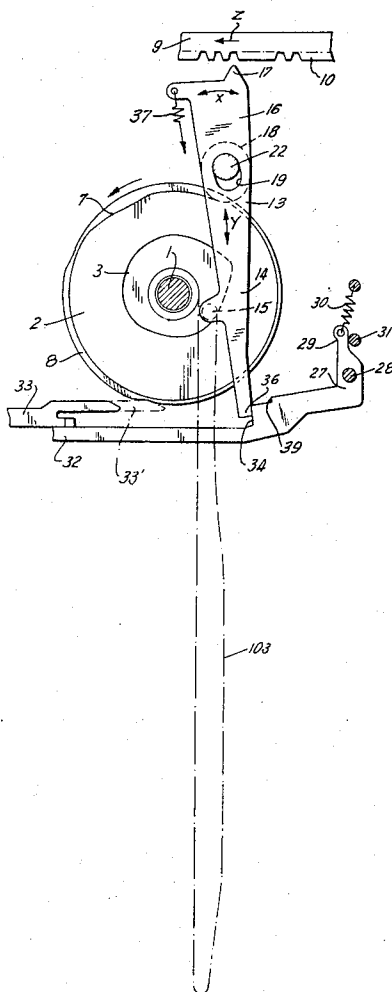
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[54] **APPARATUS FOR INTERMITTENT TRANSPORT**
OF A RECORD CARRIER
17 Claims, 10 Drawing Figs.

[52] U.S. Cl. **197/114**
[51] Int. Cl. **B41j 19/76**
[50] Field of Search. **197/114-120**

ABSTRACT: A transporting means for a record carrier is intermittently moved by operating means controlled by two endless cam tracks. Transporting oscillations of the operating means can be blocked by control means so that the operating means performs idle movements during which the record carrier is not transported. In a modified embodiment, the transporting means include a gear and a printing roller mounted on a rocking member operated by an endless cam track, and data imprinted on a record carrier can be read due to the turning of the transporting means.



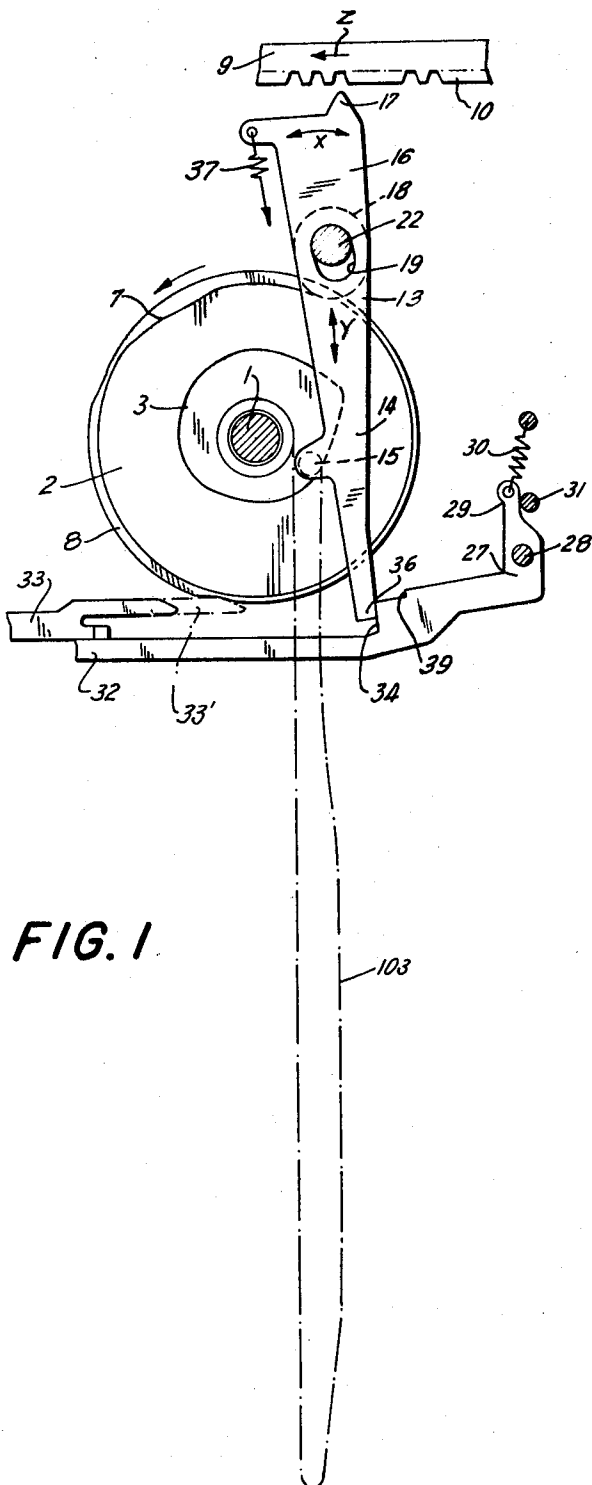


FIG. 1

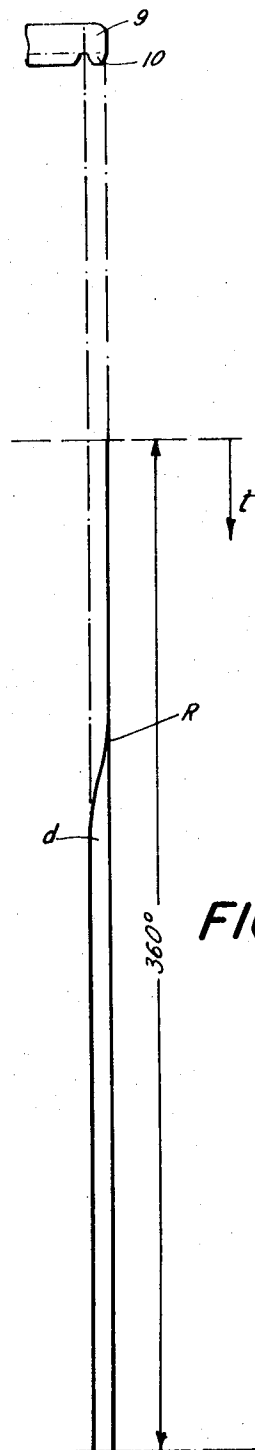


FIG. 1a

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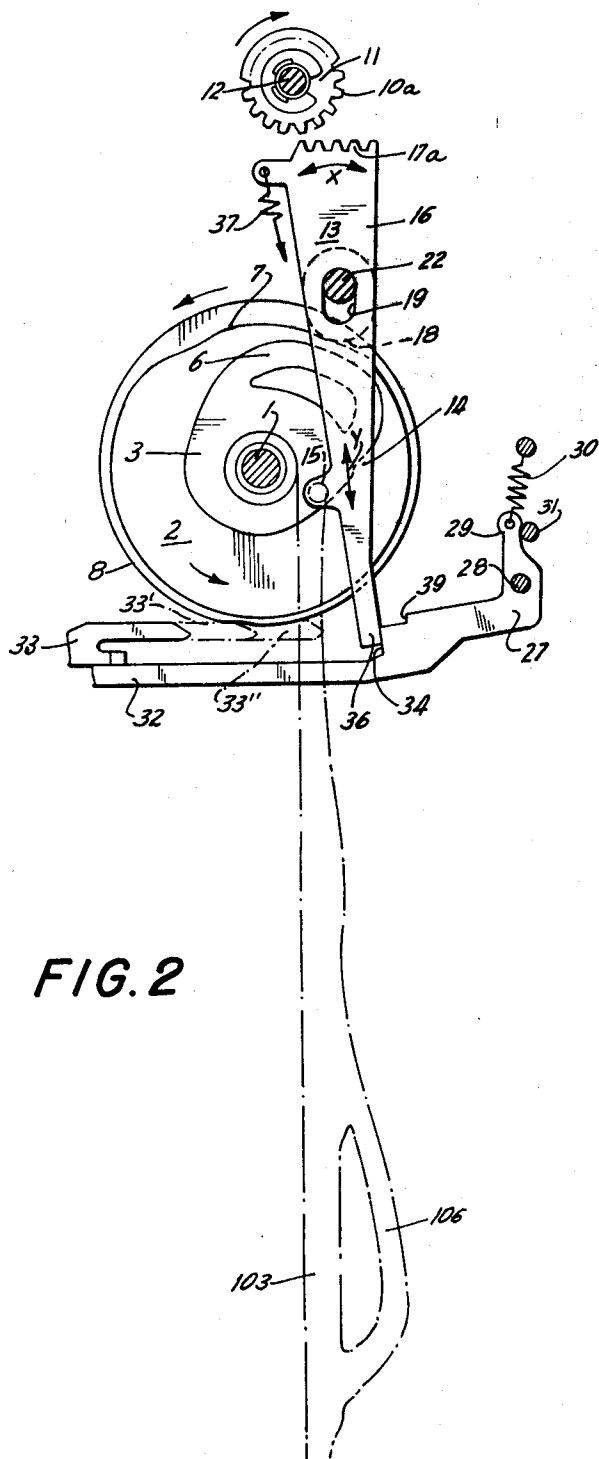


FIG. 2

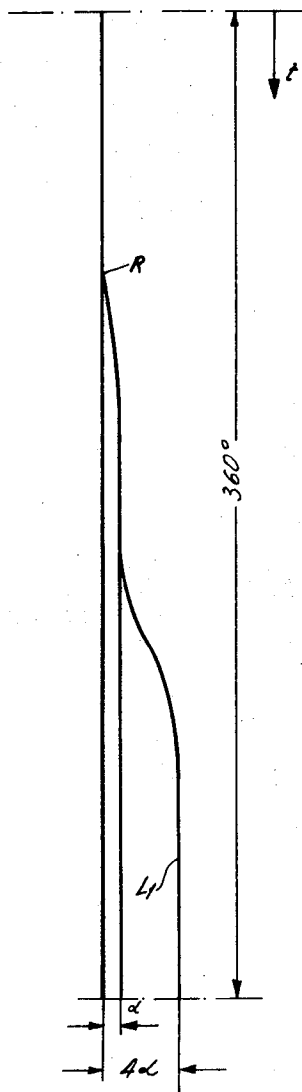


FIG. 2a

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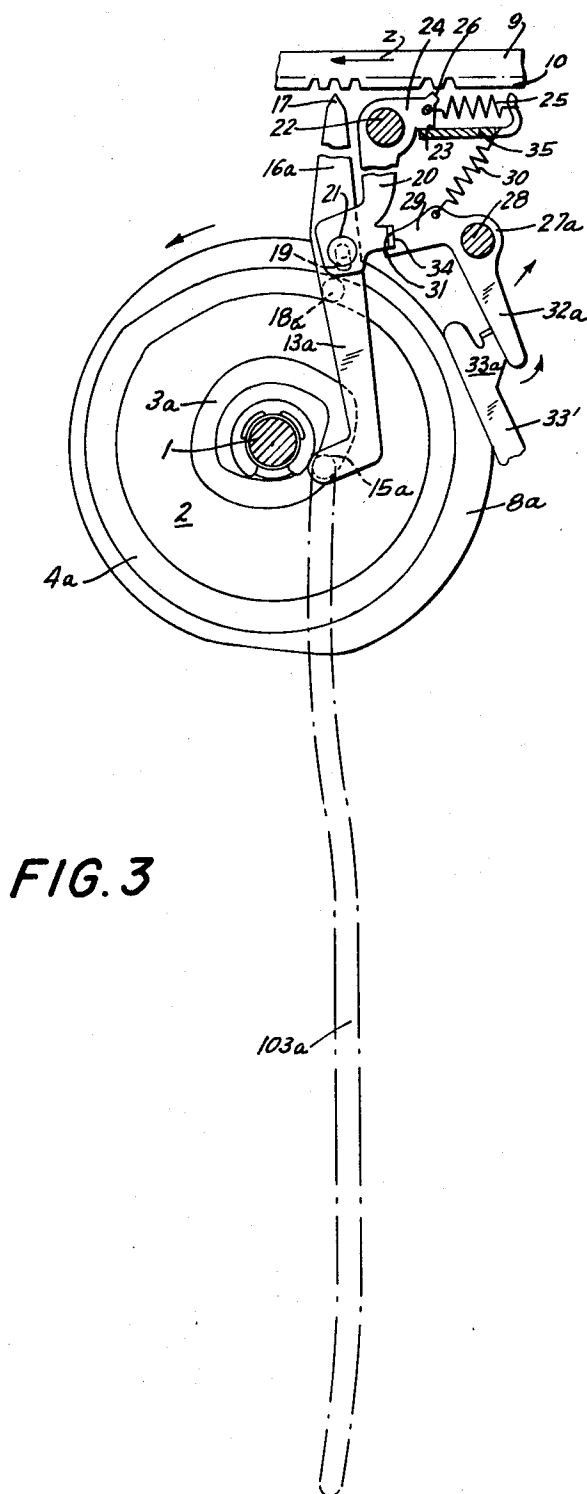


FIG. 3

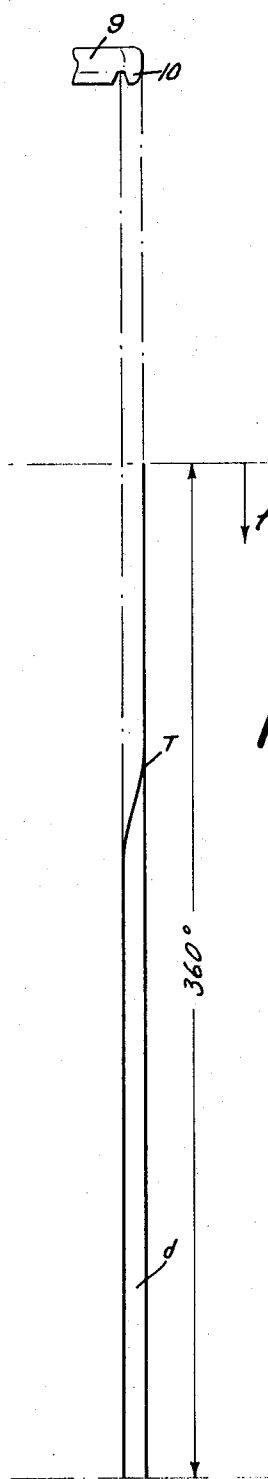


FIG. 3a

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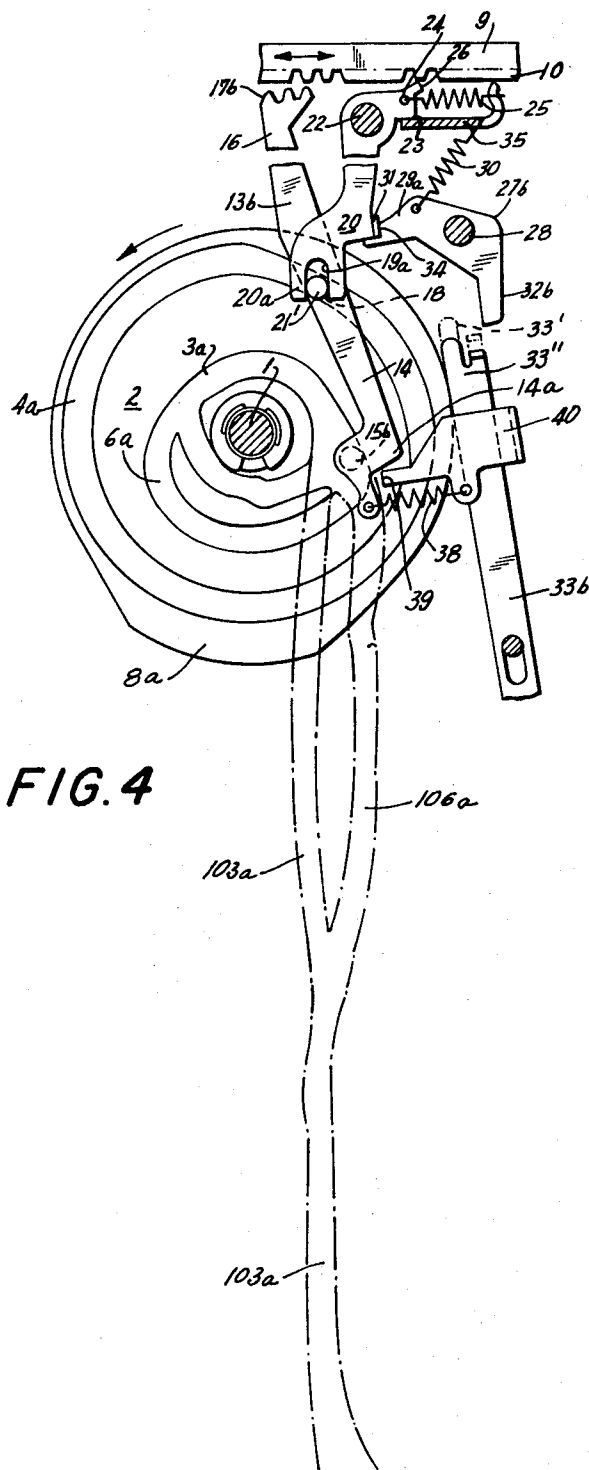


FIG. 4

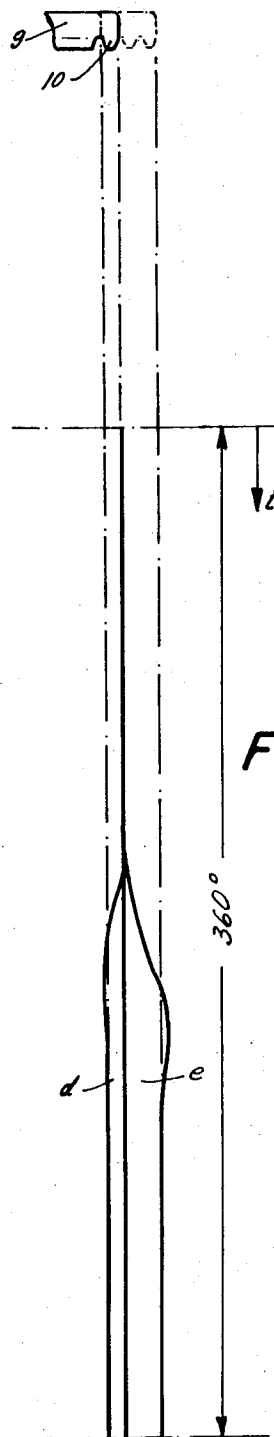
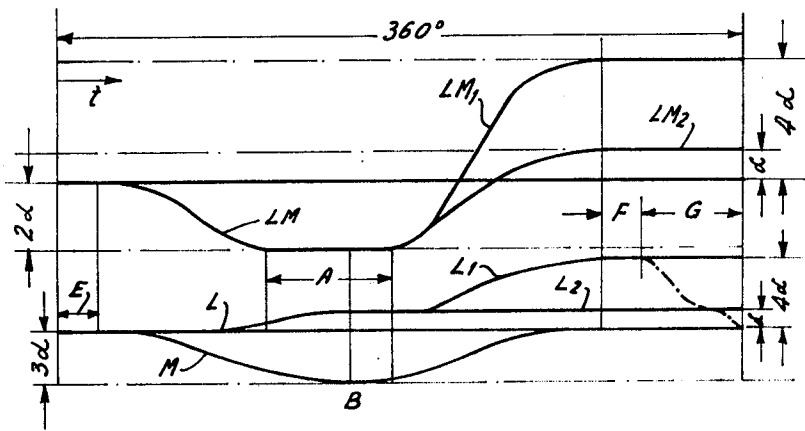
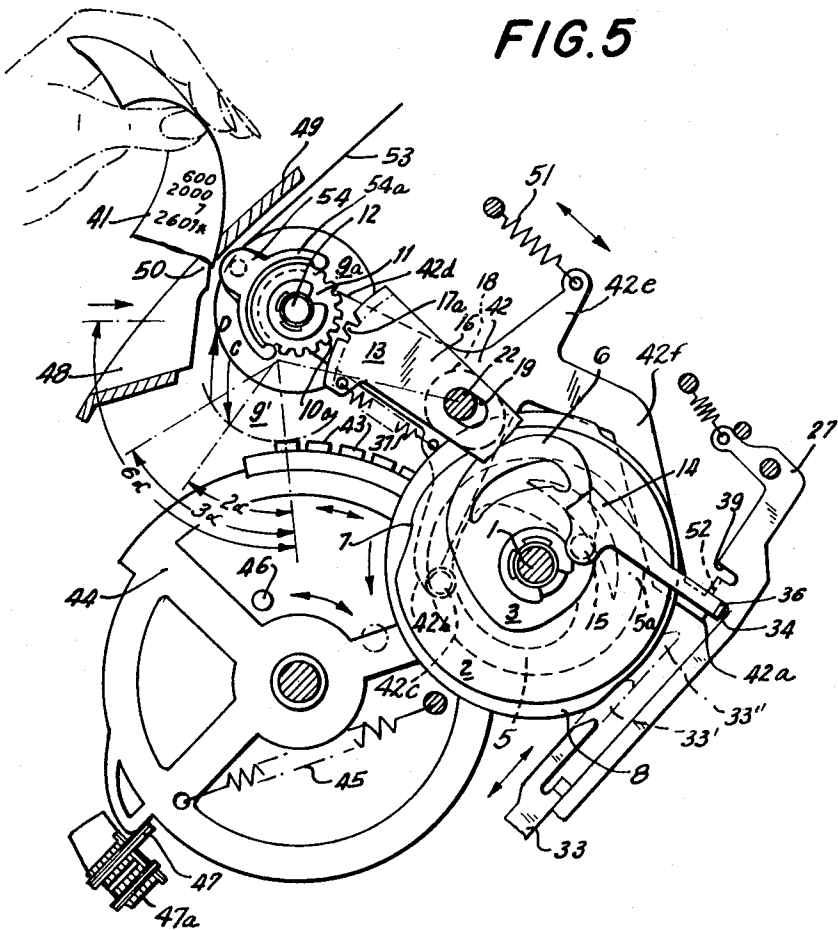


FIG. 4a

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APPARATUS FOR INTERMITTENT TRANSPORT OF A RECORD CARRIER

BACKGROUND OF THE INVENTION

Apparatus for intermittently transporting a record carrier, such as a paper band, is known in which an operating member moves a transporting means under the control of cam tracks. The apparatus has the disadvantage that the record carrier is always stopped for the same time during successive movements. However, it is desirable that the time periods between successive movements of the record carrier are variable.

It is one object of the invention to provide an apparatus for intermittent transport of a record carrier in which the time periods between two movements of the record carrier are varied by control means in an extremely simple manner.

Another object of the invention is to provide an apparatus for intermittent transport of a record carrier which is inexpensively manufactured, requires little space, and operates reliably.

SUMMARY OF THE INVENTION

With these objects in view, an embodiment of the invention comprises transporting means for transporting a record carrier in a transporting direction; operating means for the transporting means including an operating member, first and second cam followers connected with the same, coupling means connected with the same, and mounting means for mounting the operating member for movement in the transporting direction, and also for movement in a coupling direction transverse to the transporting direction between an inoperative position and a coupling position coupling by said coupling means with the transporting means for movement in the transporting direction; drive means including a first endless cam track engaging the first cam follower for moving the operating means in the coupling direction, and a second endless cam track for moving the operating means in the transporting direction; and control means operable between at least one blocking position engaging the operating means for blocking movement of the same in said transporting direction, and a releasing position in which the second cam track moves the second cam follower with the operating means in the transporting direction.

Consequently, while the control means are in a blocking position, the operating means move in the coupling direction without displacing the transporting means, while in the releasing position, the operating means, moving in the transporting direction, moves the transporting means in the transporting direction when the operating means is placed in the coupling position by the first cam track and first cam follower.

The first endless cam track preferably surrounds the second endless cam track, and these cam tracks may be provided on the same lateral surface of a rotary cam, or one of the endless cam tracks may be provided on the lateral surface, and the other on the peripheral surface of a cam.

In the preferred embodiment of the invention, the control means includes a blocking member which is movable between the releasing and blocking positions, and cooperates with the operating member. As a result of the arrangement of the present invention, the drive shaft of the cam can be arrested directed when the operating member has moved out of the coupling position so that the respective turning angle of the cam, which corresponds to the movement of the operating member in the coupling direction, can be arranged to fall into the starting phase of the drive motor. The first working stroke of the operating member is substantially carried out in a period of time during which the second and all following strokes of the operating member would take place if one of the transporting movements of the operating member would be started, or stopped, while the drive motor rotates at full rotary speed. This may be done, for example, to utilize the maximal possible operating frequency of the apparatus.

For many uses of the invention it is advantageous that the control means include a blocking member which is moved

between blocking and releasing positions by a control cam portion which is connected by a shiftable control member with the blocking member, when release of the operating member by the blocking member is necessary. However, it is also contemplated to operate the blocking member by an electromagnetic means.

It is advantageous when the endless cam track, by which transporting movements are controlled, has a greater part thereof extending along a circle for guiding the respective cam follower in the initial positions of the operating member in which the operating member is blocked by the blocking member, and cannot be displaced by a spring connected with the same.

In accordance with the invention, the operating member is made ineffective when blocked since it is mounted on a journal carried by a mounting lever which is biased by a spring.

In accordance with the invention, the operating member, depending on operation or nonoperation of the blocking member makes selectively one of two different angular movements, or more than one angular movement during each revolution of the cam for transporting the record carrier. This is accomplished in accordance with the invention by the provision of a side track which bypasses a portion of the cam track by which the transporting movements of the operating member are controlled.

A plurality of transporting movements can be obtained during each revolution of the cam by composing the respective cam track of several portions which cause a reciprocating movement of the operating member.

For certain applications of the apparatus, it is preferred that the transport of the record carrier is effected either by a dwell on the bypassed portion of the cam track, or by the dwell of the side track. For other applications of the invention, the side track follows a dwell in the preceding portion of the cam track so that the movement of the transporting means is caused either by the dwell of the cam track, or by the dwell of the cam track and by the dwell of the side track.

In one embodiment of the invention, in which the transporting means includes a cylindrical printing roller which is mounted on a rockable support operated by another endless cam track, the arrangement is such that imprinted data can be read on the record carrier due to turning of the transporting means.

Without increasing the wear of the apparatus, the operational speed can be increased by carrying out simultaneously the angular stroke of the operating member by which the record carrier is transported, and the movement of the transporting means of the carrier required for the receiving of data.

In order to avoid the undesired influence of irregularly moving masses under consideration of the necessities of mechanical data processing, it is advantageous that the angular movement of the transporting means of the record carrier to its second position, and the simultaneous first angular movement of the operating member for transporting the record carrier, are effected by springs which become operative when the respective blocking members move to the releasing position while the data received by at least one record carrier can be inspected in the initial position of rest of the transporting means of the record carrier.

The rockable support on which a transporting means in the form of a gear and printing roller is mounted, is advantageously oscillated by an associated cam track and cam follower to move at at least the same angular speed as the operating member while the return of the rockable support is effected by the cam track associated therewith against the action of a spring.

It is possible to oscillate the operating member, and a transporting roller at the same angular speed.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the

following description of specific embodiments when read in connection with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a fragmentary elevation illustrating the first embodiment of the invention, and including a schematic developed view of a cam track;

FIG. 1a is a diagram illustrating the displacement of the transporting means during one revolution of the drive means shown in FIG. 1;

FIG. 2 is a fragmentary elevation illustrating a modified construction of the embodiment of FIG. 1, and including a schematic developed view of a cam track;

FIG. 2a is a diagram illustrating angular displacements of the transporting means during one revolution of the drive means shown in FIG. 2;

FIG. 3 is an elevation illustrating another embodiment of the invention, and including a schematic developed view of a cam track;

FIG. 3a is a schematic view illustrating the displacement of the transporting means during one revolution of the drive means shown in FIG. 3;

FIG. 4 is a fragmentary elevation illustrating another embodiment of the invention;

FIG. 4a is a diagram illustrating the displacement of the transporting means during one revolution of the drive means shown in FIG. 4;

FIG. 5 is an elevation illustrating a preferred embodiment of the invention; and

FIG. 5a is a diagram illustrating angular displacements of transporting means for the record carrier during one revolution of the drive means shown in FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIG. 1, an operating member 13 is mounted on a stationary journal 22 which is located in a slot 19 of an operating member 13 so that the same is turnable in the direction x , but also shiftable in a transverse direction indicated by arrows y between the illustrated inoperative position, and a coupling position in which a coupling portion 17 at the end of operating member 13 engages a corresponding recess in a rack portion 10 of a transporting means 9 which transports a record carrier, not illustrated. A spring 37 acts on lever arm 16 of operating member 13 and biases the same to turn in counterclockwise direction until abutting with the end portion 36 on a blocking shoulder 34 of a blocking member 27 which is an angular lever mounted on a pivot 28 for rocking movement, and has an arm 29 biased by spring 30 to abut a stop 31, and another arm 32 cooperating with a reciprocable control member 33 which has an inoperative position shown in solid lines, and an operative position 33' located in the path of, and engaged by the control cam portion 8 during rotation of cam means 2 with shaft 1. When control cam portion 8 engages control member 33 in the position 33', motion is transmitted to the arm 32 of blocking member 27, and the same is turned from the blocking position illustrated in FIG. 1 to a releasing position in which the blocking shoulder 34 releases the end portion 36 of operating member 13 so that the same can be turned by spring 37 in counterclockwise direction.

The slot 19 is surrounded by a collar 18 which serves as a first cam follower cooperating with the peripheral first cam track 7 so that upon rotation of cam means 2, operating member 13 is reciprocated in the direction of the arrow y between the illustrated inoperative position and the coupling position in which coupling portion 17 engages rack portion 10. The lever arm 14 of operating member 13 has a second cam follower 15 which is urged by spring 37 into engagement with the inner second endless cam track 3 which has such a shape that operating member 13 is oscillated in the transporting direction x when blocking member 27 is shifted by operation of control member 33 to a position releasing end portion 36 of operating member 13. Oscillating movement of operat-

ing member 13 will effect movement of transporting means 9 in the transporting direction indicated by an arrow z whenever operating member 13 is placed by cam track 7 and cam follower 18 in the coupling position engaging a recess in transporting means 9 by coupling portion 17.

A developed view of cam track is schematically shown at 103 in FIG. 1. FIG. 1a illustrates the displacement of transporting means 9 in the transporting direction during a revolution of cam means 2, and in the corresponding time period t . When control member 33 is shifted to the position 33' and engaged by control cam portion 8 so that blocking member 27 moves to the released position, the transporting means 9 is displaced a distance d starting from the point R in the diagram of FIG. 1a.

While operating member 13 is blocked by blocking member 27, but reciprocated in the coupling direction y , transporting means 9 is not displaced although coupling portion 17 is temporarily coupled with rack portion 10 in the coupling position. During reciprocation of operating member 13 in the coupling direction, the end portion 36 would slide on blocking shoulder 34 which may cause wear of the part. In order to reduce wear by friction, the endless cam track 3 is designed so that cam follower 15 is displaced to move end portion 36 slightly away from blocking shoulder 34 during the idle reciprocation of operating member 13 in the coupling direction y . While end portion 36 is spaced from blocking shoulder 34, spring 37 is tensioned by the action of cam track 3, and when blocking member 27 is moved to the releasing position, spring 37 is effective to turn operating member 13 in counterclockwise direction as far as permitted by cam track 3.

The embodiment of FIG. 2 is similar to the embodiment of FIG. 1, but in addition to the inner cam track 3, a side track 6 is provided communicating with cam track 3. Developed views of tracks 3 and 6 are schematically shown at 103 and 106. Blocking member 27 is provided with a second blocking shoulder 39 in addition to blocking shoulder 34, and control member 33 is movable to a first control position 33' and further to a second control position 33''. A modified transporting means in the form of a gear 11 having gear teeth 10a on a shaft 12 cooperates with a coupling gear segment 17a at the end of operating member 13.

In the position shown in FIG. 2, operating member 13 is urged by spring 37 to its normal inoperative position in which mounting journal 22 abuts one end of slot 19, and end portion 36 abuts blocking shoulder 34 of blocking member 27. Since in this position, cam follower 15 cannot follow cam track 3, operating member 13 reciprocates only in the coupling direction between the illustrated inoperative position and a coupling position in which gear segment 17a is in a coupling position meshing with gear teeth 10a of transporting gear 11 which is not transported since operating member 13 cannot perform an oscillating movement about journal 22. Cam track 3 is again constructed to move end portion 36 slightly away from blocking shoulder 34 during the idle reciprocation of operating member 13.

When control member 33 is displaced to the first control position 33', blocking member 27 is connected with control cam portion 8 by control member 33, and consequently displaced to a position in which shoulder 34 releases end portion 36 of operating member 13 at the moment R indicated in FIG. 2a, and from the this moment on, cam follower 15 can follow cam track 3 under the action of spring 37 until blocked by a second blocking shoulder 39 of blocking member 27. Since transporting movement of operating member 13 in the direction of the arrow X is thus limited to a small angle α , cam follower 15 cannot enter side cam track 6, and transporting gear 11 is turned by operating member 13 in its coupling position the same angle α for transporting the record carrier a corresponding small distance.

When control member 33 is shifted to the second control position 33'', blocking member 27 is turned a greater angle when control cam portion 8 engages control member 33 and displaces the same together with lever arm 32 of blocking

member 27. Since operating member 13 is now free to turn under the action of spring 37 in counterclockwise direction, cam follower 15 enters the side cam track 6 and is controlled by the same so that operating member 13 is turned an angle 4a, see FIG. 2a, and transmits a corresponding turning movement to transporting gear 11 when coupling gear segment 17a engages the gear teeth 10a in the coupling position in which operating member 13 is placed by the action of cam 7 on cam follower 18. In the coupling position of operating member 13, mounting journal 22 engages the lower end of slot 19 and limits further movement of operating member 13.

As is shown by the graph L₁ in FIG. 2a, the angular displacement of transporting gear 11 obtained by shifting control member 33 to the second control position 33'', is four times as great as the angular displacement obtained by control member 33 in the first control position 33', and the record carrier is shifted corresponding distances.

Referring now to FIG. 3, the cam means 2 has an inner cam track 3a in the form of a groove on one lateral face of cam means 2, and an outer cam track 4a in the form of a groove in the same lateral face. A developed view of cam track 3a is schematically shown at 103a. Cam means 2 also has a control cam projection 8a cooperating with a control member 33a which is axially movable between an inoperative position, not shown, and the control position 33' which is different from the construction of the embodiment of FIGS. 1 and 2 where control member 33 moves in substantially tangential direction in relation to cam means 2. Operating member 13a is formed with a slot 19 through which a journal pin 21 passes which is secured to a mounting lever 20 pivotally supported on a stationary pivot 22. Mounting lever 20 has a projection 26 on an arm 24 which is connected by a spring 25 with a stationary abutment member 35 which is engaged by an abutment shoulder 23 of mounting lever 20 under the action of spring 25. Transporting means 9 is constructed as a rack bar having a rack portion 10 as the embodiment of FIG. 1, and the rack portion 10 cooperate with a coupling portion 17 on the operating member 13a which carries a cam follower 18a guided in the cam track 4a and a cam follower 15a guided in cam track 3a. Stop portion 31 of mounting lever 20 cooperates with a blocking shoulder 34 on lever arm 29 of blocking lever 27a which is connected by spring 30 to the stationary abutment member 35. During operation, when cam means 2 is rotated, and control member 33a is in an axially displaced inoperative position located outside of the plane of cam portion 8a and arm 32a of blocking lever 27a, control cam portion 8a is ineffective. Angular movement of mounting member 20 is blocked by blocking shoulder 34 of blocking member 27a which engages abutment 31 of mounting member 20. Cam track 3a acts on cam follower 15a to oscillate the operating member 13a about journal pin 21 so that the transporting means 9 is shifted in the direction of the arrow z when operating member 13a assumes its coupling position in which, coupling portion 17 engages a recess between the rack portion 10 under the control of cam follower 18a and cam track 4a.

When control member 33a is placed in the plane of cam portion 8a and blocking lever arm 32a, control cam portion 8a is effective to turn blocking lever 27a to a releasing position releasing mounting lever 20 so that projection 26 on arm 24 of mounting lever 20 can engage a recess between the rack portion 10 of the transporting means 9. Operating member 13a assumes its coupling position in which coupling portion 17 engages a recess between the rack portion 10 under the control of cam follower 18a and cam track 4a. Cam track 3a acts on cam follower 15a to oscillate the operating member 13a about coupling portion 17 and consequently mounting member 20 oscillates about stationary pivot 22 to block the transporting means 9.

FIG. 3a indicates that cam means 2 becomes operative at a point T after actuation of control member 33a in the inoperative position to cause displacement of transporting means 9 the distance d due to the shape of cam track 3a as indicated at 103a.

The embodiment of FIG. 4 has an outer endless cam track groove 4a, an inner endless cam track groove 3a, and a side track 6a, as also indicated in the developed diagrammatic part of FIG. 4 by the reference numerals 103a and 106a. The operating member 13b has a cam follower 21' located in cam track 4a, and a cam follower 15b cooperating with cam tracks 3a and 6a and being mounted on an arm 14 of operating member 13b which has at its other end, a gear sector 17b cooperating with the rack portion 10 of the transporting means 9. A mounting lever 20 is arranged as described with reference to FIG. 3, with the exception that the end portion 20a is formed with an open slot 19a in which cam follower pin 21' is guided. A blocking lever 27b is mounted on a stationary pivot 28 and has an arm 29a with an abutment shoulder 34 engaging the stop portion 31 of mounting lever 20. A control member 33b is shiftable from a position 33' shown in solid lines to a position 33'' and to an uppermost position not shown for connecting the control cam portion 8a with arm 32b of blocking lever 27b so that the same releases mounting lever 20, and permits an oscillating movement of operating means 13b and 20 for the purpose of blocking transporting means 9 when gear sector 17b is in the coupling position engaging rack portion 10. Control member 33b has a transversely bent portion 40 connected by a spring 38 with arm 14 of operating member 13b. An abutment 39' on portion 40 of control member 33b in position 33' cooperates with an abutment portion 14a of arm 14 which limits the oscillating movement of operating member 13b when it is not desired that cam follower 15b enters cam track 6a.

As in the embodiment of FIG. 3, operating member 13b performs an idle movement without displacing transporting means 9 when control member 33b is in the uppermost control position displaced beyond the control position 33' so that the end of control member 33b is located in the region of arm 32b and cooperates with the same. FIG. 4a graphically illustrates the displacement of the transporting means 9 a distance d, or a distance e in the opposite direction, depending on the control position of control member 33b.

Referring now to FIG. 5, an operating member 13, as described with reference to FIG. 2, has a slot 19, a cam follower 18, an end portion 36 cooperating with the shoulder 34 of a blocking member 27, and has a gear segment 17a cooperating with a gear 11, 10a. The rotary cam means 2 is mounted on a shaft 1 and has an inner track 3 with a side track 6 on one side, as described with reference to FIG. 2, and has on the other side a cam track 5 with a side track 5a. A cam portion 8 cooperates with a control member 33 which is shiftable to two control positions 33', 33'' to turn blocking member 27 different angles so that in control position 33', end portion 36 releases blocking shoulder 34 and is engaged by blocking shoulder 39, by which end portion 36 is released in the second control position 33''.

A rocking member 42 is mounted on the stationary journal 22 and has one arm 42e connected by a spring 51 to a stationary point, a second arm 42f having an end portion 42a cooperating with a bent over lug 52 on blocking lever 27, and a third arm 42b carrying a cam follower 42c cooperating with the cam tracks 5 and 5a on the other side of cam means 2. The fourth arm 42d of rocking member 42 carries shaft 12 on which transporting means 9a with gear 11 is mounted so that rocking of member 42 under the control of cam follower 42c places transporting means 9a in the position 9' shown in dash and dot lines. A spring 37 connects arm 16 of operating member 13 with arm 42b of member 42.

Transporting means 9a is constructed as a printing roller for printing on a record carrier 41. A printing wheel 44 is biased by a spring 45 to turn to a position in which it is stopped by one pin 47 of a pin carriage 47a when printing wheel 44 is in a position in which a desired digit represented by a type face 43 is located in a printing position in relation to the printing roller 9a in the position 9'. A member 46 returns all ordinal printing wheels 44 simultaneously to an initial position, and releases the same for movement to selected digital positions after

setting of the pin carriage 47a in the usual manner. Another record carrier 53 may be used for statistic interpretations.

An arresting means 54 is mounted at the end of arm 42d and has two resilient arms 54a arresting gear 11 in angular positions so that the steps which record carrier 41 is transported is accurate, and correspond to the circumferential spacing of the type faces 43.

A window 48 is provided in a cover 49 which has a sharp edge 50 permitting the tearing off of a record carrier sheet 41 which is removed through window 48.

The band shaped record carrier sheet 41 receives an imprint from type faces 43 when printing roller 9a is in the printing position 9' due to the angular displacement of rocking member 42 by cam follower 42c following cam track 5.

In order to permit reading of the data transferred to the record carrier 41 after each data transfer, the next printing area C of record carrier 41 which is to receive an imprint, is turned by a first angular movement of operating member 13 an angular distance α by printing roller 9a in clockwise direction, and by the first angular movement of printing roller 9a to the position 9' by rocking member 42 in counter-clockwise direction three angular units α since gear 11, 10a rolls on gear segment 17a during angular displacement of rocking member 42, as also graphically illustrated by graphs L and M in FIG. 5a. The data transfer takes place at the point B in FIG. 5a which shows the angular displacements α and 3α in opposite directions, and equal speed in the section A.

Within a program, after each transfer of data, the readable data on record carrier 41 are placed in a visible reading position D since printing roller 9a moves three angular displacement units α in clockwise direction, and also after each total transfer additionally, corresponding to the graph L₁, due to the second angular displacement of operating member 13, three further angular units α in clockwise direction into the region of the edge 50 where the respective sheet portion can be torn off and removed through window 48.

The data transfer is started by rocking member 42 due to release of end portion 42a by blocking projection 52 simultaneously with the release of end portion 36 of operating member 13 by blocking shoulder 34 of blocking lever 27.

The angular distances of the movement of printing roller 9a due to the superimposed angular movements of operating member 133 and rocking member 42, by which the record carrier 41 is transported, are found by addition of the amplitudes of graph M to the amplitudes of graphs L-L₁ and L-L₂, and are represented in the upper portion of FIG. 5a by the graphs LM-LM₁ and LM-LM₂ indicating angular displacement over the time t. The times at which gear segment 17a meshes with gear teeth 10a, or does not mesh with the same, are indicated at E and F. In an intermediate period G, while operating member 13 is not coupled with the transporting gear 11, 10a, operating member 13 is withdrawn to the initial position shown in FIG. 5.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of apparatus for intermittent transport of a record carrier differing from the types described above.

While the invention has been illustrated and described as embodied in an apparatus by which a record carrier is intermittently transported under the control of a plurality of cam tracks, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended claims.

We claim:

1. Apparatus for intermittent transport of a record carrier, comprising, in combination, transporting means movable in a transporting direction for transporting a record carrier; operating means for said transporting means including an operating member, first and second cam followers connected with said operating member, coupling means connected with

said operating member, and mounting means mounting said operating member for movement in said transporting direction, and also for movement in a coupling direction transverse to said transporting direction between an inoperative position and a coupling position coupled by said coupling means with said transporting means for movement in said transporting direction; drive cam means including a first endless cam track engaging said first cam follower for moving said operating means in said coupling direction between said inoperative and coupling positions, and a second endless cam track for moving said operating means in said transporting direction; and control means operable between at least one blocking position engaging said operating means for blocking movement of said operating means in said transporting direction so that said operating means move in said coupling direction without moving said transporting means, and a releasing position in which said second cam track moves said second cam follower with said operating means in said transporting direction so that said transporting means is moved in said transporting direction only when said operating means is placed in said coupling position by said first cam track and first cam follower.

2. Apparatus as claimed in claim 1 wherein said first cam track surrounds said second cam track.

3. Apparatus as claimed in claim 18 wherein said mounting means mount said operating member for rectilinear movement in said coupling direction and for angular movement in said transporting direction; and wherein said mounting means is connected with said operating member at a portion of the latter located between said second cam follower and said coupling means; wherein said cam means includes a control cam portion; wherein said control means include a blocking member movable between said releasing position and said blocking position, and a control member movable between an inoperative position, and at least one control position in which said control member is located between said control cam portion and said blocking member so that said blocking member is moved from said blocking position to said releasing position under the control of said control cam.

4. Apparatus as claimed in claim 3 wherein said operating means include spring means acting on said operating member to bias said operating member to abut said blocking member in said blocking position; and wherein said second cam track has a substantially circular portion for guiding said second cam follower while said operating member abuts said blocking member.

5. Apparatus as claimed in claim 1 wherein said mounting means includes a journal; and wherein said operating member has a slot extending in said coupling direction and receiving said journal so that said operating member is mounted for rectilinear movement in said coupling direction and for angular movement in said transporting direction.

6. Apparatus as claimed in claim 5 wherein said mounting means include a spring biased pivotally supported mounting lever carrying said journal so that said operating member is freely movable in said transporting direction while said mounting lever turns.

7. Apparatus as claimed in claim 1 wherein said control means is operable between two blocking positions for blocking said operating means in two different angular positions; wherein said cam means is formed with a side cam track by passing a portion of said second cam track; wherein said operating means include a spring biasing said operating member to urge said second cam follower to enter said side cam track; and wherein in one of said blocking positions said operating member is held in such a position that said second cam follower follows only said second cam track while in the other blocking position said second cam follower is free to enter said side track so that said operating member moves in said transporting direction a different distance than during engagement only of the second cam track by said second cam follower.

8. Apparatus as claimed in claim 7 wherein said cam means include a control cam portion; wherein said control means include a blocking member turnable between said two blocking positions and said releasing position, a control member movable between an inoperative position and two control positions in which said control member is located between said control cam portion and said blocking member so that said blocking member is turned in the first control position from said one of said blocking positions to the other blocking position, and in said second control position from the other blocking position to said releasing position.

9. Apparatus as claimed in claim 7 wherein said portion of said second cam track has a dwell for displacing said second cam follower, said operating member, and said transporting means in said transporting direction, and wherein said side track causes displacement of said second cam follower and said transporting means a different distance than said dwell.

10. Apparatus as claimed in claim 7 wherein another portion of said second cam track leading said portion has a dwell for displacing said second cam follower, said operating member, and said transporting means in said transporting direction for a first distance; and wherein said side track following said other portion causes displacement of said second cam follower and of said transporting means a different distance than said dwell whereby by selectively placing said control means in said control positions, said transporting means is moved different distances.

11. Apparatus as claimed in claim 1 wherein said cam means has a third endless cam track; wherein said operating member has a slot extending in said coupling direction, wherein said mounting means includes a journal located in said slot and supporting said operating member for reciprocating movement in said coupling direction and for turning movement so as to move said coupling means in said transporting direction; comprising a support member mounted for rocking movement on said journal and having a third cam follower located in said third cam track; wherein said transporting means includes a gear and a printing roller turnably supported on said support member and movable with the same between a normal position and a printing position; comprising printing wheel means having types for printing on a record carrier supported by said printing roller in said printing position; and wherein said control means include means for controlling the movement of said support member with said printing roller between said normal and printing positions under the control of said third cam track.

12. Apparatus as claimed in claim 11 wherein said support

member and said operating member are spring biased toward said control means in said blocking position and blocked by said control means; wherein said control means release said support member and said operating means simultaneously so that said support member moves said printing roller to said printing position and said operating member turns said transporting means with said printing roller in said transporting direction due to the action of said third and second cam tracks.

13. Apparatus as claimed in claim 12 wherein said third cam track effects movement of said support member with said printing roller and a record carrier from said printing position to said normal position so that the printed data can be read; and wherein said support member is spring biased toward said printing position.

14. Apparatus as claimed in claim 13 wherein said first and second cam tracks are located on one lateral surface of said cam means and said third cam track on the other lateral surface of said cam means; wherein said cam tracks are cam grooves into which the respective cam followers fit; wherein the greater part of said third cam track is circular and the remaining part has a dwell for turning said support member with said printing roller in the area of said printing position at a rotary speed equal to the rotary speed of said operating member under the control of said second cam track and said second cam follower.

15. Apparatus as claimed in claim 14 wherein said second cam track has such a shape that said transporting means with said printing roller is first transported by said operating member a first angular distance; and wherein said third cam track has such a shape that said support member then moves said transporting means with said printing roller and said record carrier from said printing position to said normal position so that the newly printed data can be inspected.

16. Apparatus as claimed in claim 15 comprising a housing having a window bounded by a cutting edge located in the proximity of said printing roller so that a record carrier is transported by the turning printing roller out of said window whereby said record carrier can be inspected through said window and torn off along said cutting edge.

17. Apparatus as claimed in claim 11 including an arresting member mounted on said support member and including two spring arms embracing a portion of said gear and engaging recesses between the teeth of said gear for arresting said gear and thereby said printing roller in all angular positions of said gear.

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