Dec. 8, 1942. L. M. POTTS 2,304,120

MISSELECTION INDICATOR

Filed Feb. 27, 1941 3 Sheets-Sheet 1

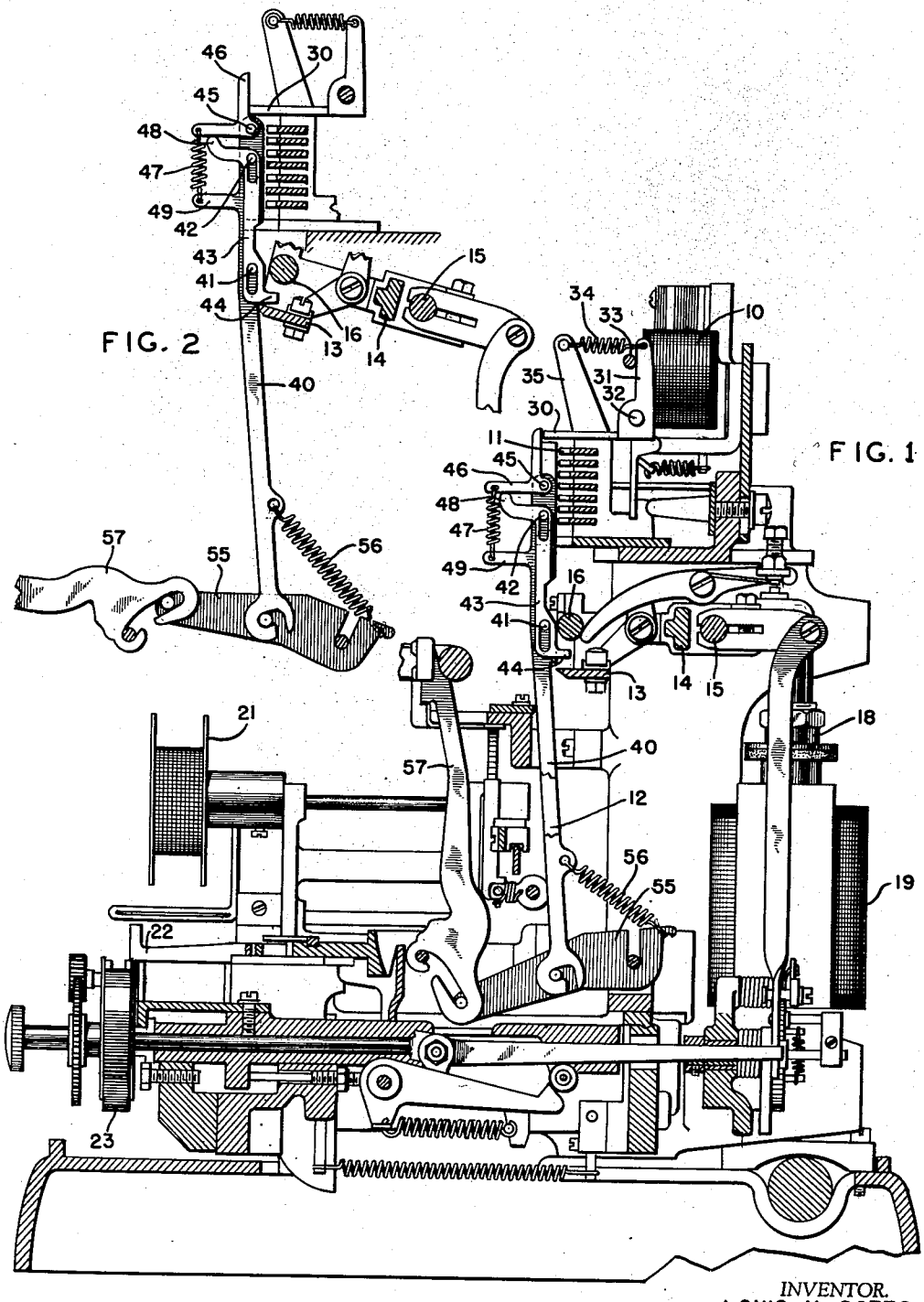


FIG. 2

FIG. 1

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MISSELECTION INDICATOR

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FIG. 6

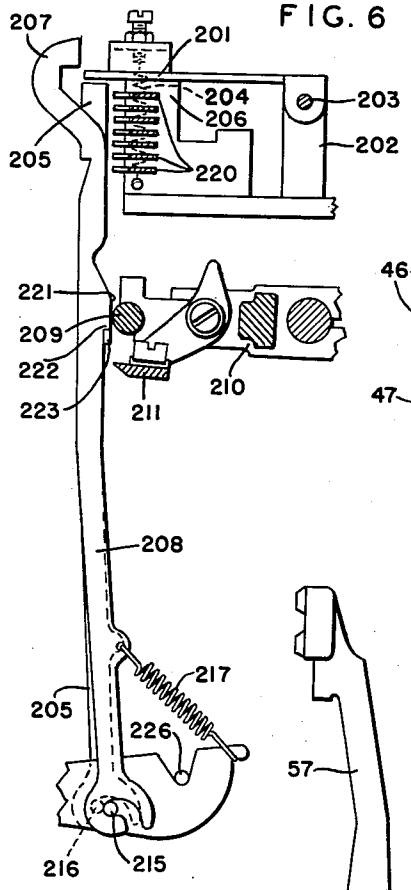
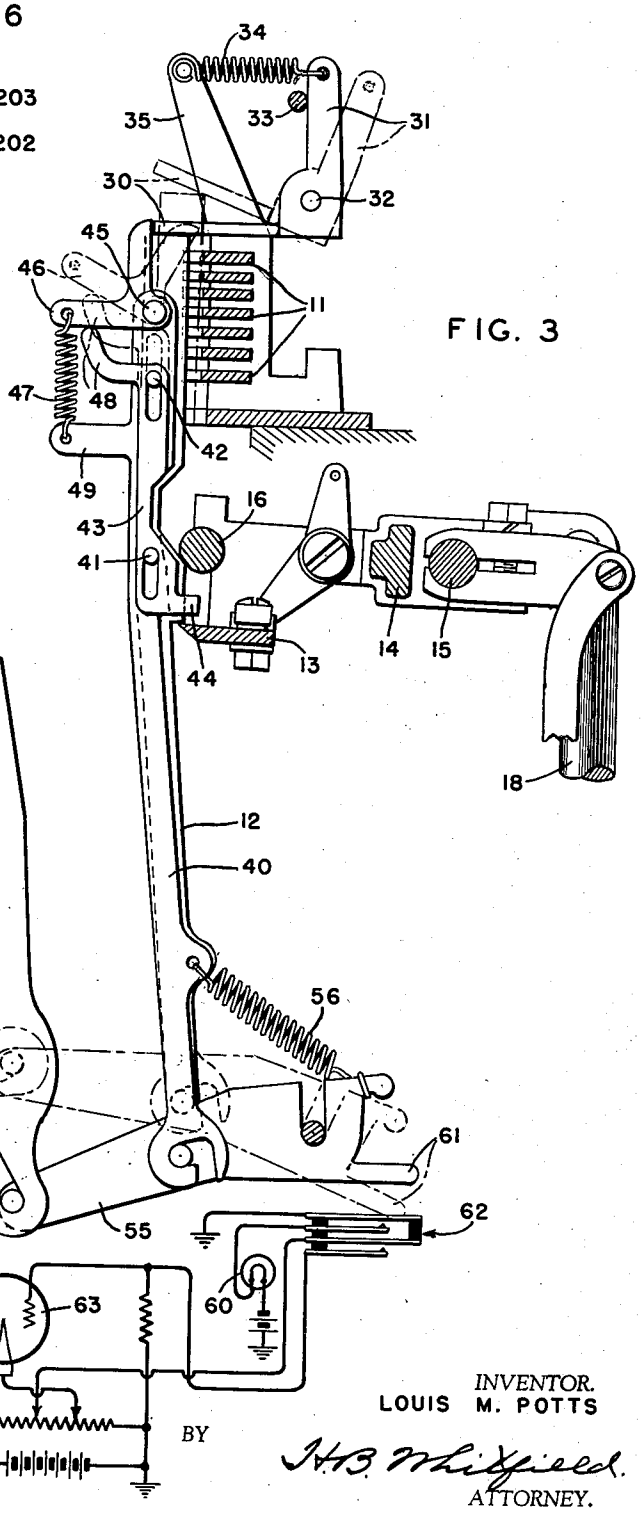


FIG. 3



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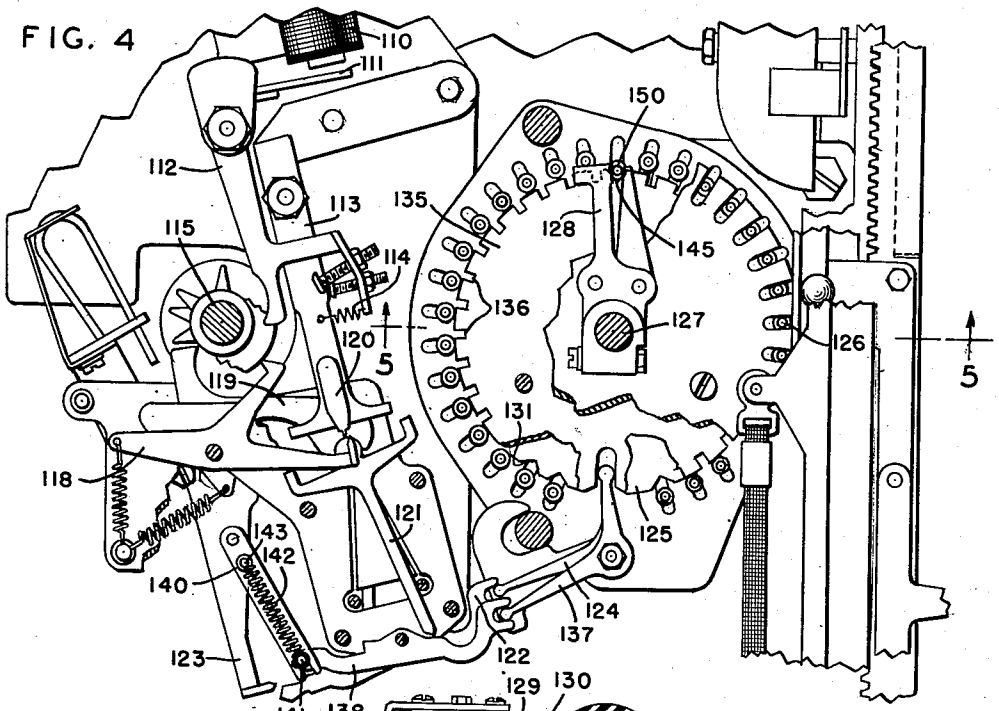
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MISSELECTION INDICATOR

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FIG. 4



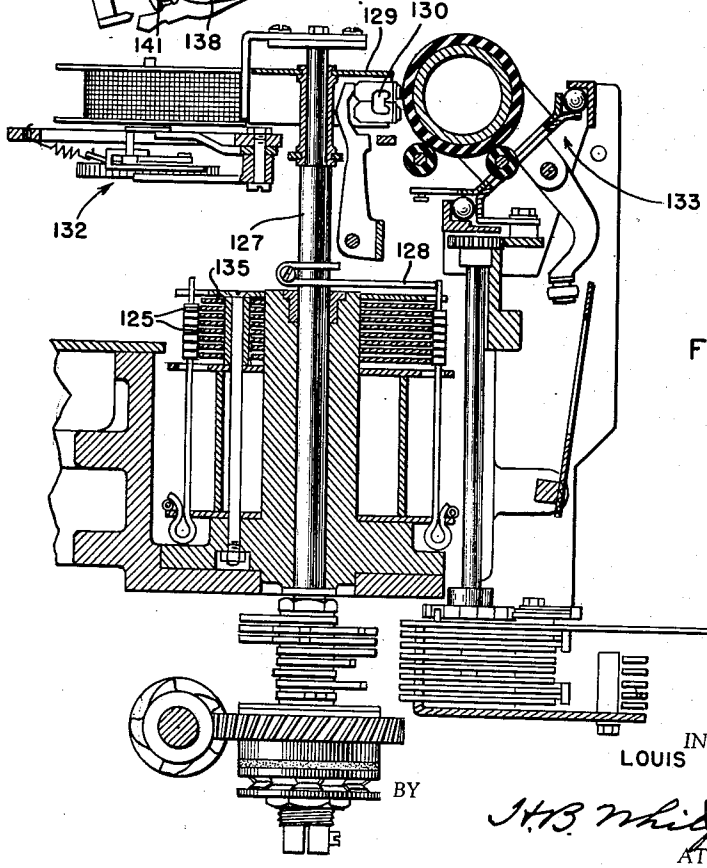


FIG. 5

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2,304,120

UNITED STATES PATENT OFFICE

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MISSELECTION INDICATOR

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Application February 27, 1941, Serial No. 380,905

18 Claims. (Cl. 178—69)

This invention relates to printing telegraph apparatus and more particularly to apparatus for causing the printing of an error index when other than a proper combination of impulses is received by a printing telegraph apparatus.

In the transmission of telegraphic code signals, quite frequently static or other electrical disturbances cause a circuit, on which code signals are being transmitted, to receive false impulses not sent by the sending apparatus. Where outside interference is particularly troublesome, for example, in radio telegraphy, it has been found advisable, in some cases, to provide means for determining and indicating the receipt of a false signal or combination of impulses by a telegraph printer apparatus.

It is an object of the present invention to provide means for indicating that a false signal has been received in a printing telegraph apparatus.

In accordance with one embodiment of the invention as applied to a tape printing telegraph apparatus adapted to receive a seven unit code, there are provided seven code bars suitably cut, so that every code signal corresponding to a character to be printed or to a function operation will utilize three marking and four spacing impulses of the seven impulse code, thereby reducing the possibility of erroneously selecting a type bar when false signals are impressed on the transmission circuit. In this embodiment of the invention, the code bars which are shifted to select a pull bar for actuating a printing bar, have extending over the top of them a member common to all of the pull bars and normally urged to a position directly above the pull bars. This member common to the pull bars is so positioned that any pull bar which is selected for actuation by falling into the notches in the code bars, will, on its upward movement engage the member common to all of them and move it about its pivot. The member common to all of the pull bars is positioned directly in the path of a pivoted bell crank fixed to a special pull bar which controls the printing of an error indicating character when none of the pull bars drops into the notches in the code bars. The bell crank pivoted on the special pull bar normally urges a slide bar or plate, which is slidable on the special pull bar, downwardly, to move a projection on the lower end of said slidable plate into the path of the printing bail of the printer. This projection is so positioned that the printing bail will engage it each time the printing bail is actuated to print any character, but the plate will slide upwardly when permitted by the bell crank rocking about its pivot. The action of the crank is, in turn, controlled by the member common to all of the pull bars and in this manner, the printing bail can only actuate the special pull bar when none of the regular pull bars have been selected for operation.

In another embodiment of the invention, as applied to a type wheel page printer of the class having seven code discs suitably cut so that the pins associated with the code discs may move to type selecting position only when codes are set up which have three marking and four spacing impulses, there is provided an error controlling code disc which has on its circumference a series of slots, one corresponding to each of the pins which control the normal character. There is also an additional pin which is assigned to the error character and which upon locking up of the extra code disc due to the reception of a proper signal will be unable to drop into the notch provided therefor in the extra or auxiliary code disc. If, however, an improper signal is received and the code discs are not properly aligned to select a character for printing, the pin associated with the special or error code disc will not be permitted to enter its notch and the error code disc will be shifted to a position where the error pin will drop into the notch in the error code disc due to the oscillation of the code disc from its normal position by the action of the code disc lever, the transfer lever, and a spring interconnecting the transfer lever for this particular code disc with the transfer lever lock arm.

An alternate form of the invention as applied to a tape printer contemplates the addition of an error pull bar which is formed with a relatively long surface in engagement with the restoring roll on the printing bail frame so that the special pull bar will not move toward the printing bail until any regular pull bar selected by the code bars has had a chance to be engaged and moved a short distance by the printing bail. The error pull bar, in this embodiment of the invention, has a goose neck formation at its upper end which will strike a pivoted plate extending over all of the regular pull bars if any regular pull bar has moved upwardly by the printing bail and will thus be prevented from moving into the path of the printing bail. However, if no regular pull bar moves upwardly under the influence of the printing bail, the pivoted plate will not be in the path of the goose neck portion and the special pull bar will be operated.

Other methods of detecting and indicating receipt of a false signal have been proposed but

these methods involve the use of specific codes or the like and involve complex instrumentalities not necessary in the present invention which is independent of the codes.

A better understanding of the invention will be had by reference to the accompanying drawings wherein:

Fig. 1 is an irregular vertical sectional view through a type bar tape printer modified to embody the present invention with the various parts thereof in their normal, inoperative position;

Fig. 2 is a fragmentary view of some of the parts as shown in Fig. 1, showing the parts in their operated position, after the apparatus has received a proper signal;

Fig. 3 is a view similar to Fig. 2 but on an enlarged scale and showing the parts in their operated position after the apparatus has received a false signal not conforming to any particular code;

Fig. 4 is a fragmentary horizontal sectional view taken through a type wheel page printer, parts being broken away to show more clearly those parts which constitute the present invention, and this figure shows the code discs in the position they assume when a false signal has been received by the printer apparatus;

Fig. 5 is an irregular, fragmentary, vertical, sectional view taken substantially along the line 5—5 of Fig. 4 in the direction of the arrows; and

Fig. 6 is a fragmentary view similar to Figs. 2 and 3 and showing an alternate form of the invention applicable to a type bar tape printer.

In apparatus of this general class, the selection of type to be operated is controlled by code impulses received by selector magnets which receive the code impulses transmitted to them over either a wired or a radio telegraph system. In the embodiment of the invention disclosed in Figs. 1, 2, and 3, a plurality of selector magnets receive timed impulses to set up code bars which in turn control the selection of the characters to be printed whereas in the embodiment of the invention shown in Figs. 4 and 5, the selection of characters for printing is controlled by a single selector magnet in the manner well known in the art.

As pointed out herein before, the embodiment of the invention shown in Figs. 1, 2, and 3 relates to a type bar tape printer of the usual type wherein a series of aligned electromagnets **10** control the selective operation of a plurality of code bars **11** having notches in their faces which, when a proper code signal is received, will be aligned to permit the entry therein of the upper end of a pull bar **12**. This type of printing telegraph selecting apparatus is shown in Patent No. 1,567,599 to E. E. Kleinschmidt, December 29, 1925. In the operation of apparatus of this type, as is well known, a printing bail **13** is utilized for moving a selected one of the pull bars **12** to its operative position each time a proper code signal is received in the apparatus. In the presently discussed embodiment of the invention, the usual bail **13** is mounted on a printing bail frame **14** which is, in turn, fixed to a printing shaft **15**, and the printing bail frame carries a roller **16** which tends to cam the pull bars **12** out of the notches in the code bars **11** when the apparatus returns to normal position as shown in Fig. 1.

The printing shaft **15** has an arm **16** fixed to it which is actuated by a plunger **18** actuated, in turn, by a solenoid **19** as is usual in machines of this type. The usual ribbon guiding means **21**, type guides **22**, and platen wheel **23** are provided for performing the functions usual to them in such machines. However, since they do not pertain directly to the present invention, a further detailed description of them and the other cooperating parts, as shown in Fig. 1, is not believed to be necessary herein.

Positioned above the code bars **11** in the area thereof where they are notched, is a plate **30** which has a vertically extending arm **31** formed on it. The arm **31** is pivoted as shown at **32** on a suitable pin mounted to the framework of the machine, and the arm **31** is urged into engagement with an abutment member **33** by a coil spring **34** attached to the upper end of the arm **31** and to an arm **35** projecting from the framework of the machine. It is believed to be thus apparent that the plate **30** is so positioned that it will be moved upwardly about the pivot **32** when the code bars **11** are so shifted that a pull bar **12** is permitted to fall into the notches therein, and consequently may be engaged by the printing bail **13** when the bail **13** is rocked upwardly through the action of the solenoid **19**. Thus, any pull bar **12** which is selected for actuation will, upon actuation, move the plate **30** in a clockwise direction against the action of the spring **34** which tends to retain arm **31** in position where it engages the pin or abutment **33**.

As more clearly shown in Figs. 2 and 3, there is provided a supplemental or additional pull bar designated **40**. This pull bar has fixed to it a pair of pins **41** and **42** on which there is slidable an irregularly shaped plate **43**. The plate **43** has, at its lower end, an arm-like portion **44** which extends into the path of the printing bail **13** and is engaged by the printing bail **13** each time the printing solenoid **19** is energized. Affixed to the upper end of the pull bar **40** is a pin **45** on which there is pivotally mounted a bell crank lever **46**, the normally vertically extending arm of which is in such position that it will be prevented from moving in a clockwise direction by the extending end of the plate **30**. Attached to the horizontal end of the horizontal leg of the bell crank **46** is a coil spring **47** which normally tends to move the horizontally extending leg of the bell crank into engagement with an offset portion **48** of the plate **43**, the lower end of the coil spring being fixed to a projection **49** extending outwardly from the additional or auxiliary pull bar **40**.

The auxiliary pull bar **40** is interconnected with a type bar actuating member **55**, and a contractile spring **56** and acting through the member **55** normally tends to maintain an error type bar **57** in its inoperative position. The error type bar **57** may carry any suitable type, for example, an asterisk, or cross which, in accordance with the marking system to be adopted, will indicate that an error has occurred.

In the normal operation of the apparatus, the code bars **11** will be shifted to position to permit a pull bar **12** to fall into the notches in the code bars **11** as the roller **16** moves into the narrow portion of the pull bars upon the energization of solenoid **19** and consequent actuation of the printing shaft and the printing bail frame which carried the roller **16**. Therefore, any selected pull bar **12** will, as is usual in apparatus of this type, be moved upwardly by the printing bail **13** engaging the actuating shoulder on the pull bar. As a pull bar which has been selected by the code bars **11** moves upwardly, its upper end will strike the plate **30** and rock the plate **30** about the pivot **32**.

It should be noted that the extending portion 44 of the plate 43 is normally positioned just above the shoulder on the pull bar 12, and as a consequence, will be engaged by the printing bail 13 shortly after a selected pull bar has been started in its upward movement by the printing bail. If, as just pointed out, a pull bar 12 has been selected for operation and has moved the plate 30 out of the path of the vertically extending leg of the bell crank 46, the plate 43 will slide on the pins 41 and 42 and will rotate the bell crank 46 against the action of the spring 47. In this manner, whenever a pull bar, which controls normal printing or which controls any of the other functions common to machines of this type, has been selected for operation, it will disable or render inoperative the printing mechanism for the error character, and the plate 43 on the error pull bar 40 will move upwardly with respect to the pull bar 40 and the pull bar, consequently, will not be actuated.

However, if no pull bar 12 of the regular or normal group of pull bars is selected for operation, then the plate 30 will remain in the path of the vertically extending arm of the bell crank 46, and the bell crank 46 will not be permitted to rock about its pivot 45. The inability of the bell crank 46 to rock in a clockwise direction about its pivot 45 will, in effect, lock the plate 43 with respect to the plate 40 and as the plate 43 is moved upwardly, it will move the pull bar 40 with it. The pull bar 40 will, therefore, actuate its type bar 57 and cause the type bar 57 to print an error character on the tape being printed.

When the apparatus described hereinbefore operates the error pull bar 40, it may be desirable to immediately attract the attention of an attendant to the occurrence of the error or it may be desirable to note the number of errors received in a predetermined period of time. Accordingly, the apparatus may be provided with visual signaling means in the form of a lamp or glow tube 60, the circuit to which may be closed by a lever 61, formed integrally with the type bar actuating member 55, engaging and closing multi-contact switch 62. The other contact pairs in multi-contact switch 62 may be used to close a circuit to trip a gas filled trigger tube 63 which will, through its plate circuit, energize an electromagnet 64 of a counter shown schematically at 65. It is possible, when operating the printer at slow speed, that the switch 62 will remain closed long enough to energize the electromagnet 64 and in such case the trigger tube circuit may be eliminated.

As mentioned hereinbefore, the embodiment of the invention disclosed in Figs. 4 and 5 applies to the type of printing telegraphy apparatus known as type wheel page printers wherein, as shown particularly in Fig. 4, a selector magnet 110 attracts an armature 111 having an armature lever 112 attached thereto for actuating a selector arm 113 which is normally urged to follow the movement of the armature lever 112 due to the interconnection of the armature lever 112 and selector arm 113 by a selector arm spring 114. This type of telegraph printing apparatus is disclosed in Patent No. 2,247,408 to A. H. Reiber, July 1, 1941. In this type of apparatus, as is well known in the art, a cam shaft 115 normally cooperates with the selector magnet 110 to effect a selection of code discs for operation. Cooperating with the shaft 115 is a locking lever 118 which serves to lock a locking wedge 120 on the extending end of the selector arm 113 thereby to hold the selector arm 113 in a predetermined position, in which it may have been temporarily held by the action of the electromagnet 110. Also cooperating with the shaft 115 and the miscellaneous cams thereon is a transfer lever lock arm 123 which serves to lock transfer levers 122 in the selected position as controlled by swords 121 which are reciprocated by selector levers 119. The selector levers 119 thus control a series of code disc levers 124, seven of which are provided in the present embodiment of the invention. The code discs 125 which are controlled by the code disc levers 124 are seven in number and control the selection of printing type pallets 130 to be actuated. This control is obtained by shifting the various code discs 125 into characteristic positions so that the arrangement of them will permit a series of V-shaped notches 131 in the code discs 125 to be aligned and permit a stop pin 126 in such position to move toward the axis of the code discs. Any stop pin 126 which is thus moved radially inwardly toward the axis of the code discs will be in the path of a type wheel stop arm 128 which is rotatable with a type wheel shaft 127 which carries at its upper end a type wheel 129 having the type pallets 130 slidably positioned about its periphery so that they may be moved radially outwardly to cause printing of a character on a page of paper carried in a carriage and platen supporting assembly which is movable with respect to the type wheel 129. The apparatus is also provided with suitable ribbon feeding mechanism and auxiliary mechanism common to this type of apparatus. The afore-described apparatus is well known to the art and needs no further description here.

In the present embodiment of the invention, there is provided a means for indicating that an improper signal has been received by the selector magnet 110; that is, a signal which will not cause any particular stop pin to be selected. In this apparatus, there is provided an additional or error code disc 135 which is slightly larger than the regular code disc 125 and which is provided at its periphery with a series of regularly spaced slots 136 which will receive the upper end of any stop pin 126 which has been permitted to move inwardly due to the selection of a proper stop pin. The error code disc 135 has associated with it an error code disc lever 137 which is, in turn, actuated by an error transfer lever 138 corresponding to, but not exactly the same as, the transfer levers 122 provided in apparatus of this type. The error code disc lever 137, the error transfer lever 138, and the code disc 135 which is actuated by them seek to move to operative position each time the shaft 115 goes through one complete rotation due to the fact that there is provided a spring connection between the error transfer lever 138 and the transfer lever lock arm 123. The error transfer lever 138 does not have the locking extension for cooperation with the transfer lever lock arm 123 which the standard transfer levers 122, associated with the other seven code discs, have. Pivotally connected to the transfer lever lock arm 123 is an actuator arm 140 which is forked at its free end for receiving a pin 141 extending upwardly from the error transfer lever 138. The pin 141 is held in the forked end of the lever 140 by a coil spring 142 which is fixed to the pin 141 and to a pin 143

extending upwardly from the lever 140 adjacent its pivot point. The error code disc is, as pointed out hereinbefore, provided with a series of regularly spaced notches 136 adapted to receive the extending end of the stop pin 126 which is selected for operation, and the error code disc 135 is also provided with a V-shaped notch 145 similar to the notches formed in the regular code disc 125. It will be understood that the regular code discs 125 at the point where they underlie the V-shaped notch 145 of the error code disc 135 have provided thereon sufficient clearance to insure that the error pin 150 will be able to move into the V-shaped notch 145 independently of the position of the regular code discs under certain conditions as will hereafter appear. If none of the regular stop pins 126 drops into notches in the code discs 125 and therefore the upper end of none of them moves into one of the slots in the error code disc 135, the transfer lever lock arm 123 will move away from the end of the transfer levers 122 and 138 and will draw the error transfer lever with it since the error code disc 135 has not been locked against movement, and the error code disc will not be locked against movement unless some stop pin is selected and moves into one of the regularly spaced notches 136 in the error code disc. This consequent movement of the error code disc will cause the notch 145 to move into the path of the error pin 150 and will cause the type wheel to be stopped at a position to print a predetermined error character; for example, an asterisk. If, however, one of the regular stop pins 126 is selected, indicating that the proper code impulses have been received by the selector magnet 110, then the pin in the selected position will drop into the corresponding one of notches 136 in the error code disc 135, thereby not only selecting a certain type for operation but also preventing the error transfer lever 138 and the error code disc lever 137 from moving the error code disc 135. When this occurs, error transfer lever 138 is held stationary although the actuator arm 140 is moved by the transfer lever lock arm 123 and the spring 142 will be distended but the error code disc will not be moved, and thus the proper character will be printed by the printer.

In the embodiment of the invention shown in Fig. 6, a universal bail 201 is pivoted on the framework 202 at 203 and is urged in a counterclockwise direction by a spring 204. The spring 204 holds the bail 201 in the position shown where the bail is over the tops of the regular pull bars 205 and is in engagement with shoulder 206 of the framework. Bail 201 in the position shown is out of the path of a goose neck portion 207 of a special pull bar 208 and will not interfere with the clockwise movement of the special pull bar if the special pull bar is disengaged from a restoring roll 209 mounted on a printing bail frame 210 which also carries a printing bail 211. The special and regular pull bars 208 and 205, respectively, have their lower ends pivotally mounted on pivot pins 215 and 216, respectively, and are urged in a clockwise direction by springs 217. The springs 217 urge the pull bars against the restoring roll 209 and when the roll 209 moves upwardly any one of the regular pull bars 205, that fall into aligned notches in code bars 220, will be engaged by the printing bail 211 and moved upwardly to engage and rock the universal bail 201 in a clockwise direction before the roll 209 moves off the surface 221 of the special pull bar 208. It should be noted that the surface 221 on special pull bar 208, which is the surface of a cam abutment or shoulder 222, is relatively higher on the pull bar than the corresponding surface 223 on the regular pull bars 205 and of course the edge of the shoulder 222 which is adapted to be engaged by the printing bail 211 is correspondingly higher. This construction is provided so that any regular pull bar 205 which moves into aligned notches in the code bars 220 will be permitted to move clockwise into said notches before the special pull bar 208 is disengaged from the roll 209 and will also be moved upwardly to move the universal bail 201 into the path of the goose neck portion 207 of the special pull bar 208. Therefore, when any regular pull bar 205 is actuated, the disengagement of the roll 209 from the surface 221 of the special pull bar 208 will not result in the special pull bar being engaged by the printing bail 211. However, when no regular pull bar is moved by the bail 211, the universal bail 201 will remain in the position shown and the special pull bar 208 will be engaged and actuated by the printing bail 211 to indicate the false signal. Since the special pull bar 208 does not travel upwardly as far as the regular pull bars 205, the pivot pin 215 is positioned closer to the pivot point 226 than the pivot pin 216 so that the type bars (not shown) associated with them will travel the same distance.

Although the invention has been described hereinbefore as applied to specific embodiments thereof, it will be understood that it is to be limited only by the scope of the appended claims.

What is claimed is:

1. In a telegraph recording apparatus, code elements shiftable to control selectively recording and functional operation of said apparatus, selectable elements cooperating with said code elements and selectable thereby, means common to all of the selectable elements and controlled by the selection and actuation of one of said selectable elements, and a recording element operable under control of said common means to record a character individual thereto.

2. In a printing telegraph apparatus, printer type selecting members, an error indicating printing element, means for normally urging said element to a position for operation, character and function controlling elements directly selectable by said printer type selecting members, and means under control of a selected character and function controlling element for precluding operation of the error indicating element.

3. In a printing telegraph apparatus, character printing and function controlling elements, a plurality of code elements, means movable under control of the code elements to select a character printing or function controlling element for actuation, and means common to and operative upon failure of the selecting means to select a character printing or function controlling element for printing an error indicating mark.

4. In a printing telegraph apparatus, a plurality of code bars, means for shifting said code bars in accordance with received code impulses, printer operating members associated with said code bars and selectable thereby, a member disposed in the path of said printer operating members and operable by any one of said members selected by the code bars, and means under control of said last mentioned member for printing an error indicating mark.

5. In a printing telegraph apparatus, a plurality of code bars, means for shifting said code

bars in accordance with received code impulses, printer operating members associated with said code bars and selectable thereby, a member disposed in the path of said printer operating members and operable by any of said members selected by the code bars, a printing bail for actuating a selected printer operating member, means disposed in the path of said printing bail and positioned for actuation thereby each time the printing bail is actuated, and an error indicating printing element controlled by said last mentioned means.

6. In a telegraph apparatus, a series of code members, elements controlled by said members for selection upon receipt of a proper code signal, an error indicating element for selection upon receipt of an improper code signal, means tending to render said error indicating elements operative, and means under control of the code member controlled elements for precluding operation of said last mentioned means.

7. In a printing telegraph apparatus, an error type bar, an error pull bar, a plurality of type actuating pull bars, a printing bail for actuating a selected one of the type actuating pull bars, a bell crank pivoted on the error pull bar, a spring connected to one arm of the bell crank and to the pull bar, a plate slidable on the error pull bar and having an extension in the path of the printing bail and an extension in the path of the bell crank, and a tiltable plate normally urged into the path of the other arm of the bell crank and positioned in the path of the type actuating pill bars.

8. In a printing telegraph receiving apparatus, a plurality of pull bars selectable to cause functional and typing operations of the apparatus, a bail movable to actuate a selected one of said pull bars in each cycle of operation of the apparatus, and means under control of the pull bars for printing an indication that no pull bar was selected in one cycle of the apparatus comprising an error type bar, an error pull bar for actuating said error type bar, means slidable on said error pull bar and having a projection in the path of the bail, resilient means tending to hold said slidable means fixed with respect to said error pull bar, and a blocking plate normally urged to prevent movement of the slidable plate with respect to the error pull bar, said blocking plate being positioned in the path of the first mentioned plurality of pull bars for movement out of the path of the slidable plate by any one of said first mentioned plurality of pull bars.

9. In a printing telegraph receiving apparatus, a plurality of pull bars selectable to cause functional and typing operations of the apparatus, a bail movable to actuate a selected one of said pull bars in each cycle of operation of the apparatus, and means under control of the pull bars for printing an indication that no pull bar was selected in one cycle of the apparatus comprising slidable means operable by the bail in each cycle, false signal indicating means operable by said slidable means, and means under control of the pull bars for rendering the slidable means ineffective to operate the false signal indicating means.

10. In a printing telegraph receiving apparatus, a plurality of pull bars selectable to cause functional and typing operations of the apparatus, a bail movable to actuate a selected one of said pull bars in each cycle of operation of the apparatus, and means under control of the pull bars for printing an indication that no pull bar was selected in one cycle of the apparatus comprising slidable means operable by the bail in each cycle, false signal indicating means operable by said slidable means, and means under control of the pull bars for rendering the slidable means ineffective to operate the false signal indicating means, said means under control of the pull bars including a bell crank normally urged to a predetermined position over the pull bars and operable by each of said pull bars.

11. In a printing telegraph receiving apparatus, a plurality of pull bars selectable to cause functional and typing operations of the apparatus, a bail movable to actuate a selected one of said pull bars in each cycle of operation of the apparatus, and means under control of the pull bars for printing an indication that no pull bar was selected in one cycle of the apparatus comprising a blocking plate urged to position over all of the pull bars, a bell crank positioned to be blocked by said blocking plate, an error pull bar on which said bell crank is pivotally supported, a plate slidable on said error pull bar and having an extension in the path of the bail and engaging the bell crank to actuate the bell crank when the bell crank is not blocked by the blocking plate.

12. In a printing telegraph receiving apparatus, a plurality of stop pins selectable to control functional and printing operations of the apparatus, code discs shiftable to select said stop pins, an error code disc shiftable to select a stop pin, and resilient means for urging the error code disc to move to a position to select its stop pin in each cycle of the apparatus, said error code disc having stop surfaces thereon for engagement by any selected stop pin to prevent movement of said error code disc by said resilient means.

13. In a printing telegraph receiving apparatus, a plurality of stop pins selectable to control functional and printing operations of the apparatus, code discs shiftable to select said stop pins, lever mechanisms for shifting said code discs, an error code disc shiftable to select a stop pin mechanism for moving said error code disc, and resilient means tending to operate said lever mechanism for the error code disc once in each cycle of the apparatus.

14. In a printing telegraph receiving apparatus, a plurality of stop pins selectable to control functional and printing operations of the apparatus, code discs shiftable to select said stop pins, lever mechanism for shifting said code discs, a locking lever for locking the lever mechanism in either of two positions, an error code disc shiftable to select a predetermined stop pin, lever mechanism for moving said error code disc, a forked lever attached to the locking lever for actuating the lever mechanism for the error code disc in one direction, and a spring attached to the locking lever for tending to move the error code disc lever mechanism in the opposite direction.

15. In a printing telegraph receiving apparatus, a plurality of stop pins selectable to control functional and printing operations of the apparatus, code discs shiftable to select said stop pins, lever mechanisms for shifting said code discs, a locking lever for locking the lever mechanisms in either of two positions, an error code disc shiftable to select a predetermined stop pin, lever mechanism for moving said error code disc, a forked lever attached to the locking lever for actuating the lever mechanism for the error code disc in one direction, and a spring attached

to the locking lever for tending to move the error code disc lever mechanism in the opposite direction, said error code disc having surfaces thereon for engagement by a selected stop pin to prevent operation of the error code disc lever mechanism by the spring.

16. In a telegraph apparatus for receiving a plurality of combinations of signals, a plurality of marking elements less in number than the number of combinations which may be received, a code selector mechanism cooperating therewith, a special marking element, means tending to render said special element effective, and means controlled by any selected one of said plurality of elements for voiding the operation of the means tending to render the special element effective.

17. In a cyclically operable recording device, a plurality of recording elements, a code selector mechanism cooperating therewith, a special recording element, and means controlled by the selection of any one of the plurality of recording elements to determine the operativeness of the special recording element in each cycle of operation of the recording device.

18. In a printing telegraph apparatus, a series of selectable elements, a code responsive selector for selecting only one of said elements during each cycle of operation, an error indicating element, means for normally urging the operation of said error indicating element, and means controlled by any one of the selected elements upon its selection for precluding the operation of said error indicating element, said error indicating element being effective when none of said selectable elements is selected.

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