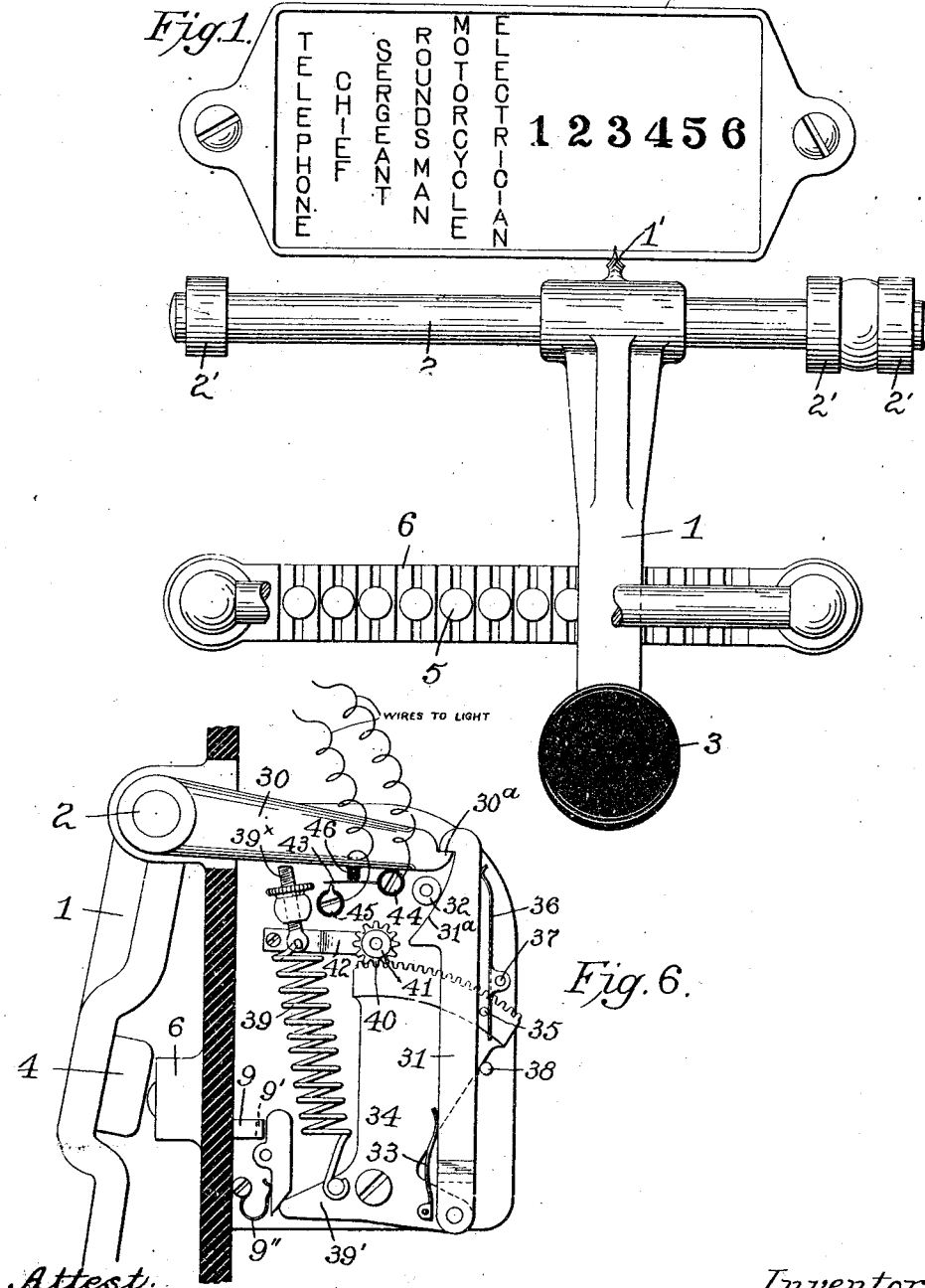


W. E. FASTNACHT.
POLICE SIGNAL CODE BOX.
APPLICATION FILED DEC. 8, 1911.

1,056,269.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 1.



Attest:
Edw. L. Tolson,
C. E. Parsons,

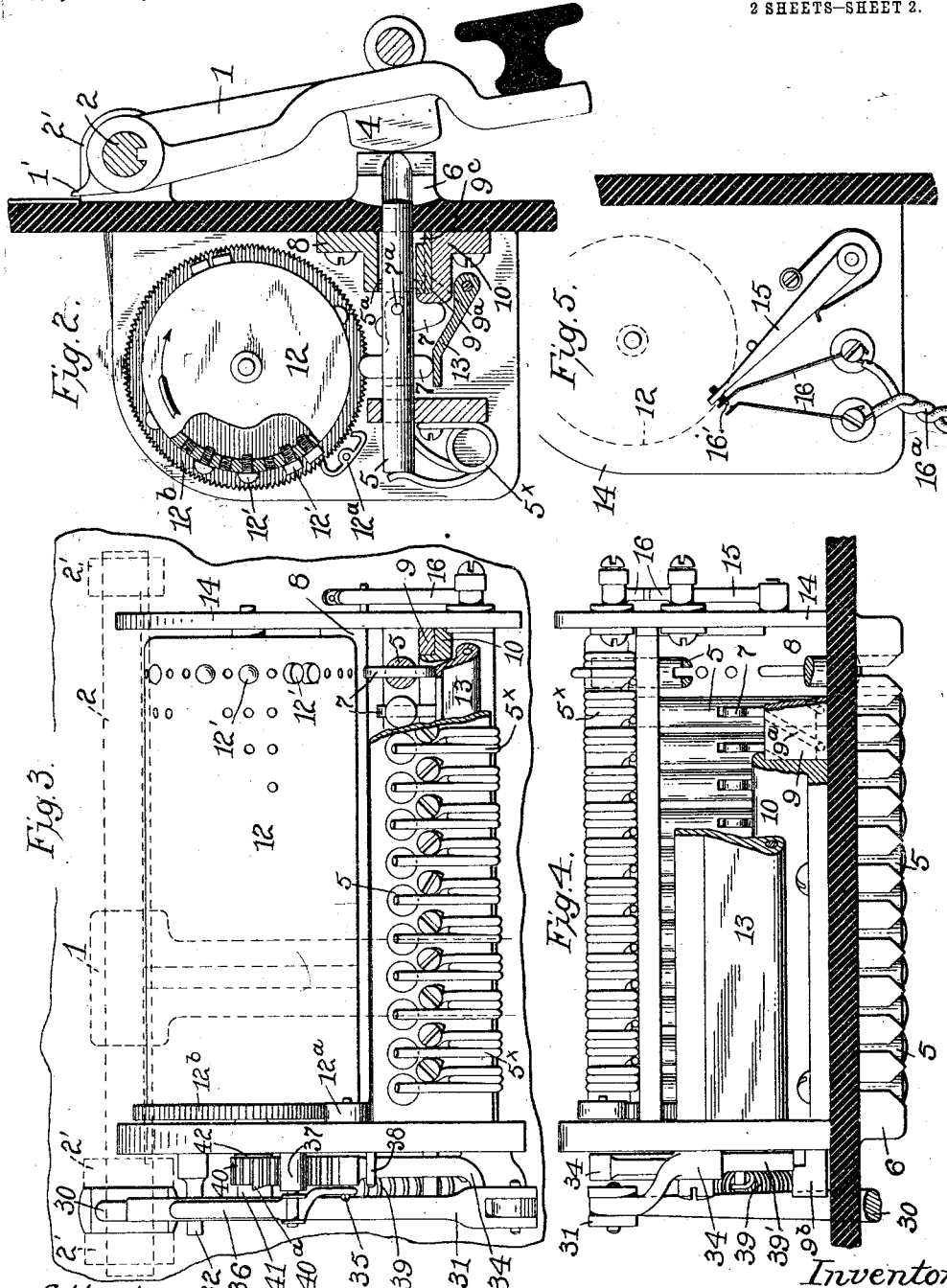
Inventor:
Warren E. Fastnacht,
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Attys.

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UNITED STATES PATENT OFFICE.

WARREN E. FASTNACHT, OF YORK, PENNSYLVANIA.

POLICE-SIGNAL-CODE BOX.

1,056,269.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed December 8, 1911. Serial No. 664,688.

To all whom it may concern:

Be it known that I, WARREN E. FASTNACHT, citizen of the United States, residing at York, Pennsylvania, have invented certain new and useful Improvements in Police-Signal-Code Boxes, of which the following is a specification.

My present invention is designed to simplify and render highly efficient apparatus of this character, and it consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

The invention is shown in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front view of the dial, the operating lever or handle, and the series of push buttons or rods controlled by said operating handle. Fig. 2 is a detail sectional view of the carrier drum for the circuit closing devices, said drum being partly in section, and other parts being in section and in elevation. Fig. 3 is a rear view of the signaling drum of Fig. 2, and with parts associated therewith. Fig. 4 is a bottom plan view of parts shown in Fig. 3, some being broken away and parts being in section. Fig. 5 is a view of the contact springs and associated parts. Fig. 6 is a detail view of an automatic trip for the carrier drum showing also winding mechanism and associated parts.

In these drawings, 1 is an operating lever or handle slidably mounted on a bar 2 which, in turn, is mounted in bearings 2' suitably formed or fixed to the casing of the apparatus. This handle or operating lever 1 has a splined connection with the bar or shaft 2, so that when the handle is pressed inwardly by pressure upon a knob 3, the shaft 2 will be rotated to wind up the mechanism as will be hereinafter described. The operating lever has a pointer 1' by which the handle may be set to register with any desired division of the dial such, for instance, as the division marked "Telephone", "Chief", "Sergeant", "Roundsmen", etc., or the divisions marked 1 to 6 for the patrolmen. The knob 3 may be of insulating material. The hand lever carries a plate 4 to enter V-shaped notches in a guard bar or lug 6 mounted on the frame, and when the lever is pressed the plate or blade 4 engages and presses inwardly the button or rod 5 with which the plate is in alinement, one of

these rods or buttons being shown pressed inwardly in Fig. 2. There are a series of these buttons or rods 5 corresponding in number to the divisions of the dial, and each rod or button has a tumbler 7 pivotally mounted at 7^a within a slot in the button. The buttons or slide bars 5 have each a pin 5^a projecting up therefrom entering a groove in a plate 8 attached to the frame so that as the buttons or bars are reciprocated, they will be held from turning by these pins engaging these grooves, which are parallel with the axes of the buttons or rods 5. The pins 5^a, at their lower ends, enter inclined grooves 9^a in a locking plate 9 which is slidably mounted on a bracket or plate 10 secured to the frame, the said locking plate 9 being adapted to move in a direction at right angles to the buttons or rods 5. When a button is pressed inwardly, the lower end of the pin 5^a will enter the inclined groove in the sliding plate 9, and this plate will thus be shifted so that all the other grooves therein will be thrown out of line with the pins 5^a of all the other buttons or slide rods, so that none of these can be forced inwardly until the locking bar 9 has been returned to normal position. The locking bar or plate 9 is in turn locked in position when its sliding movement is completed by a pawl 9^a, Fig. 6, which engages a notch 9' in the edge of the locking bar 9, the pawl, however, being shown released in said Fig. 6. This pawl is pressed by a spring 9'', and when in engagement with the notch 9' it will hold the locking bar in position, and thus the button 5 which has been pressed inwardly will also be held locked against outward movement until the code signal has been sent. For sending this code signal, the carrier 12 is provided, and in the present embodiment of my invention I show this in its best form as consisting of a rotary drum, the shaft of which is mounted in suitable framework, the said drum carrying a series of circuit closing devices consisting of the pins or screws 12', some of these being round headed for transmitting the dots and some being fillister headed for transmitting the dashes. When the drum is rotated, as will be hereinafter described, these projections or circuit closing devices 12' will engage the tumbler 7 of the button or rod 5 which has been pressed inwardly, and this tumbler will be swung downwardly and will depress a lever or pivoted plate 13, it being understood that

all of those buttons or rods which are not pressed in will have their tumblers 7 in position so as not to be engaged by the circuit closing devices 12' of the drum.

5 The inward movement of any one of the buttons or rods 5 will cause its tumbler to ride on the plate or lever 13 to the position shown in Fig. 2, this tumbler having its upper and lower ends in the same vertical
10 plane with the axis of the drum. Now when this tumbler is depressed by engagement of the circuit closing devices 12', the plate or lever 13 will be depressed, and as the shaft of this plate carries an arm or lever
15 15, this lever will be operated so as to close contacts at 16', these contacts being carried by springs 16 to which the circuit wires 16^a are connected, as shown in Fig. 5. It will therefore be seen that the tumbler 7, by
20 successive depressions resulting from the engagement therewith of the circuit closing devices 12', will result in closing of the circuit at 16', and the sending of the signal according to the disposition of the circuit
25 closing devices in accordance with the particular code to be sent, it being understood that there is a circumferential row of these circuit closing devices 12' for each signal. These circuit closing projections 12' may be
30 set in any desired order or changed at the will of the electrical engineer to change the code. A suitable escapement device may be provided to give the drum 12 a slow movement, and as representative of any device
35 that may be used for this purpose, I show an escapement pawl at 12^a engaging serrations 12^b on the drum.

Reverting to the sliding locking bar 9, it will be seen that this is cut away or notched
40 at its forward edge at 9^c, Fig. 2, and the lower end of the pins 5^a normally lie in line with this cut away part, and the pin 5^a does not enter the groove 9^a until it is moved backwardly. The buttons or rods 5 are each
45 normally pressed outward by a spring 5^{*}, one for each button, and after the locking pawl 9^a is released from the locking bar 9, as will be hereinafter described, the spring 5^{*} of the operated button will force said button
50 outwardly to normal position, and the force of this spring is sufficient through the pin 5^a working in the groove 9^a to return to the sliding locking bar to normal position, in which the various grooves 9^a will be opposite the pins 5^a of the respective buttons
55 ready to receive them when any button is moved inwardly.

As before stated, the operation of the handle or lever 1 not only presses inwardly
60 the desired button, but it stores power in the operating spring and controls a trip by which said power is delivered to the rotary carrier for operating the same. This mechanism is shown in Fig. 6, and includes an
65 arm or lever 30 fixed to the shaft 2, the free

end of which lever moves upwardly when the handle 1 is pressed inwardly. At its inner end the lever 30 has a catch 30^a which draws upwardly a trip rod or bar 31. This trip rod, at its lower end, is pivotally mounted
70 on an arm of a segment 34 which is pivotally mounted in the frame, the said segment engaging a toothed wheel or pinion 40 loosely mounted on the shaft of the carrier drum, but having a tooth at 40^a, Fig. 3, engaging
75 a corresponding tooth on a head or collar 41 fixed to the outer end of the drum shaft, a flat spring 42 being provided to press the toothed wheels 40 laterally to make its tooth engage that of the said fixed collar. The
80 power spring 39 is connected at one end with an arm 39' extending laterally from the lower end of the segment lever, the upper end of this spring being connected to a bolt 39^{*} engaged by a nut by which the tension
85 of the spring may be adjusted. The bar 31 has a cam portion 31^a thereon engaged by a roller 32 mounted on the frame. A spring 33 carried by the segment lever presses the catch bar 31 in one direction, and a spring
90 or lever 36 pivoted at 37 to the frame presses the catch bar 31 leftward, Fig. 6, when a pin 35 on the segment lever strikes the lower end of this spring or lever 36. The movement of the segment lever toward the right is limited by a pin 38 on the frame.

The operation of this mechanism is as follows: When the lever 1 is pressed inwardly, the arm 30 rises and pulls upwardly the catch bar 31, thus rotating the segment
100 34 leftward from the position shown in Fig. 6, and turning the pinion 40. This movement of the segment and the pinion are idle, however, that is, no movement is transmitted to the carrier drum 12 because the
105 tooth 40^a simply slips back idly over the face of the collar 41 on the shaft of the carrier drum. As the upward movement of the catch bar 31 continues, its cam portion 31^a, by bearing against the roller 32, forces the
110 catch bar toward the right, and thus disengages it from the arm 30. During the movement just described, the spring 39 is stretched, and as soon as the catch bar 31 is released from the arm 30, the spring will
115 exert its force and move the segment 34 toward the right, thus turning the pinion 40 and the carrier drum through the tooth at 40^a. The spring 33 serves to insure the maintenance of the release or disengagement
120 of the catch bar 31 from the arm 30, this spring throwing the catch bar slightly toward the right. Before the segment reaches the position shown in Fig. 6, a pin 35 thereon strikes the end of the lever
125 or spring 36, and thus causes the same to press the catch bar toward the left. A spring 43 extends from an insulated stud 44 into position over a second insulated stud
130 45. By pulling the hand lever 1 outwardly

to a slight extent, a pawl 13 on the arm 30 will press the spring 12 into engagement with the stud 15, and thus close the circuit to a light which is arranged in suitable relation to the dial or chart shown in Fig. 1, so that the caller can, by first moving the hand lever 1 outwardly, turn on the light and thus be able to see the chart while making proper adjustment of the pointer 1' and the handle in relation thereto, and then by pressing the handle inwardly, he can secure the other operations above referred to, consisting in the winding up or power storing operation, the tripping operation and the transmission of the code signals. The dial is preferably transparent, the light being on the inner side thereof. The detent or pawl 9^b is operated to release the locking bar 9 toward the final part of the movement of the segment 31 and the drum or carrier 12, this release being effected by the arm 39' of the segment operating against the inclined end of the detent 9^b to swing it on its pivot.

It will be understood that the apparatus is mounted in a box of insulating material like asbestos or wood, said box having a door, the drum and associated mechanism being arranged on the inner side of the door, while the operating handle or lever is mounted on the outer side of the door, the buttons extending through the door, and the dial of transparent material being mounted in the door. The mechanism is mounted on a removable plate of insulating material or on a section of the door, and can be removed as one body therewith.

It will be seen from the above that with one handle the selector members may be operated, also the driving means for the carrier, and further the light may be controlled.

The box of insulating material carrying the mechanism is to be placed in a metal box.

I do not limit myself to the form or kind of circuit closing devices on the carrier shown herein in the form of projections, nor to other details which may be changed without affecting the spirit of the invention.

I claim as my invention:

1. In automatic code signaling apparatus, the combination of a rotary carrier having circuit closing devices thereon, arranged in circumferential rows, a plurality of selecting devices one for each row, and electrical contacts common to all the selecting devices and operated from any one of the selecting devices, with means for operating the selecting devices into selecting position, substantially as described.

2. In automatic code signaling apparatus, the combination of a rotary drum having a plurality of rows of projections thereon, a plurality of selecting devices one for each row, and means for operating the same into selecting position from said selecting devices,

when set into operating position, being operated by the projections on the drum, and electrical contacts controlled by the said selecting devices, substantially as described.

3. In automatic code signaling apparatus, the combination of a rotary drum having a plurality of rows of projections thereon, a plurality of selecting devices one for each row, with means for operating the same into selecting position, said selecting devices, when set into operating position, being operated by the projections on the drum, electrical contacts controlled by the said selecting devices, and a common operating connection between the selecting devices and the electrical contacts, substantially as described.

4. In automatic code signaling apparatus, the combination of a rotary drum having circuit closing devices arranged in a plurality of circumferential rows thereon, selecting means one for each row of circuit closing devices, means for operating the selecting means, contacts controlled from the selecting means when they are operated by the circuit closing devices on the drum, and means for locking the selecting means during the revolution of the drum, substantially as described.

5. In combination with the rotary drum having rows of projections thereon, a series of selectors one for each row of projections and movably mounted, means for moving the selectors to select their respective rows of projections, means carried by the selectors to be operated by the said projections, and contacts operated from said last mentioned means, substantially as described.

6. In combination with the rotary drum having the rows of projections, the movable selectors having the movable tumblers thereon, a plate with which the tumblers engage to be moved thereby into selecting position when the selectors are pressed inwardly, said tumblers being operated from the projections and operating the plate, and electrical contacts controlled by the movement of the plate, substantially as described.

7. In combination a rotary drum having projections arranged in rows, a series of selecting buttons with means for operating them, said buttons carrying means to be operated by the projections, electrical contacts controlled by said means, a sliding locking bar operated when any button is pressed to lock all of the buttons, a detent for holding the locking bar, and means for releasing the detent from the locking bar as the drum completes its movement, substantially as described.

8. In combination the rotary drum having rows of projections, a series of selecting members one for each row of projections, electric contacts operated by either of the selecting members when the latter are operated by the projections, a member adjustable to

register with any of the selecting members to operate the same into position to be operated by the projections, means for driving the drum, said means being controlled from said adjustable member in any of the positions in which said member may be set, substantially as described.

9. In combination a carrier having a plurality of rows of circuit closing devices, electrical contacts, selecting devices, a dial associated with the selecting devices, a light, and a member adjustable to register with any of the selecting devices, driving means for the carrier, said adjustable member being movable in one direction to operate the selecting devices and the driving means of the carrier, and in another direction to control the light, substantially as described.

10. In combination a carrier, circuit closing devices arranged in rows thereon, means for driving the carrier, a plurality of selecting devices to be moved individually into position to be operated by the circuit closing devices, a handle, a rock shaft on which the said handle is splined to be adjustable into line with any of the selecting devices, and a connection between the rock shaft and the carrier driving means, substantially as described.

11. In combination a carrier having a plurality of rows of circuit closing devices, means for driving the carrier, a plurality of selecting devices to be operated by the circuit closing devices on the carrier, electrical contacts controlled by the selecting devices, a hand lever, a shaft upon which the same is mounted to slide thereon to register with the selecting devices, a connection between the said shaft and the carrier driving means, a light, means for controlling the light from the said rock shaft, the said hand lever being moved in one direction to register with the selecting devices and being moved in another direction to operate the selecting devices and the carrier driving means, and to be moved in another direction for turning on the light, substantially as described.

12. In combination with the rotary carrier having a plurality of rows of circuit closing devices, electrical contacts, selecting devices with means between the same and the contacts for controlling the said contacts, a spring with connections for driving the carrier, a handle with connections for tensioning the spring, said connections including a trip, said handle also operating

the selecting devices, substantially as described.

13. In combination a rotary carrier having rows of circuit closing devices, a series of selecting members to be operated by the rows of circuit closing devices on the carrier, contacts controlled by the selecting members, a handle for operating the selecting members, a spring for driving the carrier, a segment and pinion between the spring and the carrier, a trip bar connected with the segment, a member connected with the handle for operating the trip bar, and means for releasing the trip bar from said member, substantially as described.

14. In combination the carrier having rows of circuit closing projections, a series of selecting members, means for operating said selecting members into position to be operated by the projections on the carrier, electrical contacts controlled from the selecting members when operated from the carrier, a locking member for the selecting members, a spring for driving the carrier, a segment and pinion between said spring and the carrier, a detent for the locking member, and means movable with the segment to release the said detent when the carrier completes its movement, substantially as described.

15. In apparatus of the class described, a carrier having rows of circuit closing devices thereon, circuit selecting means, a co-operating contact device, a dial, a light, driving means for the carrier, and a single handle for controlling the driving means, the light and the selecting means, substantially as described.

16. In combination, in apparatus of the class described, a carrier, circuit controlling means thereon, a casing, selecting means for the signals, locking means therefor within the casing, power operating means for the carrier, and starting means, an electric lamp, circuit connections controlling the same and a single handle controlling the power means, selecting means, lighting circuit, starting means and locking means, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

WARREN E. FASTNACHT.

Witnesses:

GEORGE L. SPRENKEL,
SAMUEL S. HART