

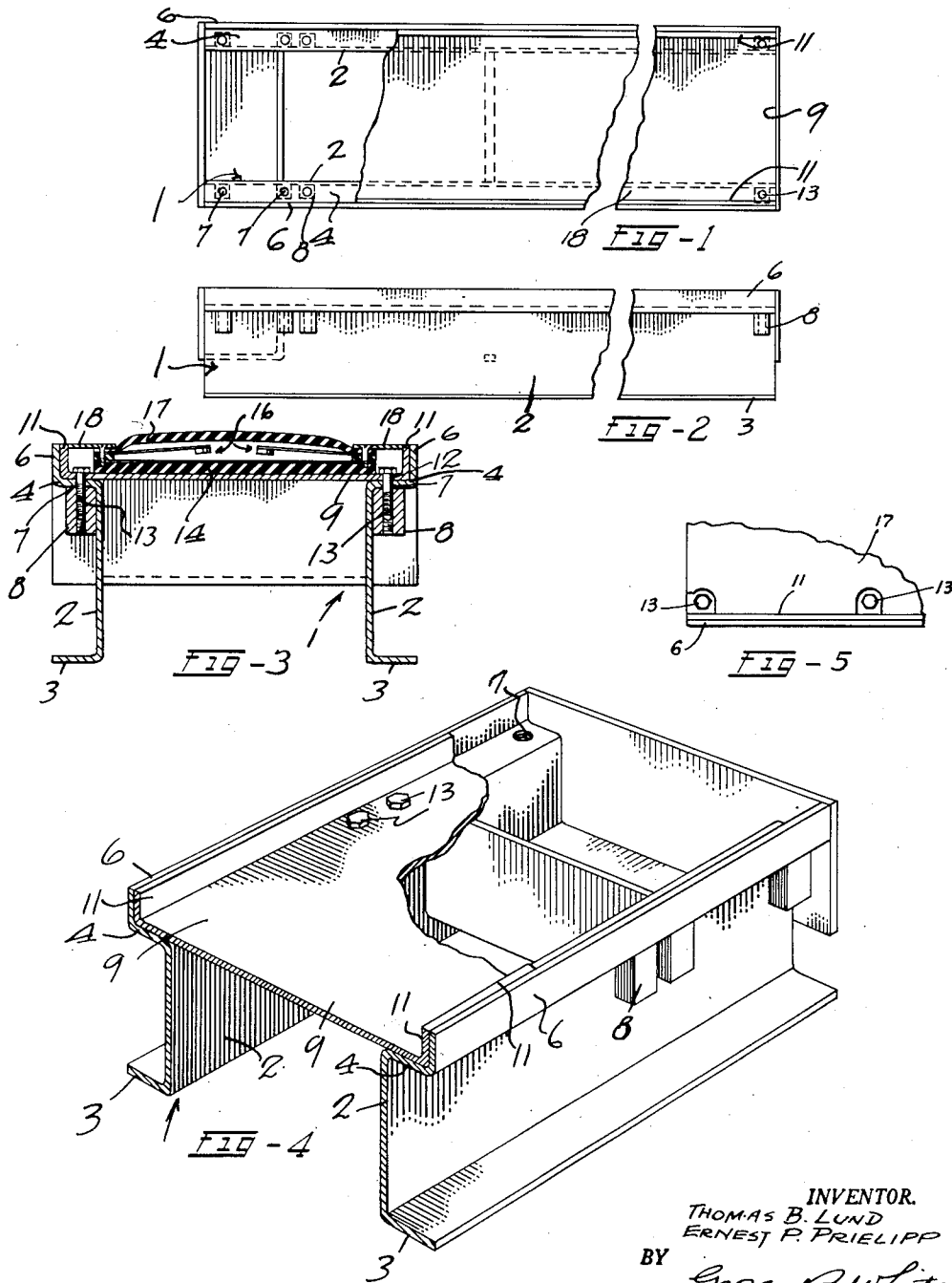
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DETACHABLE SWITCH HOLDER PAN FOR VEHICLE DETECTORS

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DETACHABLE SWITCH HOLDER PAN FOR VEHICLE DETECTORS

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5 Claims. (Cl. 200—86)

This invention pertains to detachable switch holder pan for vehicle detectors.

Vehicle detectors are used mostly at intersections and include a frame imbedded in the roadbed and a treadle switch in the top of the frame so arranged as to be actuated by a vehicle pressing thereon. The switch in turn actuates a signal control in such a manner as to change the signal in the intersection and permit the passage or crossing by the vehicle.

In the present usual construction a casing or frame is embedded in the road bed and surrounded integrally by concrete or the material of the road bed so as to form integral part of the road. A pan in the top of said frame is welded or fixedly united with the frame. In this pan is a switch covered by a resilient pad, preferably a suitable rubber pad. The deterioration of the switch and the pan structure as heretofore used necessitates the replacement of the entire frame structure. It is necessary for such repair to break the pavement around the frame, interrupt traffic for considerable period, while the entire frame and unit is removed and replaced in the pavement.

The primary object of our invention is to provide a detachable top plate or pan on the frame of such vehicle detectors so that when the pad is worn or the pan breaks or the switch gets out of order, then the top pan itself can be removed and replaced quickly without dismantling the entire casing or frame or without breaking or disturbing the pavement.

We are aware that some changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the construction thereof without departing from the scope of the present invention as set forth in the following specification, and as defined in the following claims; hence we do not limit our invention to the exact arrangements and combinations of the said device and parts as described in the said specification, nor do we confine ourselves to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

With the foregoing and other objects in view, which will be made manifest in the following detailed description, reference is had to the accompanying drawings for the illustrative embodiment of the invention, wherein:

Fig. 1 is a plan view of frame with the pad and pan broken away in parts.

Fig. 2 is a side view of the frame structure showing the arrangement of the pan and its fastening.

Fig. 3 is a cross-sectional view of the entire device showing the pan and the switch and pad in place, and

Fig. 4 is a fragmental perspective view partly in section showing the mounting of the pan and the frame.

Fig. 5 is a fragmental plan view of a corner of the pad showing access holes for the bolts.

In carrying out our invention we make use of the usual frame 1, which is a hollow or skeleton frame structure, adapted to be sunk in the road bed. The longitudinal sides 2 of this frame 1 are generally of U cross-section

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with the bottom flange 3 being imbedded in the concrete. The top flange 4 of each channel 2 has an upwardly or outwardly extended rail 6. The frame 1 is so imbedded in the road bed that the edges of the rail 6 are generally at the level of the road bed.

The top flanges 4 are provided with a plurality of spaced threaded bolt holes 7. An enlargement or boss 8 extends from the lower face of each top flange 4 downwardly and the threaded hole 7 extends through the boss 8 so as to provide additional bearing for the bolts.

A pan 9 rests upon the top flanges 4. Vertical sides 11 of the pan 9 nestle against the inner faces of the opposite rails 6 so that the pan is aligned and the bolt holes 12 are in registry with the bolt holes 7 to receive fastening bolts 13, as shown in Fig. 3. Thus the switch supporting pan 9 is easily dropped in position and then bolted by the spaced bolts 13 securely in place.

In the removable pan 9 is provided an insulator or cushion base 14 of the usual construction to support a contact switch device 16 which latter is covered by an upper compressible pad 17. Shield plates 18 extend along the opposite longitudinal edges of the pad 17, held in place by suitable screws. As and when the rubber padding and the pan are worn, then by removing the shield plates 18 access is gained to the bolts 13 so that the pan can be removed and a new pan unit can be quickly bolted in place. Then by replacing the shields 18 the vehicle detector is again in operation.

The insulating base 14 is of lesser width than the entire width of the pan 9 so as to leave the bolts 13 accessible along the opposite edges of the pan 9. Thus a pocket is formed under each shield 18 for access to the bolts 13 and for quick removal and replacement of the pan 9.

In the alternative the pad 17 covers the entire width of the pan and it is provided with access holes 19 through which the bolts may be unscrewed, as shown in Fig. 5.

This device obviates the necessity of the removal of the entire frame or box whenever the switch of the vehicle detector or the pan thereunder must be replaced, and also obviates the usual traffic obstructions for longer periods. The detachable pan support for the vehicle detector switches is simple in construction and does not require any adjustment and it can be quickly bolted in place or removed and replaced; it is eminently adapted for its purposes. The detachability of the pan also permits the filling of the middle or inside of the frame with concrete so that no voids are left beneath the pan and the pan is solidly supported and is not bent or bulged down by the weight of vehicles passing thereover.

We claim:

1. In a vehicle detector device for roadways, the combination with a frame adapted to be imbedded in road bed, of longitudinal shoulders near the top of said frame below the level of such road bed, a pan nested on said shoulders, and means to detachably secure said pan to said shoulders of said frame, said pan being adapted to hold therein a vehicle detector switch device at about the top level of said road bed.

2. In a vehicle detector device for roadways, the combination with a frame adapted to be imbedded in road bed, of longitudinal shoulders near the top of said frame below the level of such road bed, a pan nested on said shoulders, and means to detachably secure said pan to said shoulders of said frame, said pan being adapted to hold therein a vehicle detector switch device at about the top level of said road bed, said securing means including spaced bolts extended through said pan and threaded into said shoulder.

3. In a vehicle detector device for roadways, the combination with a frame adapted to be imbedded in road bed, of longitudinal shoulders near the top of said frame

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below the level of such road bed, a pan nested on said shoulders, and means to detachably secure said pan to said shoulders of said frame, said pan being adapted to hold therein a vehicle detector switch device at about the top level of said road bed, said securing means including spaced bolts extended through said pan and threaded into said shoulder, said shoulder having reinforcing members extended therefrom inwardly for rigidity of said bolts.

4. In a vehicle detector device for roadways, the combination with a frame adapted to be imbedded in road bed, of longitudinal shoulders near the top of said frame below the level of such road bed, a pan nested on said shoulders, and means to detachably secure said pan to said shoulders of said frame, said pan being adapted to hold therein a vehicle detector switch device at about the top level of said road bed, said securing means including spaced bolts extended through said pan and threaded into said shoulder, said switch device being of lesser width than the width of said pan, so as to leave pockets along the opposite edges of said pan for access to said bolts,

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and a shield strip covering said pocket on each side of said pan.

5. In a vehicle detector device for roadways, the combination with a frame adapted to be imbedded in road bed, of longitudinal shoulders near the top of said frame below the level of such road bed, a pan nested on said shoulders, and means to detachably secure said pan to said shoulders of said frame, said pan being adapted to hold therein a vehicle detector switch device at about the top level of said road bed, each shoulder having an outwardly extended rail, said pan having outwardly extended sides nested against said rail for locating said pan and registering bolt holes in said pan and said shoulder near said vertical sides and said rail.

References Cited in the file of this patent

UNITED STATES PATENTS

1,950,490	Geer et al.	Mar. 13, 1934
2,165,227	Cooper	July 11, 1939