

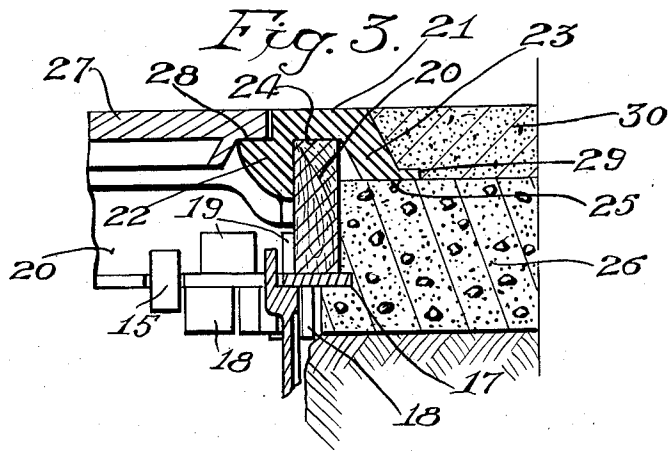
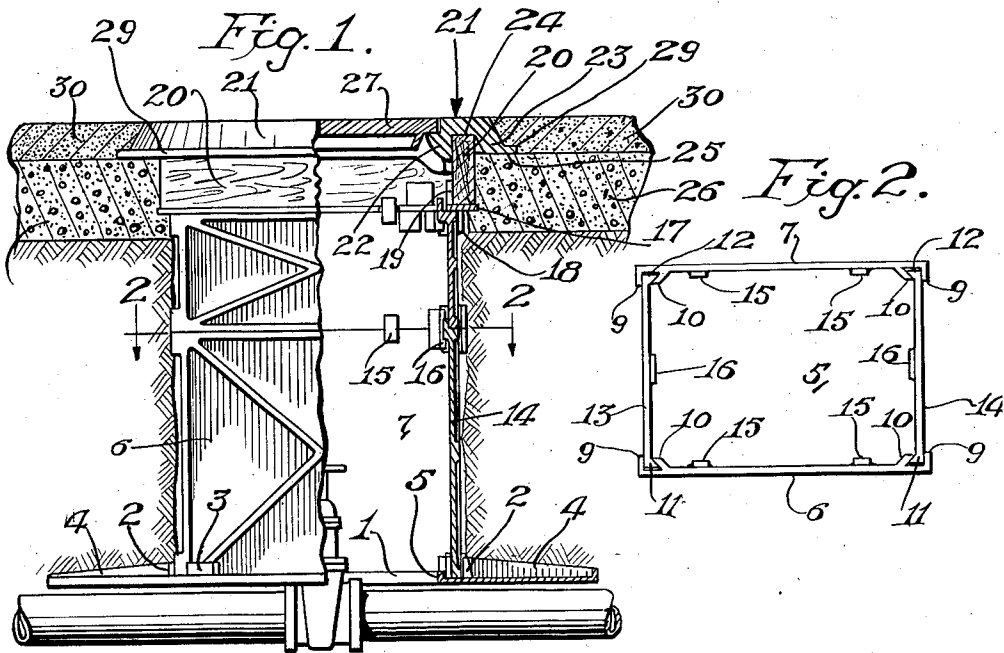
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ROADWAY BOX

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ROADWAY BOX

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8 Claims. (Cl. 137-13)

This invention relates to new and useful improvements in roadway boxes for housing valves in water, gas and like mains or pipes located below the surface of a roadway.

The principal object of the present invention is to provide a road box of the character set forth which is novelly constructed and arranged so that the weight and jarring of vehicles passing over the top of the box is not borne by or imparted to the lower structural elements of said box.

Another object of the invention is to provide a road box of the stated character wherein the weight of its cover, as well as the weight and jarring shocks of vehicles passing thereover is supported and borne directly by the roadway in which said cover is interlocked and embedded against displacement, thus preventing breakage or other damage to the structural elements of the box.

These and other objects of the invention and the details of construction and arrangement of the box are set forth hereinafter and shown in the accompanying drawing, in which:

Figure 1 is a view in side elevation partially in section showing a roadway box embodying the present invention;

Figure 2 is a plan view taken on line 2-2, Figure 1; and

Figure 3 is an enlarged fragmentary view in section illustrating certain features of the construction of said invention.

Referring now to the drawing, reference numeral 1 designates a base plate having a series of upright lugs 2 and 3 on the upper surface thereof arranged to receive between them the bottom edges of the side and end plates of the lower wall section of the box. The base plate 1 is of extended area and has its periphery a substantial distance outwardly or laterally beyond said lugs 2 and 3, the intermediate surface being provided with suitable reinforcing ribs 4 if necessary. As is customary, the base plate is located immediately above a water main, and the gate valve therein extends vertically upward through an opening 5 centrally located therein.

The side wall plates designated generally as 6 and 7 are provided with suitable interlocking means consisting of lugs 9 and 10 on the inner faces of said plates adjacent the ends thereof arranged for engagement by the projecting angular portions or lugs 11 and 12 provided at opposite ends of the end wall plates 13 and 14 whereby the plates in each section may be efficiently interlocked and held in position. The

side plates 6 and 7 of each section are provided with upright lugs 15 and the end plates 13 and 14 thereof are similarly provided with a pair of lugs 16 which serve to maintain the several plates in adjacent sections vertically aligned, it being obvious that any number of sections of such plates of the same or varying height may be used depending upon the depth of the box and the distance between the gate valve and the surface of the roadway.

Superimposed upon the uppermost section of plates is an intermediate plate or frame 17 which is provided with a series of downwardly extending lugs 18 and a series of upwardly extending lugs 19 for respectively positioning said frame 17 in relation to the plates of said top wall section and properly positioning a wooden frame 20 which is superimposed on the frame 17 and functions to provide a slightly elastic or resilient cushion or support between the top of the side walls of the box and the usual top frame and cover plate, so that the jarring and shocks caused by the passage of heavily loaded vehicles over the cover may be sufficiently decreased or eliminated to prevent a breakage of or other damage to the lower structural elements of the roadway box.

A particular feature of the invention resides in the construction and arrangement of the top of the roadway box which consists of a top frame 21 having inner and outer depending continuous flange portions 22 and 23 arranged in relatively spaced parallel relation to provide between them a continuous groove or recess 24 for the reception of the upper edge portions of the previously mentioned wooden frame 20. As shown, the outer flange 23 slopes or declines outwardly so that its bottom surface 25 which is substantially horizontal with respect to the vertical axis of the box is extended and will rest upon the adjacent upper surface of the roadway foundation structure 26. Thus, the top frame 21 is supported directly and primarily by said foundation and not by the subjacent structural elements of the roadbox which are thereby relieved of all of the weight and shocks produced by vehicles passing over said frame 21 and cover 27 which rests within the frame 21 upon the flange 28. The possibility of breakage and other damage to the underlying structural elements of the box is in this manner substantially entirely eliminated. In addition to the above, the declining outer flange 23 of the cover frame 21 terminates at its lower peripheral edge in a relatively thin laterally extending continuous flange 29 by means of which

said cover frame 21 may be permanently interlocked and embedded in the roadway between the foundation structure 25 thereon and the surface layer or pavement 30, as best shown in Figure 3 of the drawing.

In placing roadway box in position, an excavation is made to the level of the water main, and the base plate 1 is then firmly placed in position so as to give access to the valve in the main. The desired number of sections of side and end wall plates are then assembled or erected upon the base plate 1 in the manner previously described and the intermediate plate or frame 17 is then placed superimposed upon the uppermost section of the box wall and this frame 17 is surmounted by the wooden frame 20. The cover frame 21 is then superimposed upon the wooden frame 20 in such manner that the upper edge portions of the latter engage or are received by the recess or groove 24 formed by the spaced parallel depending flange portions 22 and 23 of said cover frame 21 and in this connection it is pointed out that the height of said wooden frame 20 should be such that the bottom surface portion 25 of said outer declining flange 23 will contact and be supported by the adjacent surface of the foundation structure 25 of the roadway. The surface layer or pavement 30 of the road may then be laid upon the foundation structure 25 so that it completely surrounds the cover frame 21 and overlies the peripheral flange 29 thereof to permanently interlock and embed said frame 21 in the roadway between the foundation structure 25 thereof and said surface layer or pavement 30.

While a specific embodiment of the invention has been illustrated and described, it is not intended that said invention shall be precisely limited thereto, but that changes and modifications in the details of construction thereof may be incorporated and embodied therein within the scope of the annexed claims.

I claim:

1. In a roadway box of the character described, a base plate, wall plates arranged upon said base plate to form a box-like structure, an intermediate frame surmounting said plates, a cushioning frame superimposed upon said intermediate frame, and a cover including a top frame having inner and outer relatively spaced continuous flanges at the underside thereof providing between them a groove for reception of the upper edge portion of said cushioning frame, the outer depending flange of said top frame having an extended horizontal bottom surface arranged to rest upon the adjacent surface of a roadway foundation so that the underlying box-like structure will be relieved of the weight and jarring shocks of vehicles passing over said cover which will be borne and received directly by said foundation structure, thus minimizing the possibility of damage to said box-like structure.

2. In a roadway box of the character described, a base plate, wall plates arranged upon said base plate to form a box-like structure, an intermediate frame surmounting said plates, a cushioning frame superimposed upon said intermediate frame, and a cover including a top frame having inner and outer relatively spaced continuous flanges at the underside thereof providing between them a groove for reception of the upper edge portion of said cushioning frame, the outer depending flange of said top frame having an extended horizontal bottom surface arranged to rest upon the adjacent surface of a roadway

foundation structure and terminating at its outer peripheral edge in a laterally projecting comparatively thin flange adapted to be embedded and anchored in the roadway between said foundation structure and the surface pavement thereof.

3. In a roadway box of the character described, a base plate, wall plates arranged upon said base plate to form a box-like structure, an intermediate frame surmounting said plates, a cushioning frame superimposed upon said intermediate frame, and a cover including a top frame having inner and outer relatively spaced continuous flanges at the underside thereof providing between them a groove for reception of the upper edge portion of said cushioning frame, the outer depending flange of said top frame terminating at its outer peripheral edge in a laterally projecting comparatively thin flange adapted to be embedded and anchored in the roadway between said foundation structure and the surface pavement thereof.

4. In a roadway box of the character described, a base plate, wall plates arranged upon said base plate to form a box-like structure, an intermediate frame surmounting said plates, a cushioning frame superimposed upon said intermediate frame, and a cover including a top frame having inner and outer relatively spaced continuous flanges at the underside thereof providing between them a groove for reception of the upper edge portion of said cushioning frame, the outer depending frame of said top frame having an extended horizontal bottom surface arranged to rest upon the adjacent surface of a roadway foundation structure for primary support, and terminating at its outer peripheral edge in a laterally projecting comparatively thin flange adapted to be embedded and anchored in the roadway between said foundation structure and the surface pavement thereof.

5. In a roadway box of the character described, a cushioning frame member, and a cover including a top frame, a continuous inner flange at the underside of said top frame arranged to reside inwardly of said cushioning frame, and an outer flange arranged to reside outwardly of the cushioning frame and having a horizontally extending bottom surface to rest for support upon the adjacent surface of a portion of a roadway foundation structure.

6. In a roadway box of the character described, a cushioning frame member, and a cover including a top frame, a continuous inner flange at the underside of said top frame arranged to reside inwardly of said cushioning frame, and a declining outer flange arranged to reside outwardly of the cushioning frame and having a horizontally extending bottom surface to rest for support upon the adjacent surface of a portion of a roadway foundation structure.

7. In a roadway box of the character described, a cushioning frame member, and a cover including a top frame, a continuous inner flange at the underside of said top frame arranged to reside inwardly of said cushioning frame, and an outer flange arranged to reside outwardly of the cushioning frame and having a horizontally extending bottom surface to rest for support upon the adjacent surface of a portion of a roadway foundation structure, said outer flange terminating at its lower outer edge in a laterally projecting flange adapted to be embedded and anchored in the roadway between said foundation structure and the surface pavement thereof.

8. In a roadway box of the character described, a cushioning frame member, and a cover including a top frame, a continuous inner flange at the underside of said top frame arranged to reside inwardly of said cushioning frame, and a declining outer flange arranged to reside outwardly of the cushioning frame and having a horizontally extending bottom surface to rest for support upon the adjacent surface of a portion of a roadway foundation structure, said outer flange terminating at its lower outer edge in a laterally projecting flange adapted to be embedded and anchored in the roadway between said foundation structure and the surface pavement thereof.

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