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D. W. RESSLER

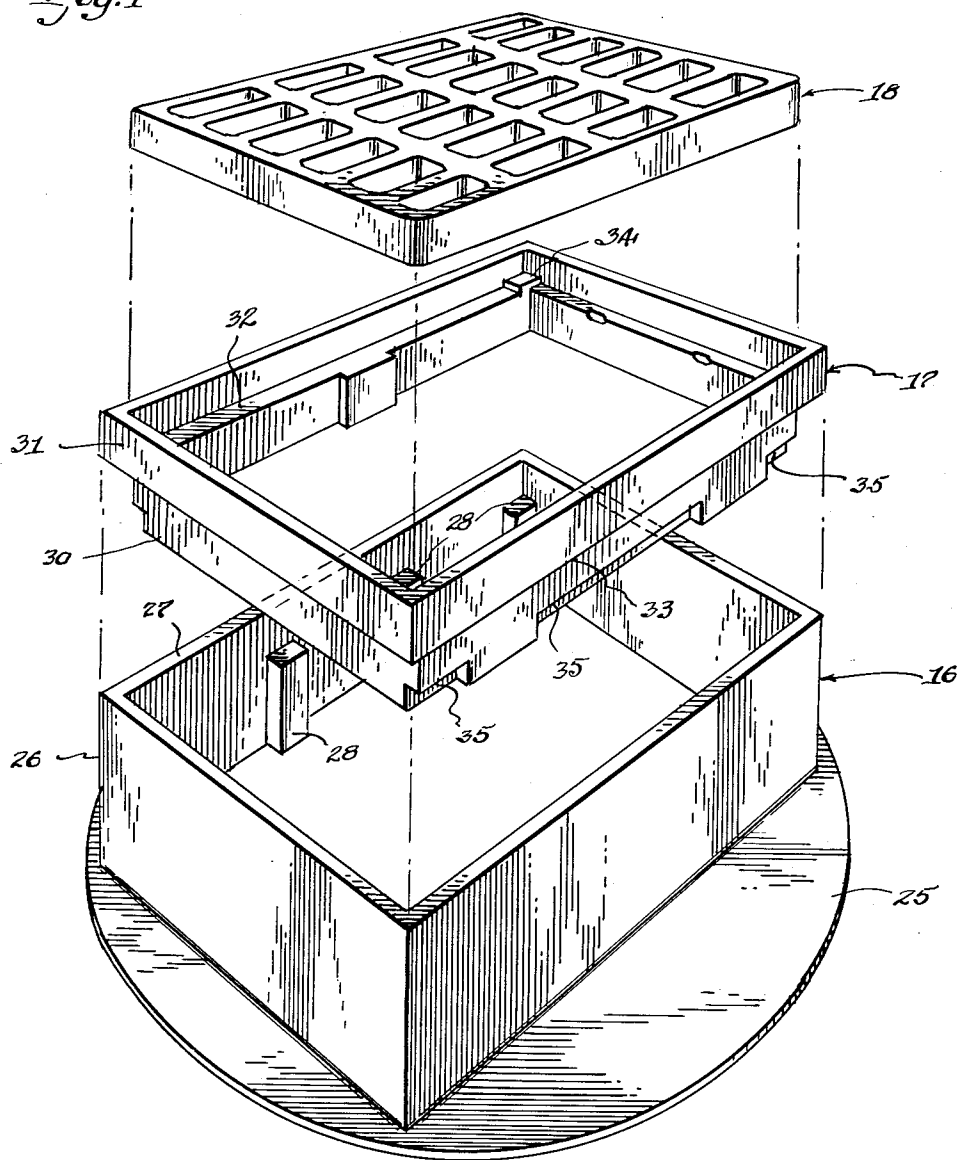
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CATCH BASIN CONSTRUCTION

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Fig. 1



INVENTOR.

Daniel W. Ressler

BY

Hankes & Standish
Attorneys.

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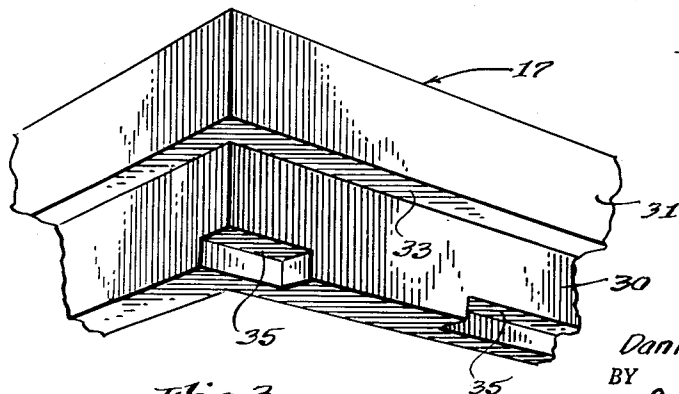
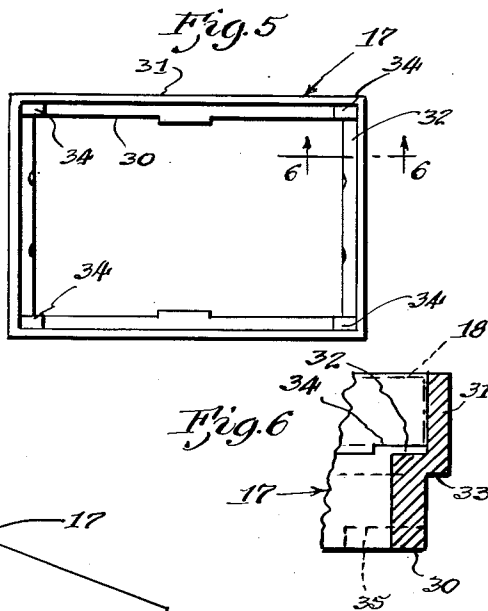
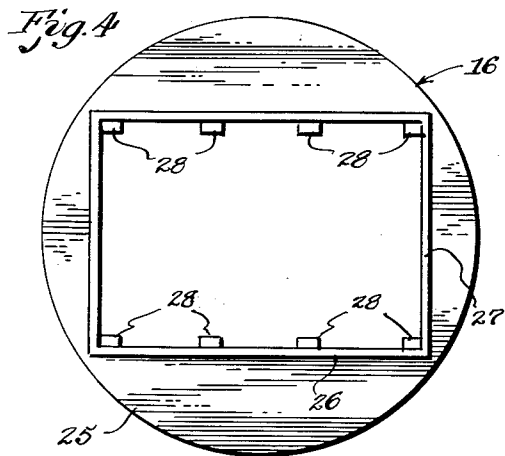
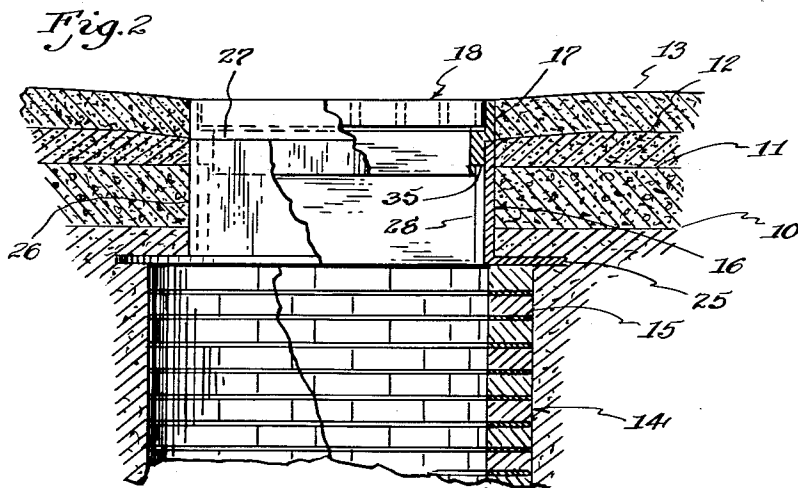
D. W. RESSLER

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2 Sheets-Sheet 2



INVENTOR.
Daniel W. Ressler
BY
Stank & Stank
Attorneys.

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CATCH BASIN CONSTRUCTION

Daniel W. Ressler, 22811 Brookdale, Farmington, Mich.

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2 Claims. (Cl. 210-164)

My invention relates to the construction of catch basins and similar structures and more particularly to catch basin construction embodying a multiple section frame structure for the grate support portion of catch basins in roadways having multiple superimposed layers of paving.

In the paving and maintenance of roadways, the process of adapting and installing catch basins, the upper edge of which is required to be substantially flush with the top paving surface, consumes considerable time and represents a material factor in the cost of paving and repaving.

In particular, the cistern portion of the catch basin, generally constructed of brick or cement, is first installed or, if installed, the upper end must be built up to a predetermined height. A top frame, which supports the grate, is then installed in place on the cistern, the frame extending upward with the top edge substantially at the level at which will be the final surface of the pavement. The paving work is then begun, and in the case of multiple layer paving, such as a basic cement foundation with an overlayer of asphalt, the first layers will be finished off to a level below the top edge of the aforesaid frame, necessitating extra hand work.

Perhaps a more difficult process is required where, in maintenance of the roadway, a new layer of paving is required to be laid over the old paving. The existing frame must be first removed by excavating, the top level of the cistern extended with additional masonry or brickwork, the frame replaced, and the excavation refilled, including the replacement of the lower pavement layers.

An object of the present invention is to eliminate costly catch basin work in roadway construction by providing a multiple section frame structure.

Another object of the invention is to decrease difficulties of paving by providing a catch basin construction with a multiple section upper frame structure such that each layer of paving may be laid flush with the top edge of a frame section.

A further object of the invention is to facilitate superimposing a layer of pavement over an existing roadway by providing a convenient multiple section catch basin frame structure for readily raising the top of the catch basin the required distance.

For a more complete understanding of the invention, reference may be had to the accompanying drawings illustrating a preferred embodiment of the invention in which like reference characters refer to like parts throughout the several views and in which

FIG. 1 is a perspective exploded view of the catch basin top frame structures including the grate.

FIG. 2 is a cross-sectional view of a roadway portion illustrating part of the cistern and the frame structure partially in section.

FIG. 3 is a fragmentary perspective view looking up at one corner of the upper structure of FIG. 1.

FIG. 4 is a top plan view of the lower frame structure of FIG. 1.

FIG. 5 is a top plan view of the upper frame structure of FIG. 1.

FIG. 6 is a fragmentary cross-sectional view of the upper frame structure as taken substantially on the line 6-6 of FIG. 5.

FIG. 2 illustrates the present invention as it is used when a layer of paving is to be superimposed over an existing roadway, said roadway overlaying, for example, a bed of sand or gravel 10 and comprising a layer of concrete 11 and a superimposed layer of asphalt 12. The

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new layer of asphalt is shown by the reference character 13.

The catch basin construction 14 preferably comprises a cistern structure 15 built of brick or other building material, on top of which rests a lower frame structure 16. An upper frame structure 17 is carried by the lower frame structure 16 and in turn supports a grate 18. As illustrated, the top surface of the existing roadway, the asphalt layer 12, has been formed substantially flush with the upper edge of the lower frame structure 16. Instead of excavating to remove the lower frame structure 16 and build up the top of the cistern 15, preparation for the new layer of asphalt 13 is accomplished by removing the grate 18 which previously would have been carried by the lower frame structure 16, inserting the upper frame structure 17, laying the asphalt 13 substantially flush with the top edge of the upper frame structure 17, and replacing the grate in the upper frame structure 17.

It will be apparent that in constructing a new roadway, the lower layer of concrete could be laid flush with the top edge of the lower frame structure 16, then the upper frame structure 17 can be installed and the finish asphalt surfacing can be laid flush with the upper edge of the upper frame structure 17, thus facilitating paving operations and eliminating handwork.

The lower frame structure 16 is illustrated in FIGS. 1, 2 and 4 as comprising a flat base member 25 which provides a broad supporting base on top of the cistern 15, and a peripheral vertical wall 26 secured to or integrally cast with the base member 25 and having a peripheral top edge 27 to which a layer of paving will be laid flush. Inside the wall 16 are secured or formed blocks 28 or other suitable support elements, each having its top surface depressed below the top edge 27 of the wall 26 a distance substantially equal to the thickness of the grate 18, thus enabling the grate to be removably supported by the lower frame structure for use without the other frame structure 17 in roadways lacking the top layer of paving 13.

The upper frame structure 17 is illustrated in FIGS. 1, 2, 3, 5 and 6 as comprising a lower peripheral wall portion 30 dimensioned to fit within the lower frame structure wall 26, and an upper peripheral wall portion 31 dimensioned to be substantially similar to the portion of the lower frame structure wall 26 which extends above the support elements 28. Thus the upper wall portion 31 is laterally outwardly offset from the lower wall portion 30, providing for an inside peripheral upward-facing ledge 32 and an outside peripheral downward-facing shoulder 33. The shoulder 33 rests on the top edge 27 of the lower frame structure wall 26. Support pads 34 are provided preferably at the four corners of the inside ledge 32.

The grate 18 is conventional, being dimensioned to selectively fit within the upper frame structure upper wall portion 31 or the upper portion of the lower frame structure wall 26, supported respectively on the pads 34 or the support elements 28, its top surface being substantially flush respectively with the top edge of the upper frame structure upper wall portion 31 or the top edge 27 of the lower frame structure wall 26.

The lower wall portion 30 of the upper frame structure preferably extends below the top of the support elements 28 when positioned in the lower frame structure wall 26 and is provided with a plurality of downward facing recesses having shoulders 35 which may be adapted to rest on the top of the support elements 28 for further supporting the upper frame structure 17 on the lower frame structure 16. Preferably the upper frame structure 17 is supported only by the shoulder 33 resting on the edge 27 of the lower frame structure.

Although I have described only one preferred embodi-

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ment of my invention, it will be apparent to one skilled in the art to which the invention pertains that various changes and modifications may be made therein without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A catch basin construction adapted for altering the level thereof relative to roadway surface levels, said catch basin comprising a cistern structure, a base frame carried on said cistern structure and having a vertical rectangular peripheral wall, an adapter removably selectively carried by said base frame, and a grate structure removably selectively carried by said base frame and said adapter, said base frame having a plurality of spaced support members rigidly carried on inside opposite surfaces of said wall, said support members having upper carrying surfaces equally depressed below the top edge of said wall a depth approximately equal to the thickness of said grate, said adapter comprising a lower vertical peripheral wall dimensioned complementary with the base frame wall to fit within same and having an inner periphery wall surface disposed inwardly with respect to the inner surface of the base frame wall, said adapter having an upper vertical peripheral wall dimensioned substantially the same as the base frame wall and extending above the top edge of said lower wall a depth greater than the thickness of said grate, said upper wall having a lower edge arranged to rest on the upper edge of said base frame wall, and a plurality of spaced support elements rigidly carried on the upper edge of said lower wall, said support elements having upper carrying surfaces equally depressed below the top edge of said upper wall a depth approximately equal to the thickness of said grate.

2. A catch basin construction adapted for altering the level thereof relative to roadway surface levels, said catch basin comprising a cistern structure, a base frame carried on said cistern structure and having a vertical rectangular peripheral wall, an adapter removably selec-

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tively carried by said base frame and a grate structure removably relatively carried by said base frame and said adapter, said base frame having a plurality of spaced support members rigidly carried on inside opposite surfaces of said wall, said support members having upper carrying surfaces equally depressed below the top edge of said wall a depth approximately equal to the thickness of said grate, said adapter comprising a lower vertical peripheral wall dimensioned complementary with the base frame wall to fit within same and having an inner peripheral wall surface disposed inwardly with respect to the inner surface of the base frame wall, said adapter having an upper vertical peripheral wall dimensioned substantially the same as the base frame wall and having a lower edge arranged to rest on the upper edge of said base frame wall, said lower wall extending below the upper carrying surfaces of said base frame support members, said lower wall being thicker than the lateral thickness of said base frame support members, the lower outer edge of said lower wall having spaced recesses dimensioned to clear and to enclose the upper ends of said support members, said lower wall having an unbroken inner surface whereby said upper wall of said adapter rests on said base frame and said lower wall depends from said upper wall to provide lateral support in said base frame.

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