May 24, 1927. 1,629,782

C. T. ELDREDGE

ONE-WAY MOTOR WAY OR STREET

Filed July 7, 1924

Fig. 1.

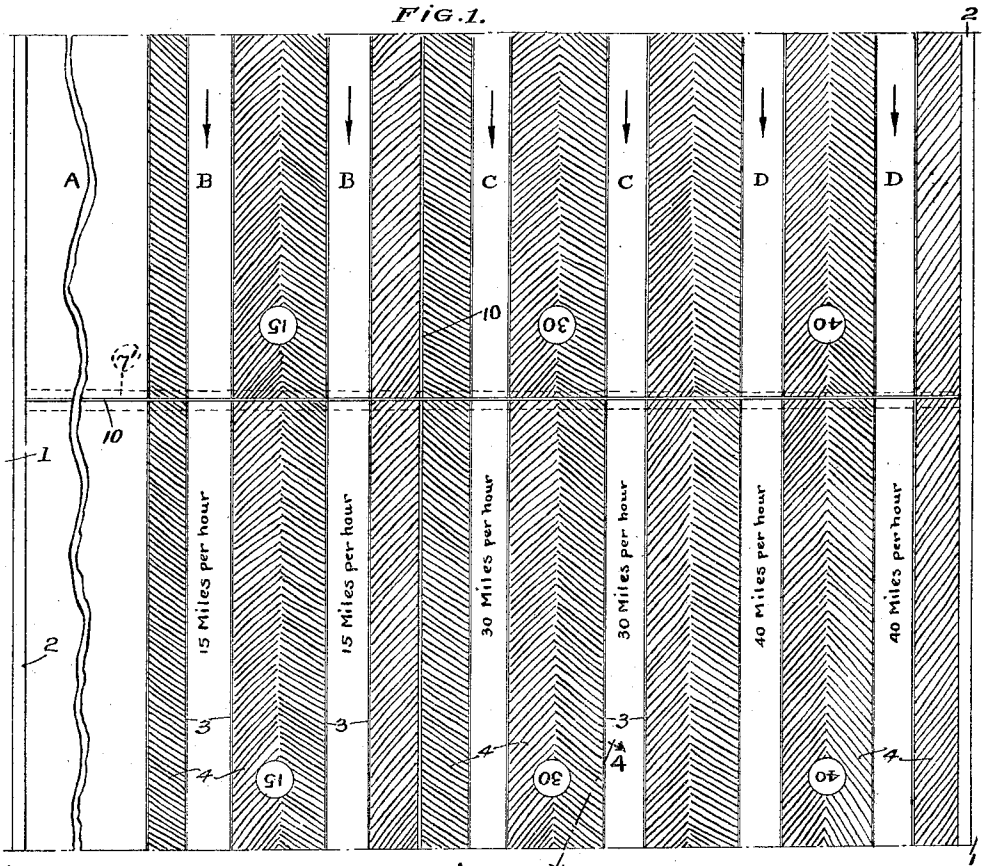


Fig. 2.

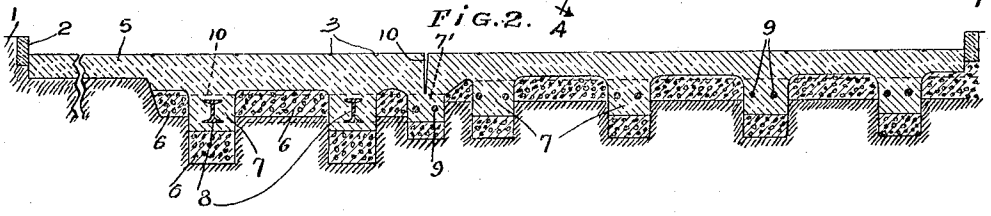
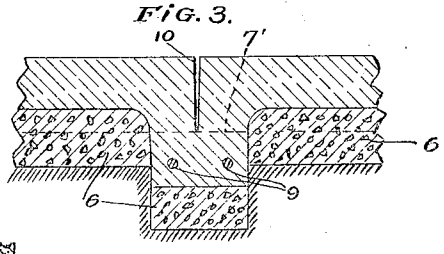


Fig. 3.



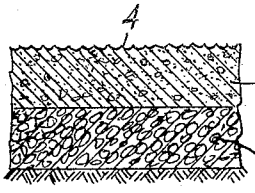


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ONE-WAY MOTOR WAY OR STREET.

Application filed July 7, 1924. Serial No. 724,625.

This invention relates to street construction to meet the congested conditions of modern automobile traffic. The objects of the invention are to provide first a unique arrangement of parallel lanes of traffic designed for successively increasing speeds of travel and of a dead or parking area adjacent the slowest lane of traffic whereby from the parking area a vehicle may pass successively to the fastest travel lane, or in the reverse direction to the parking area to discharge passengers or for repairs.

The invention also contemplates the use of the street for one way traffic only, all the lanes being for the same direction of travel but at different speeds, also the designation of the lanes at intervals to denote the maximum speed of travel—or both maximum and minimum so as to prevent blocking of traffic by a vehicle moving too slow on a high speed lane—also of special concrete construction to promote the travel of vehicles along the lanes, to reduce the tendency of vehicles to skid in passing from one lane to the other, of guide lines to more clearly designate the proper position of vehicles upon the lanes, of varying reinforcement of the lanes, under the lines of pressure of the wheels to provide greater durability at the slow speed lane upon which all trucks and heavy shipping must travel, also to provide special construction of the concrete slab embracing slotting both longitudinal and transversely of the street to compensate in a large degree for the effects of varying temperature upon the surface of the slab.

The above objects together with other desirable features in street or road construction are attained by the arrangement shown in the accompanying drawings and in which:

Figure 1 is a plan of a one-way street have three lanes of travel and one parking lane arranged in accordance with my invention. Figure 2 is an end elevation of Figure 1 showing the road in cross section and the imbedded reinforcements. Figure 3 is an enlarged sectional detail of one of the special compensating slots and Figure 4 is an enlarged cross section of a fragment of the surface grooving of the pavement as shown along lines 4—4 of Figure 1. In Figure 1 the full breadth of the street is indicated showing at both sides a portion of the side walks 1 and the opposite curbs 2. The direction of travel on this street is presumed to be in the direction of the arrows. The parking lane is designated "A," the slow speed or trucking lane includes the two wheel tracking areas B. B., the next higher speed lane the two track areas C. C. and the highest speed lane the two track areas DD.

It will be noted that the highest speed lane is adjacent the curb and has no parking space between it and the curb, for the only parking space contemplated in the complete carrying out of my invention is the lane A adjacent the opposite curb and slow traffic or trucking lane B.

The tracking areas B, C, and D are preferably of smooth concrete so as to produce the minimum amount of wear on the tires, and each track is about 20 inches wide and preferably marked with parallel grooves 3 in a manner similar to the way in which sidewalks are marked off so as to clearly define the tracking areas. The general surface of the street along a cross sectional line is preferably substantially flat, though it may be slightly arched or tipped in some localities to guide the rain water if desired.

Between the respective tracking areas B, C and D, the concrete surface is roughened so as to prevent skidding of the vehicles in swinging from one lane to the other at high speed or in slippery weather. This roughening may take any form but I preferably accomplish it by a system of angular grooving 4 in which the grooves slant from both sides of the individual tracks toward the track when traveling along the lane in the direction of the arrows and through which arrangement the wheels of a vehicle are to a certain extent automatically guided back to the correct path of travel should they leave it in the darkness. This grooving need not be mechanically perfect as it may be the result of sweeping the surface with a coarse broom or of otherwise impressing the features in the surface of the concrete before setting.

At intervals along the respective lanes the maximum speeds permissible may be impressed as indicated at 15, 30, and 40, so as to be read by the passing driver, and if desired the minimum speed may also be indicated, though this may always be assumed to be above that of the maximum speed of the adjacent slower lane.

In section the street comprises a slab 5 of concrete of varying thickness being thinnest at the parking lane and thickest under the slow speed or trucking lane B. The travel

portion is preferably supported on a rock or gravel base 6 and under each track is a reinforcing rib or girder 7 also resting on a rock foundation 6.

In constructing the street the rock foundation is preferably well rolled and allowed to season or settle for a sufficient length of time before laying the concrete, and trenches are cut through it and the removed rock rammed in the bottom of the trenches to form a foundation for the girders 7.

Under the heavy trucking lane tracks the girders are preferably reinforced by steel I-beams 8 suitably joined together and imbedded in the concrete, whereas under the lighter traffic lanes the girders are reinforced with any ordinary concrete reinforcing bars spaced as indicated at 9. Longitudinally and at intervals along the street the slab is slotted as indicated at 10 and these slots are of a depth about equal to the normal thickness of the slab and are aligned over a concrete girder 7′ also reinforced by bars 9.

It will be seen that the slot being of a depth about equal in depth to the slab thickness virtually separates the slab though it is not actually separated on account of the reinforcing concrete girder 7′ formed under the slot. This slot allows for the adjustment of the concrete surface for temperature changes for it is manifest that in a block of concrete imbedded in the earth the heat of the sun is localized on the outer surface to a great extent and rapidly diminishes downward within the body of the material —thus for instance—a concrete post stuck in the earth would expand and contract at and above the earth but not at all at its lower end within the earth.

This results in a progressive change of temperature from a maximum at the outer surface of the road slab to a minimum at the imbedded under surface and while it is possible that in settling of the street or excessive expansion, the girder 7′ might crack adjacent the slot—it would not ordinarily do so and would not matter if it did, for it would still be supported along this line.

This feature clearly shown in Figure 3 was partially disclosed in my co-pending application Serial #571,602 filed June 29, 1922 but was not shown as here developed and which I consider an improvement in concrete street construction especially when the entire area of the street is concreted from the curb to curb as here shown. One of the features of my invention is the arrangement of speed lanes to the parking lane on a one way street for greatly promoting the traffic capacity of the street but it is evident that many of its features are applicable to two way streets or highways as well and are so intended to be covered by my appended claims.

I claim:

1. In a concrete street or highway, a pair of spaced smooth tracking areas for road vehicles with a grooved surface formed on the street adjacent the tracking areas having grooves, extending at an angle to the smooth tracking areas.

2. In a concrete street or highway, a pair of spaced smooth tracking areas for road vehicles with a grooved surface formed on the street adjacent the tracking areas having grooves converging from the outsides toward the smooth areas with reference to the intended direction of travel of a vehicle along the areas.

3. A street paving comprising a slab of concrete covering the roadway with a transversely extending concrete girder thereunder formed integrally with the slab, and a slot in the slab aligned over the girder extending from the surface of the slab downwardly a distance substantially equal to the thickness of the slab.

4. A street paving comprising a slab of concrete covering the roadway with spaced transversely extending concrete girders thereunder and a similar girder extending longitudinally of the street under the slab, said girders being joined integrally with the slab, and slots in the slab aligned one over each girder and extending from the surface of the slab down to the girder.

CLYDE T. ELDREDGE.