United States Patent [19]

Keator

[11] **3,783,558**

[45] **Jan. 8, 1974**

[54] **DIRECTIONAL TRAFFIC CONTROL DEVICES**

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[52] **U.S. Cl.** **49/49,** 49/33

[51] **Int. Cl.** **E01f 13/00**

[58] **Field of Search** 49/49, 33; 340/31, 340/39

[56] **References Cited**

UNITED STATES PATENTS

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2,918,740	12/1959	Smith	49/49
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Attorney—Howson & Howson, Charles H. Howson, Jr.

[57] **ABSTRACT**

Traffic direction control device for automobile roadways normally operable to permit automobile traffic in one direction and prevent such travel in the opposite direction comprising an enlongated casing adapted to be recessed in a roadway transversely thereof and having a top plate supported substantially flush with the surface of the roadway. A shaft is supported longitudinally within the casing and a plurality of prong assemblies is provided each having a helical spring portion mounted on the shaft and provided at one end with a prong portion projecting angularly upward through a slot in the top plate inclined in the direction from which automobile traffic is to be prevented, the other ends of the spring portions of the prong assemblies being connected to a common tie bar extending longitudinally within the casing. A fixed support member is mounted in underlying engagement with the helical spring portions of the prong assemblies to prevent downward deflection and deformation of the assemblies and shaft as a result of impact engagement of the projecting prong portions by the tires of automobiles moving in the direction in which traffic is to be prevented by the device.

3 Claims, 5 Drawing Figures

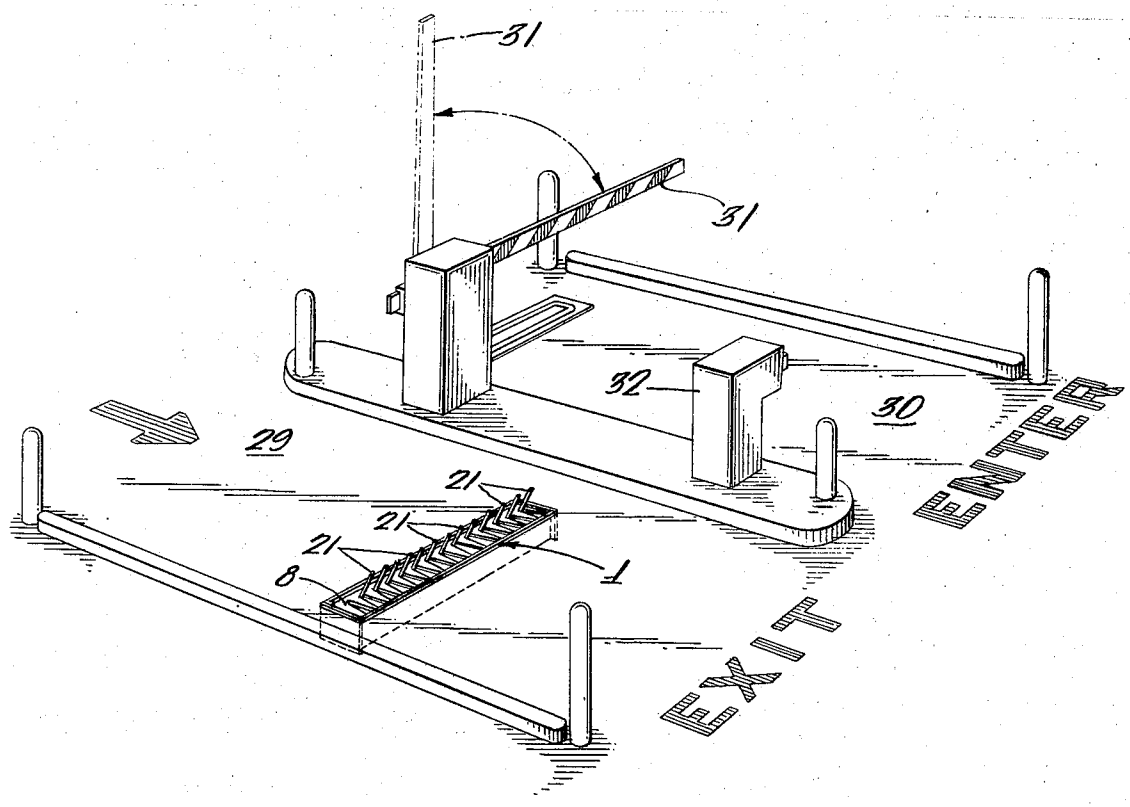


FIG. 1.

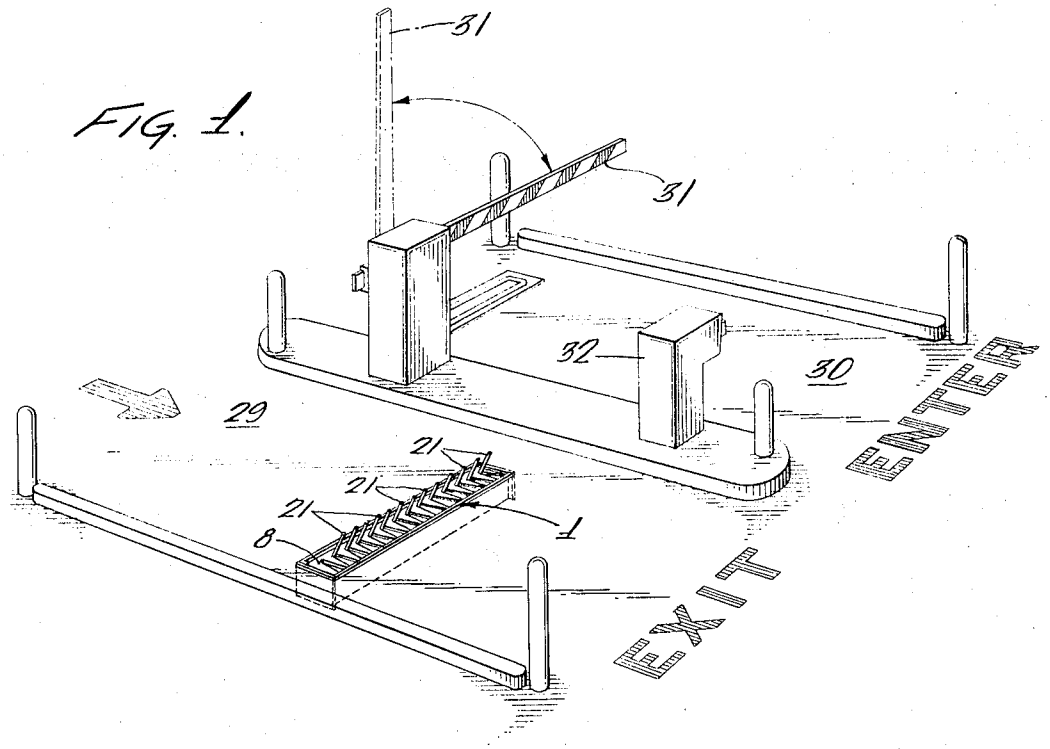
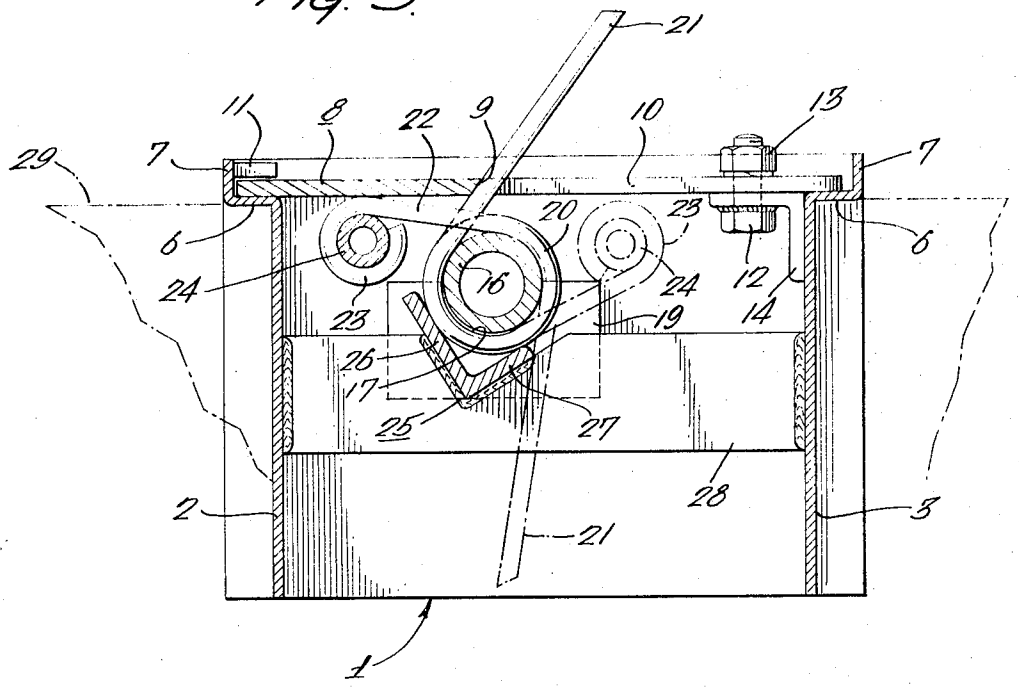

31
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21
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1
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FIG. 3.


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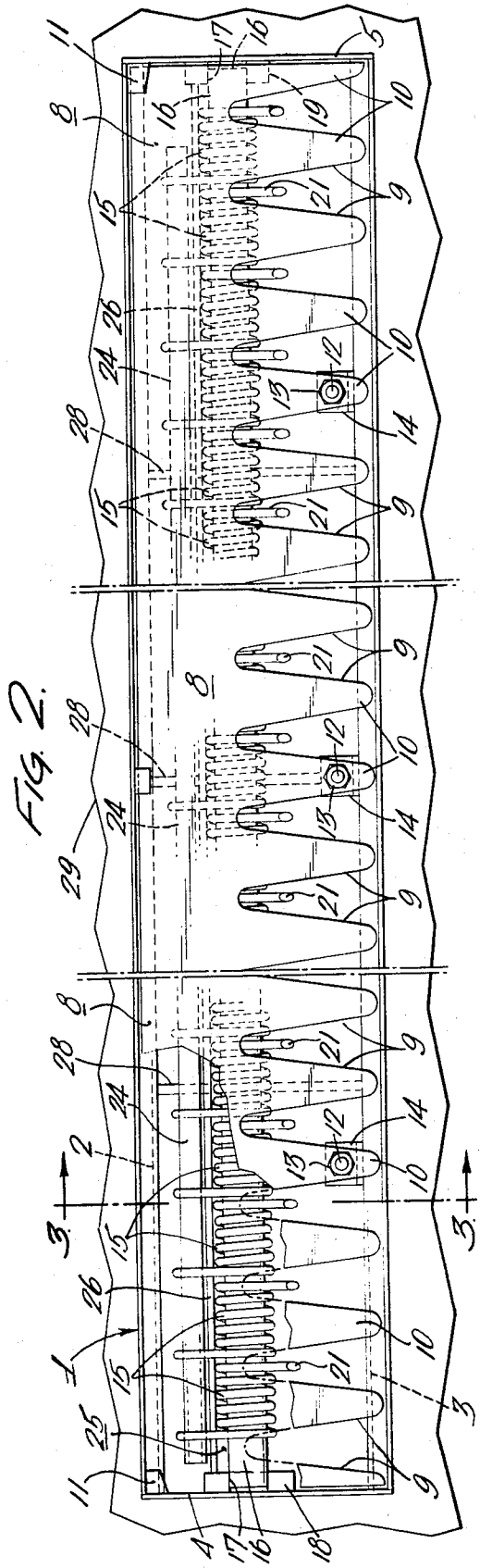


FIG. 2.

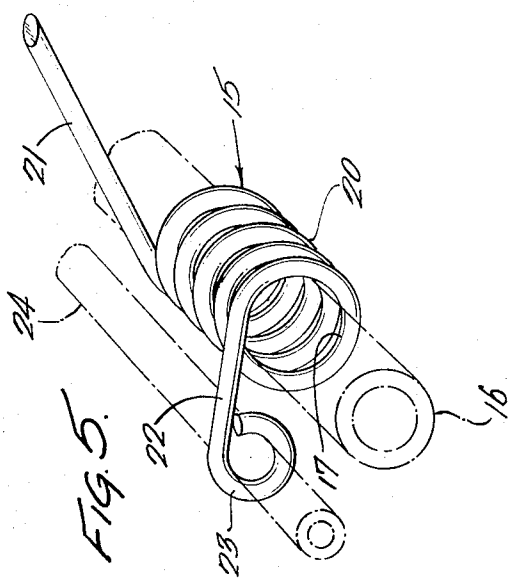


FIG. 5.

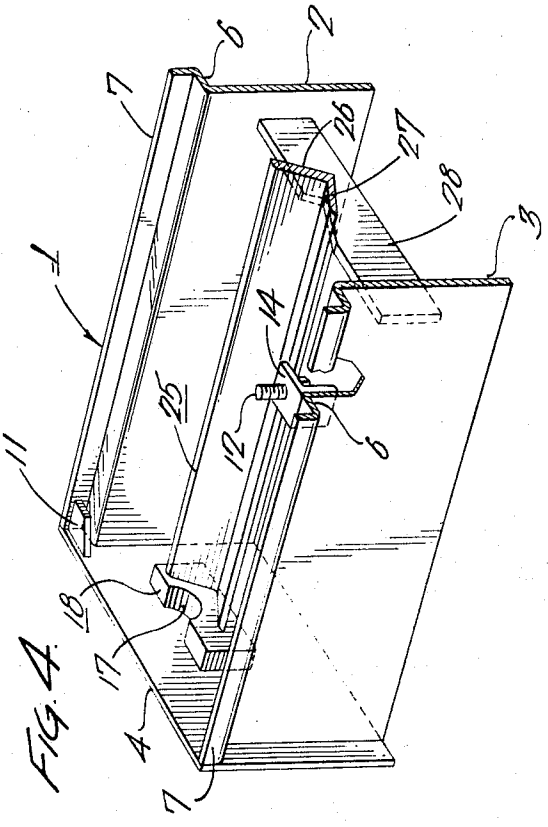


FIG. 4.

DIRECTIONAL TRAFFIC CONTROL DEVICES

This invention relates to new and useful improvements in traffic control devices, and more particularly to improvements in devices of the type disclosed in U.S. Pat. No. 2,918,740 issued Dec. 28, 1959 for controlling the direction of automobile traffic into and out of parking areas and the like.

Another object of the present invention is to provide a device of the character described having novel features of construction and arrangement operable effectively to control the direction of automobile traffic under the increased impact forces and resistance properties provided by present day metal belted radial and similar automobile tires.

Another object of the invention is to provide a traffic control device as set forth having novel means and construction to prevent the deflection and permanent distortion of the tire engaging spring assemblies of the device under the high impact and resistance of modern metal belted radial and like automobile tires.

These and other objects of the invention and the various features and details of the construction and operation thereof are hereinafter set forth and described with reference to the accompanying drawings, in which:

FIG. 1 is a perspective view of a typical entrance and exit driveway to a parking area including a traffic control device embodying the present invention installed in the exit driveway thereof;

FIG. 2 is a plan view of the traffic control device;

FIG. 3 is an enlarged sectional view on line 3—3, FIG. 2;

FIG. 4 is a fragmentary perspective view partially in section showing certain features and details of construction embodied in the traffic control device of the present invention; and

FIG. 5 is a detached fragmentary perspective view showing one of the tire engaging springs embodied in the device.

Referring to the drawings, the illustrated embodiment of the present invention comprises an elongated casing, generally designated **1**, having spaced parallel vertically extending side walls **2** and **3** and end walls **4** and **5**, respectively. The upper edges of the vertical side walls **2** and **3** are flanged outwardly, as best shown in FIGS. **3** and **4** of the drawings, to provide longitudinally extending horizontally disposed spaced shoulders **6** having upstanding edge flanges **7** for receiving and supporting a top closure plate **8**.

As shown in FIG. **2** of the drawings, the top plate **8** is formed to provide a longitudinal series of inwardly extending generally V-shaped slots or openings **9** disposed in spaced parallel relation alternately with finger portions **10** along one edge of said top plate **8**. The outer ends of finger portions **10** rest upon the shoulder **6** of the casing side wall **3** and the top plate **8** is held in position by means of lugs **11** provided at opposite ends of the shoulder **6** of side wall **2** and by means of bolts **12** and nuts **13** that extend through selected finger portions **10** of the top plate **8** and angle brackets **14** fixedly secured to the inner surface of the casing side wall **3** adjacent the upper edge portion thereof, for example, as shown in FIGS. **2** and **3** of the drawings. By this construction the top plate **8** is readily removable simply by removing the nuts **13** and disengaging the opposite edge of the top plate from beneath the lugs **11** as the top plate is lifted from the shoulders **6** of the casing side walls.

A plurality of traffic control prong assemblies, generally designated **15**, is mounted within the casing **1** upon a longitudinally extending tubular shaft **16**. The opposite ends of the shaft **16** are freely supported in semicircular recesses **17** provided in cradle members **18** and **19** fixedly secured to the inner surfaces of the casing end walls **4** and **5**, respectively.

Each of the prong assemblies **15** includes a helical spring portion **20** that is loosely or freely mounted on the shaft **16**. Each spring portion **20** at one end terminates in an angularly extending prong portion **21** that projects upwardly and outwardly through one of the slots or openings **9** of the top plate inclined in the direction from which travel is to be prevented, for example, as best shown in FIGS. **2** and **3** of the drawings. The other end of each coil spring portion **20** of the assemblies **15** terminates in a generally horizontally extending anchor arm portion **22** having at its outer end a circular loop portion **23**. A tie rod or tube **24** extends longitudinally within the casing **1** through all of the loop portions **23** so that all of the prong assemblies **15** are tied together as a unit with the loop portions **23** thereof normally engaging the under surface of the top plate **8**, for example as best shown in FIG. **3** of the drawings.

One of the problems ecnountered with traffic control devices of the present type is the tendency for the shaft **16** and the prong assemblies **15** thereon to be deflected downwardly by the impact forces and resistance properties of automobile tires engaging the projecting prong portions **21** with the result that after periods of continued usage the spring portion **20** and shaft **16** tend to be permanently deformated, and this is particularly true with the substantially increased impact and resistance properties of present day metal belted radial and similar automobile tires.

In accordance with the present invention, this problem is overcome by supporting the shaft **16** and prong assemblies **15** thereon at the underside of the latter so that downward deflection of the spring assemblies and shaft **16** is prevented. In the illustrated embodiment of the invention this is accomplished by providing a support member **25** of angular cross-section shape having leg portions **26** and **27**, respectively, disposed at right angles to each other and respectively engaging the undersides of the helical spring portions **20** of the prong assemblies **15** at points spaced circumferentially thereof, for example as shown in FIG. **3** of the drawings. The support member **25** is fixedly secured in place against downward deflection, for example, by welding the opposite ends thereof to the shaft support cradles **18** and **19**, respectively, and by providing a plurality of transversely extending cross-support members **28** fixedly secured intermediate the casing side walls **2** and **3** at appropriately spaced intervals longitudinally along the casing **1**. Each support member **28** has an angular recess in its upper edge corresponding to the angular configuration of the member **25**, so as to receive and support said member **25** over a substantial extent of the leg portions **26** and **27** thereof, for example as shown in FIG. **3**.

A typical installation of a traffic control device embodying the present invention is shown in FIG. **1** of the drawings wherein the device is disposed crosswise of the exit driveway **29** of an automated automobile parking area having an extrance driveway **30** thereto con-

trolled by horizontal gate or barrier **31** automatically actuatable to the open position shown in broken lines by the insertion of a designated coil in a coin box **32.** The control device is recessed in the exit driveway **29** so that the top plate **8** thereof is disposed substantially flush with the traffic surface thereof. The device is positioned in the exit driveway so that projecting prong portions **21** of the assemblies **15** are inclined in the direction from which automobile traffic is to be barred by engaging and damaging the front wheel tires of an automobile attempting to enter the parking area through the exit driveway **29.** The inherent resilience of the prong assemblies **15** allows the projecting portions **21** thereof to be depressed or deflected downwardly by the tires of an automobile leaving the parking area through the exit driveway **29** without any resultant damage to the tires of such automobile.

In the event that it should become desirable or necessary to provide for two-way traffic over the control device of the present invention, the angularly projecting prong portions **21** of the several assemblies **15** can be moved to an inoperative position within the casing **1** by removing the top plate **8** and rotating the plurality of prong assemblies **15** and tie bar **24** in the clockwise direction with respect to FIG. **3** of the drawings to the broken line position shown therein. The top plate **8** may then be replaced and two-way traffic over the control device can take place without the possibility of damage to the tires of an automobile passing thereover.

While certain embodiments of the invention have been illustrated and described, it is not intended to limit the invention to such disclosures, and it is contemplated that changes and modifications may be made and incorporated as desired or required, within the scope of the following claims.

I claim:

1. A traffic direction control device for automobile roadways normally operable to permit travel in a first direction and prevent travel in the opposite direction comprising, an elongated casing adapted to be recessed in a roadway transversely thereof, an elongated top plate removably supported on the casing substantially flush with the surface of the roadway and having a plurality of spaced parallel slots extending inwardly from one side edge of said top plate, a shaft extending longitudinally within the casing and supported therein below and parallel to the top plate, a plurality of prong assemblies in said casing each including a helical spring portion loosely mounted on said shaft having at one end of said spring portion a prong portion projecting angularly upward through one of said slots in said top plate inclined in said opposite direction from which travel is to be prevented and deflectable downwardly by travel in said first direction, a common tie bar extending longitudinally in said casing parallel to said shaft and connected to the other ends of the spring portions of said prong assemblies, and a fixed support member mounted longitudinally within the casing in underlying engagement with the helical spring portions of the prong assemblies operable to prevent downward deflection and deformation thereof and the shaft by impact engagement of said projecting prong portions by the tires of automobiles traveling in said opposite direction.

2. A device as claimed in claim **1** wherein the fixed support member is of angle cross-section shape having leg portions engaging the helical spring portions of the prong assemblies at circumferentially spaced points thereon.

3. A device as claimed in claim **2** wherein the fixed support member has its opposite ends secured to the casing and the intermediate portion of said member is supported by a plurality of cross-members secured transversely in the casing and having recesses therein corresponding to the angular shape of said member to receive and support the latter along a substantial extent of the leg portion thereof.

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