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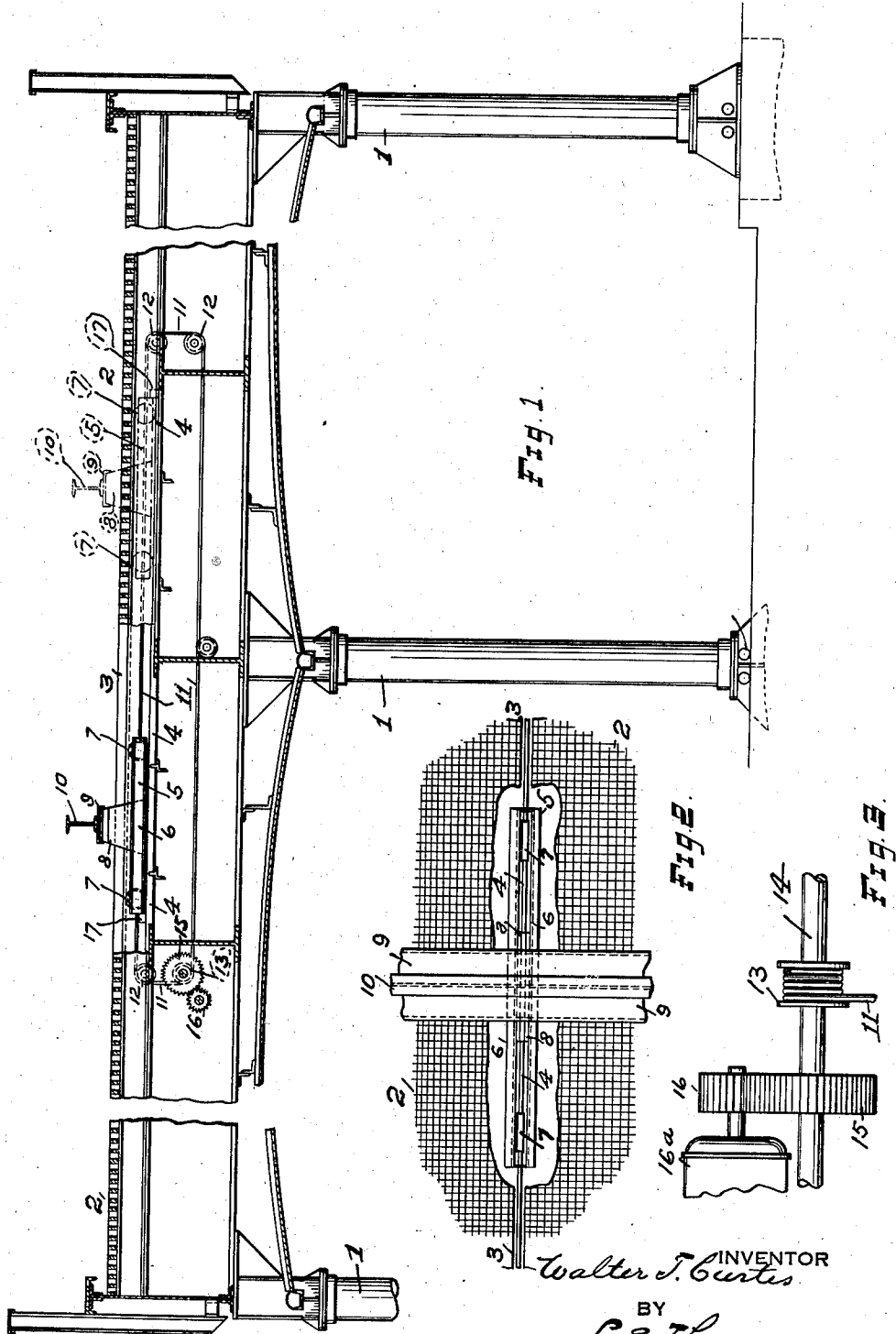
W. T. CURTIS

2,143,433

MOVABLE BARRIER FOR ELEVATED HIGHWAYS

Filed March 4, 1938

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

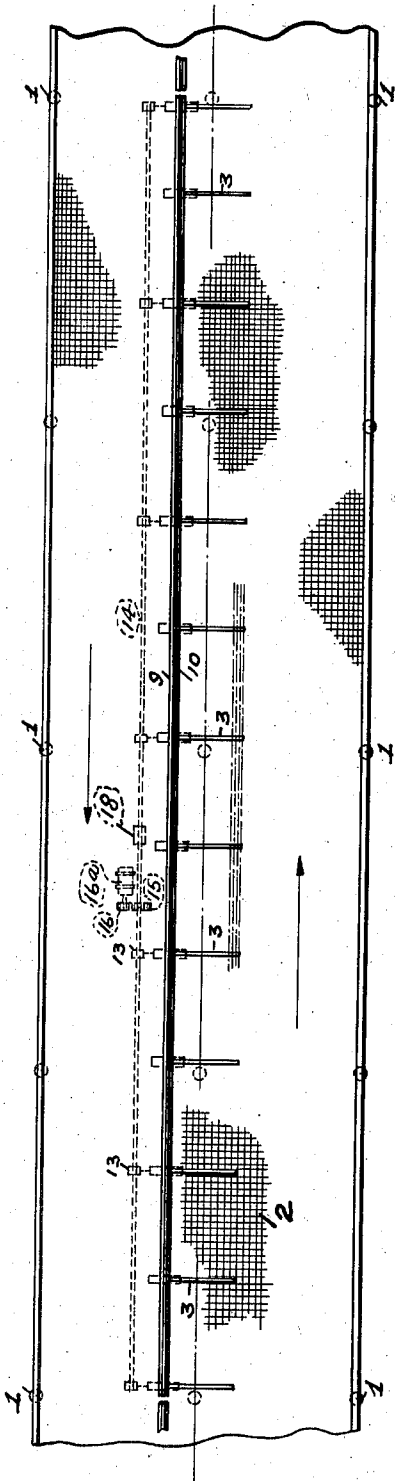


Fig. 7.

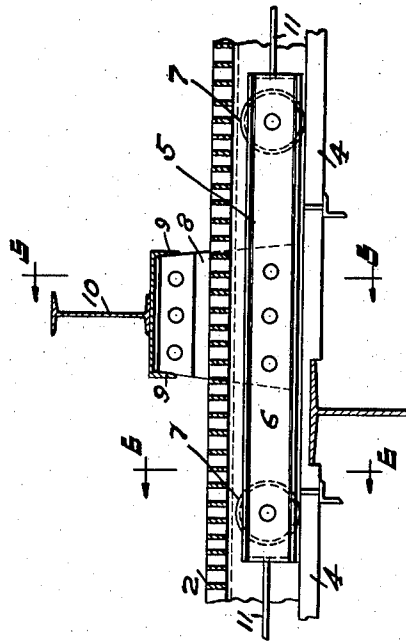


Fig. 4.

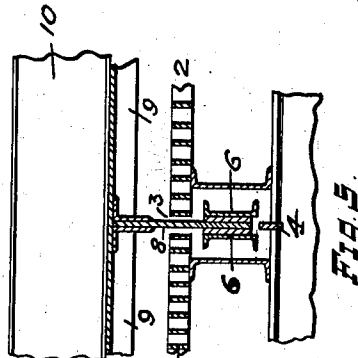


Fig. 5.

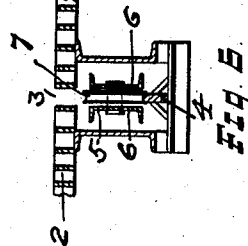
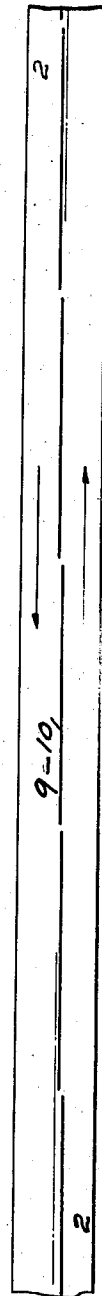


Fig. 6.

Fig. 5.



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UNITED STATES PATENT OFFICE

2,143,433

MOVABLE BARRIER FOR ELEVATED HIGHWAYS

Walter T. Curtis, Detroit, Mich.

Application March 4, 1938, Serial No. 193,879

4 Claims. (Cl. 94—1)

My invention relates to traffic control and its object is to proportion an elevated vehicular roadbed to the requirements of the streams of traffic in opposite directions, and at different times.

I accomplish this object as illustrated in the accompanying drawings in which I have shown my invention in combination with an open-grid elevated highway construction such as is shown in my pending application for United States Letters Patent for an improvement in Elevated highway construction, filed February 11, 1938, Serial Number 190,083.

In the accompanying drawings:—

Figure 1 is a transverse section of such a construction partly broken away, with an apparatus embodying my invention mounted thereon.

Figure 2 is a detail plan view of a portion of the elevated roadbed, partly broken away, and a portion of the apparatus embodying my invention.

Figure 3 is a detail view of an actuating apparatus.

Figure 4 is a detail sectional elevation of a portion of the roadbed with a portion of the apparatus embodying my invention mounted thereon, drawn on an enlarged scale.

Figure 5 is a detail section taken on or about line 5—5 Figure 4.

Figure 6 is a detail section on or about line 6—6 Figure 4.

Figure 7 is a plan view of a section of an elevated highway with apparatus embodying my invention mounted thereon.

Figure 8 is a diagrammatic plan view of a portion of an elevated highway equipped with an apparatus embodying my invention, drawn to a small scale, illustrating a method of operating the apparatus in which instead of moving the barrier for very long continuous stretches it be moved in sections of say 200 feet, and in such a manner, progressively, as shown, that cars running in either direction will not be opposing an end of a moving section of the barrier, but instead will be running into the gradually widening lane, instead of into the gradually narrowing lane.

Referring now to the reference characters on the drawings, in which:

Numerals 1—1 indicate pillars supporting the framework which in turn supports the open-mesh steel grid constituting the roadway.

The roadway 2 has transverse slots 3 formed therethrough, parallel to each other, midway between the sides of the roadway, and spaced a

convenient distance apart, which may be 16½ feet.

The numerals 4 indicate tracks, one of which extends transversely of the supporting framework for the roadbed, 2, under each of the slots 3. Numeral 5 indicates a carriage as a whole which includes two channel irons 6—6 placed parallel to each other with their webs adjacent and back to back with flanges extending outward. Numerals 7—7 indicate wheels between the channel irons 6—6, their shafts bearing in the webs of said channel irons. The wheels 7—7 engage the track 4, and are adapted to roll thereon. Numeral 8 indicates a plate, secured between the channel irons 6—6 at its lower end.

Said plates extend upwardly from the carriage 5, through the slots 3, and are adapted to be carried longitudinally of said slots, by said carriages.

The numeral 9 indicates a channel iron, which engages on the upper ends of the plates 8, with its flanges extending downward. Numeral 10 indicates an I-beam resting upon the channel iron 9 longitudinally and centrally thereof, and extending upwardly therefrom. The I-beam 10 and channel 9, constitute a "barrier" separating the streams, or "lanes", of traffic, and are so disposed that the outer face of a wheel of a vehicle traversing the highway would if it struck the barrier a glancing blow come into contact with the outer surfaces of the downward protruding flange of the channel thus offering broad enough resisting surface to retard the automobile without injuring the automobile wheel or its tire.

Numeral 11 (Figure 1) indicates a cable having its ends secured to opposite ends of the carriage 5, passing over idling pulleys 12—12 and an actuating drum 13 (Figure 3). Numeral 14 indicates a shaft adapted to rotate in bearings below the level of the roadway 2, and extending parallel to the barrier 9—10. A drum 13 and actuating cable 11 are provided for each alternate carriage 5, the intermediate carriages serving merely as carriers for the barrier 9—10.

Numeral 15 indicates a gear wheel on the shaft 14; and 16 is a pinion on the drive shaft of an electric motor 16a, which is adapted to rotate the gear wheel 15, thereby actuating the shaft 14, and moving the carriages 5, and barrier 9—10 laterally of the roadway.

Diagrammatically indicated "stops" 17, see Figure 1, may be placed at the extremities of the movement of the "barrier". A solenoid brake 18, indicated diagrammatically in Figure 7, or other

braking means, may be employed to control any backward movement from the "stops".

The operation of the above described apparatus is as follows:—

- 5 If for example, in the morning, the traffic is heaviest at the right of the carrier, as shown in Figure 1, the motor 16 will be energized to pull the carriages 5 to the left by means of the cables 11, thus carrying the barrier 9—10 over to the 10 left, broadening the right hand passageway and narrowing the left hand passageway in which latter the traffic is lightest, as shown in Figure 1 in full lines. When the weight of traffic is reversed, at night, the motor will be again energized to carry the barrier 9—10 to the right as 15 indicated in broken lines in Figure 1 so that the narrow passage will be at the right and the broad passage at the left.

What I claim is:—

- 20 1. The combination of an elevated road-bed having laterally extending slots therein; carriages adapted to travel under said slots; a traffic barrier mounted on said carriage and extending above said road-bed; means for moving said carriages under said slots, whereby said barrier is 25 shifted at will laterally of said road-bed.
2. The combination of a grid-formation elevated road-bed, having laterally extending slots, therethrough; tracks extending under said slots; 30 carriages adapted to travel on said tracks; a

traffic-barrier mounted on said carriages and extending above said road-bed; and means for moving said carriages along said tracks, whereby said barrier is shifted at will laterally of said road-bed.

3. The combination of an elevated road-bed having laterally extending slots therein; carriages adapted to travel under said slots; a traffic barrier mounted on said carriages and extending above said road-bed; and means for moving said carriages under said slots, whereby said barrier is shifted at will laterally of said road-bed, said barrier consisting of a channel iron having its flanges extending downward, and an I-beam resting on the web of said channel iron centrally and 15 longitudinally of said web.

4. The combination of an elevated road-bed having laterally extending slots therein; carriages adapted to travel under said slots; a traffic barrier mounted on said carriages and extending above 20 said elevated road-bed; means for moving said carriages under said slots, whereby said barrier is shifted at will laterally of said elevated road-bed, said means for moving said carriages consisting of a rotatable shaft having a plurality of 25 drums thereon; cables passing around said drums and attached to said carriages; and power means for rotating said shaft and drums at will in either direction.

WALTER T. CURTIS. 30