

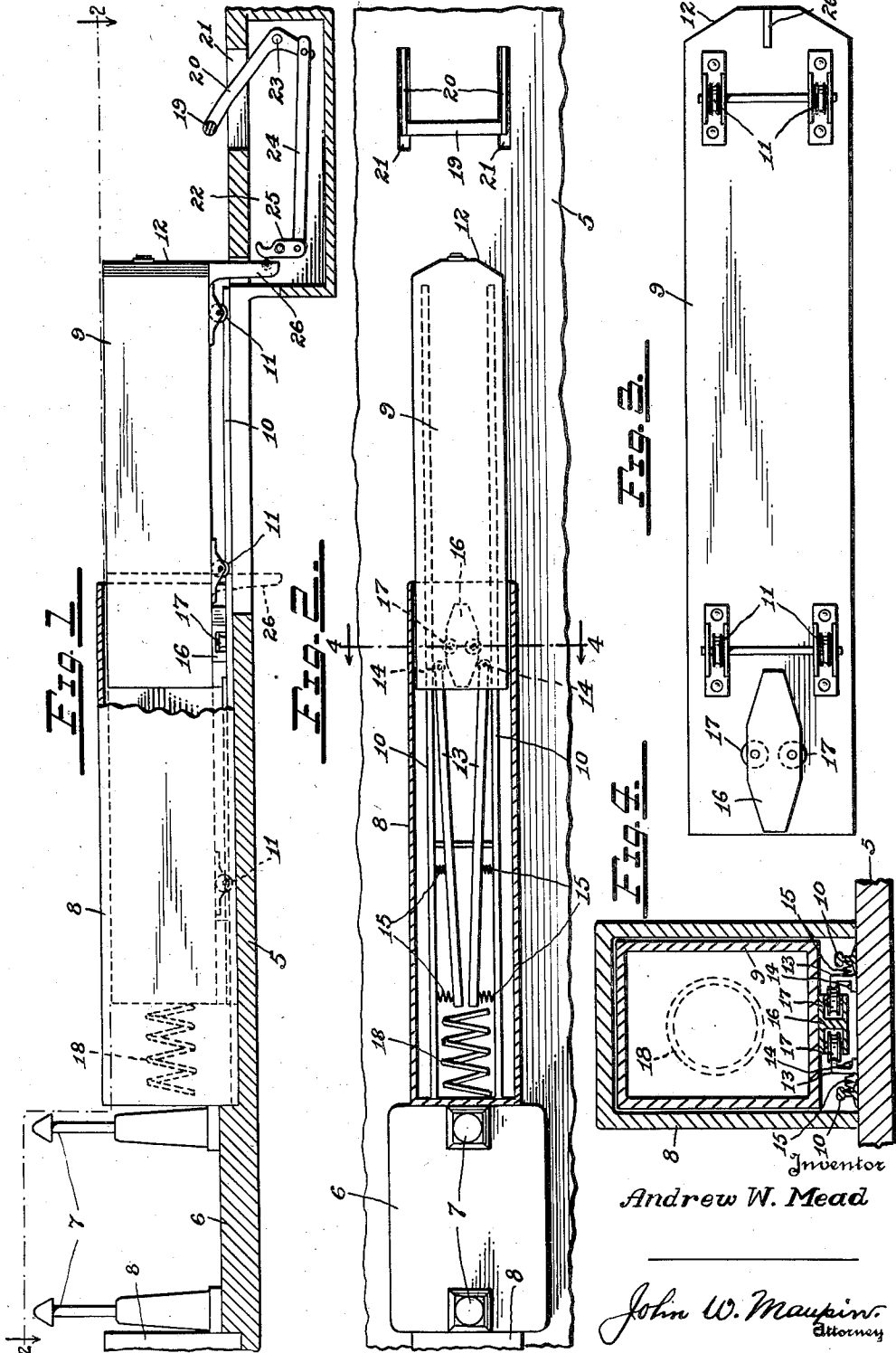
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A. W. MEAD

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TRAFFIC BUFFER

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2,000,974

## TRAFFIC BUFFER

Andrew W. Mead, Seattle, Wash.

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4 Claims. (Cl. 256—1)

My invention relates to traffic buffers and certain objects of the invention are to provide, in combination with obstructions disposed around safety zones at street intersections, means for preventing accidents caused by vehicles colliding with these obstructions and consisting of a stationary member and a movable member arranged to serve as a shield for the obstructions, and comprising shock absorbing means cooperatively interposed between the stationary and movable members whereby the impact of vehicles with the movable member is absorbed and counteracted in such manner as to eliminate serious damage to vehicles and their occupants. Further objects are to provide means for overcoming the static inertia of the movable member and to thereby reduce the shock upon impact of a vehicle therewith.

With the above and other objects in view which will appear as the description proceeds, the invention consists of the novel construction, adaptation, combination and arrangement of parts hereinafter described and claimed. These objects are accomplished by devices illustrated in the accompanying drawing; wherein:

Figure 1 is a view in side elevation of the device as a whole, with parts broken away; Fig. 2 is a view in horizontal section taken substantially on a broken line 2—2 of Fig. 1; Fig. 3 is a bottom plan view of the movable member or buffer carriage; and Fig. 4 is a view in transverse vertical section taken on a broken line 4—4 of Fig. 2.

Referring in detail to the drawing throughout which like reference numerals indicate like parts, the numeral 5 designates a portion of a street, road bed or other highway which may be constructed of concrete, asphalt or the like. The devices are preferably installed in the center of arterial or main highways at street intersections, and serve as a protection for both pedestrians and vehicles. At such intersections it is customary to provide a platform or island in the center of the highway, such as shown at 6 in the drawing, and which serves as a safety zone for persons crossing the highway. Standing beacon lights, such as shown at 7, are also provided at each end of the safety zone as an additional protection to pedestrians within the zone and as a guide and warning to approaching vehicles particularly during foggy or thick weather. These beacons, together with other obstructions placed at safety zones, have been the cause of numerous accidents to vehicles resulting in demolishing the vehicles and in the death of the occupants. It is therefore an object of my invention to eliminate this

destruction and loss of life by means which will now be described.

While my invention contemplates the installation of two devices, one placed at each end of the safety zone or platform 6 and extending in opposite directions therefrom in central alignment with the highway, only one of the devices will be described as they are identical in construction. Essentially, the invention consists of a stationary member 8 and a movable member 9. The stationary member may take the form of a tubular or female member having its rear end closed and placed in abutment with an end of the safety zone or platform 6 and its bottom fixed to the surface of the highway 5. Spaced apart track rails 10 may extend along said bottom surface to a point exteriorly of the open end of the hollow stationary member. The movable member 9 may take the form of a hollow buffer carriage member that is adapted to move slidably into the female member 8 and whose bottom is provided with wheels 11 that are arranged to ride on the track rails 10. In its normal position, only a small portion of the movable or carriage member 9 projects into the stationary member 8 as clearly shown in Figs. 1 and 2 of the drawing.

When a motor vehicle strikes the outer end 12 of the movable carriage member 9, said member will be moved almost entirely into the stationary member 8 as shown in Fig. 1. For the purpose of gradually slowing up the movement of this carriage member into the stationary member, I have provided a pair of spreader flange rails 13. Said rails are each pivoted to the floor of the stationary member close to the track rails 10, as at 14, and springs 15, interposed between the track and spreader rails, normally retain the spreader rails in an inwardly convergent position as shown in Fig. 2. A wedge block 16 is secured to the rear bottom end of the carriage member 9 and is provided on each side with an anti-friction roller or shive 17 which rollers respectively engage the flanges of the spreader rails 13 as most clearly shown in Fig. 4 of the drawing.

Upon impact of a motor vehicle with the forward end 12 of the carriage member 9, said member will be forced into the stationary member 8 and the spreader rails 13 will gradually and increasingly retard the inward movement of the carriage member until it is brought to a standstill as shown in dotted lines in Fig. 1. This gradual retardation of the carriage is extended over a considerable space and results in completely absorbing the shock which would other-

wise be caused by a vehicle striking a fixed object. A heavy coiled spring 18 may be installed at the inner closed end of the stationary member 8, if desired, to serve as a stop for the carriage in case of excessive impacts or failure of the spreader rails to function properly. It will now be apparent that I have provided an effective buffer means for reducing accidents caused by vehicles striking traffic aids at street intersection safety zones.

As a means for overcoming the static inertia of the movable carriage 9, some such means may be provided as shown in Figs. 1 and 2, wherein the numeral 19 designates a cross bar whose ends are connected to bell crank levers 20 with their longer arms extending down through slots 21 in the surface of the highway 5 and into a pit 22 under said highway. Said levers are pivoted to the sides of said pit at 23 and their shorter arms may be pivoted to a connecting rod 24 which may be pivoted to a cam 25 that is pivoted to the walls of the pit. Said cam may be arranged to engage a depending arm 26 fixed to the forward bottom end of the carriage 9. When the front wheels of a motor vehicle strike the cross bar 19, which is close to the carriage 9, the cam 25 will be forced against the depending arm 26 thus overcoming the inertia of the carriage and causing it to move a slight distance further into the stationary member 8 an instant before the wheels of the vehicle strike the front end 12 of the carriage and this slight movement of the carriage will lessen the impact of the vehicle therewith.

It will be understood that the foregoing description, together with the accompanying drawing, is merely intended as an illustration of one means for reducing the principles of the invention to practice. The broad principles of the invention may be embodied in various other forms using pneumatic, hydraulic or other means instead of the springs for absorbing the shocks of vehicles. I therefore do not limit myself to the construction shown and described herein. What I do claim and desire to secure by Letters Patent of the United States is:—

1. The combination with safety zone traffic obstructions of a traffic buffer comprising a single stationary member arranged in alignment with and adapted to shield the safety zone obstructions, a movable member arranged to slidably move into the stationary member, and yielding means interposed between the stationary and

movable members that is adapted to restrain slidable movement of the movable member with respect to the stationary member.

2. The combination with a safety zone traffic shield, of a traffic buffer comprising a single stationary tubular member having an inner closed end disposed in abutment with said traffic shield, a movable carriage member arranged to move into the stationary member and having one end initially projecting into the outer end of the stationary member, and resilient means interposed between the stationary and movable members that is adapted to yieldingly restrain slidable movement of the movable member into the stationary member.

3. The combination with a safety zone traffic shield, of a traffic buffer comprising a stationary tubular member having a closed inner end disposed in abutment with said traffic shield, a movable carriage member having one end normally and slidably disposed in the outer open end of the stationary tubular member, a pair of track rails disposed on the floor of the stationary member and projecting exteriorly thereof, wheels connected to the bottom of the carriage member and arranged to ride on the track rails, and resilient means interposed between the stationary and carriage members whereby slidable movement of the carriage member into the stationary member is yieldingly restrained.

4. The combination with a safety zone traffic shield, of a traffic buffer comprising a stationary tubular member having a closed inner end disposed in abutment with said traffic shield, a movable carriage member having one end slidably and normally disposed in the outer open end of the stationary tubular member, a pair of track rails disposed on the bottom of the stationary member and projecting exteriorly thereof, wheels connected to the bottom of the carriage member and arranged to ride on the track rails, a pair of spreader rails having their outer ends pivotally connected to the floor of the stationary member in spaced apart relation, springs arranged to normally retain the spreader rails in inwardly convergent relation, and a wedge block fixed to the rear bottom end of the carriage member and arranged to engage the inward sides of the spreader rails whereby inward movement of the carriage member is yieldingly restrained.

ANDREW W. MEAD.