Dec. 19, 1922.

1,439,318.

E. J. MALLIN.

DISAPPEARING TRAFFIC BARRIER.

FILED NOV. 15, 1921.

2 SHEETS—SHEET 1.

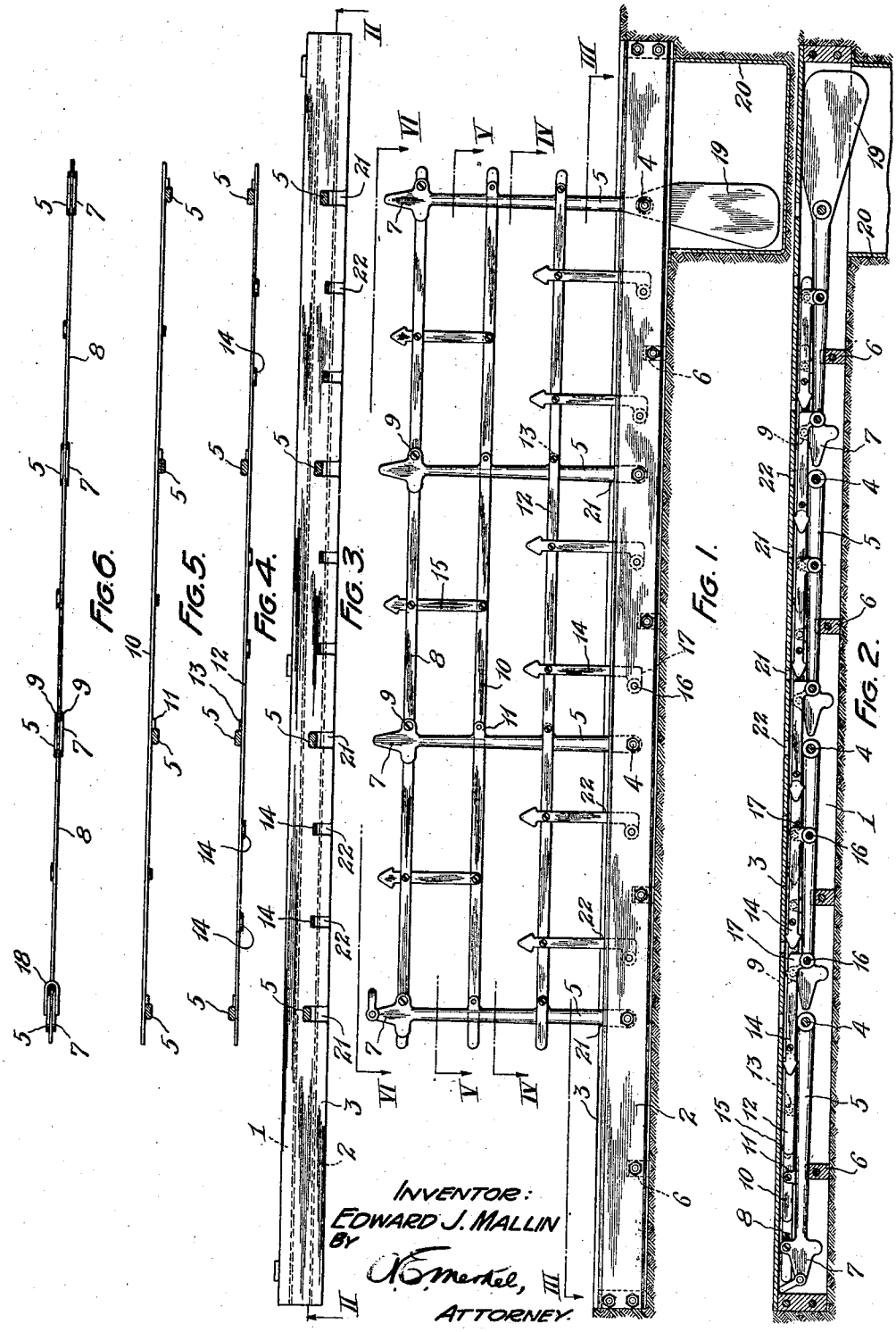


FIG. 6.

FIG. 5.

FIG. 4.

FIG. 3.

FIG. 1.

FIG. 2.

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2 SHEETS—SHEET 2.

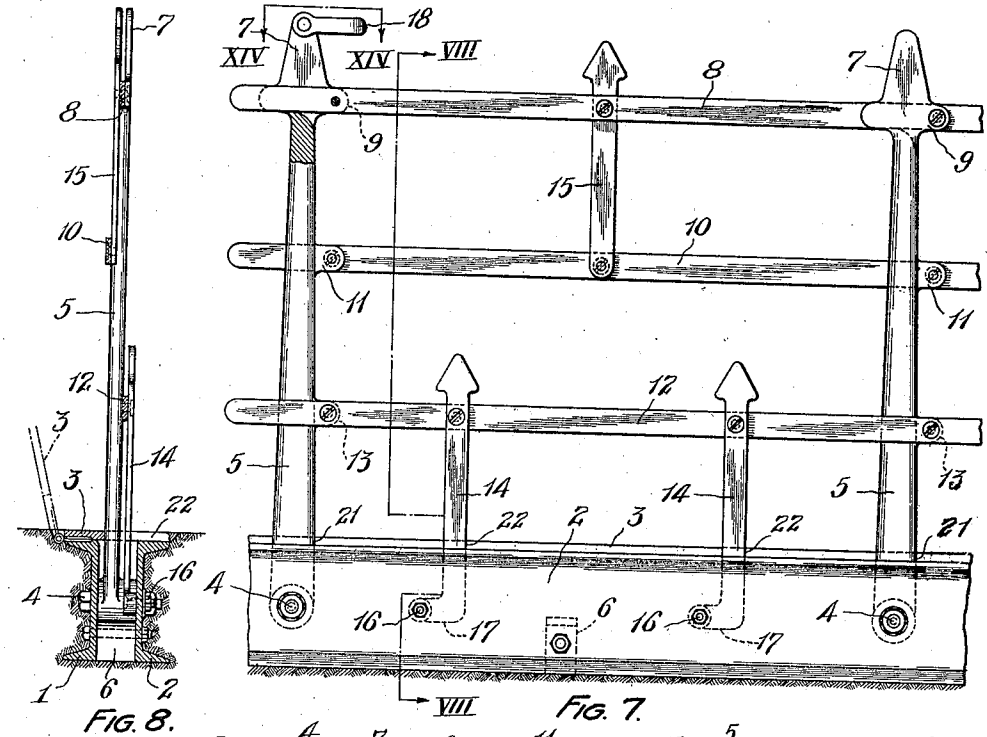



FIG. 8.

FIG. 7.

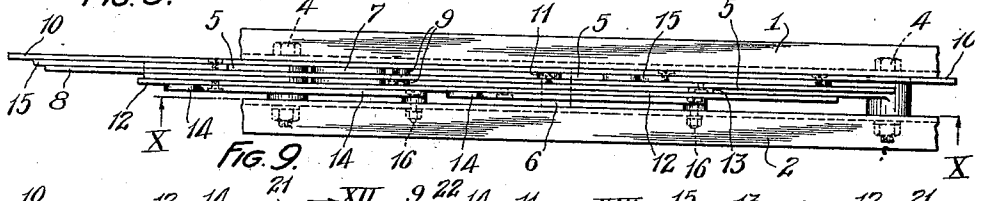



FIG. 9.

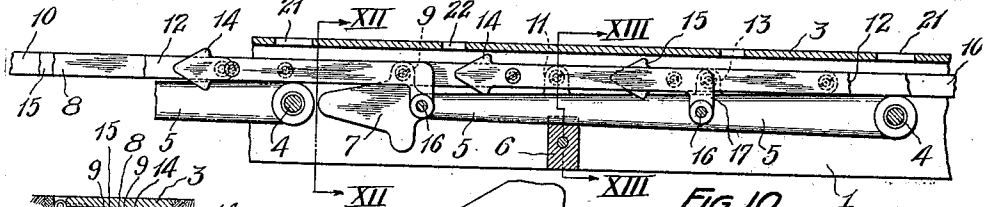



FIG. 10.

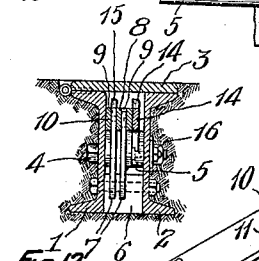


FIG. 12.



FIG. 11.



FIG. 13.

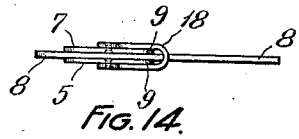


FIG. 14.

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Patented Dec. 19, 1922. 1,439,318

# UNITED STATES PATENT OFFICE.

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## DISAPPEARING TRAFFIC BARRIER.

Application filed November 15, 1921. Serial No. 515,215.

*To all whom it may concern:*

Be it known that I, EDWARD J. MALLIN, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented new and useful Improvements in Disappearing Traffic Barriers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

This invention relates to disappearing traffice barriers particularly of the type in which a collapsible fence structure is adapted to be folded into a housing below the level of the pavement, road or floor over which the traffic passes or extended above such surface to form a barrier to traffic.

It is an object of this invention to provide a collapsible barrier which is simple in structure, neat in appearance, economical to manufacture and install and easy to operate.

A further object is to provide a collapsible structure of this character possessing the necessary strength but which occupies a minimum of space when folded so that the entire structure can be housed in a shallow casing below the surface of the road or floor to which it is applied.

A further object is to provide a cover plate which not only serves to cover the housing for the passage of traffic thereover but also to lock the barrier in elevated position.

The annexed drawings and following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of the various mechanical forms in which the principle of the invention may be employed.

In said annexed drawings:

Fig. 1 is a front elevation showing the barrier in elevated position.

Fig. 2 is a section on line II—II of Fig. 3 showing the barrier in folded position within the housing.

Fig. 3 is a section on line III—III of Fig. 1 looking downwardly and showing the housing cover in closed position locking the barrier in elevated position.

Fig. 4 is a section on line IV—IV of Fig. 1.

Fig. 5 is a section on line V—V of Fig. 1.

Fig. 6 is a section on line VI—VI of Fig. 1.

Fig. 7 is a front elevation on an enlarged scale showing a portion of the barrier in elevated position.

Fig. 8 is a section on line VIII—VIII of Fig. 7.

Fig. 9 is a plan view showing the barrier collapsed in the housing,

Fig. 10 is a section on line X—X of Fig. 9.

Fig. 11 is a fragmentary perspective showing a portion of the barrier in collapsed position.

Fig. 12 is a section on line XII—XII of Fig. 10.

Fig. 13 is a section on line XIII—XIII of Fig. 10.

Fig. 14 is a detail view showing the lifting handle carried by one of the end posts.

Referring to the annexed drawings, the housing in which the barrier is mounted consists of a pair of channel irons 1 and 2, spaced apart and arranged back to back, and a cover plate 3 hinged to one of said flanges. The channels 1 and 2 are preferably standard rolled bars set into the road bed or floor with their upper edges positioned below the surface of said road or floor a distance equal to the thickness of the cover plate 3, so that, when the plate 3 is in position to close the housing its upper face is flush with the surface of the road or floor. The flanges of the channels 1 and 2 serve to reinforce the road bed adjacent the housing and to anchor said housing therein. A series of transverse pintles comprising bolts 4 passing centrally through the webs of the channels 1 and 2, carry the main posts 5 which are journaled at their lower ends upon said pintles. The posts 5 are of a length slightly less than the distance between the pintles 4 so that the posts can lie end to end in horizontal position in the housing. For supporting the posts 5 in horizontal position in the housing and for maintaining the channels 1 and 2 in proper spaced relation blocks 6 are bolted between the channels intermediate the pintles 4. The upper faces of the blocks 6 are positioned slightly below the axes of the pintles 4 so that the posts 5, when resting thereon are in horizontal position.

For convenience in description the direction in which the posts move in assuming the vertical position will be referred to here-

in as the forward direction. The upper ends of the posts 5 have enlarged ornamental heads 7 recessed to receive an upper horizontal rail 8 which is pivoted between the forwardly extending integral lugs 9 formed by the portions of said enlarged heads 7 on opposite sides of the recesses. The pivotal connections between the lugs 9 and rail 8 and posts 5 and housing are parallelogrammatically disposed to permit free movement to and from collapsed position. An intermediate horizontal rail 10 is carried by the posts 5, on one side thereof, and is pivotally connected to forwardly extending lugs 11 on said posts. A lower horizontal rail 12 is carried by the posts 5, on the side opposite that on which the rail 10 is mounted, and is pivotally connected to forwardly extending lugs 13 on said posts 5. When the posts 5 are in horizontal position resting on the blocks 6 the rails 8, 10 and 12 lie side by side immediately over the pintles 4 and body portions of the posts 5.

To reinforce the portions of the barrier or fence structure between the main posts 5, I have provided a series of short posts 14 pivoted in the housing between the main posts 5 and pivotally connected to the outside of the lower rail, together with a series of intermediate stays 15 pivoted to the rails 8 and 10 between the main posts 5. The short posts 14 are mounted on pintles 16 carried by the channel 2 which pass through arms 17 at the lower ends of the posts 14. The arms 17 extend rearwardly at right angles to the bodies of the said posts 14. By reason of the peculiar shape of the posts 14, when the barrier is in collapsed position the body portion of the post 14 is in horizontal position and lies between the lower rail 12 and the channel 2. The intermediate stays 15 are positioned inside the intermediate rail 10 and outside the upper rail 8 so that when the barrier is in collapsed position the stays 15 lie in horizontal position between the rails 8 and 10.

For raising the barrier a handle 18 is riveted or otherwise secured to the head 7 of the rearmost post of a section. To facilitate the raising of the barrier the foremost post 5 has a counterweight extension 19 movable in a casing 20 set into the ground below the forward end of the housing. For holding the barrier in elevated position the cover 3 has notches 21 extending from the free edge thereof adapted to receive the posts 5 and similar notches 22 adapted to receive the posts 14 whereby the cover plate 3 can be swung to closed position after the barrier is raised to lock the barrier in elevated position.

What I claim is:

1. A disappearing traffic barrier, comprising a housing having its top substantially flush with the road or floor surface; a collapsible barrier having posts pivoted in said housing lying entirely within said housing when collapsed; and a cover plate for said housing adapted to close said housing when said barrier is collapsed therein, and provided with notches to receive said posts whereby said cover plate can be moved to closed position when said posts are in upright position to lock said barrier in elevated position.

2. A disappearing traffic barrier, comprising a housing consisting of a pair of channel irons arranged back to back and a cover plate hinged to the flange of one of said channels, said cover plate when in closed position lying substantially flush with the surface of the road or floor; and a collapsible barrier consisting of a plurality of posts pivoted between said channels and a plurality of longitudinal rails pivoted to said posts; said barrier being adapted to be collapsed within said casing, and said cover plate having notches adapted to receive said posts whereby said cover plate can be moved to closed position when said posts are in upright position to lock said barrier in elevated position.

3. A disappearing traffic barrier, comprising a support; a series of posts mounted on transverse pivots carried by said support, said pivots being spaced apart a distance greater than the length of said posts; and longitudinal rails pivotally connected with forwardly extending lugs on said posts and arranged on opposite sides of said posts whereby said posts may be swung on their pivots to horizontal position with said rails positioned side by side immediately above said pivots.

4. A disappearing traffic barrier, comprising a support; a series of main posts mounted on transverse pivots carried by said support, said pivots being spaced apart a distance greater than the length of said posts; a plurality of horizontal rails carried by said posts, said rails being pivotally connected to forwardly extending lugs on said posts and offset laterally with respect to each other whereby said posts can be collapsed to horizontal position with said rails side by side above said posts; and a series of auxiliary posts pivoted in said casing and to certain of said rails, said auxiliary posts being collapsible to horizontal position beside said rails.

5. A disappearing traffic barrier, comprising a housing below the level of the road or floor surface; a series of main posts pivoted in said housing on pivots spaced apart a distance greater than the length of said posts; a series of longitudinal rails laterally offset with respect to each other and pivoted to forwardly extending lugs on said posts; and a series of shorter auxiliary posts and stays pivoted to said rails between said main

posts; said barrier being collapsible into said housing with said posts stays and rails in horizontal position therein.

6. A disappearing traffic barrier, comprising a housing below the level of the road or floor surface; a series of main posts pivoted in said housing and adapted to lie therein in horizontal position end to end; a series of horizontal rails pivoted to said posts and adapted to lie in said housing immediately above the pivots on which the posts are mounted; and a series of intermediate posts pivoted in said housing and to certain of said rails, said intermediate posts being adapted to lie in horizontal position end to end beside said rails in said housing, said posts being movable to upright position about their pivots.

7. In a disappearing traffic barrier, the combination with a support; of a series of posts pivoted on transverse pintles carried by said support, said pintles being spaced apart a distance greater than the length of said posts; a plurality of horizontal rails pivoted to forwardly projecting lugs on said posts and offset laterally with respect to each other; and a series of intermediate posts pivoted to said support and to the one of said rails, the body of said intermediate posts being offset forwardly from their pivotal connection with said support.

8. A disappearing traffic barrier, comprising a housing below the level of the road or floor surface; a series of transverse pintles intermediate the top and bottom of said housing; a series of supporting blocks between said pintles; a post pivoted on each of said pintles, said posts being of a length less than the distance between said pintles; and adapted to be folded to horizontal position upon said supporting blocks; and a pair of horizontal rails pivoted to forwardly extending lugs on said posts and positioned on opposite sides thereof, said rails lying side by side in said housing immediately above said pintles when in folded position.

9. A disappearing traffic barrier comprising a housing below the level of the road or floor surface; transverse pintles intermediate the top and bottom of said housing; a post pivoted on each of said pintles and movable from a vertical position to a horizontal position within said housing; lower and intermediate horizontal rails pivoted to said posts on opposite sides thereof; an upper rail extending through said posts and pivoted thereto; short intermediate posts pivoted to the lower rail and having rearwardly extending arms at their lower ends pivoted in said housing; and stays parallel with said posts, positioned between said upper and intermediate rails and pivoted thereto; said rails and intermediate posts and stays lying side by side immediately above said pivots when said barrier is collapsed within said housing.

Signed by me this 3rd day of November, 1921.

EDWARD J. MALLIN.