Feb. 9, 1932. W. F. OTTE 1,843,956

COLLAPSIBLE AND PORTABLE TRAFFIC SIGNAL

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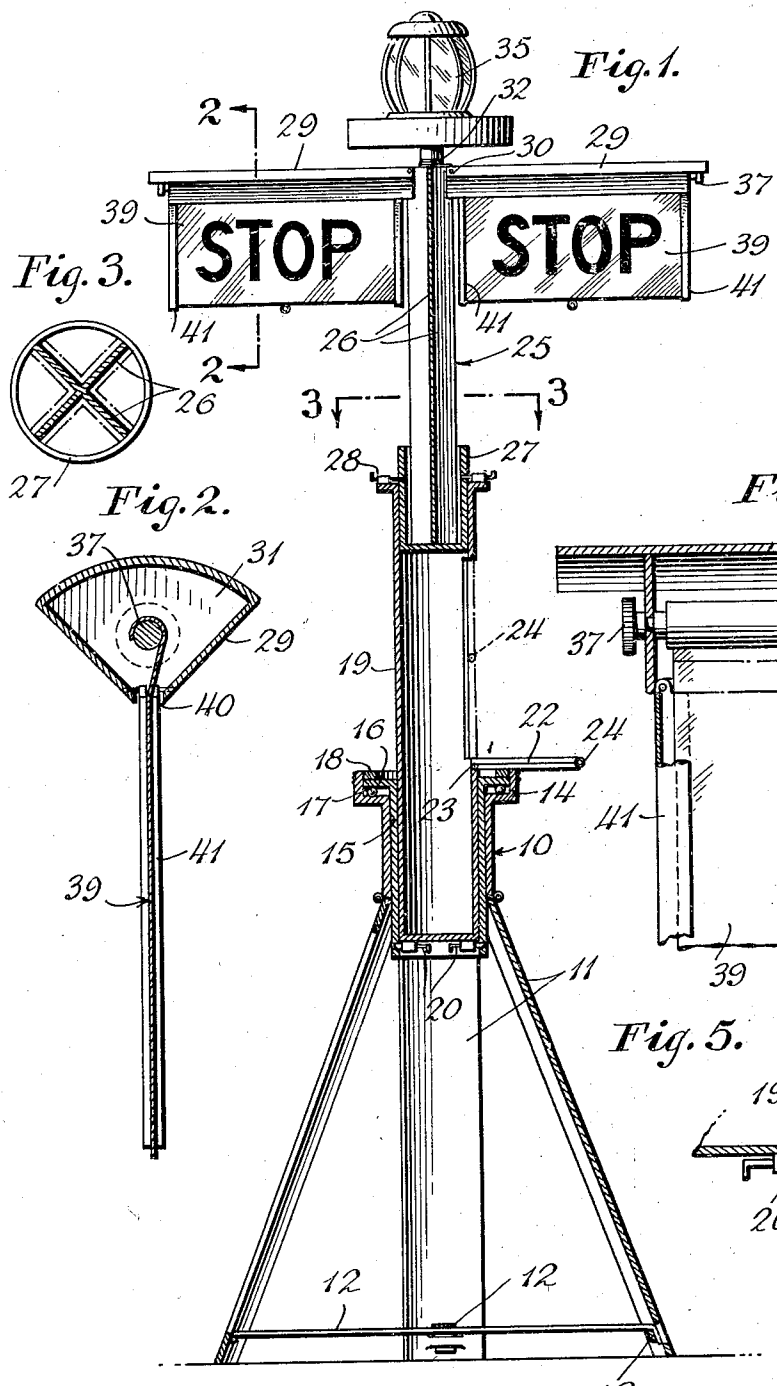


Fig. 1.

Fig. 3.

Fig. 2.

Fig. 4.

Fig. 5.

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Fig. 6.

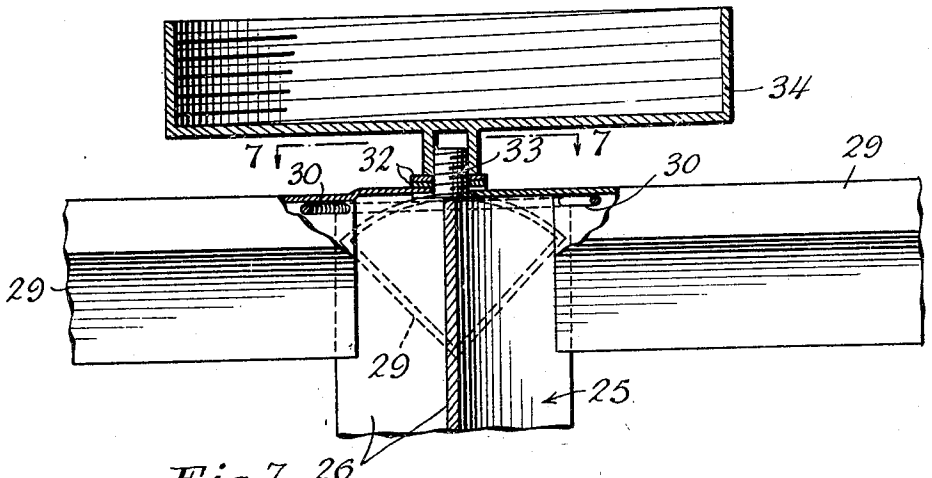
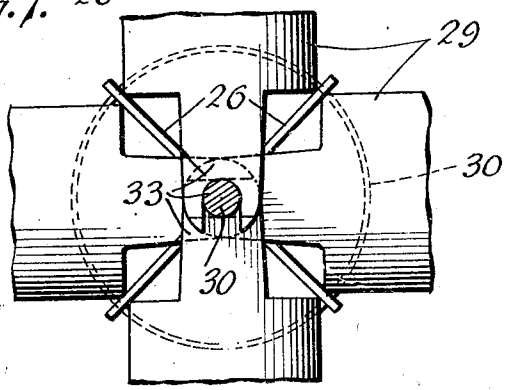


Fig. 7.



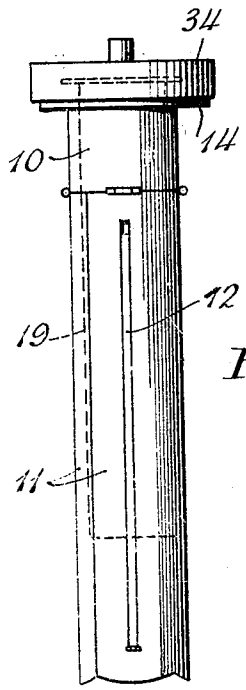


Fig. 8.

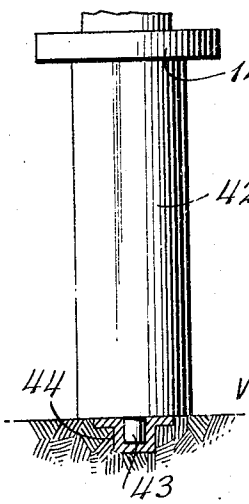


Fig. 9.

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UNITED STATES PATENT OFFICE

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COLLAPSIBLE AND PORTABLE TRAFFIC SIGNAL

Application filed May 7, 1931. Serial No. 535,653.

This invention relates to improvements in signaling devices and has particular reference to a collapsible and portable traffic signal.

The device of the present invention is especially useful in localities where it would be impracticable to erect permanent traffic signals, such as points where a signal is desirable only at certain times of the day, for instance, at intersections where school children cross, and in many suburban localities where the traffic is abnormal for only relatively short intervals.

An object of the invention is to provide an improved signal of simple, practical and sturdy construction, which may be readily adjusted to operative position and collapsed so as to render it easily transportable.

The above and other objects will appear more clearly from the following detailed description, when taken in connection with the accompanying drawings, which illustrate preferred embodiments of the inventive idea.

In the drawings—

Figure 1 is a vertical longitudinal section through one form of the device, showing the elements thereof in operative position;

Figure 2 is a transverse section through one of the signals and its support, taken on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 1;

Figure 4 is a fragmentary vertical longitudinal section through the support for one of the signals;

Figure 5 is a sectional detail of the means for supporting one of the sections of the standard of the device in its operative position and to connect said section to a rotatable element;

Figure 6 is an enlarged fragmentary vertical sectional view of the signal-supporting means;

Figure 7 is a fragmentary plan view thereof, taken on the line 7—7 of Figure 6;

Figure 8 is an elevation of the signaling device in its collapsed position; and

Figure 9 is an elevation of a slightly different form of signaling device.

Referring more particularly to Figures 1 to 8, the device herein shown comprises a tubular base member 10 constituting the lower section of the standard of the device and at a point adjacent the upper end of said section the same is divided longitudinally and transversely to form pairs of hinged supporting legs 11, one leg of each pair having struck therefrom a brace 12 hinged to said leg and engageable with the other leg of the pair, as indicated at 13, to retain the legs in their operative supporting positions. The upper end of the base member 10 is provided with an externally screw-threaded head 14 and mounted for rotary movement within said upper end of the base member is a sleeve-like bearing member 15 having a flange 16 extending into said head 14 and engageable with a ball bearing race 17 whereby said bearing member may be freely rotated, the same being held in place by a retaining ring 18 threaded into said head.

The standard of the device further comprises a tubular intermediate section 19, the lower end of which is closed and telescopes within the bearing member 15 when said section is extended, and also within the lower end of the base member 10 when the parts are in the collapsed position shown in Figure 8. In order to support the section 19 in its extended position and to connect the same to the bearing member 15 so as to rotate therewith, the lower end of the section 19 carries a pair of sliding latches 20 which are adapted to be projected into openings 21 formed in the lower end of the bearing member 15. The section 19 is provided with a handle 22 formed of two lengths of material struck from said section, one of said lengths being hinged at 23 and pivotally connected at 24 to the other section so that, when the handle is not in use and the section 19 is being telescoped into the base of the device, said portions of the handle may be extended longitudinally of the sections indicated in dotted lines in Figure 1.

The top section of the standard of the device, generally indicated by the numeral 25, comprises a plurality of angularly disposed plates 26, the planes of which intersect and which carry at their lower ends a sleeve 27 which fits into the upper end of the section

19 and is engaged by sliding latches 28 carried by the latter to support the section 25 in its extended position.

The section 25 constitutes a signal arm-supporting member, the upper end of which carries a plurality of signal arms 29, each pivoted in the angle between two adjacent plates 26 by means of a ring 30 extending through said plates, and each being of segmental form in cross-section and hollow to provide a compartment 31, as best shown in Figure 2. The inner end of each signal arm 29 is provided with an extension 32 slotted at its free end to receive a screw-threaded stud 33 carried by the top of the section 25 when said arms are swung to their operative or laterally extending position relative to said section. To maintain said arms in this position, a cap 34 is threaded upon the stud 33 and engaged with the uppermost superimposed extensions 32. When the cap 34 is in this position it is adapted to receive and have secured therein, in any suitable manner, a visual signal, such as a lantern 35, and when the device is collapsed as shown in Figure 8, said cap is adapted to be threaded upon the head 14, it being provided with internal screw-threads for this purpose.

Suitably supported by each arm 29 and extending through the compartment 31 therein is a roller 36, one end of which projects through the outer end of the arm (Figure 4) and is provided with a knob 37 by which said roller is turned. The roller carries a flexible signal 39 having printed thereon or otherwise applied thereto either of the words "Stop" or "Go". Said signal is adapted to be wound upon the roller by turning the knob 37 and is withdrawn from the compartment through a longitudinally extending slot 40 in the bottom of the signal arm. In order to maintain the signal 39 in its operative position, there is pivoted to the arm 29 at each end of the slot 40 therein a guide 41 of channeled formation which is adapted, when depending from the arm in a vertical position, to receive the adjacent vertical edge of said signal. When the signal is withdrawn into the compartment 31, the two guides 41 are adapted to be swung upwardly into the slot 40 and maintained therein by frictional contact with the edges thereof.

To collapse the device, the various signals are first withdrawn into their respective compartments 31 by turning the rollers 36 and the guides 41 are then swung upwardly into the slots 40 of their signal arms. The cap 34 is then removed, permitting the arms 29 to swing downwardly into positions between the plates 26 and longitudinally of the section 25. The latter section is then allowed to telescope entirely within the section 19 by disengaging the latches 28 from the sleeve 27, after which the portions of the handle 22 are adjusted to their inoperative position. Following this, the latches 20 are disengaged from the bearing 15, thus permitting the section 19 to drop into complete telescoping position relative to the base member 10. The braces 12 are now swung to their inoperative positions, allowing the legs 11 to be moved inwardly to closing position about the section 19 and the cap 34 is then threaded upon the head 14.

In Figure 9, the base section 42 is shown as a solid tubular member which is adapted to be mounted in its operative position by inserting a pin 43 at its lower end into a socket 44 embedded in the pavement at the point where the signal is to be erected. Otherwise, the construction of the device is exactly the same as that previously described.

What is claimed is:

1. A traffic signaling device comprising a base, a standard supported by said base, signal arms pivoted to said standard and each including a compartment, a roller in said compartment, and a flexible signal on said roller and movable therefrom to a depending position relative to its arm.

2. A traffic signaling device comprising a base, a standard supported by said base, signal arms pivoted to said standard and each including a compartment, a roller in said compartment, a flexible signal on said roller and movable therefrom to a depending position relative to its arm, and guides for said signal pivoted to said arm.

3. A traffic signaling device comprising a base, a standard supported by said base and including a signal arm-supporting member, a plurality of signal arms pivoted to said member and having extensions engageable therewith when said arms are in operative position, means mounted on said supporting member and engaging said extensions to retain said arms in their operative positions, each of said arms having a compartment provided with a slot, a roller in said compartment, a flexible signal wound on said roller for withdrawal to operative position from said compartment through said slot, and guides for said signal pivoted in said slot and depending from said arm when said signal is withdrawn.

4. A traffic signaling device comprising a base, a standard supported by said base and including a signal arm-supporting member consisting of a plurality of angularly disposed plates, a plurality of signal arms each pivoted in the angle between two adjacent plates and movable to a position therebetween and longitudinally thereof, and each having extensions engageable therewith when said arms are in operative position, means mounted on said supporting member and engaging said extensions to retain said arms in their operative positions, and each of said

arms further having a compartment provided with a slot, a roller in said compartment, a flexible signal wound on said roller for withdrawal to operative position from said compartment through said slot, and guides for said signal pivoted in said slot and depending from said arm when said signal is withdrawn.

5. A traffic signaling device comprising a tubular base member, a bearing member rotatably supported therein, an intermediate standard section telescoping within said base and bearing members and movable to an extended position relative thereto, means to support said section in its extended position and to connect the same to said bearing member for rotation therewith, and signal means supported by said section.

6. A traffic signaling device comprising a tubular base member, a bearing member rotatably supported therein, an intermediate standard section telescoping within said base and bearing members and movable to an extended position relative thereto, means to support said section in its extended position and to connect the same to said bearing member for rotation therewith, a top standard section telescoping within said intermediate section, means carried by the latter section and engageable with the top section to maintain it in an extended position, and signal means carried by said top section.

In testimony whereof, I have affixed my signature.

WERNER F. OTTE.