July 29, 1930. F. C. VOGLER 1,771,667

TRAFFIC SIGNAL

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Fig. 1.

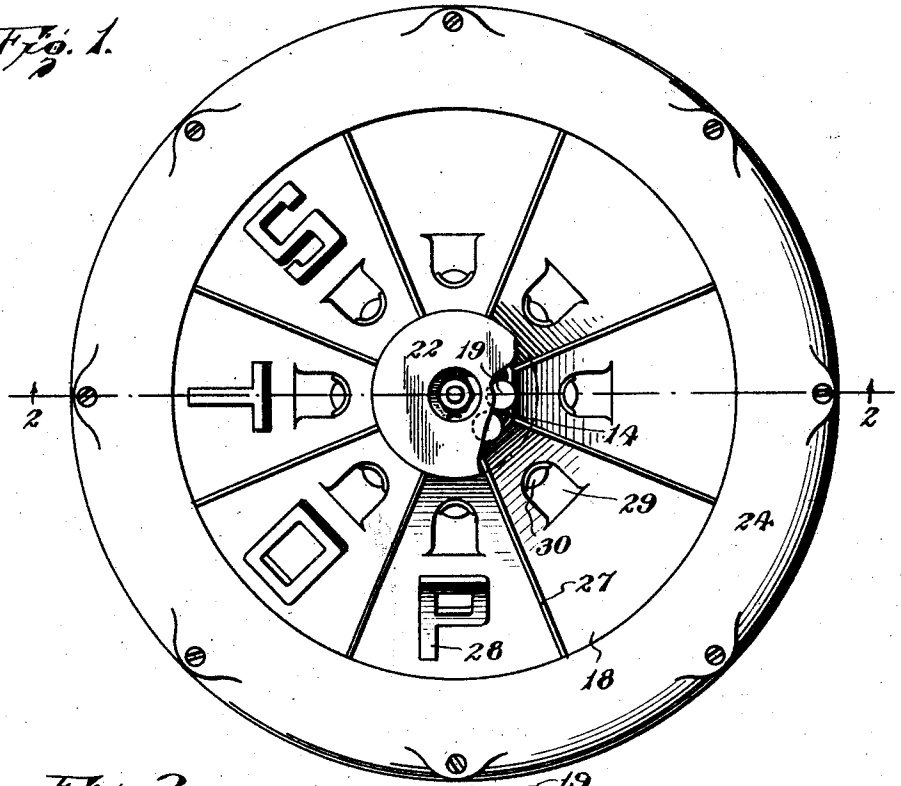
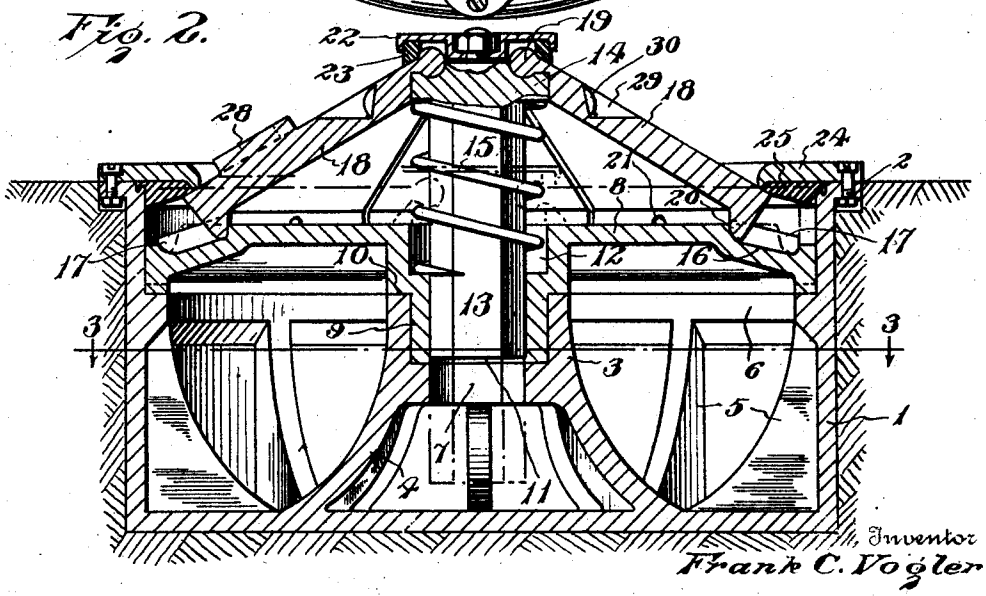


Fig. 2.



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Fig. 3.

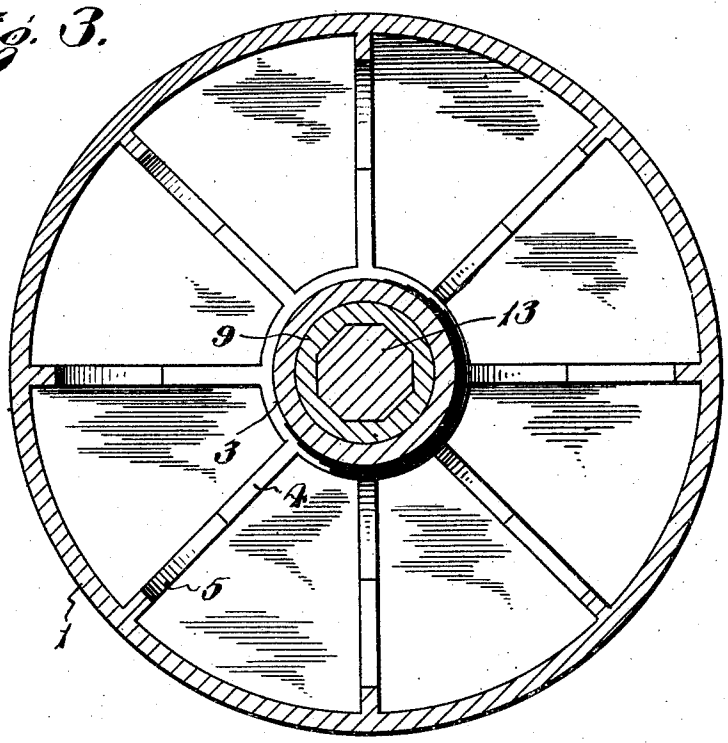


Fig. 4.

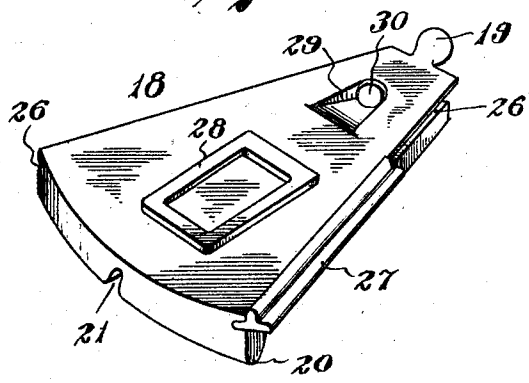
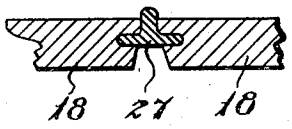


Fig. 5.



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UNITED STATES PATENT OFFICE

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TRAFFIC SIGNAL

Application filed January 16, 1930. Serial No. 421,277.

This invention relates to traffic signals of the type embodying a casing embedded in the ground and a display top mounted in the upper end of the casing and disposed so as to be visible to oncoming traffic. The object of the invention is to provide an improved construction which will increase the durability and strength of the device while providing for the easy downward movement when a vehicle happens to pass over it and its immediate return to normal position after the vehicle has passed. The invention is illustrated in the accompanying drawings and will be hereinafter fully described and particularly defined.

In the drawings:

Figure 1 is a plan view, partly broken away, of a traffic signal embodying the invention,

Fig. 2 is a vertical section of the same on the line 2—2 of Fig. 1,

Fig. 3 is a horizontal section on the line 3—3 of Fig. 2,

Fig. 4 is a detail perspective view of one segment of the top or roof of the casing, and

Fig. 5 is a detail section through the joint between two adjoining segments.

In carrying out the invention, there is provided a cylindrical casing 1 which is buried in the ground upon a firm foundation and has its upper end substantially flush with the surface of the road, as shown at 2 in Fig. 2. Disposed centrally within the casing 1 is a socket or bearing member 3 and this bearing or socket member is connected with the bottom of the casing by flaring posts 4 formed integrally therewith and also formed integral with the bottom of the casing, the side walls of the casing being reinforced by ribs 5 formed integral therewith and disposed in radial alinement with the respective posts, as will be understood most readily upon reference to Fig. 3. The upper ends of the ribs 5 merge into a flange 6 extending around the entire inner surface of the sides of the casing and disposed in the same horizontal plane with the upper end of the socket member 3. The bearing or socket member 3 is of circular contour, as shown most clearly in Fig. 3, and has a non-circular opening 7 formed centrally through its bottom web. Disposed within the casing and resting at its edge upon the flange or rib 6 is a disk or carrier 8 formed at its center with a depending hub member 9 fitting within the socket 3 and having an annular shoulder 10 at a point intermediate its height to rest on the upper edge of the socket member whereby the carrier disk will be firmly supported. The hub 9 has a lower bore 11 of the same non-circular contour as the opening 7 through the bottom of the socket or bearing member and alined axially therewith, while in the upper portion of the hub is an enlarged annular chamber or recess 12. A post 13 of non-circular form and corresponding in shape and dimensions to the bore 11 and the opening 7 is fitted in the bore 11 so that it may move vertically but cannot rotate therein and this post is provided at its upper end with a head 14, an expansion spring 15 being disposed around the post and having one end seated in the recess 12 and its opposite end bearing against the under side of the head 14 whereby the post will be yieldably held in its raised normal position. The marginal portion of the carrier disk 8 is beveled or inclined, as shown at 16, and at regular intervals around the circumferential extent of the disk on the upper surface of the beveled portion are short ribs or track members 17. Disposed about the post are segments 18 which are preferably metal plates of rhomboidal outline provided at their upper ends with balls or spherical projections 19 resting in correspondingly shaped recesses or seats formed in the upper side of the head 14. On the under sides of these segments at the lower edges of the same are heels 20 across which are formed central notches 21 adapted to engage the corresponding ribs or track sections 17 and thereby guide the segments in their movements, it being noted that the heels 20 rest upon the carrier disk and are normally disposed at the upper ends of the several track sections. A cap 22 is secured upon the upper end of the post 13 and extends over the upper end portions of the several segments, a washer or gasket 23 of packing material being interposed between the margin of the cap and the upper ends of the several seg-

ments whereby water or moisture will be prevented from seeping into the interior of the device, and it may be noted at this point that in actual practice the casing 1 will be provided with suitable openings and outlet connections whereby to effect drainage of any moisture which may find its way into the interior of the casing. A cap ring 24 is also secured upon the upper edge of the sides of the casing and a packer 25 of rubber or other suitable material is disposed against the under side of this cap ring and held by and between the same and the casing so as to extend over the lower ends of the several segments 18 and thereby prevent the entrance of water to the casing.

While the segments may be entirely free of each other, I prefer to close the side joints between adjoining segments and for this purpose each segment has a longitudinal groove 26 formed in each side edge and in the corresponding grooves in the opposed edges of the segments are fitted the side members of an inverted T-shaped packing strip 27. This packing strip may also be of rubber and will flexibly connect the adjoining sections so that they may have relative movement to yield to the impact of a vehicle wheel while at the same time they will be so connected as to effectually prevent the entrance of moisture.

As shown in Figs. 1 and 4, projections 28 are formed on the upper side of several of the segments and these projections are so shaped as to form letters whereby a word of warning or direction will be displayed when the several parts are properly assembled, the word "Stop" being illustrated. Each segment is provided near its upper end with a recess 29 against the upper wall of which is secured a reflector 30 so that, when a vehicle approaches the device at night, the rays of light from the headlight of the vehicle will be reflected so as to attract the attention of the chauffeur and cause him to proceed cautiously. The reflecting lenses may be given distinctive colors whereby to be more readily observed.

It will be understood that the device is to be buried at the intersection of streets or other highways with boulevards, or in the vicinity of schools or hospitals so as to insure caution upon the part of approaching vehicle operators and the word displayed on the signal may be appropriate to its location. Should a vehicle be so driven as to cause its wheels to pass onto the signal, the weight of the vehicle will cause the several segments to move downwardly and this movement will be imparted to the post 13 so that all the segments will be carried downwardly to the same extent and, consequently, the device will not offer an obstruction which will create a traffic jam or damage a vehicle skidding or otherwise passing onto or over it. As soon as the vehicle has passed from the device, the expansion spring 15 will return the post to its upper normal position and restore the segments to their respective normal positions. It will be noted that the upper ends of the segments have a ball and socket connection with the head of the post so that they may move freely when the weight of a vehicle is imposed thereon. The lower ends of the several segments will be firmly supported by the carrier disk 8 and they may move outwardly and downwardly upon the beveled marginal portions of the carrier, being guided in such movements by the engagement of the notches 21 with the track elements 17.

The device is exceedingly simple in its construction and the exposed parts are of such form as to be strong and durable, resisting all ordinary impacts so that the device is not apt to be so damaged as to become inoperative. The spring 15 which yieldably holds the parts in their normal positions is completely housed by the segments and the casing and is not, therefore, exposed to chance blows. If it should be necessary to replace one of the segments 18, all that needs to be done is to remove the cap screw which secures the cap 22 upon the head of the post, whereupon the segment may be at once lifted from its operative position. The formation of the heel at the lower end of each segment provides a firm support for the segment and yet permits the same to move upon the carrier disk readily and with minimum frictional wear. If preferred, the sockets 29 may have glazed bottoms and lamps may be installed in the casing to shine through the sockets and positively illuminate the device at night, as is obvious.

Having thus described the invention, I claim:

1. A signal device comprising a casing, a post disposed centrally within the casing and held against relative rotation but mounted to slide vertically, and a plurality of display segments having their upper ends hingedly supported at the upper end of the post and their lower ends slidably mounted within the casing.

2. A signal device comprising a casing, a carrier mounted within the casing and having a central noncircular opening, a post fitted slidably in said opening and having the same cross sectional outline whereby to be held against relative rotation, and a plurality of display segments having their upper ends hingedly connected with the upper end of the post and their lower ends slidably supported by the carrier.

3. A signal device comprising a casing having a central bearing member provided with a circular socket in its upper side and a non-circular opening through its bottom axially alined with said socket, a carrier hav-

ing a hub fitting in said socket whereby the carrier will be supported by the socket member, said hub having a central bore of the same outline as the opening through the bottom of the socket member, a post slidably fitted in said bore and having the same cross sectional outline, means yieldably holding the post in raised position, and a plurality of display segments having their upper ends hingedly supported by the upper end of the post and their lower ends slidably mounted upon the carrier.

4. A signal device comprising a casing, a central bearing member in the casing, a carrier supported by and engaged in said bearing member, a post fitted in said carrier for vertical reciprocation and held against relative rotation, track elements disposed radially upon the carrier at the margin of the same, and display segments having their upper ends pivotally supported by the upper end of the post and their lower ends resting on the carrier and constructed to engage and be guided by said track elements.

5. A signal device comprising a casing having an annular flange on its inner side wall and provided with a central bearing, a carrier disk having a pendent hub engaged in and supported by said bearing member and having its margin resting on the flange of the casing, a post mounted in said hub and held against relative rotation, a plurality of display segments having their upper ends pivotally supported by the upper end of the post and their lower ends slidably resting on the margin of the carrier disk, and means for yieldably holding the post in raised position.

6. A signal comprising a casing, a post mounted therein, means for yieldably holding the post in raised position, a plurality of segments having their upper ends pivotally supported by the upper end of the post and their outer ends slidably supported within the casing, and packing strips disposed between the opposed side edges of adjacent segments and engaged in grooves in said edges.

7. A signal comprising a casing, a post mounted therein, means for yieldably holding the post in raised position, a plurality of display segments having their upper ends pivotally supported by the upper end of the post and their outer ends slidably mounted within the casing, a cap plate secured upon the upper end of the post and extending over the upper ends of all the segments, and a packing member fitted between the under side of the cap plate and the upper ends of all the segments.

8. A signal comprising a casing, a post mounted centrally in the casing, means for yieldably supporting the post in raised position, a plurality of display segments having their upper ends pivotally supported by the upper end of the post and their outer ends slidably supported within the casing, a cap ring secured on the casing and projecting over the lower ends of the segments, and a packing member on the under side of said cap ring engaging over the lower ends of the segments.

In testimony whereof I affix my signature.

FRANK CLAMPETT VOGLER. [L. S.]