March 25, 1930. V. ALTMAN 1,751,969

STOP SIGNAL

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Fig. 1.

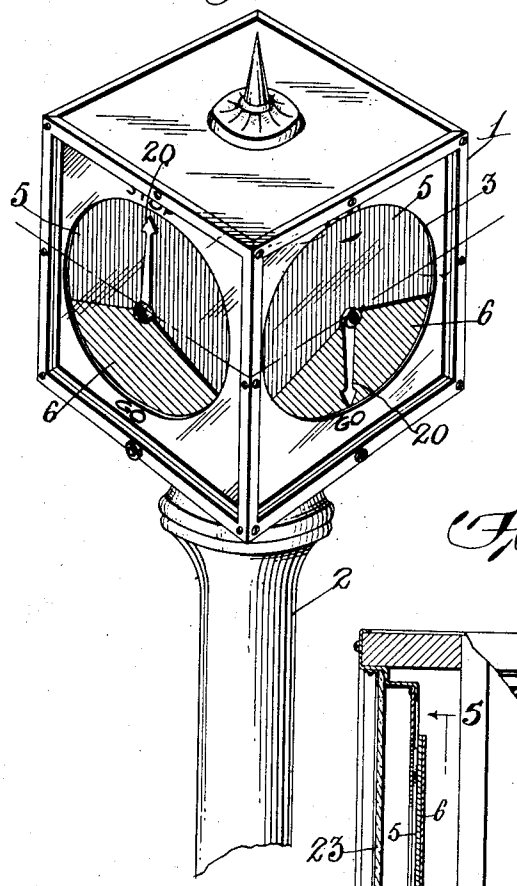


Fig. 3.

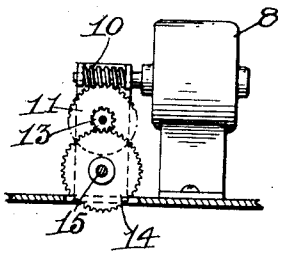


Fig. 2.

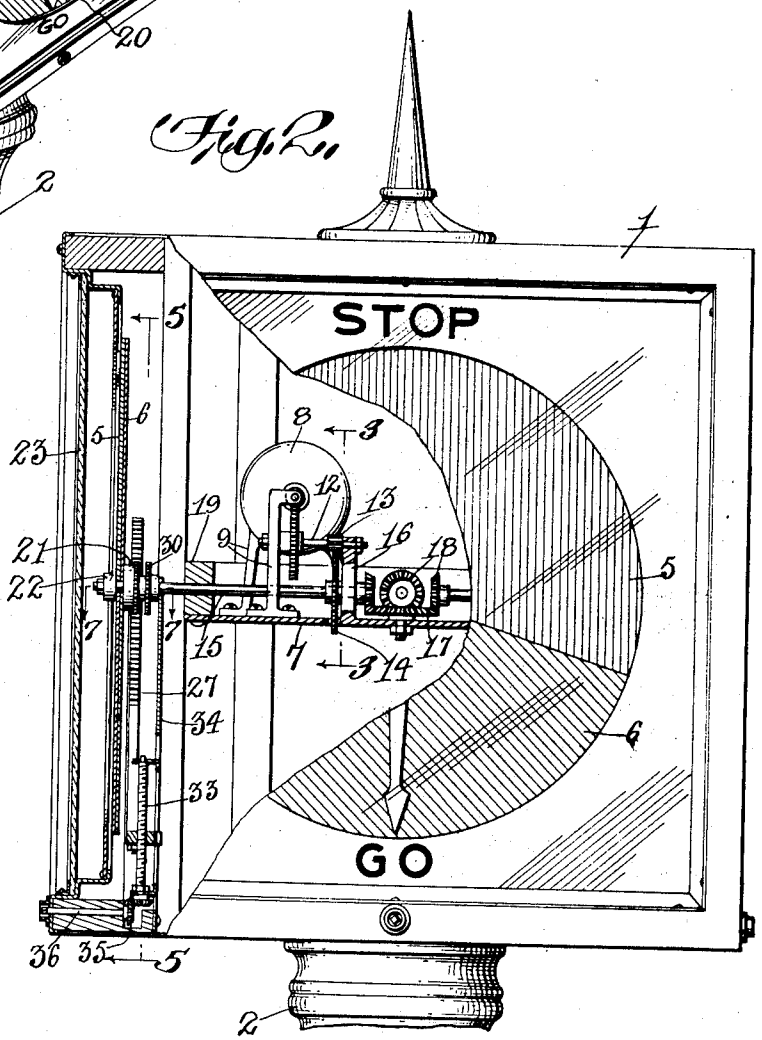
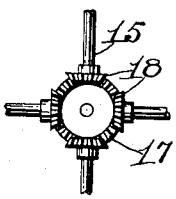


Fig. 4.



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Fig. 5.

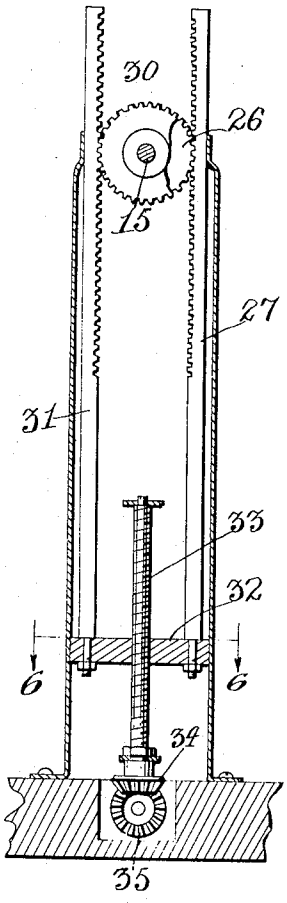


Fig. 6.

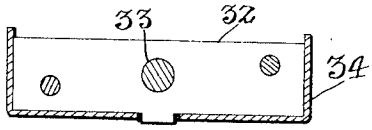


Fig. 8.

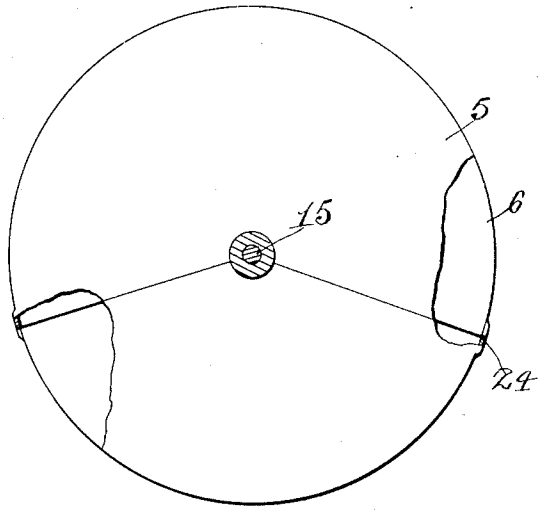


Fig. 7.

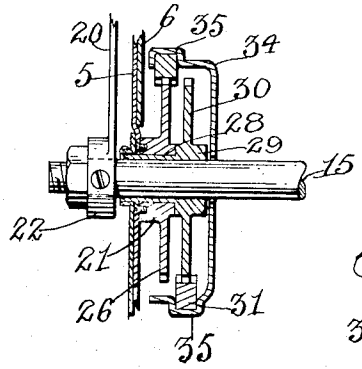


Fig. 9.

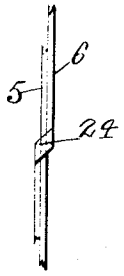
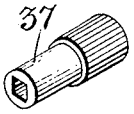


Fig. 10.



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1,751,969

UNITED STATES PATENT OFFICE

VLADISLAV ALTMAN, OF RACINE, WISCONSIN

STOP SIGNAL

Application filed July 3, 1929. Serial No. 375,784.

This invention relates to new and useful improvements in stop signals.

One of the objects of my invention is the provision of a stop signal which includes a circular signal field with an indicator movable thereover and wherein the field which is usually of two colors, can be readily adjusted to regulate the size of each field of color so that during the movement of the indicator over the entire field, the motorist can readily ascertain as to when the indicator is about to change from one field to the other.

Another object of the present invention is the provision of a top signal of the above character which is so constructed and arranged as to readily increase the movement of traffic, due to the fact that when a motorist approaches a cross road where the signal is operating, they may readily determine by the position of the indicator when traffic will be open for them to proceed or whether traffic is already open.

A further object of the present invention is the provision of a stop signal device comprising a housing which may be provided with two or more colored fields, each field provided with the usual stop and go colors, red and green, with an indicator moving over the two fields, the red field on one face being greater than the green or go field on the face disposed at right angles to the first face, so that at a certain time during the rotation of the indicators, the indicators disposed at right angles to each other will be positioned on the red field face causing a momentary stop of all traffic on the cross roads and permitting the vehicles traveling in one direction to make ready to cross and stopping the vehicles in the other direction so as to provide a clear way for the traffic about to cross and at the same time allow pedestrians sufficient time to cross in front of the traffic about to proceed.

A still further object of the invention is the provision of a signal of the above type wherein the indicating faces of the signal are formed of overlapping discs of two different colors, one representing a stop color and one a go color and the discs are so arranged relative each other that the exposed fields of the two different colors may be readily varied in sizes so that if it is desired to have the go signal of a larger field on one face of the indicator, than on the other face, it can be easily regulated through the rotation of the discs.

With the above and other objects in view, the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawings wherein:

Figure 1 is a perspective view of a signal constructed in accordance with my invention;

Figure 2 is an enlarged elevation with parts thereof broken away and illustrated in section;

Figure 3 is a detail section on the line 3—3 of Figure 2;

Figure 4 is a detail plan view of the connection between the different indicators;

Figure 5 is a detail section on the line 5—5 of Figure 2;

Figure 6 is a detail section on the line 6—6 of Figure 5;

Figure 7 is a detail section on the line 7—7 of Figure 2;

Figure 8 is an elevation of the discs showing the manner in which they overlap;

Figure 9 is an edge elevation of the discs; and

Figure 10 is a perspective view of the operating key for rotating the discs.

In carrying out my invention it is preferred to have the housing 1 mounted upon a standard 2. As shown in the drawings, the housing 1 is rectangular in form although other shapes may be used equally as well. Each face of the housing is provided with a circular opening 3 behind which the discs 5 and 6 are rotatably mounted. Within the housing I provide a horizontal partition 7 which forms a support for the operating parts. The operating parts include a motor 8 preferably an electric motor mounted upon suitable standards 9 carried by the partition 7. The motor shaft carries a worm 10 meshing with a worm gear 11 on stub shaft 12. The stub shaft 12 carries a pinion 13 meshing with a gear 14 on one of the indicator shafts 15. The shaft 12 is mounted at one end with-

in a suitable bearing in the upper end of a standard 16 while the other end is mounted in a bearing in one of the standards 9.

Arranged centrally of the partition 7 is a horizontally disposed bevel gear 17 which meshes with the bevel gears 18 on the inner ends of the indicator shafts 15. In view of the fact that a number of indicator shafts 15 are used and the fact that the operating parts connected with the outer ends of these shafts are all alike, it is believed that the description and operation of one shaft will be sufficient to disclose the complete operation.

In Figure 2, it will be noted that the shaft 15 is rotatably mounted within suitable bearings in standard 16 and in the horizontal reinforcing beam 19. The outer end of the shaft carries one indicator 20 operable over the outer faces of the overlapped discs 5 and 6. These discs 5 and 6 are rotatably mounted upon the outer end of shaft 15 and are retained in position by threading knot on the outer reduced end of the shaft. A collar 21 is mounted on the shaft and position upon the inner side of the discs 5 and 6 and cooperates with the collar 22 which carries indicator 20 for retaining the discs in proper position.

If found desirable a transparent pane of glass 23 may be carried by the housing and arranged in front of the opening 3 so that interference with the indicator 20 is prohibited.

In operating the device, the motor 8 is continuously running, rotating shaft 15 which will move the indicator 20 over the outer faces of the discs 5 and 6 and as the disc 5 is colored red and the discs 6 green, the indicator will readily travel over one field to the other, as shown in Figure 1. The discs are provided with slits extending inwardly from the outer edge thereof, as shown at 24, so that these discs can be readily overlapped and through the adjustment of the discs, different sized colored fields may be provided as illustrated.

In Figure 1, the indicator 20 at the left, is shown approximately midway of the red or stop field and the other indicator at the right is shown approximately half way of the green or go field and as the indicators are both moving in the same direction, one will be moving over the red field, toward the green field and the other from the green field to the red field, but attention is directed to the fact that the red field at the right is greater than the green at the left, and therefore, when both of the indicators 20 are in a position approximately below the transverse center line of the entire field, both indicators will be in the red field, presenting a stop signal to each of the cross roads, thus causing a momentary stop in the traffic until the indicator at the left reaches the green field.

From this, it will be apparent that during the rotation of the indicators, there will be a momentary stop in the traffic which will give the vehicles traveling with the go signal sufficient time to proceed on across the cross street before the vehicles traveling in the other direction proceed in the crossing and due to the fact that the signals are clearly visible they will indicate to the motorists at what time they may cross or may cease to cross so that as the indicator approaches the green field, the motorists operating against the stop field can make ready and proceed to cross the moment the indicator reaches the green field. From this it will be apparent that at all times the signal is in clear view of the motorists and they may readily ascertain as to when the go signal will be given so that they can be ready to start to cross at the proper time. Furthermore, the momentary pause or at that time where the indicators 20 all reach that point on the red field below the transverse center, it will give the pedestrians a chance to cross before the vehicles about to proceed will be given the go signal and the vehicles which are crossing can proceed on across so that the crossing will be clear of traffic for the vehicles about to proceed.

It will be noted that the various sizes of the field of the two colors may be readily changed through the rotation of the disc, i. e., the green field at the left may be increased and the green field at the right decreased with the relative decrease and the increase of the red fields accordingly.

In adjusting the discs 5 and 6, it will be noted that the disc 5 is mounted on the collar 21 carrying a pinion 26 adapted to mesh with a rack 27 while on the disc 6 is mounted an extension sleeve 28 of collar 29 which carries pinion 30. The pinion 30 meshes with rack 31 and it will be noted that the lower ends of both racks 27 and 31 are bolted a cross bar 32 adjustable upon screw 33. The lower end of screw 33 carries a bevel gear 34 meshing with a similar gear 35 on the inner end of shaft 36. The outer end of the shaft 36 is rectangular and is adapted to be engaged by a key member 37 for rotating the shaft.

From the above, it will be apparent that upon rotation of the shaft 36, the discs 5 and 6 will be rotated in opposite directions so that the two color fields may be quickly and readily changed, whereby one of the fields may be provided with a greater exposed surface than the other, or vice versa. The rack bars 27 and 31 are slidably mounted within a suitable guide frame 34 provided with U-shaped end parts 35 which slidably receive the rack bars.

It will be apparent from the foregoing that my improved stop signal will not only be effective in regulating traffic at cross roads, but will have an advantage in that that indicators 20 are visible at all times and the movement of the indicators can be watched by the

motorists so that when the indicators are on the red field and the motorists stop, they may readily ascertain just when the indicator is about to leave the stop field and enter the green or go field so that the motorists can make ready to proceed with the proper signal. Another feature is the fact that the red and green fields may be readily adjusted to different sizes where the regulation of the traffic should require a greater size green field on one side than on the side at right angles to the first side and the red fields will be so arranged that at a certain period during the rotation of the indicators, the indicators on all sides of the housing will be on the red field, thus creating a momentary pause in the traffic procession for the purpose set forth above.

While I have shown and described the preferred embodiment of my invention, it will be apparent that slight changes may be made in the construction when putting the invention into practice without departing from the spirit of the same or the scope of the appended claims.

I claim:

1. A signal of the character described, including a rotatable shaft, collars mounted upon said shaft and movable independent of the shaft, adjustable overlapping dials carried by said collars, an indicator carried by the shaft and movable over the dials, pinions carried by said collars and means cooperating with the pinions to independently adjust the dials.

2. A signal of the character described including a shaft, collars rotatably mounted thereon, adjustable overlapping dials carried by the collars, said dials being of different colors to provide stop and go fields respectively, pinions carried by the collars and movable racks adapted to engage said pinions for adjusting the dials to increase or decrease the stop and go fields and means for imparting movement to the racks.

In testimony that I claim the foregoing I have hereunto set my hand at Racine, in the county of Racine and State of Wisconsin.

VLADISLAV ALTMAN.