Feb. 16, 1932. A. E. WILSON 1,845,774

COUNTERBALANCED PAVEMENT TRAFFIC SIGNAL

Filed March 3, 1931 2 Sheets-Sheet 1

Fig. 1

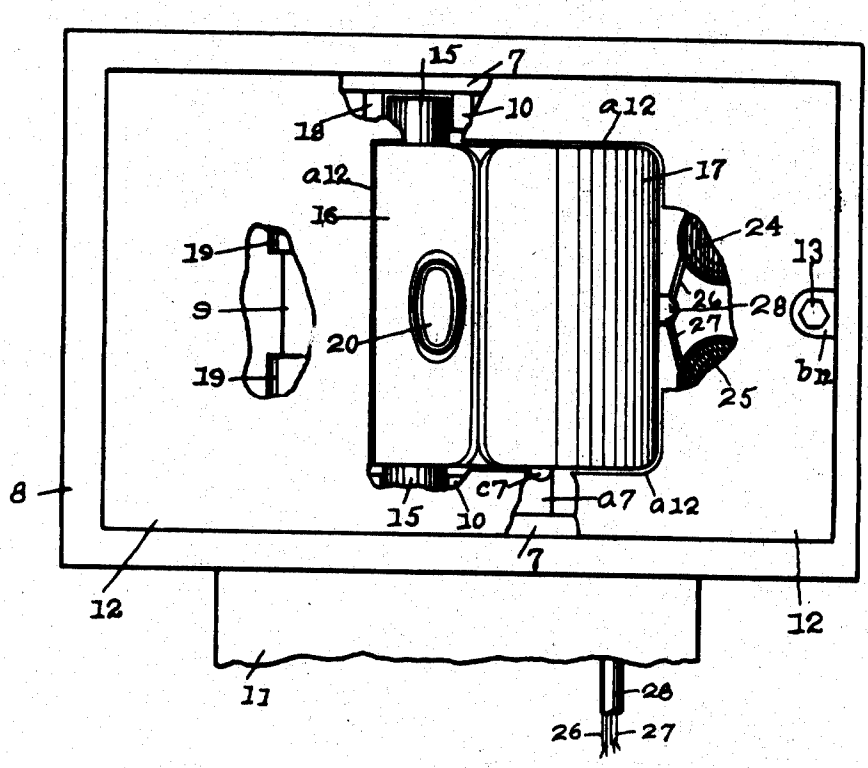
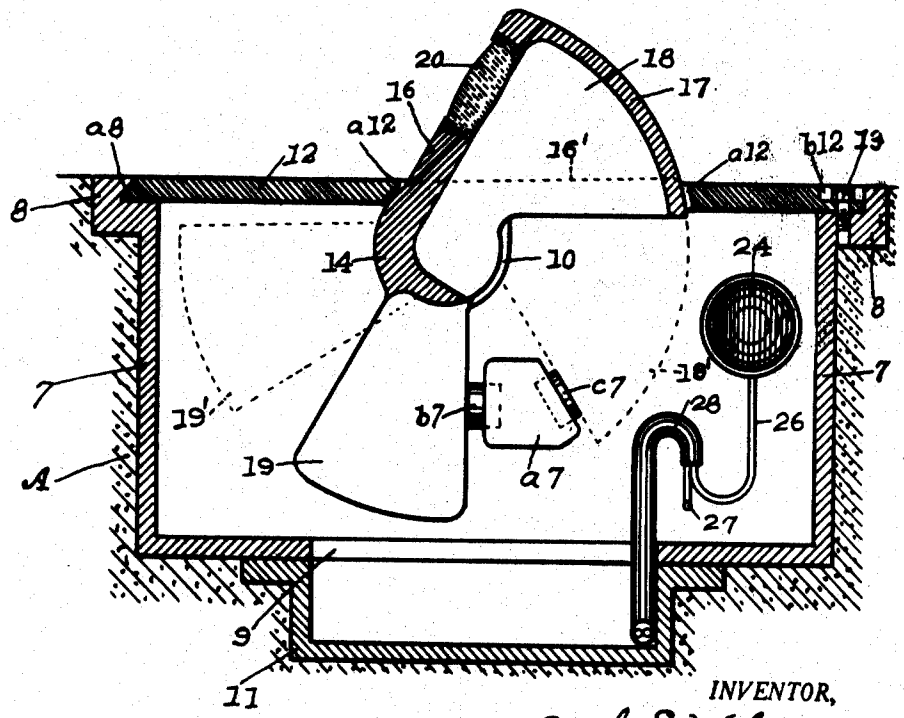



Fig. 2




INVENTOR,
Axel E. Wilson.
BY David E. Lain
ATTORNEY.

Feb. 16, 1932. A. E. WILSON 1,845,774

COUNTERBALANCED PAVEMENT TRAFFIC SIGNAL

Filed March 3, 1931 2 Sheets-Sheet 2

Fig. 3

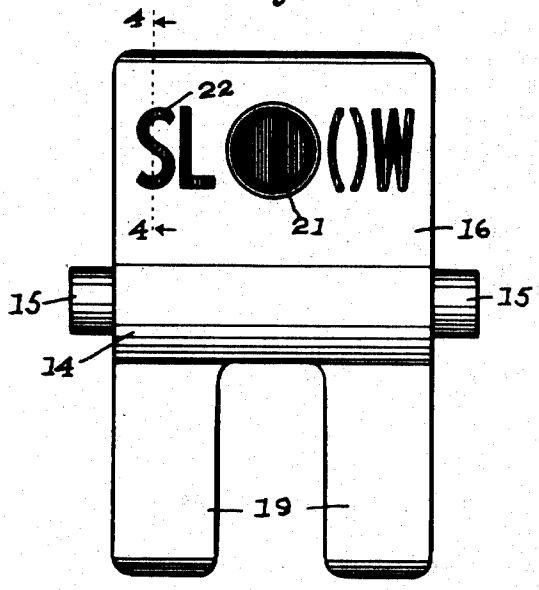



Fig. 4

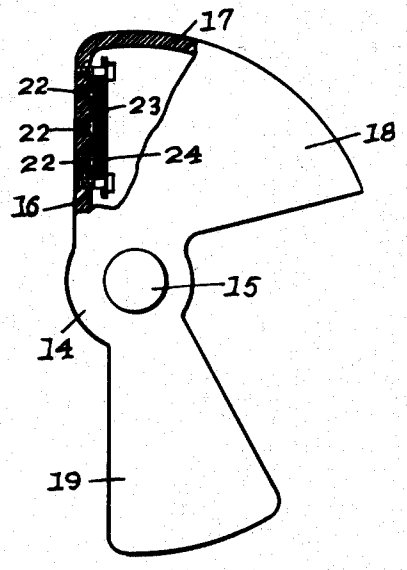



Fig. 5

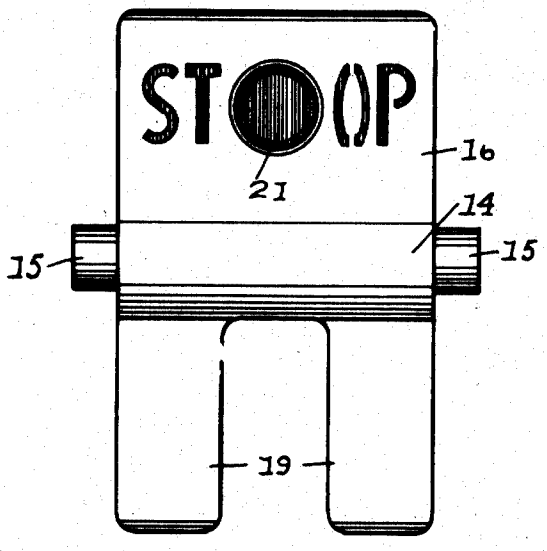
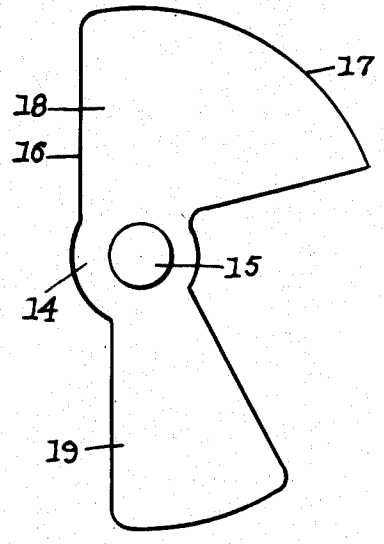



Fig. 6




INVENTOR,
Axel E. Wilson.
BY David E. Lain,
ATTORNEY.

Patented Feb. 16, 1932 1,845,774

# UNITED STATES PATENT OFFICE

AXEL E. WILSON, OF BELLINGHAM, WASHINGTON

## COUNTERBALANCED PAVEMENT TRAFFIC SIGNAL

Application filed March 3, 1931. Serial No. 519,879.

My invention relates to improvements in counterbalanced pavement traffic signals, and has for an object to provide a pavement signal block normally disposed above the pavement level, oscillative in a housing to the pavement level under pressure and returnable to its normal position above the pavement by the reaction of a counterbalance.

Another object of my improvement is to provide said counterbalanced signal block with legends and lenses of red glass to reflect daylight and head-light illumination.

Another object of my improvement is to provide said oscillative signal block with clear glass lenses made luminous by different colored electric lamps, controllable as desired, disposed within the said housing.

Other objects of my improvement will appear as the description proceeds.

I attain these and other objects of my improvement with the mechanism illustrated in the accompanying two sheets of drawings which form a part of this specification in which Figure 1 is a plan view of my counterbalanced pavement signal assembled for setting in a pavement, Fig. 2 is an elevation view of Fig. 1 in section on a medial vertical plane, Fig. 3 is a front elevation of a signal block segregated and arranged for one sort of signal, Fig. 4 is an end elevation of Fig. 3, Fig. 5 is a front elevation of a signal block segregated and arranged for another sort of signal, and Fig. 6 is an end elevation of Fig. 5.

Similar characters refer to similar parts throughout. Certain parts are broken away to show other parts hidden thereby.

With more particular reference to the designated parts: A signal block housing 7 consists of four sides and a bottom with an opening 9 therein and a flange 8 around its top edge settable in pavement A flush with the top surface thereof. The housing has upwardly open bearings 10, 10 in line on opposite sides thereof and near its upper edge on the interior. Opening 9 in the bottom of the housing is over and communicates with sewer connection 11 to carry away any water which may enter the housing.

Housing cover 12 fits snugly over housing 7 flush with the upper surface of flange 8 in a recess therein providing covers for open-top bearings 10, 10 and bearing on the upper edge of the housing wall. One end of the cover is beveled to engage beneath an overhanging edge *a*8 of the flange and in the other end of the cover preferably is countersink *b*12 having a hole in the bottom thereof to register with a tapped hole in the housing wall and flange into which is engaged screw 13 to secure the other end of the cover in place. A central rectangular opening *a*12 in cover 12 is occupied by the signal block which has gudgeons 15, 15 to mount the block in bearings 10, 10 disposed to cause smaller cylindrical sector 14 thereof to be adjacent the front edge of cover opening *a*12 and larger cylindrical section 17 thereof adjacent the rear edge of cover opening *a*12. The upper end of the signal block which may protrude through opening *a*12 has front wall 16 connecting smaller sector 14 with larger sector 17 and end walls 18, 18 to close the hollow upper end of said block except for the open bottom thereof. Said ends 18 are adjacent the end edges of opening *a*12. On the lower end of the block are counterweights 19 disposed entirely within the housing beneath cover 12.

Bosses *a*7, *a*7 are on the inner walls of the housing beneath bearings 10, 10 and have openings or recesses in the sides thereof in which are fastened rubber cushions *b*7 and *c*7; cushions *b*7 being so disposed that counterweights 19 bear thereon when the upper end of the block is in its highest position in oscillation in bearings 10 and prevent further oscillation upward, and cushions *c*7 being so disposed that the end walls 18 of the hollow upper end of the block bear thereon when at 18′ and stop further downward movement in oscillation of the upper end of the block. The completion of this movement brings the front wall 16 of the block substantially flush with the housing cover 12 at 16′ and counterweights 19 to 19′ close beneath said cover.

By construction, counterweights 19 are of sufficient weight and are disposed to retain the same against cushions *b*7 when no forces

other than gravity operate on the block. When forces other than gravity, a vehicle wheel, for instance, bears on the protruding end of the block to depress the same then the overbalance of the counterbalances is overcome and the block is caused to oscillate on gudgeons 15 in bearings 10 to its dotted line position in Fig. 2 till stopped by cushion *c*7, at which time front wall 16 of the block is flush with the housing cover, fills cover opening *a*12 and provides a level surface for the passing wheel. When said forces other than gravity cease to bear on the block, that is, when the wheel has passed the block, the counterbalances react and the block is returned to its full-line position shown in Figs. 1 and 2. Meanwhile, during the described positions of the block and its positions while passing therebetween it continues to fully occupy opening *a*12 in the cover 12 with only a small operative clearance therebetween.

In Figs. 1 and 2 clear glass lens 20 occupies an opening in block wall 16. Two electric lamp bulbs are mounted in suitable lamp sockets fastened to the interior walls of the housing with insulating material intervening, one of which is shown at 24 and the other at 25. Preferably lamp 24 is red and lamp 25 is green in color, and they are disposed to shine into the hollow part of the block between walls 16 and 17 thereof directly on lens 20 when said block is extended above housing cover 12 as shown in full lines in Figs. 1 and 2. Pair of electric wires 26 are connected with lamp 24 and pair of electric wires 27 are connected with lamp 25. These wires are extended through pipe 28 in sewer connection 11 to a two-way electric switch (not shown) which is supplied by electricity from a source thereof (not shown). By preference, said switch is automatically operable to alternately energize lamps 24 and 25 to cause clear glass lens 20 to alternately glow red and green, respectively. This arrangement of my signal is especially suited to be placed in the pavement at street intersections to automatically regulate traffic thereby.

In Figs. 3 and 4 is shown my signal block arranged more especially for placing in the pavement at the beginning of areas over which it is desired to order slower travel, as, for instance, in front of school buildings. Here red lens 21 is fastened in block wall 16. Also on said wall is made the legend "Slow". This legend may be painted on the block as usual. But I prefer the construction shown in partial section in Fig. 4 on the line 4—4 of Fig. 3. Here the letter "S" is the shape of an opening entirely through the wall 16 which is occupied by letter "S" at 22 embossed in red glass on red glass plate 23 which is retained in place against the inner side of wall 16 by plate 24 retained by screws extended through openings therein and engaged in tapped holes in said wall. Letters "L", "O" and "W" are similarly embossed in red glass on red glass plates and retained in openings in wall 16 shaped suitably therefor as shown in Fig. 3.

To use a block such as shown in Figs. 3 and 4 in my housing 7 said housing is provided in every way similar to that shown in Figs. 1 and 2 excepting that no lamps 24 and 25 nor pipe 28 and wires 26 and 27 therein need be used. Into said housing the slow-signal block is installed by mounting gudgeons 15 thereof in bearings 10 thereon, and securing cover 12 thereon. The red glass lens and letters of the block are made prominent by daylight and headlight reflections, and the block operates in the traffic in other ways similar to the block shown in Figs. 1 and 2 and above described in detail.

The signal block shown in Figs. 5 and 6 has red glass lens 21 therein and legend "Stop", preferably, in red glass letters installed as above described relative to the block shown in Figs. 3 and 4. This signal block is suitable to install in the pavement for a traffic signal at the intersection of a street with an arterial highway when the said block is properly mounted in my housing 7 as described above.

Thus it is apparent that my counterbalanced signal block is well suited to expose desired traffic signals on the pavement in a prominent manner without interfering with the most congested traffic.

Having thus disclosed my invention, what I claim as new therein and desire to secure by Letters Patent is,—

1. A pavement traffic signal device including a housing for installing in said pavement even with the surface thereof having upwardly-open bearings and stop bosses on opposite interior walls thereof, a cover securable to said housing even with the top thereof having an opening therethrough, a signal block having gudgeons thereon in line with each other on opposite edges of the block for mounting said block in said bearings for oscillation limited by said stop bosses said signal block having a hollow upper end open at the bottom extended through said cover opening adjacent the edges of the opening during oscillations from an erect position protruding above said cover to a recumbent position even with the cover, a counterweight on the lower end of the signal block within the housing reacting to return the block from said recumbent position to said erect position, transparent signal means in said block, electric lamps mounted in said housing disposed to illumine said signal means through said open bottom of the block, and drainage means connected with said housing.

2. A pavement traffic signal device including a housing for installing in the pavement even with the surface thereof, upwardly-open bearings on the side walls of said hous-

ing, a signal block having alined gudgeons on the ends thereof installed in said housing with said gudgeons mounted in said housing bearings for oscillation, a counterweight on said signal block installed within said housing tending to project said signal block above said housing, and a cover removably fastened on said housing having an opening therein through which said signal block is extended.

3. A pavement traffic signal device including a housing for installing in the pavement even with the surface thereof, upwardly-open bearings on the side walls of said housing alined with each other, a signal block having alined gudgeons on the ends thereof installed within said housing with said gudgeons mounted for oscillation in said bearings, a counterweight on said signal block installed within said housing tending to project said signal block above said housing, a cover removably fastened on said housing having an opening therein through which said signal block is being extended, and cushioned stops within said housing limiting the oscillations of said signal block and counterweight thereon.

4. A pavement traffic signal device including a housing for installing in the pavement even with the surface thereof, upwardly-open bearings on the side walls of the housing alined with each other, a signal block having alined gudgeons on the ends thereof installed within said housing with said gudgeons mounted in said bearings for oscillation, a counterweight on said signal block installed within said housing tending to project said signal block above said housing, cushioned stops in said housing disposed to limit said oscillations of said signal block, and a cover removably fastened on said housing disposed above and adjacent said gudgeons when in said bearings retaining said gudgeons in operative relation therewith having an opening therein through which said signal block is being extended.

5. A pavement traffic signal device including a housing for installing in the pavement even with the surface thereof, a pair of upwardly-open bearings on the side walls of said housing, a hollow signal block having a plane front wall adapted for signal means and an arcuate rear wall, gudgeons in the ends of said signal block concentric with said arcuate wall thereof mounted in said bearings for oscillation, a counterweight rigidly fastened on the lower part of said signal block disposed in said housing tending to project said signal block above said housing by oscillating on said gudgeons in said bearings, and a cover removably fastened over said housing having an opening therein through which said signal block is being extended.

AXEL E. WILSON.