June 9, 1942. K. W. MACKALL 2,285,734

ADJUSTABLE SUPPORTING BRACKET FOR TRAFFIC SIGNALS

Filed April 14, 1941 3 Sheets-Sheet 1

Fig. 1.

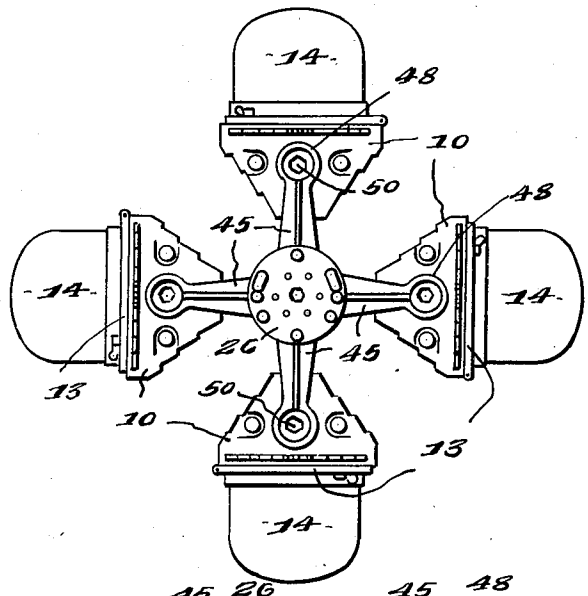
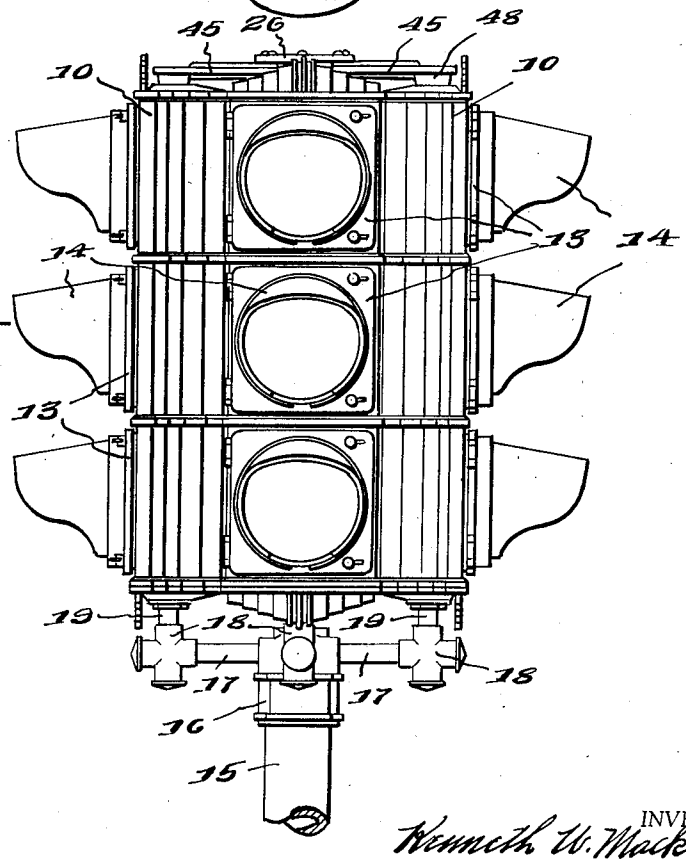



Fig. 2.




INVENTOR.
Kenneth W. Mackall.
BY Bodell & Thompson
ATTORNEYS.

June 9, 1942. K. W. MACKALL 2,285,734

ADJUSTABLE SUPPORTING BRACKET FOR TRAFFIC SIGNALS

Filed April 14, 1941 3 Sheets-Sheet 2

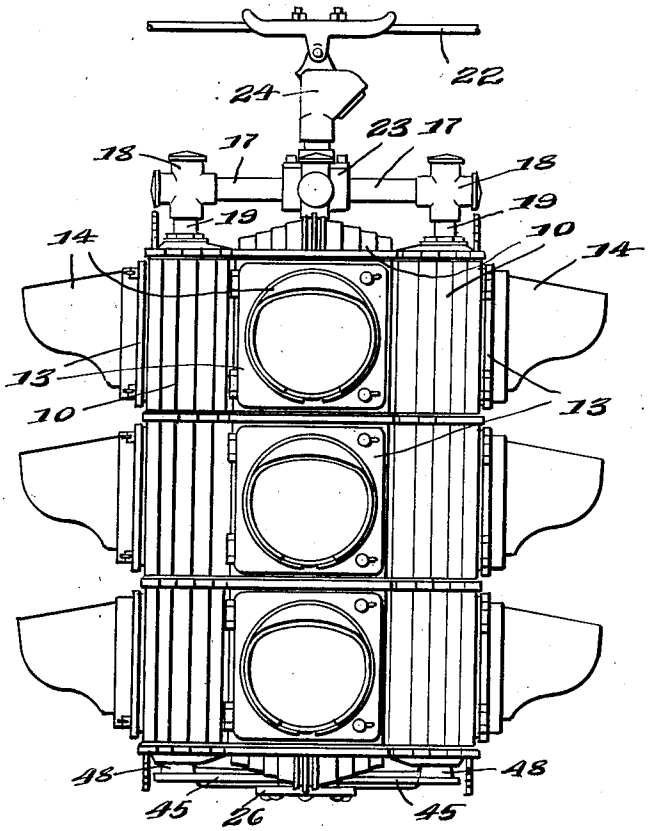



Fig-3

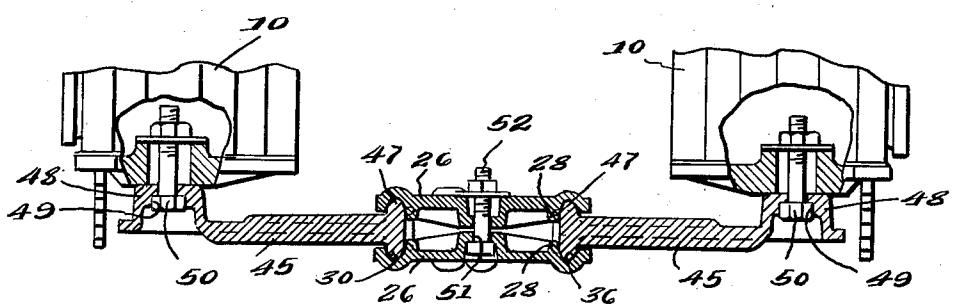



Fig-4

INVENTOR.
Kenneth W. Mackall.
BY Bodell & Thompson
ATTORNEYS.

June 9, 1942. K. W. MACKALL 2,285,734

ADJUSTABLE SUPPORTING BRACKET FOR TRAFFIC SIGNALS

Filed April 14, 1941 3 Sheets-Sheet 3

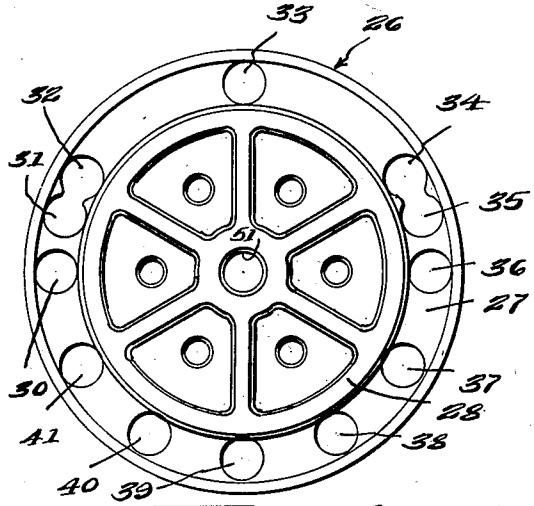



Fig-6-

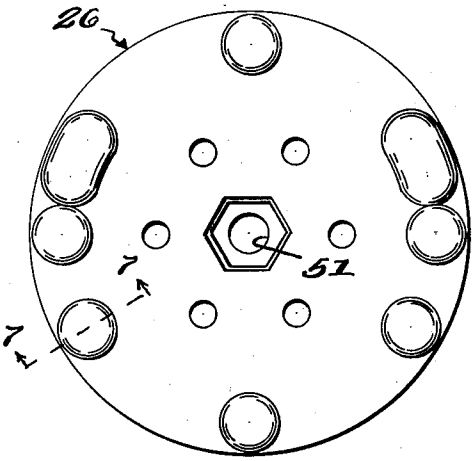



Fig-5-

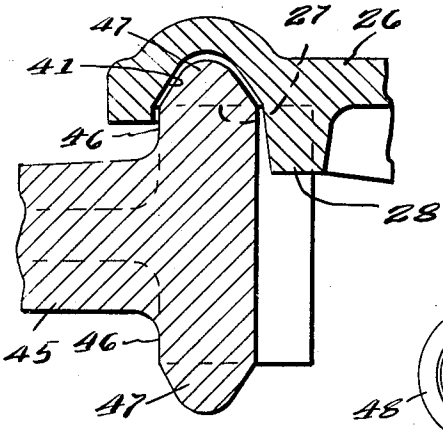



Fig-8-

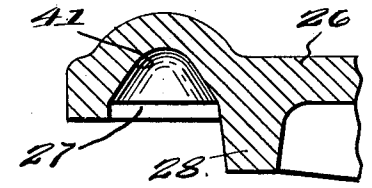



Fig-7-

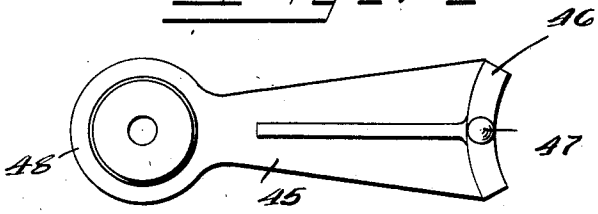



Fig-9-

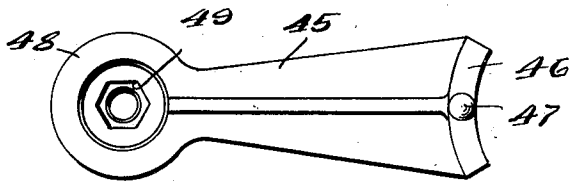



Fig-10-

INVENTOR.
Kenneth W. Mackall.
BY Bodell & Thompson
ATTORNEYS.

Patented June 9, 1942

2,285,734

# UNITED STATES PATENT OFFICE

2,285,734

## ADJUSTABLE SUPPORTING BRACKET FOR TRAFFIC SIGNALS

Kenneth W. Mackall, Cicero, N. Y., assignor to Crouse-Hinds Company, Syracuse, N. Y., a corporation of New York

Application April 14, 1941, Serial No. 388,380

4 Claims. (Cl. 177—329)

This invention relates to a bracket for a traffic signal unit having a plurality of signal casings.

At many road intersections, traffic signals are arranged in a unit consisting of two or more signal casings, each casing comprising two or more compartments, each compartment including a lamp, reflector, and colored lens operable to display the red and green signals for stop and go indication, and there may be additional compartments in each casing to display the amber or caution signal, and special signals for a pedestrian walk period, or right or left hand turn for vehicular traffic.

This type of signal unit installed at the ordinary two street intersection consists of four signal casings so arranged that the signal compartments face each approach to the intersection. Heretofore, it has been customary to arrange these signal casings in such a unit by securing the upper and lower ends of the casings to a spider member formed of pipe or tubing, and while it is necessary to employ the spider formed of pipe for either the upper or lower bracket of the signal in order to provide a duct or passageway for the wires leading to the respective casings, such construction is of relatively high cost and is unsatisfactory in that it is difficult to so thread the ends of the pipes or tubes making up the spider that all of the connections will tighten up with the necessary fittings faced in the proper direction and arranged in the desired spacing.

This invention has as an object an adjustable bracket consisting of a minimum number of parts which may be quickly and conveniently assembled to form a bracket for use at one end of the signal unit and thus doing away with one costly pipe bracket for each signal unit.

The invention has as a further object a bracket of the type referred to embodying a construction permitting the bracket to be assembled for signal units embodying two, three, four, five or six signal casings.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a top plan view of a signal unit consisting of four signal casings and illustrating the bracket of my invention.

Figure 2 is a side elevational view of the signal unit illustrated as mounted upon a supporting post.

Figure 3 is a view, similar to Figure 2, illustrating the signal unit suspended from a messenger cable.

Figure 4 is an enlarged sectional view of the adjustable bracket and contiguous portions of the signal casings.

Figure 5 is a top plan view of the central plate member of the bracket.

Figure 6 is a bottom plan view of the plate.

Figure 7 is an enlarged fragmentary sectional view taken on line 7—7, Figure 5.

Figure 8 is a view, similar to Figure 7, and including a fragmentary sectional view of the inner end of one of the bracket arms.

Figure 9 is a top plan view of the bracket arm.

Figure 10 is a bottom plan view of the bracket arm.

For purposes of illustration, I have shown what is commonly known as a four-way signal consisting of four signal casings **10**, each of which consists of three compartments, access being had to each compartment through a lens door **13** which also carries a suitable visor **14**.

In Figures 1 and 2, the signal unit is assembled for mounting upon a suitable supporting post **15**. In this instance, the lower bracket is of conventional pipe construction including a slip fitting **16** adapted to be mounted upon the upper end of the post **15** and being formed with four threaded apertures to receive the radially extending pipe nipples **17**, to the end of each is secured a fitting **18** which is connected to the bottom of the signal casings respectively by vertically extending nipples **19**. With this type of installation, the conductors for energizing the various signal lamps in the unit extend through the hollow post **15** and through the pipe nipples **17**, **19**, to the signal casings **10**.

In Figures 3 and 4, the signal unit is arranged to be suspended from a messenger cable **22**. In this instance, the pipe bracket is secured to the upper ends of the casings **10**, a four-way fitting **23** constituting the central member of the fitting in place of the slip fitting **16**, and the fitting **23** is connected to an entrance fitting **24** through which the electrical conductors extend for the operation of the signal.

It will be understood that the signal units in Figures 2 and 3 would formerly include a pipe bracket at both ends. That is, in the post mounted unit of Figures 1 and 2, a similar pipe bracket would be arranged on the top of the unit, and

in Figure 3 a pipe bracket arranged on the bottom of the unit.

As previously stated, this invention has to do with an adjustable bracket to be used in place of the pipe bracket above alluded to. This adjustable bracket consists of a pair of plates 26 here shown as of circular formation. The confronting sides of the plates 26 are formed adjacent the periphery thereof with an annular channel 27 and an annular flange 28. A plurality of circumferentially spaced apart depressions or recesses 30 to 41 are arranged in the channel 27.

This bracket further includes a plurality of arms 45 extending radially from the plates 26, and to the outer ends of which the signal casings 10 are detachably secured. The inner ends of said arms are arranged between the plates 26 and formed with arcuate ribs 46 arranged to be positioned in the annular groove 27 of each plate. A projection 47 is positioned centrally on each arcuate surface 46, the projections 47 being arranged in selected ones of the recesses 30 to 41. The outer ends of the arms are formed with a circular portion 48 recessed on the under side as at 49 to receive the head of a bolt 50 extending through the bottom wall of the signal casing 10 and which serves to detachably secure the signal casings to the respective arms. The plates 26 are formed with a central aperture 51 to receive a bolt 52 extending through the plates and being operable to secure the same together and to clamp the inner ends of the arms 45. It will be apparent that the arms 45 are adjustable circumferentially of the plates 26 and that the projections 47 may be positioned in any selected ones of the recesses 30 to 41.

The recesses 30 to 41 are arranged to conveniently effect the proper spacing of the arms 45 for various signal units employing different numbers of casings. For example, in a four-way signal employing four signal casings 10, the arms 45 will be arranged with the projections 47 thereof arranged respectively in the recesses 30, 33, 36 and 39. In a five-way signal, the recesses 31, 33, 35, 38 and 40 are used, these recesses being spaced apart 72°.

This bracket construction not only greatly simplifies the assembly of the signal units and effects a material saving in time, but adds materially to the attractiveness of the signal unit.

What I claim is:

1. An adjustable bracket for a traffic signal unit having a plurality of signal casings, a pair of plates, a plurality of arms extending radially of said plates, the inner end of said arms being arranged between the confronting sides of said plates and being adjustable circumferentially thereof, a single means operable to clamp said plates into engagement with said arms, and means for detachably securing the outer end of each arm to a traffic signal casing.

2. An adjustable bracket for a traffic signal unit having a plurality of signal casings, a pair of plates, a plurality of arms extending radially from said plates, the inner end of said arms being arranged between the confronting sides of said plates, said plates and said arms being provided with means cooperable to maintain said arms in a predetermined spaced apart relation, a single means operable to clamp said plates into engagement with said arms, and means for detachably securing the outer end of each arm to a traffic signal casing.

3. An adjustable bracket for a traffic signal unit having a plurality of signal casings, a pair of plates arranged in axial alinement, the confronting side of each of said plates being formed with a plurality of circumferentially spaced apart recesses, a plurality of arms extending radially of said plates, the inner end of each arm being arranged between the confronting sides of said plates and being formed with projections complemental to the recesses in said plates, means arranged in the central portion of said plates and operable to clamp said plates into engagement with said arms, all whereby said arms extend radially from the plates and in a predetermined circumferentially spaced apart relation, and means for detachably securing the outer end of each arm to a traffic signal casing.

4. An adjustable bracket for a traffic signal unit having a plurality of signal casings, a pair of circular plates arranged in axial alinement, the confronting sides of each of said plates being formed adjacent the periphery thereof with a circular groove and a plurality of circumferentially spaced apart recesses in said groove, a plurality of arms extending radially from said plates, the inner end of each arm being formed with an arcuate rib arranged in the circular groove of each plate and with projections complemental to said recesses, and a single clamping means arranged centrally of said plates and operable to clamp the plates into engagement with the inner ends of said arms, whereby said arms extend radially from the plates and are adjustable circumferentially thereof, and means for detachably securing the outer end of each arm to a traffic signal casing.

KENNETH W. MACKALL.