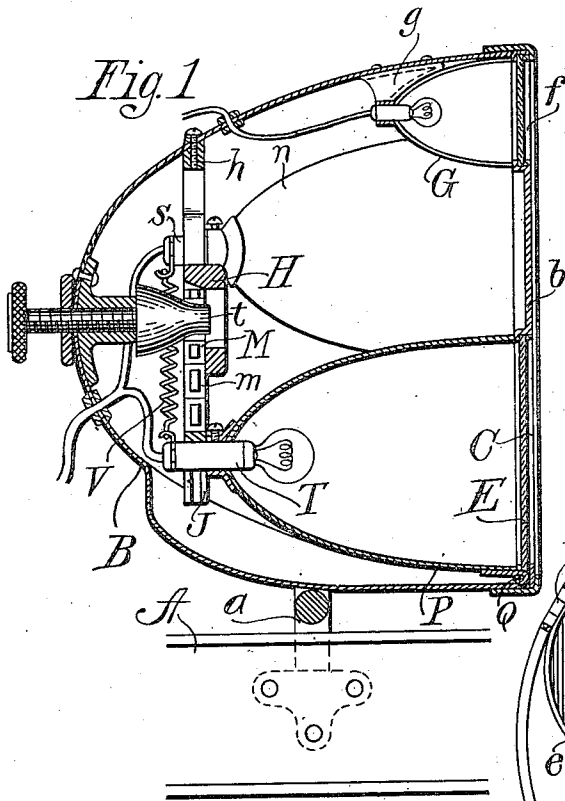
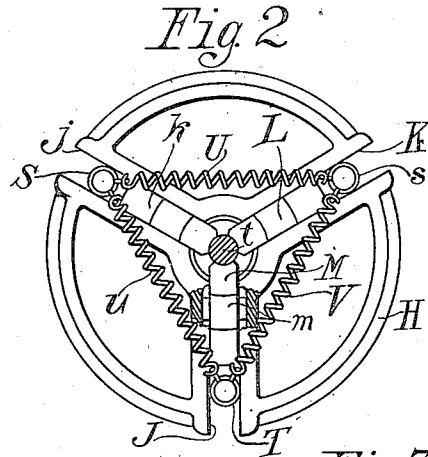
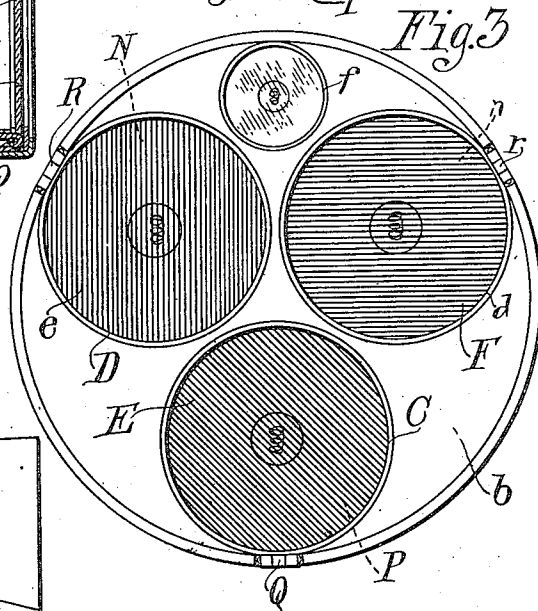
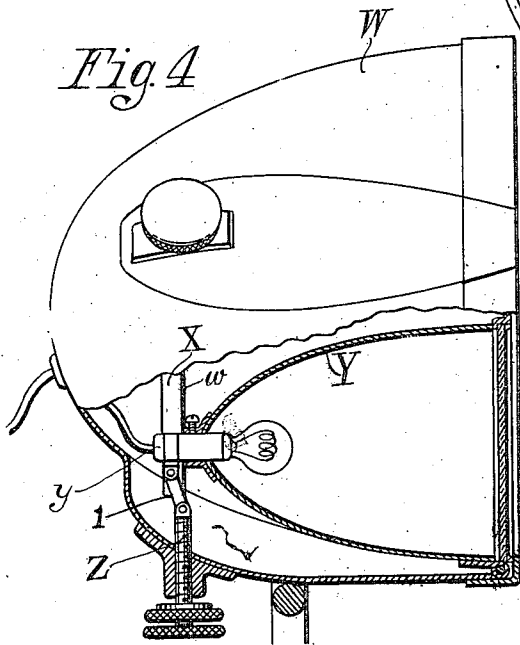


J. H. COLEMAN & W. W. DUNNELL, JR.
COMPOSITION LIGHT LAMP.
APPLICATION FILED AUG. 13, 1917.

1,266,554.

Patented May 21, 1918.



Inventors
James H. Coleman,
William W. Dunnell, jr.
By J. B. Crall & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES H. COLEMAN AND WILLIAM W. DUNNELL, JR., OF COLORADO SPRINGS, COLORADO.

COMPOSITION-LIGHT LAMP.

1,266,554.

Specification of Letters Patent.

Patented May 21, 1918.

Application filed August 13, 1917. Serial No. 185,985.

To all whom it may concern:

Be it known that we, JAMES H. COLEMAN and WILLIAM W. DUNNELL, JR., citizens of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Composition-Light Lamps, of which the following is a specification.

10 This invention relates to composition light lamps. More particularly, it belongs to the class of headlights for locomotives, automobiles and the like which lights are especially designed for the purpose of adequately illuminating the roadway in advance of the moving vehicle, by a projected beam of light which will not strike the eyes of persons ahead as a blinding glare. Excessively strong headlights, it is now commonly admitted, are always unpleasant, and frequently confusing to any one in the way of an approaching machine, while disastrous consequences have often been attributed to the effect of automobile headlights throwing streams of intensely brilliant light before them.

The object of this invention comprises means for supporting and adjusting three reflectors, containing electric incandescent lamps or other light-giving burners, and means for holding in the paths of the light, transparent plates, each plate being of one of the complementary colors of white light, whereby red, blue and green rays are brought together at a predetermined point ahead of the vehicle thus throwing a white light upon the part of the road directly illuminated, while the light presented to a person looking toward the reflectors is not over brilliant at any point of observation, and, in most positions any one in the roadway will see a light of relatively moderate intensity and more or less tinged with color in appearance.

45 The stated object is accomplished it is believed most economically and satisfactorily by using the construction and arrangement of parts set forth in the accompanying drawings, of which Figure 1 represents a side view showing the supporting casing in vertical section, and showing two of the three reflectors in place, one of them being illustrated in vertical section. The adjusting devices are also drawn partly in section. Fig. 2 shows a rear view of the multiple plunger guide, with the end of the

plunger-operating screw in section between the plungers, and showing also the coil springs for moving the rearward projections or lamp sockets on the reflectors inwardly toward each other upon the withdrawal of the plunger-spreading screw. Fig. 3 is a front view of the supporting casing showing the door for closing the casing and the colored plates carried by the door in the paths of the light from the reflectors. In Fig. 3 there are also illustrated the pivotal junctions of the forward ends of the reflectors and the front of the supporting casing, and the positions of the reflectors are indicated in this view. Fig. 4 is a side view of a supporting casing such as shown in Fig. 1, setting out modified means for adjusting the rear portions of the reflectors toward and from each other.

Throughout the description and drawings the same letter is employed to refer to the same part.

Considering the drawings, the frame A of an automobile, is provided with the usual lamp bracket *a* upon which is supported a casing B given ordinarily the shape of a headlight. The front of the supporting casing is closed by a door *b*. The door is pierced by three circular openings C, D, and *d*, and the openings are glazed with the transparent plates E, *e*, and F, supported in the openings. The door *b* has also an upper and smaller glazed opening *f*, the glass being plain and without color, in order that the light of the lamp G carried by the support *g* attached to the casing B may be transmitted directly forward. The upper lamp G is relatively a small lamp and gives a light of medium intensity for use when the automobile is being driven through the streets of a city, or is standing at rest.

As best shown in Figs. 1 and 2, the rear portion of the interior of the supporting casing B is spanned by a spider of metal which may be termed a multiple plunger guide and is referred to by the letter H. The guide is secured to the casing by screws *h*. The legs of the guide are provided with radiating guiding slots J, *j*, K, within which operate the plungers *k*, L, and M. Each plunger may be made of sections or blocks, such as the blocks *m* of the plunger M, for the purpose of enabling the plungers to be conveniently and quickly placed in positions in the guiding slots when the parts are assembled. It is not intended, however, to

limit this invention to any particular shape or size of plunger, or of any other element herein shown and described, as either may obviously be more or less changed in form.

5 Within the casing are arranged, usually with their axes at equidistant points, three reflectors N, *n*, and P, the lowest being given the letter P in the drawings. As best shown in Fig. 3, the hinges Q, R and *r*, pivotally
10 connect the front openings or mouths of the reflectors with the forward end of the supporting casing B. That pivotal construction is to enable the rear portion of each reflector as hereinafter explained to be
15 moved out or in with respect to its axis or to the axis of the supporting casing B, in order that the light from the reflectors may be caused to fall upon the same area at a distance ahead. Each reflector is provided
20 with a projecting portion at the rear. Thus, the reflector N has the lamp socket S extending backward from it. In the same manner the reflectors *n* and P have the projecting lamp sockets *s* and T. It will be observed
25 in Fig. 2 and Fig. 1 that the rearwardly projecting lamp sockets occupy and project through the radiating guiding slots in the multiple plunger guide H.

As best set forth in Fig. 2, the inner ends
30 of the three plungers are brought closely together in the guide H, and the tapering end of a screw *t* is inserted between them. The screw *t* passes to the outside of the casing B through a threaded opening in the
35 rear of the casing. It is believed to be clear that when the screw *t* is advanced toward the front of the casing B, the tapering end of the screw will force the three plungers outwardly, and, when the screw is with-
40 drawn the coil springs U, *u*, and V will draw the lamp sockets, that is to say the rear ends of the reflectors, inwardly toward each other. By the devices described the reflectors may be adjusted in various direc-
45 tions inclined to their axes and to the axis of the supporting casing.

It is not intended to limit the means for adjusting the reflectors to that shown and above-described. In the modification illus-
50 trated in Fig. 4, the supporting casing W is like the casing B mentioned. The multiple plunger guide *w* is similar to the guide H, and has like radiating guiding slots X. The reflector Y in the casing W has the rear-
55 wardly-projecting portion or lamp socket *y* extending through the slot X in the guide *w*. A screw Z having a universal joint 1 with the lamp socket *y*, and passing to the out-
side of the casing W through the threaded
60 support 2, enables the rear of the reflector Y to be adjusted out or in with regard to the axis of the casing as before explained. It will be understood that the parts just described and operating to adjust the reflector
65 Y, are duplicated and applied to each of the

other reflectors, in order that each reflector within the casing may be moved independ-
ently of the others.

The operation of this invention, both of the preferred form and the modification
70 thereof, is believed to be readily discernible from the description and drawings constituting this application for patent. The plates E, *e*, and F, are colored respectively red, blue and green. The reflectors being
75 adjusted as desired, the light transmitted through the colored plates will compose a white light upon the object or portion of the roadway where all three colors fall to-
80 gether. To the eyes of any person in the roadway the composite light is not of such blinding intensity as is the directly projected white light customarily employed. It is understood that certain authorities give
85 as "primary colors" those shown by a solar beam passing through a prism—red, orange, yellow, green, blue, indigo, and violet, and reflectors combined in accordance with this invention could be constructed to project
90 light through plates embodying all those colors but, for practical purposes, the three plates colored respectively red, green and blue, or violet-blue, are found to be entirely
satisfactory.

Having now described this invention, and
95 explained the mode of its operation, what we claim is:—

1. In a composition light lamp, the combination with a supporting casing, of a plu-
100 rality of adjustable reflectors supported upon the casing, means for adjusting the said reflectors in inclined directions with respect to their axes, transparent colored plates comprising the complementary colors
105 of white light, means for supporting the said plates before the said reflectors, and lamps arranged within the said reflectors.

2. In a composition light lamp, the combination with a supporting casing, of a plu-
110 rality of adjustable reflectors supported within the said casing, means for adjusting the said reflectors in inclined directions with respect to their axes, lamps arranged within the said reflectors, a door for closing the
115 front of the said casing, the said door having a plurality of openings arranged in the paths of the light from the said reflectors, and transparent colored plates arranged in the said openings of the said door, the said colors of the plates comprising the comple-
120 mentary colors of white light.

3. In a composition light lamp, the combination with a support, of three reflectors
125 arranged upon the said support, means for adjusting each reflector in directions inclined to the axis thereof whereby the light from the three reflectors may be directed upon the same spot, lamps arranged within the said reflectors, three colored plates each
130 plate being of one of the complementary col-

ors of white light, and means for supporting the said plates in the paths of the light from the said reflectors.

4. In a composition light lamp, the combination with a supporting casing, of reflectors arranged within the casing, each reflector having its front edge pivotally connected with the said casing, each reflector having a member projecting from the rear thereof, a multiple plunger guide arranged within the said supporting casing, the said guide having radiating guiding slots for the plungers, the said rearwardly-projecting members on the reflectors passing through the said guiding slots, plungers operating in the said guiding slots and arranged in contact with the members projecting from the reflectors, means for forcing the plungers outwardly whereby the said projecting members are moved from each other, and springs connecting the said projecting members whereby they may be moved toward each other thereby adjusting the reflectors in directions inclined to their axes.

5. In a composition light lamp, the combination with a supporting casing, of reflectors arranged within the casing, each re-

flector having its front edge pivotally connected with the said casing, transparent colored plates each plate being one of the complementary colors of white light, means for supporting the said plates in the paths of the light from the said reflectors, each reflector having a member projecting from the rear thereof, a multiple plunger guide arranged within the said supporting casing, the said guide having radiating guiding slots for the plungers, the said rearwardly-projecting members on the reflectors passing through the said guiding slots, plungers operating in the said slots and arranged in contact with the said members projecting from the reflectors, means for forcing the plungers outwardly whereby the said projecting members are moved from each other, and springs connecting the said projecting members whereby they may be moved toward each other thereby adjusting the reflectors in directions inclined to their axes.

In testimony whereof we affix our signatures.

JAMES H. COLEMAN.
WILLIAM W. DUNNELL, JR.