

O. FREYTAG.
CIRCUIT INTERRUPTER FOR TRAFFIC SIGNALS.
APPLICATION FILED MAY 11, 1917.

1,305,649.

Patented June 3, 1919.

2 SHEETS—SHEET 1.

Fig. 2.

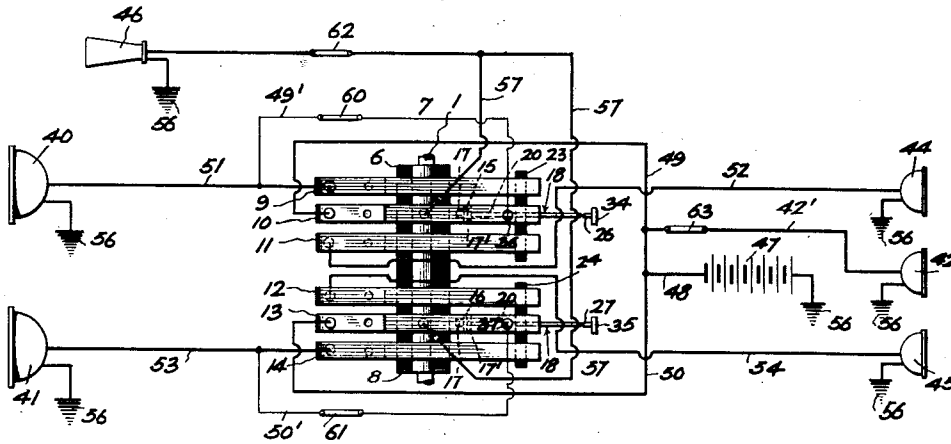


Fig. 3.

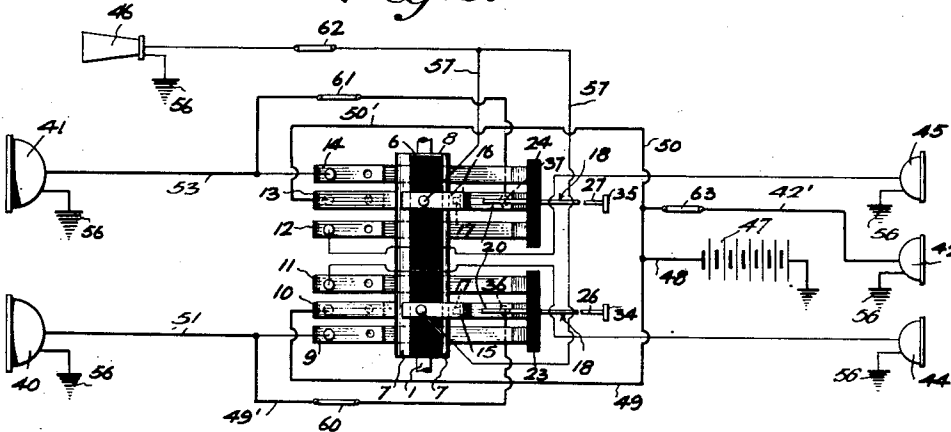


Fig. 7.

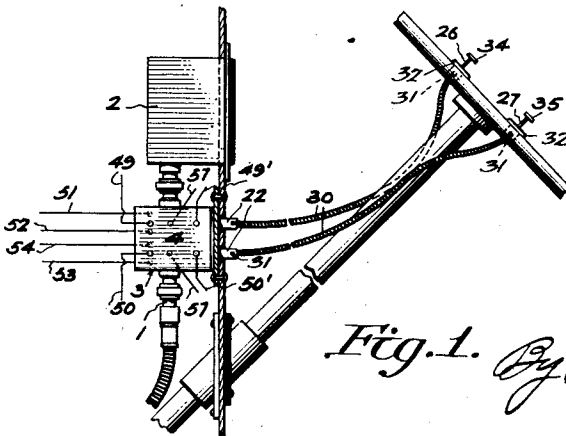
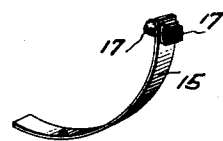


Fig. 1.

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2 SHEETS—SHEET 2.

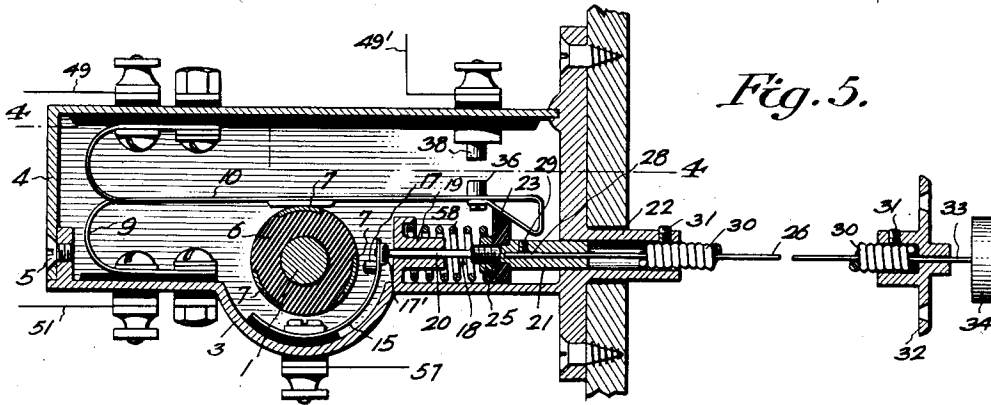


Fig. 5.

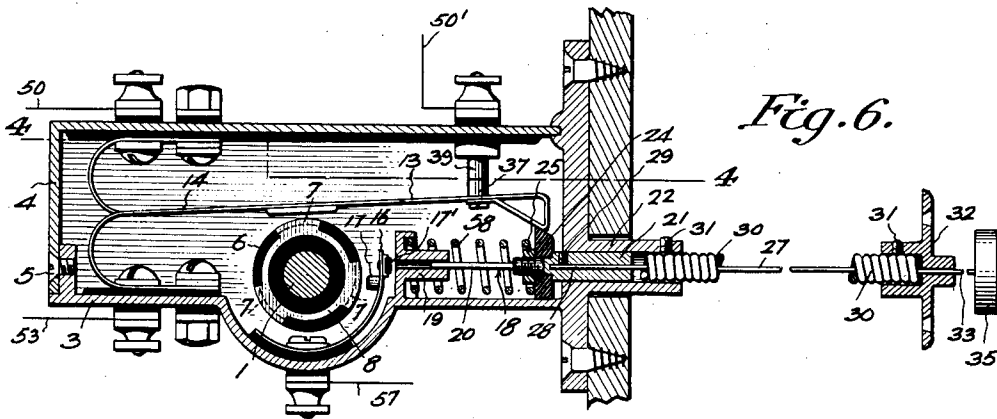


Fig. 6.

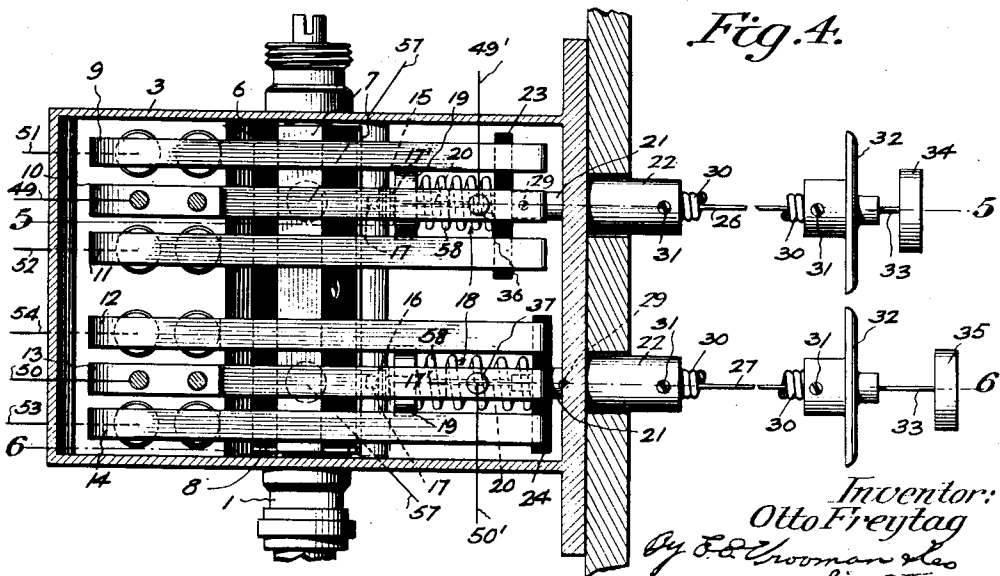


Fig. 4.

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UNITED STATES PATENT OFFICE.

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CIRCUIT-INTERRUPTER FOR TRAFFIC-SIGNALS.

1,305,649.

Specification of Letters Patent.

Patented June 3, 1919.

Application filed May 11, 1917. Serial No. 168,038.

To all whom it may concern:

Be it known that I, OTTO FREYTAG, citizen of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented certain new and useful Improvements in Circuit-Interrupters for Traffic-Signals, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to traffic and warning signals for motor vehicles, and has for its object the provision of a mechanical driven device for the purpose of making and breaking the electrical circuit at short intervals for use in connection with the different warning signals.

With this and other objects in view, my invention consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings:

Figure 1 is a general view of my device, showing an arrangement for its operation through the speedometer shaft.

Fig. 2 is a diagrammatic top plan view of the mechanism, and electrical circuits, both sides of the device being set for the intermittent signaling operation.

Fig. 3 is a diagrammatic bottom plan view, both sides of the device being set for continuous front lighting.

Fig. 4 is a sectional top plan view on lines 4-4 of Figs. 5 and 6, one side being arranged for intermittent signaling, the other for continuous lighting.

Fig. 5 is a sectional view taken on the line 5-5 of Fig. 4, the mechanism being set for intermittent signaling.

Fig. 6 is a sectional view taken on line 6-6 of Fig. 4, showing the mechanism set for continuous lighting.

Fig. 7 is a detail perspective view of the contact spring for the signaling horn.

Referring to the drawings by numerals, 1 designates the speedometer shaft, which is connected to the speedometer, diagrammatically shown at 2. The mechanism of my device is inclosed in a suitable casing 3 provided with a cover 4, attached as shown, and held by screw 5.

Upon the shaft 1 is mounted a rotor 6, of insulating material, provided with a plurality of suitable strips or bars 7, connected at their ends, as shown at 8, Figs. 4 and 6. The rotor 6, is, as will be understood, constantly

in rotation, through the medium of shaft 1. Disposed above the rotor 6, there are, in this embodiment of my invention, six metallic strips 9, 10, 11, 12, 13 and 14, through which the electrical circuit is made to the lights and signaling horn. The strips 10 and 13 are attached to the cover of the mechanism and the strips 9, 11, 12 and 14 are attached to the base of the same, and suitably insulated. All strips have a springing action toward the rotor. Mounted below the rotor and directly underneath the strips 10 and 13 are contact springs 15 and 16, designed to electrically connect the circuit with the signaling horn, said springs being provided with contact points 17 and insulating abutments 17', to receive the thrust of the control mechanisms, indicated generally at 18. Mounted upon the casing 3 are guide lugs 19, through which slide rods 20, designed to cause the springs 15 and 16 to make contact, at the proper moment, with the rotor, to operate the signaling horn. These rods 20 are rigidly attached to parts 21, which are also held in guides 22 of the casing 3. Mounted upon the reduced ends of parts 21, are cams of insulating material 23 and 24, designed to raise or lower the strips 9, 10, 11, 12, 13 and 14; the said cams being held by nuts 25 as shown. The control of cams 23 and 24, as well as rods 20, is made through wires 26 and 27, their ends 28 being held by a screw 29 in the parts 21 and being suitably guided by wire coils shown at 30; these coils 30 are held by screws 31 in the guides 22, as well as in sockets 32, which sockets are mounted on the steering wheels. At the ends 33 the wires 26 and 27 are provided with push-buttons 34 and 35 for operating the said mechanisms. On the upper sides of the strips 10 and 13 are mounted contacts 36 and 37, which make connection with similar contacts 38 and 39 mounted on the cover 4.

The usual front lights 40 and 41, as well as the usual tail light 42, are provided, and two additional signaling tail lights 44 and 45. The signaling horn is shown at 46.

Referring to the drawings in general and to Figs. 2 and 3 in particular, the operation of my invention is as follows:

For convenience of illustration, Fig. 2 shows the invention set for signaling by means of the front lights 40 and 41 and tail lights 44 and 45, both buttons 26 and 27 having been pushed by the operator. In this instance, the current starting from bat-

tery 47, travels through circuits 48, 49 and 50 to strips 10 and 13, through bars 7 of the rotor, through strip 9, and connection 51 to headlight 40; through strip 11 and connection 52 to tail light 44; through strip 14 and connection 53 to headlight 41; through strip 12 and connection 54 to tail light 45. The battery, lights and horn are grounded at 56. The usual tail light receives its circuit through connection 42'. When the operator further pushes the buttons 26 and 27 and the part 20 thrusts the contacts of the springs 15 and 16 into contact with the rotor bars 7, the horn 46 is operated, the current passing from battery 47, connections 48, 49 and 50, strips 10 and 13, bars 7, their connections 8, springs 15 and 16 and connections 57 to horn 46.

In Fig. 3, the lights 40 and 41 and the usual tail light only, are operating in the ordinary manner to give a continuous light. The horn 46 and signaling tail lights 44 and 45 are not in operation. Strips 9, 10, 11, 12, 13 and 14 are raised through the action of springs 58, abutting lugs 19 and cams 23 and 24, said springs acting to press the cams into contact with the strips (see Fig. 6), thereby interrupting their circuit with the rotor.

It will be understood that either side of the mechanism may be operated separately by making the suitable contacts, by means of pressure on buttons 34 and 35, according as the operator wishes to signal on the right or left side. Suitable switches are provided at points 60, 61, 62 and 63. Switches 60 and 61 make or break the circuit of the lights 40 and 41 respectively; switch 62 controls the circuit through the horn, and 63,

that of the tail light 42. When, as in Fig. 3, the headlights are in continuous circuit, the current starting from battery 47 traverses connections 48, 49 and 50, strips 10 and 13, contacts 36, 37, 38 and 39, connections 49' and 50', connections 51 and 53 to the headlights 40 and 41.

What I claim is:

A switch mechanism for a signaling device comprising a support, a rotor carried by said support, a primary spring fastened near one end of said support and extending across said rotor, an auxiliary spring fastened near one end and secured contiguous to said rotor and under said primary spring, guide means on said support and contiguous to said auxiliary spring, cam means slidably mounted upon said support and normally engaging said primary spring, a plunger extending through said cam means and positioned in said guide means, said plunger adapted to engage and force said auxiliary spring into contact with said rotor, said cam means permitting the primary spring to engage said rotor when said plunger is holding said auxiliary spring in contact with the rotor, a spring surrounding said plunger and engaging said guide means and said cam means and normally allowing said primary spring to be out of engagement with said rotor, said rotor provided with insulated metallic portions, and said metallic portions being electrically connected at their ends, whereby an interrupted current is permitted to flow through the primary and auxiliary springs when the plunger and cam means are in their innermost position upon the support.

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