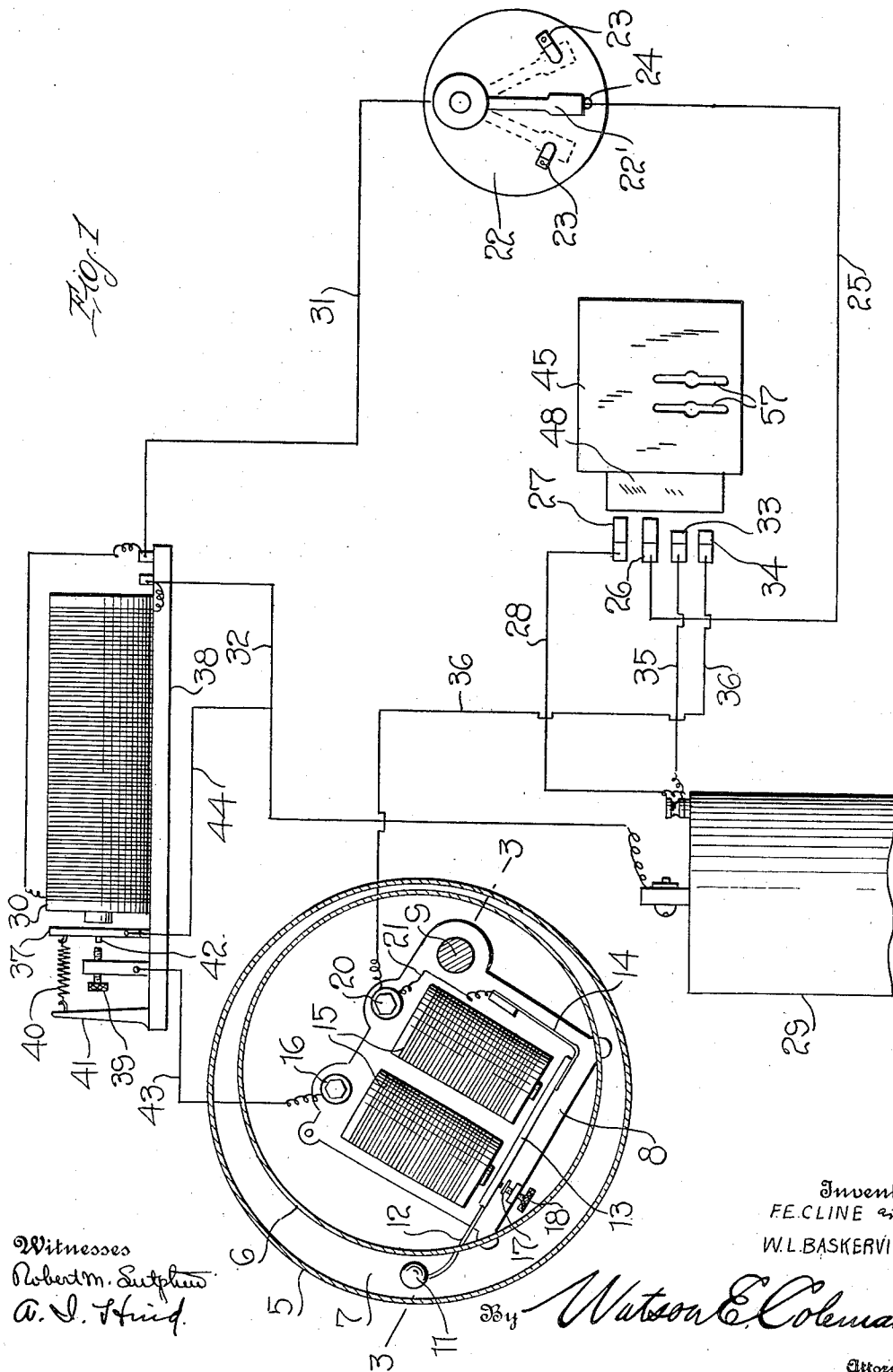


F. E. CLINE & W. L. BASKERVILLE.
ALARM DEVICE FOR MOTOR VEHICLES.
APPLICATION FILED NOV. 17, 1913.

1,131,824.

Patented Mar. 16, 1915.

2 SHEETS-SHEET 1.



Witnesses
Robert M. Sutphen
A. J. Fried

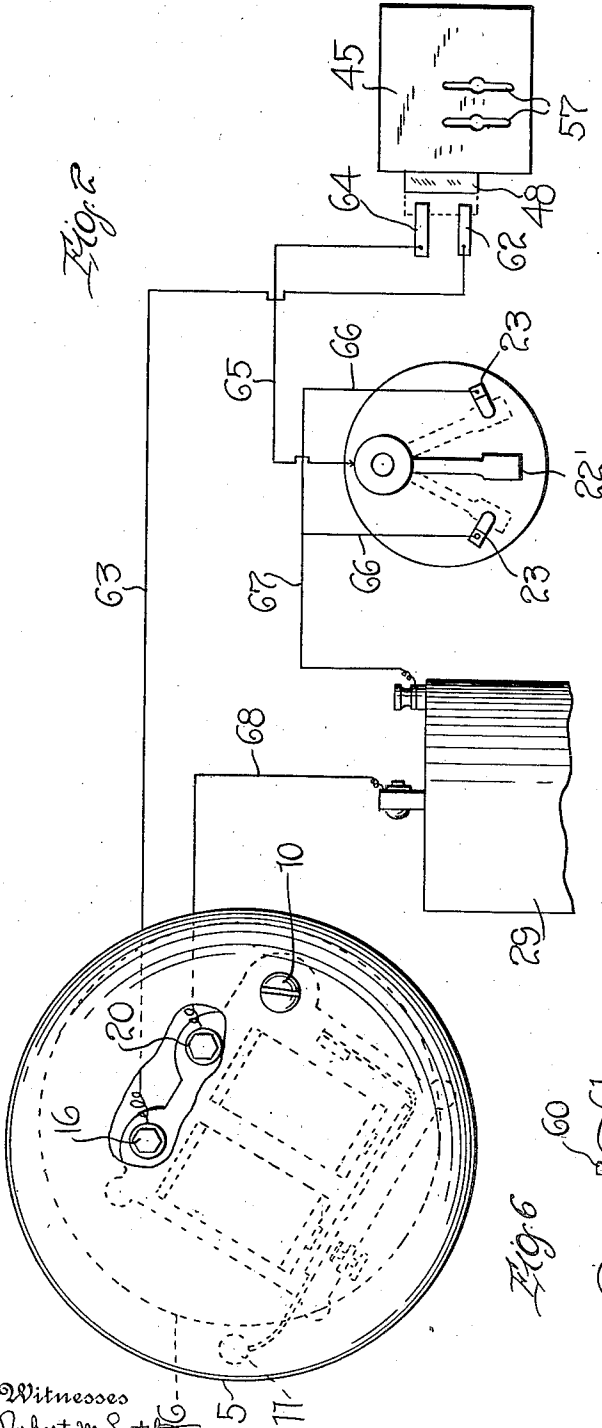
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Witnesses
Robert M. Outlines.
A. V. T. H. 4.

Fig. 4

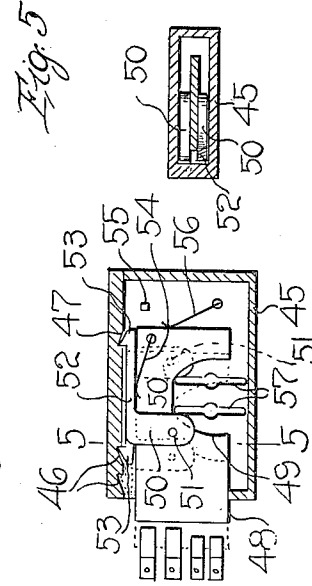
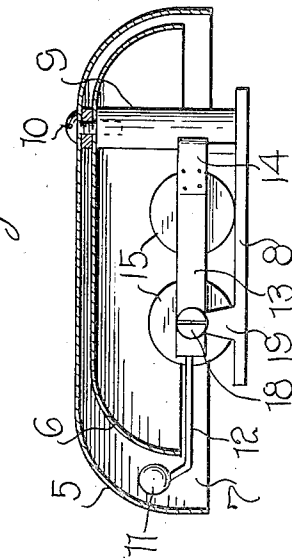
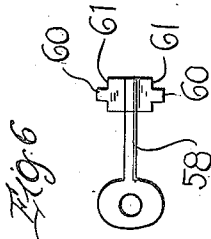


Fig. 6

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UNITED STATES PATENT OFFICE.

FRED E. CLINE AND WILLIAM L. BASKERVILLE, OF SAN DIEGO, CALIFORNIA.

ALARM DEVICE FOR MOTOR-VEHICLES.

1,131,824.

Specification of Letters Patent.

Patented Mar. 16, 1915.

Application filed November 17, 1913. Serial No. 801,480.

To all whom it may concern:

Be it known that we, FRED E. CLINE and WILLIAM L. BASKERVILLE, citizens of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Alarm Devices for Motor-Vehicles, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved alarm device for motor vehicles and has for its primary object to provide simple and efficient means for sounding an alarm when an attempt is made to start the engine of the vehicle with the intention of stealing or making use of the same without the authority of the owner.

Our invention has for a more particular object to provide an electric alarm device of improved construction wired to the magneto switch of the machine, whereby when the switch is moved to position to close the magneto circuit and start the machine, the alarm will be sounded.

Another of the principal objects of the invention is to provide an improved lock switch arranged in the circuit for the alarm device which will insure the proper operation of the alarm but may be actuated to break the circuit by the use of the proper key in the possession of the owner.

Our invention has for still another object to produce a device of the above character which is comparatively simple and inexpensive in its construction, efficient and reliable in actual use and may be applied to motor vehicles of various constructions without necessitating any alterations therein.

With the above and other objects in view as will become apparent as the description proceeds, the invention consists in certain constructions, combinations and arrangements of the parts that we shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a sectional plan view of the alarm bell, the electric operating circuit being diagrammatically illustrated, and showing the relay whose circuit is closed when the movable member of the magneto switch is in neutral position. Fig. 2 is a similar view, but showing a normally open operat-

ing switch; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is an enlarged section of the lock switch showing the same in open position; Fig. 5 is a section taken on the line 5—5 of Fig. 4; Fig. 6 is a detail elevation of the key for operating said switch.

Referring in detail to the drawings, and more particularly to Fig. 1 thereof, 5 and 6 designate inner and outer bell members respectively, which are of different diameters and are differently tempered, so that the sound vibrations when the bells are struck will have distinctly different tones. The outer bell 5 it will be observed is appreciably larger than the inner bell 6 which is eccentrically related to the outer bell, thereby providing a comparatively wide space 7 between the bells at one side. A suitable frame 8 is secured to any desired part of the vehicle body and the bells 5 and 6 are secured to a standard 9 mounted upon said frame, by means of a suitable bolt or screw 10. It is to be noted from reference to Fig. 3 that the edge of the smaller inner bell 6 is disposed above the plane of the edge of the outer bell 5. 11 designates a bell hammer, the shank 12 of which extends outwardly below the edge of the inner bell 6, the outer end of said shank being bent upwardly and the head of the hammer disposed in the space 7 between the two bells. The inner end of the shank 12 is integrally formed with or secured to a vibratory armature plate 13 which is yieldingly supported by means of a leaf spring 14 fixed to said plate at one of its ends. The other end of said spring is suitably secured to the frame 8. In the frame 8, a pair of solenoids 15 wound in series are mounted. One end of the field winding is secured to a binding post 16 mounted in the frame 8 while the other end thereof is connected to an adjustable terminal plate 17. This plate is secured to the end of a screw 18 which is adjustable in a standard 19 secured to the base of the frame. A second binding post 20 is mounted upon the frame 8 and is connected by a wire 21 to the leaf spring 14 upon which the armature plate 13 is mounted. 22 designates the ordinary magneto switch with which the automobile or other motor vehicle is supplied, said switch including the movable element 22' adapted for engagement with the spaced contacts 23 arranged upon the switch base. This movable switch member when in en-

gagement with one of the contacts closes a circuit through the magneto of the engine to start the engine, as will be readily understood. Between the contact members 23, a terminal plug 24 is arranged with which the element 22' is engaged when the same is in its neutral position. A wire 25 connects this terminal to a contact plate 26. An adjacent contact plate 27 is connected by the wire 28 to the negative terminal of a battery 29. 30 indicates a relay, and one end of the relay winding is connected by the wire 31, to the switch post upon which the element 22' is pivotally mounted. The other end of the relay winding is connected by the wire 32 to the positive terminal battery 29. A pair of contact plates 33 and 34 respectively are arranged adjacent to and in line with the plates 26 and 27. The plate 33 is connected by the wire 35 to the negative terminal of the battery, while a wire 36 connects the plate 34 to the binding post 20 upon the bell frame 8. Adjacent one end of the relay solenoid 30, an armature plate 37 is pivotally mounted upon a suitable base 38, and adjacent thereto an adjustable screw 39 is engaged in an upright arm upon the base. A coil spring 40 connects the upper end of the armature with a standard 41 on the base 38, and this spring normally acts to engage a contact stud 42 on the armature with the end of the adjustable screw 39. A wire 43 is in electrical connection at one of its ends with the screw 39 the other end of said wire being connected to the binding post 16 upon the bell frame 8. The armature 37 is connected by a wire 44 to the battery 29, said wire being joined to the wire 32.

In Figs. 4 and 5, we have illustrated an improved construction of lock switch which embodies a casing 45, said casing being provided in one wall and adjacent one of its ends with a pair of notches 46. A third notch 47 is formed in the casing wall and is suitably spaced from the notches 46. Each of these notches is provided with a beveled or inclined base wall whereby a shoulder is produced at one end. The inclined base wall of the notch 47, however, extends in an opposite direction with relation to the corresponding wall of the notches 46. A switch blade or plate 48 is slidably mounted in the casing 45 and is adapted to project from one end of said casing, for engagement with the contact plates 26, 27, 33 and 34. The blade 48 is provided in its lower edge with a notch or recess 49 and upon each side of said blade a locking dog 50 is pivotally mounted, as at 51. The pivoted ends of these dogs are rounded and project over the edge of the recess 49 as clearly shown in Fig. 4. Each of said dogs includes a horizontally disposed arm or shank 52 which extends in parallel relation and slightly above the upper edge of the blade 48. Each

of the arms terminates in a lug 53, one of said lugs being adapted for engagement in the recesses 46 while the other lug engages in the recess 47. A leaf spring 54 is secured at one of its ends to each side of the blade 48, said springs engaging the arms 52 of the respective locking dogs and normally acting to hold the lugs 53 thereof in engagement with the notches in the wall of the switch casing. 55 designates a stop lug connecting the opposed walls of the casing 45 which is designed to limit the inward longitudinal movement of the switch blade. A leaf spring 56 is arranged in said casing and bears at its free end against the end edge of the blade 48, said spring acting to force the opposite end of the blade out of the casing and into engagement with the contact blade. One of the side walls of the case 45 is provided with properly formed key holes 57 to receive a key 58. Lugs project from opposite sides of the key shank and each of said lugs has a central extension 60 whereby shoulders 61 are produced at opposite sides of the extension.

In Fig. 4 of the drawings, the switch is shown in its unlocked position, and when it is desired to engage the movable switch blade with the contact plates, the operator inserts the key through the opening 57 at the left and by turning the same engages one of the lugs 61 with the curved end of the locking dog 50 which projects beyond the edge of the recess 49. This dog is thus moved upon its pivot to disengage the lug 53 from the notch 47. The extension 60 of the key engages the edge of said recess and acts to move the blade 48 longitudinally out of the open end of the casing 45 and into engagement with the contacts 26, 27, 33 and 34 as indicated in dotted lines. When it is desired to move the blade 48 out of engagement with the contacts, the key is rotated in the opposite direction and engaged with the other locking dog 50 to release the lug 53 thereof from the end notch 46, whereby said blade may be forced into the casing. The spring 56 provides a yieldable abutment and when pressure of the key against the switch blade is removed, said spring acts to project the blade forwardly so that the lug 53 of the locking dog will engage in the notch 47.

In the operation of our invention as above disclosed, it will be apparent that when the movable switch member 22' of the magneto switch is in its neutral position, the circuit of the relay 30 is closed from the battery through the wire 32, the relay winding, wire 31, switch member 22', wire 25, the contact 26, blade 48, contact 27 and wire 28 back to the battery. Thus the armature 37 is attracted and the spring 40 placed under tension. Upon movement of the switch member 22' to engage the same with either of the

contacts 23, the above described circuit is broken, so that the spring 40 then acts to engage the contact stud 42 of the armature plate 37 with the screw contact member 39.

5 A circuit is now closed from the battery through wire 44, armature 37, contact 39, wire 43, binding post 16, the field winding of the solenoids 15, the armature plate 13, spring 14, wire 21, binding post 20, wire 36, 10 contact 34, switch blade 48, contact 33, and wire 35 back to the battery. The other end of the winding of the solenoids 15 being connected to the terminal plate 17, the vibratory plate 13 is moved between said arma- 15 ture and the cores of the solenoids to engage the bell hammer with the spaced bells 5 and 6. As before stated, these bells have different tone qualities and it will be obvious that in this manner a very distinctive alarm is 20 sounded when the circuit is closed in the manner last stated.

In Fig. 2 of the drawings, we have illustrated a slightly different circuit for our improved alarm wherein the relay 30 is elim- 25 inated and the binding post 16 of the alarm bell connected directly to a switch contact 62, by means of a wire 63. An adjacent contact 64 is connected by a wire 65 to the post of the magneto switch upon which the movable switch element 22' is mounted. The 30 spaced contacts 23 of the switch are connected by the wires 66 to a wire 67 extending from one terminal of the battery 29. The other terminal of this battery is connected 35 by the wire 68 to the binding post 20 of the bell. The movable switch blade 48 is actuated in the manner above stated and is disposed in the relative position to the contacts 62 and 64 as in the circuit arrangement first 40 described. It will be apparent that when the movable member 22' of the magneto switch is in its neutral position, the circuit is open. When this member is engaged with either of the contacts 23, the circuit will be 45 closed from the battery through the wire 67, the contact 23, the movable switch member, the wire 65, switch contact 64, the blade 48, the other of the contacts 62, wires 63, binding post 16, the winding of the solenoids 15, 50 armature 13, spring 14, wire 21, binding post 20 and wire 68 back to the battery, so that the bell is operated and the alarm sounded.

From the foregoing description taken in connection with the accompanying draw- 55 ings, it is believed that the construction and

manner of operation of our invention will be fully and clearly understood.

In each of the circuits above stated, the combination lock and switch is arranged and by means of the same, the owner of the 60 machine may quickly move the switch blade 48 out of engagement with the spaced contact plates to break the circuit and stop the ringing of the bell. In either construction, the bell circuit being primarily controlled by 65 the movement of the member 22' of the magneto switch, it will be readily seen that it is impossible to start the engine and operate the machine without authority from the owner without ringing the alarm bell. Thus 70 liability of theft of the machine is to a great extent eliminated. It will further be appreciated that our improved alarm device is comparatively simple in its construction, highly convenient in practical use and may 75 be produced at small manufacturing cost.

While we have shown and described the preferred construction and arrangement of the several elements employed, it will be obvious that our invention is susceptible of 80 considerable modification and we therefore reserve the right to resort to all such legitimate changes as may be fairly embodied within the spirit and scope of the invention, as claimed. 85

Having thus described the invention, what is claimed is:

The combination with the magneto switch of a motor vehicle, of an electrical alarm device, a circuit therefor adapted to be closed 90 when the movable element of the magneto switch is moved to close the magneto circuit, spaced contact members arranged in the alarm circuit and interrupting the same, and a rectilinearly movable circuit closing ele- 95 ment to engage said contacts whereby the alarm is sounded when the movable element of the magneto switch is moved from its neutral position, or said alarm circuit broken to permit of the closure of the mag- 100 neto circuit independently of the alarm device.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

FRED E. CLINE.

WILLIAM L. BASKERVILLE.

Witnesses:

E. R. BASKERVILLE,

J. B. PHILLIPS.