July 31, 1923. 1,463,361

P. GEORGI ET AL

SIGNAL SOUND INSTRUMENT

Filed Dec. 20, 1920

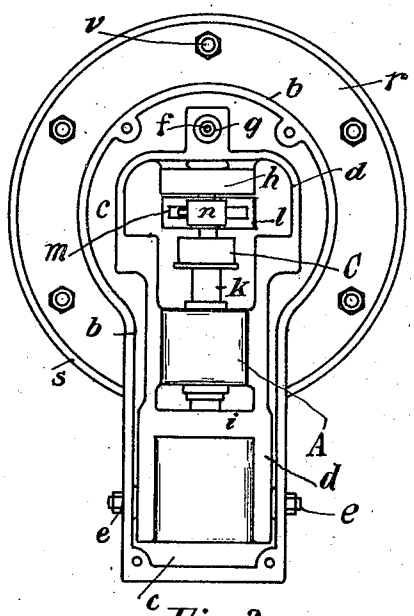


Fig. 2

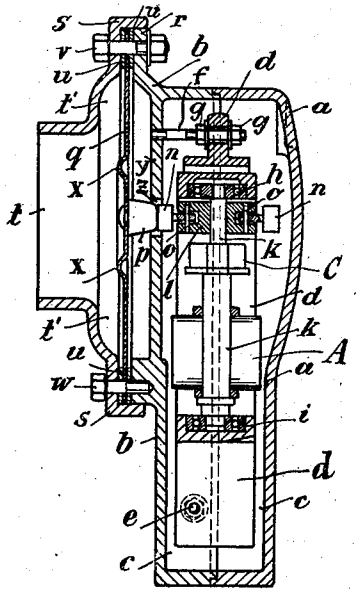


Fig. 1

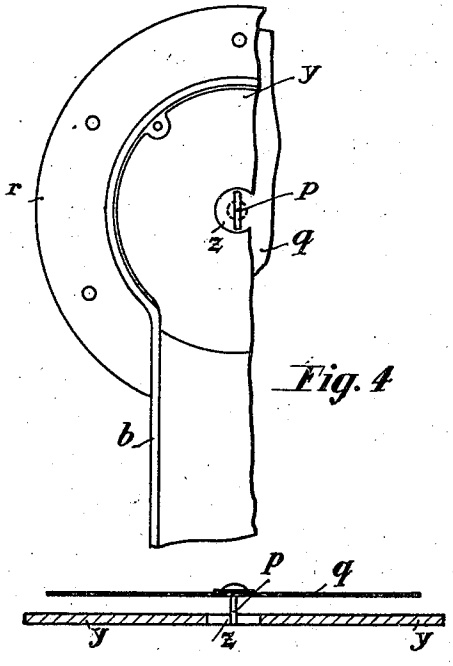


Fig. 4

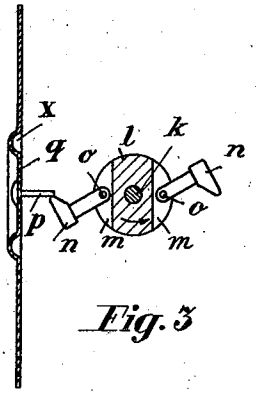


Fig. 3

Fig. 5

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UNITED STATES PATENT OFFICE.

PAUL GEORGI AND ROBERT GEORGI, OF LEIPZIG-GOHLIS, GERMANY.

SIGNAL SOUND INSTRUMENT.

Application filed December 20, 1920. Serial No. 432,163.

To all whom it may concern:

Be it known that we, PAUL GEORGI and ROBERT GEORGI, both citizens of the German Republic, residing at Menkestrasse 5, Leipzig-Gohlis, Saxony, Germany, have jointly invented new and useful Improvements in Signal Sound Instruments, of which the following is a specification.

The present invention relates to an electric sounding instrument for motor-cars and the like, which is represented on the accompanying drawing, in which:

Fig. 1 is a sectional side elevation of the same,

Fig. 2 is a rear view, with the rear cover omitted,

Fig. 3 is a sectional plan view of a detail,

Fig. 4 is a fragmentary rear view of another detail,

Fig. 5 is a sectional plan view of the latter.

The instrument comprises a casing *c* composed of two easily detachable halves *a* and *b*, which are dusttightly held together by means of screws or the like (not illustrated). In said casing, a support *d* is pivotally arranged on a bolt *e* and adapted to be adjusted by means of a regulating-screw *f* carrying nuts *g* which embrace the upper end of said support. The latter carries in ball-bearings *h*, *i* a step-shaft *k*, which is centrally located in said support and in said casing.

The shaft *k* carries a fixed concentric disc *l* which is provided with two segmental grooves *m* (Fig. 3), in which projecting clappers *n* are loosely and pivotally mounted at *o*. The rotation of shaft *k* produced by an electromotor (indicated by armature A and collector C, Figs. 1 and 2) takes place in the direction of arrow (Fig. 3). By rotation of shaft *k*, the clappers *n* are projected to outside said grooves by centrifugal force.

The casing half *a* forms the detachable rear cover of the instrument, to allow an easy access to the interior of the same. The casing half *b* carries an outer flange *r*, over which engages the flange *s* of a sounding funnel *t*, a brass diaphragm *q* being interposed between said flanges *r* and *s* through the medium of washers *u*, while screws *v*, *w* serve to hold said flanges *r*, *s* together.

Said diaphragm carries on its rear side a fixed projection *p*, which is so located that it is struck by the clappers in rapid succession when the shaft *k* rotates. Consequently, a striking sound is produced by the vibration of the diaphragm, which is first collected in the rear compartment *t'* of the sounding funnel *t* and then projected to outside the funnel; the diaphragm being provided with a concentric annular projection *x*, whereby the sound is considerably increased.

By the adjustability of the upper end of the support *d*, the distance between shaft *k* and diaphragm *q*, and thus between the projection of the latter and the clappers, can be regulated at will.

A further characteristic feature of the present invention consists in the fact that the casing half *b* forms at its upper part a resounding board *y* with a central opening *z* therein, the rear projection *p* of the diaphragm extending into said opening where it is struck by the clappers *n* (Figs. 4 and 5). By this means, the sound produced cannot be projected in rearward direction into the interior of the instrument but in forward direction through the funnel *t* only, whereby it is considerably increased.

Obviously, the funnel *t* may be cast in one with the casing half *b*, the effect being a sharp accentuated sound like an explosion and of highest velocity.

What we claim, is:

In an electric sounding instrument for motor-cars and the like, in combination, a casing consisting of two halves, a sounding funnel in front of said casing, a brass diaphragm interposed between said casing and said sounding funnel, a rear projection on said diaphragm, means co-acting with said projection to operate said diaphragm and located within said casing, one of said casing halves forming a resounding bottom for said diaphragm and having a central opening therein through which extends said rear projection, substantially as set forth.

PAUL GEORGI.
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