April 3, 1928. 1,664,871

H. WERDER

SIGNAL

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Fig. 1.

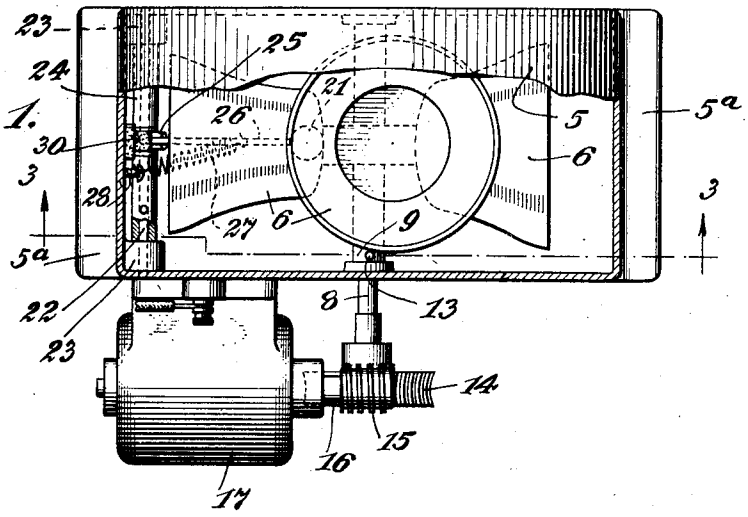
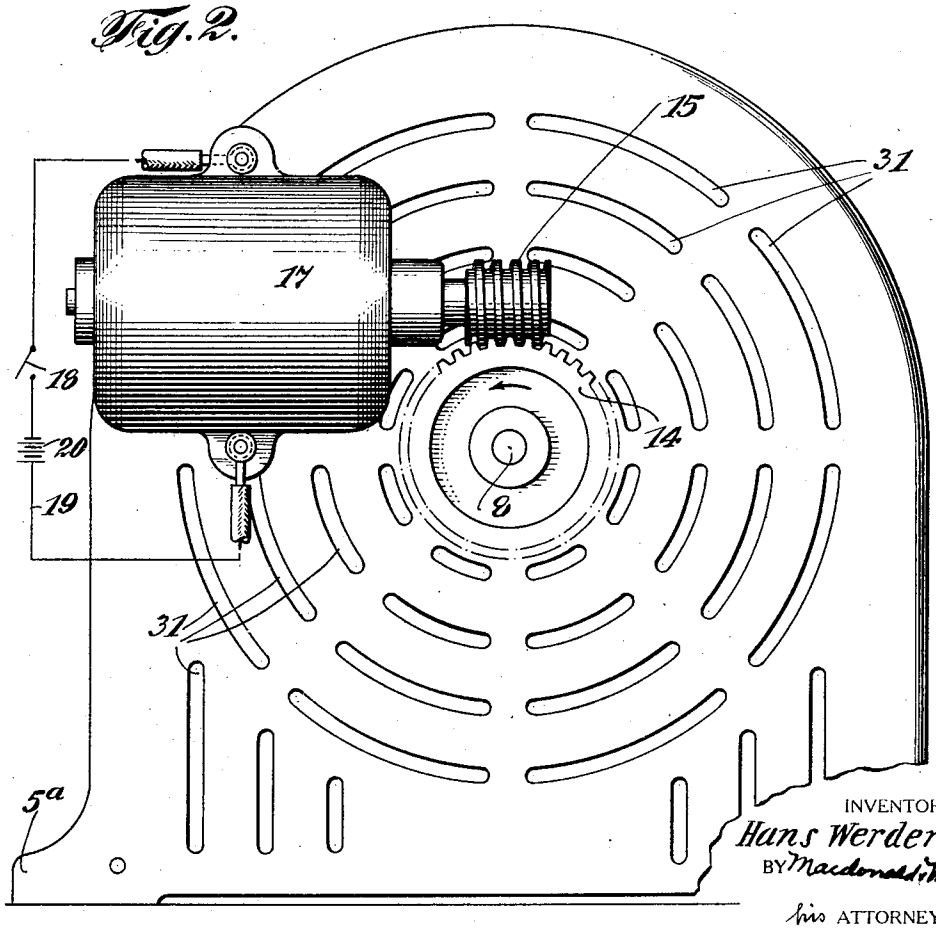


Fig. 2.



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Fig. 3.

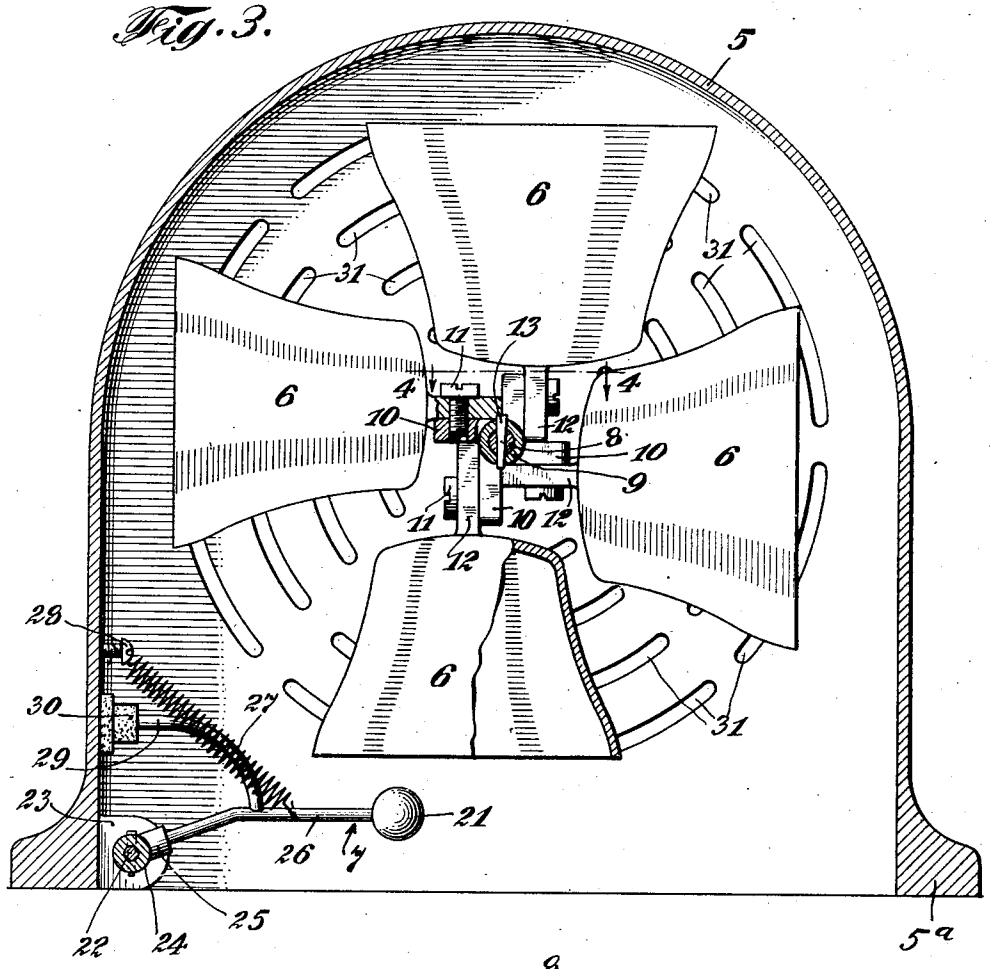
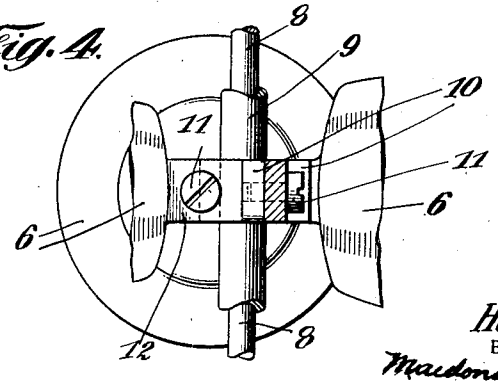


Fig. 4.



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SIGNAL.

Application filed September 1, 1926, Serial No. 133,067, and in Switzerland and Germany March 4, 1926.

This invention relates to improvements in signals and has special reference to a device adapted for use in instances where it is desired to impart an audible warning signal.

An important object of the invention is to provide sound-emitting means in the form of a plurality of rotatable elements describing a path to contact with a resiliently mounted clapper member for producing the warning aforesaid.

Another object is the provision of sound-emitting means in the form of a plurality of elements, the sound from each element being of a slightly different pitch, so the signal as a whole may assume a pleasing sound as distinguished from the harsh and offensive signals now prevalent.

A further object of the invention resides in the provision of a resiliently mounted clapper adapted to be rocked during the passage of a sounding element.

A still further object is to provide means for limiting the return movement of said clapper element and to position same within the path of the sound-emitting elements.

Still further features and objects of the invention will become apparent as the description unfolds, and in order that the same may be better understood reference is had to the accompanying drawings forming a part of this specification.

In said drawings:

Figure 1 is a plan view of my improved signal, certain portions thereof being broken away to expose the component parts positioned within a housing.

Fig. 2 is an elevation of the same, the means for energizing the motor being shown diagrammatically.

Fig. 3 is a sectional view, slightly enlarged, and taken substantially on the line 3—3 of Fig. 1; and

Fig. 4 is a fragmentary view taken on the line 4—4 of Fig. 3.

Referring now more in particular to the accompanying drawings, let 5 denote a casing, inclosing the operating parts of my device, said parts comprising essentially a plurality of sound-emitting elements and a clapper member, denoted generally by the numerals 6 and 7 respectively.

Said sound-emitting elements 6 each assume the generally accepted configuration of a bell and as distinguished from the common method of extracting sound therefrom, I operate said elements about an orbit so that each in turn strikes the clapper member 7 at certain intervals, and by varying the pitch of each bell 6, a variegated sound is emitted; and upon a rapid rotation thereof a pleasing blending of notes ensues and, thus, a warning sufficient in scope yet devoid of the harshness and offensive sound now prevalent in automobile signals or the like.

Returning now to the structural details of my device, it will be observed that said elements 6 are rotatively mounted on a shaft 8, through the medium of a sleeve arrangement 9, said sleeve fitting snugly against inner faces of the sides of the casing 5, and intermediate its ends is provided with a plurality of lateral projections 10, to which are screwed, as indicated at 11, the lugs 12 of said bells 6. Figure 4 of the drawings clearly shows the aforesaid arrangement and upon inspection of Figs. 1 and 3, it will be noted that said sleeve 9 is securely attached to the shaft 8 through the intermediary of a pin 13, and further said shaft 8 is extended beyond one side of said casing 5 and carries a worm wheel 14 which latter enmeshes with a worm 15 on the motor shaft 16.

While the drawings disclose an electric motor 17 for driving the operating parts of my signal, it is quite obvious that said shaft 8 might be provided with a crank for manually operating said signal. However my preference is to provide the device with an electric motor which is mounted on said casing 5 and operated by a switch 18 in the circuit 19, the source of power being the usual storage battery 20 of a motor vehicle.

The clapper arrangement 7 hereinbefore referred to, is pivotally mounted within said casing, the outer end thereof being provided with a ball 21 positioned within the circular path of said bells 6 for the purpose now well understood. The pivoted disposition of said clapper 7 is effected through the medium of a shaft 22 journalled in bosses 23 of said casing 5, said shaft 22 being pinned to a tubular member 24 having an integral apertured boss 25 for the reception of the stem 26 of the clapper arrangement 7.

Obviously as each bell 6 strikes against the ball 21, the clapper as a whole must drop below the circular path described by the striking bell in order to permit the con-

tinued rotative movement of the bells, and also it is essential that said clapper be returned within the circular path described by the bells in order that each successive bell may collide therewith. To this end I have provided a spring 27 having one end attached to the stem of said clapper, its other terminal being secured to the casing 5, as indicated at 28. I further feature my device with a stop arrangement for limiting the return of the striking position of the clapper, said stop arrangement comprising a lateral arm 29, rising from the stem 26 and having its end provided with a buffer 30 abutting the interior of said casing, as clearly shown in Fig. 3.

The device as a whole may be positioned at any convenient location on an automobile, a motor boat or the like, the bottom side flanges 5^a being drilled if desired for permanent location of said signal. I also prefer to provide one or both sides of said casing 5 with a plurality of openings 31 in order to facilitate the emission of the sounding signals.

From the foregoing the operation of my device should now be clearly understood, since it is only necessary to rotate the bells 6, which in turn engage the ball 21, thus emitting a note of a pitch peculiar to themselves. The pivoted disposition of said clapper 7, permits the descent thereof a sufficient distance so the free rotation of the particular bell is not interfered with in any manner, and the spring 27 returns the same to striking position through the cooperation of the stop arrangement as aforesaid.

I claim:

1. In a device of the character described, a plurality of rotatable sound-emitting elements and a resiliently mounted clapper normally positioned in the path of said elements and adapted to be contacted by each of said elements.

2. In a device of the character described, a plurality of rotatable sound-emitting elements, a clapper positioned in the path of said elements and adapted to be successively contacted thereby and means for restoring said clapper in the path of each of said elements after contact therewith.

3. In a device of the character described, a plurality of rotatable sound-emitting elements, a clapper normally positioned in the path of said elements and adapted to be successively contacted thereby and a spring constantly returning said clapper to its normal position after being contacted by each element.

4. A device of the character described comprising a casing, a shaft mounted in said casing, a plurality of sound-emitting elements rotatively mounted on said shaft, a clapper pivotally carried by said casing and normally positioned in the path of each of said elements, means for restoring said clapper in the path of each of said elements after contact therewith and a stop associated with said clapper and adapted to limit its return to contacting position.

5. In a device of the character described, a plurality of rotatable sound-emitting elements operating to define a definite orbit, and a resiliently mounted clapper normally positioned within said orbit and adapted to be successively contacted by each of said elements and thereby removed from said orbit to permit the continued rotatable movement of said elements and subsequent positioning to contact the succeeding element.

HANS WERDER.