

G. FRENTZEN.
HAND STEERING WHEEL FOR MOTOR VEHICLES.
APPLICATION FILED FEB. 21, 1907.

949,297.

Patented Feb. 15, 1910.

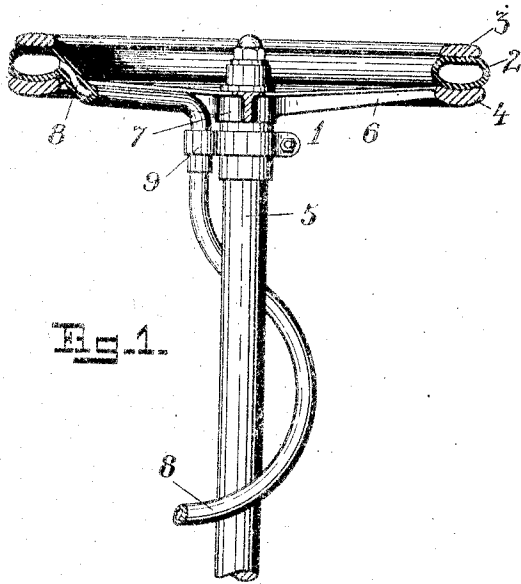


Fig. 1.

Fig. 2.

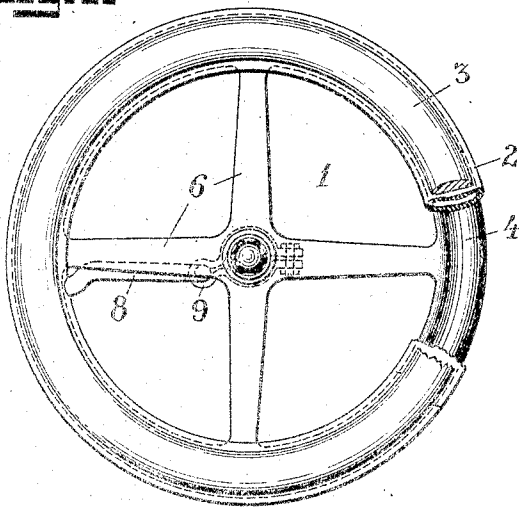
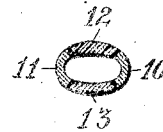


Fig. 3.



Witnesses:
F. G. Harder.
A. Frank.

Inventor.
Georg Frentzen
per Martin Schumacher
Attorney.

UNITED STATES PATENT OFFICE.

GEORG FRENTZEN, OF AIX-LA-CHAPELLE, GERMANY.

HAND STEERING-WHEEL FOR MOTOR-VEHICLES.

949,297.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed February 21, 1907. Serial No. 358,659.

To all whom it may concern:

Be it known that I, GEORG FRENTZEN, professor and royal government building-master, a subject of the King of Prussia, residing at Haus "Waldheim"-am-Rothagerweg, Aix-la-Chappelle, in the Kingdom of Prussia, Empire of Germany, have invented certain new and useful Improvements in Hand Steering-Wheels for Motor-Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to hand-steering-wheels for motor-vehicles and particularly to that class thereof, in which the wheel-rim is utilized for operating signaling-devices. To this end the wheel-rim is made to consist of two rigid pressure-rings arranged upon opposite sides of an elastic tubular rim-body suitably connected with an acoustic signaling device, of which rings one is connected with the arms of the steering-wheel, whereas the other ring, arranged upon the opposite side of said tubular body, is movably arranged.

This invention offers the advantages that on the one hand a more powerful and lasting signal can be given than hitherto it has been possible to obtain, because the whole volume of air contained in said elastic tubular body can be ejected and utilized for the operation of the signaling-device, and that on the other hand the shocks and vibrations initiated by the vehicle-axle are deadened and almost wholly eliminated, because the ring not connected with the arms of the steering-wheel can move vertically as well as horizontally independent of the ring rigidly connected therewith. The most prominent practical result gained by this arrangement of parts is, however, that the hand- and finger-joints are to a very high degree protected against the shocks and vibrations of the steering-wheel, so that it is made possible to undertake long drives over rough roads and not fatigue hand- and finger-joints. Another very prominent result obtained by my in-

vention is, that at every moment it is made possible to give a signal without taking one of the hands off the steering-wheel, whereby it does not matter whether this may become necessary on a straight road or when a curve is taken or a corner rounded, as all that is necessary to give the signal is to close the grip tighter on the rim of the steering-wheel.

In the accompanying drawing:—Figure 1 is a side elevation of the hand-steering-wheel, partly shown in section. Fig. 2 is a plan-view of said wheel. Fig. 3 is a cross-sectional view of a modified form of the wheel-rim, wherein the pressure-rings form an integral part of the elastic tubular body.

The rim of the steering-wheel 1 consists of an elastic hollow ring or tubular body 2, which can be flattened or compressed between the flat rigid pressure-rings 3 and 4. One of these pressure-rings, for instance the ring 4 is connected with the rotatable steering-shaft 5 by means of the wheel-arms 6 and the hub 7, whereas the other ring, for instance the ring 3, is movably arranged on the opposite side of said tubular body and may be made to approach the ring 4 by means of the pressure of the hands which grasp the wheel-rim. During this operation the air contained within said elastic tubular body 2 is compressed, and passes through a thin elastic tube 8 to an acoustic signaling-device or to another device (not shown) in order to put same into operation. To keep the tube 8 free of kinks and tangles it is secured to the steering-shaft 5 by means of the clip 9. It is, however, not necessary that the first rigid pressure-rings 3 and 4 should be formed separate from the elastic hollow tubular body or as detachable parts of construction, on the contrary, they may just as well form an integral part thereof as for instance shown in Fig. 3, wherein the elastic tubular body is supposed to consist of soft rubber portions 10 and 11 directly connected with or fused to the hard rubber rings 12 and 13.

I claim:—

A hand-steering-wheel consisting of an annular base adapted to be secured to a

steering-wheel shaft, an elastic tubular-body connected with its bottom part to said annular base, and pressure-means connected with the upper part of said tubular body for flattening the latter to compress and to expel the air contained therein.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

GEORG FRENTZEN.

Witnesses:

HENRY QUADFLIEG,
JOSEF REISS.