

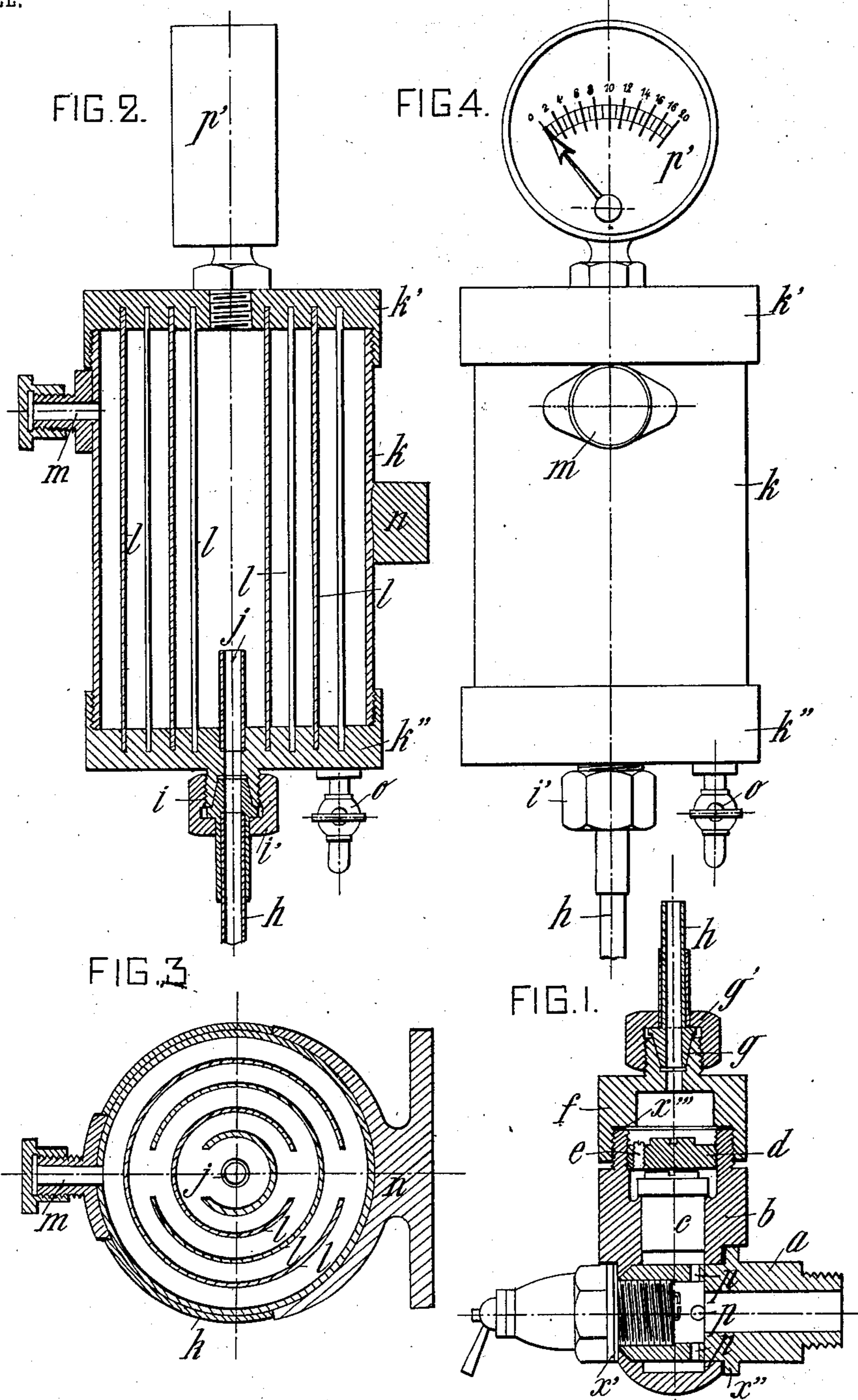
No. 753,568.

PATENTED MAR. 1, 1904.

E. GIRARD.
APPARATUS FOR INFLATING TIRES.

APPLICATION FILED JAN. 12, 1904.

NO MODEL.



WITNESSES

J. H. Glesser.
Henry J. Suberier.

INVENTOR

Emile Girard
BY
James Niles
ATTORNEYS

UNITED STATES PATENT OFFICE.

EMILE GIRARD, OF MARSEILLES, FRANCE.

APPARATUS FOR INFLATING TIRES.

SPECIFICATION forming part of Letters Patent No. 753,568, dated March 1, 1904.

Application filed January 12, 1904. Serial No. 188,751. (No model.)

To all whom it may concern:

Be it known that I, EMILE GIRARD, a citizen of the Republic of France, and a resident of Marseilles, France, have invented a new and useful Improvement in or Relating to Apparatus for Inflating Motor-Car Tires by the Use of a Portion of the Compressed Gases of an Explosion-Engine, which improvements are fully set forth in the following specification.

This invention relates to apparatus for use in inflating pneumatic tires of motor-vehicles, and is based on the utilization at the moment of explosion of a portion of the compressed gases from the internal-combustion motor or motors which drive the vehicle. It is well known that the inflation of motor-car tires is very hard work and takes a long time. The apparatus according to this invention in order to avoid the above drawback utilizes at the moment of explosion a portion of the compressed gases of the engine driving the car for inflating the tires.

In order that the invention may be better understood, an apparatus according to this invention is illustrated by way of example in the accompanying drawings, in which—

Figure 1 is a vertical section of the receiver or attachment. Fig. 2 is a vertical section of the purifying apparatus. Fig. 3 is a horizontal section, and Fig. 4 an elevation, of the same.

The apparatus is mainly constituted by the following three parts:

First. A "receiver" or attachment which can be placed in the hole usually occupied by the sparking-plug, the latter being moved slightly away from the engine, which can be done without any inconvenience and has been done in several engines for the purpose of avoiding deposits on the plug, or it can be placed in any other orifice communicating with the explosion-chamber. The receiver illustrated in Fig. 1 of the accompanying drawings is intended for engines having a horizontal sparking-plug. By slightly modifying the form or method of attachment of the receiver it can be fixed either to engines with vertical plugs, the plug-hole being utilized, or it may be screwed into any orifice in communication with the explosion-chamber.

Second. A steel pipe of about six millimeters outside diameter, connecting the receiver with a purifier.

Third. A purifier with baffle-plates placed, say, on the mud-guard of the car and in which the gases are freed from water produced by combustion and from any impurities that might have been carried away by them.

The receiver mainly consists in a tubular support *a*, of nickel or steel, screwed into the sparking-plug hole or into any other orifice communicating with the explosion-chamber, and is provided with lateral holes *p p p*, which allow the gases to pass through. On the part *a* is mounted the body *b* of the receiver and the sparking-plug. The joints *x'* and *x''* are held tightly together by screwing up the plug. At the bottom of the body *b* there is a passage which receives the gases escaping through the orifices *p* and leads them to the valve *c*. Above the valve *c* is arranged a stop *d*, which is screwed into the body *b*, so that its position may be adjusted. This stop limits the rising of the valve *c* to one, two, or three millimeters, according to the engines, and is split along the greater portion of its diameter in order to allow the passage of the gases which have raised the valve *c*. In the slot thus formed in the stop is placed a conical screw *e*, which at the desired level prevents the stop from working higher in the body *b* of the receiver. On the top of the body *b* is screwed a cap *f*, a tight joint being made at *x'''*, the cap receiving the nozzle *g* of a pipe *h*. In order to facilitate the tightening of the part *f*, it is made in the shape of an octagonal nut. The steel pipe *h*, which connects the receiver with the purifier, is arranged either along the frame of the car or at any other suitable place and is bent as desired. At each end the pipe *h* terminates in a nozzle. These two nozzles, with the aid of nuts *g'* and *g''*, enable the pipe *h* to be securely connected to the receiver and purifier.

The gases pass through a small tube *j*, extending centrally a little above the bottom of the purifier, which consists of a casing formed of a brass tube *k*, screwed and soldered to two end disks *k'* and *k''*, one of which forms the bottom and the other the top of the purifier.

In the interior of the casing are arranged concentric circular baffle-tubes l , split throughout the whole of their height, the slots so formed being arranged diametrically opposite
 5 each other, so that the gases coming in through the pipe j circulate in the spaces inclosed between the various baffle-plates before arriving at the outlet m , which when the apparatus for pumping up tires is not in use is closed by a
 10 screw-plug.

When it is desired to pump up a tire, the screw-plug closing the outlet m is removed and the outlet connected to the tire-valve by a rubber tube of suitable length.

15 The purifier may be secured to the mud-guard by means of an attachment device n . The apparatus may be supplemented by a small drain-cock, enabling water and impurities retained by the purifier to be discharged,
 20 and by a pressure-gage p' .

The working of the apparatus is as follows: At the moment of explosion the gases pass through the orifices p p p , through the part b , in which part a is situated, and raise the valve
 25 c , which rebounds from the stop and closes again instantaneously. The gases pass thence into the pipe h through the purifier and into the tire by means of the rubber tube.

30 When the apparatus is not used for inflating the tires, at the first explosions of the en-

gine the pressure in the whole apparatus rises and becomes equal to the maximum pressure of the explosion. The valve then ceases to work and the apparatus becomes inoperative.

One apparatus is sufficient whatever be the
 35 number of the cylinders of the engine.

I claim—

An apparatus for inflating the pneumatic tires of any vehicle, based on the utilization, at the moment of explosion of a portion of
 40 the compressed gases from the explosion engine or engines driving the vehicle, said apparatus comprising a "receiver" in communication with the cylinder, into one part of
 45 which receiver may be screwed the sparking-plug the said part communicating by suitable orifices with the body proper of the receiver, provided with a valve having an adjustable stop, the "receiver" communicating with a
 50 purifier provided with baffle-plates whence the gases pass into the tires to be inflated, by means of a suitable conduit, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscrib-
 55 ing witnesses.

EMILE GIRARD.

Witnesses:

L. ROZAN,

J. LOWRING.