No. 662,055. Patented Nov. 20, 1900.

L. CHARON & F. MANAUT.

BURNER FOR PETROLEUM AND COMPRESSED AIR.

(Application filed May 15, 1900.)

(No Model.)

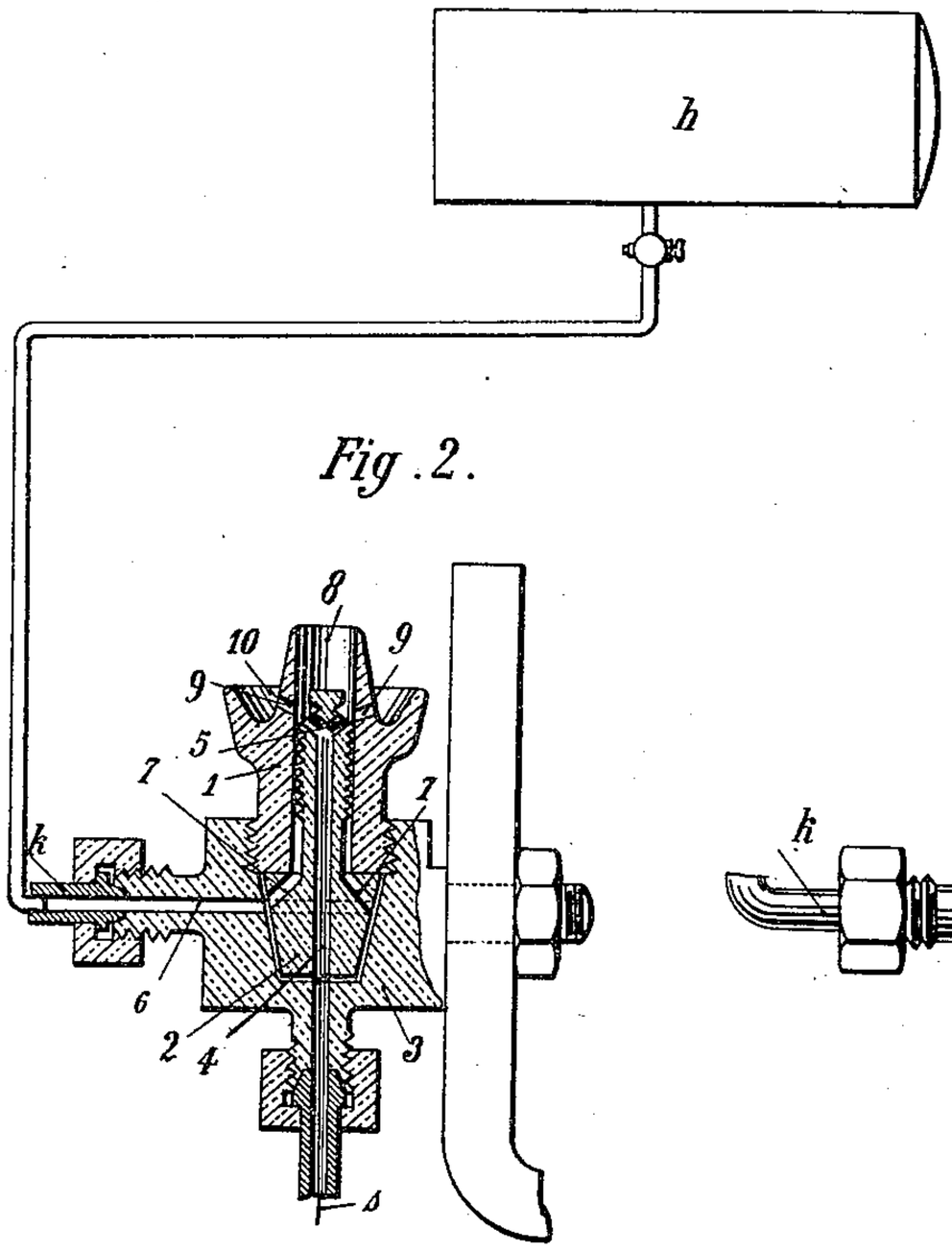

Fig. 2.

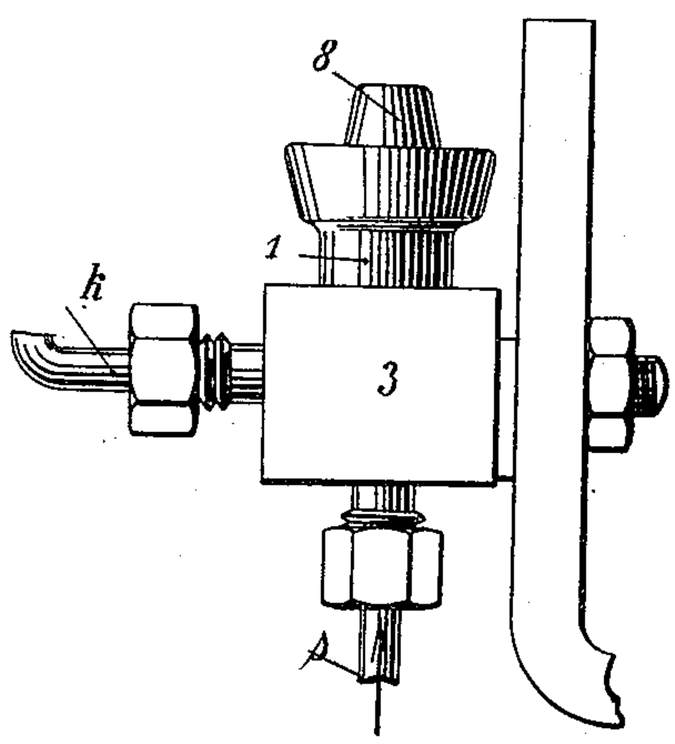

Fig. 1.

WITNESSES:
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LOUIS CHARON AND FRÉDÉRIC MANAUT, OF PARIS, FRANCE.

BURNER FOR PETROLEUM AND COMPRESSED AIR.

SPECIFICATION forming part of Letters Patent No. 662,055, dated November 20, 1900.

Original application filed November 9, 1899, Serial No. 736,419. Divided and this application filed May 15, 1900. Serial No. 16,747. (No model.)

To all whom it may concern:

Be it known that we, LOUIS CHARON and FRÉDÉRIC MANAUT, engineers, residing at 40 Rue Laffitte, Paris, France, have invented certain new and useful Improvements in Burners for Petroleum and Compressed Air, especially suitable for motors using heavy petroleum; and we 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.

This application is a division of one application filed November 9, 1899, Serial No. 736,419.

In motors using heavy petroleum it is generally necessary to have a supply of spirit or alcohol for feeding and lighting the burner which is used for incandescing the tube or igniting the gaseous mixture. This is a disadvantage not only in consequence of the increased expense resulting from the necessity of this supply, but also in consequence of the greater risk of fire.

The invention which forms the subject-matter of this application has reference to a burner which may be fed entirely with heavy petroleum and be ignited without the aid of spirit or alcohol.

Our invention is shown in detail in the accompanying drawings, in which—

Figure 1 is an elevation, and Fig. 2 is a longitudinal section through the axis of the apparatus.

The burner, which is fixed to a suitable part of the frame of the motor, comprises three metal pieces 1, 2, and 3. The piece 2 is a screw provided with one or more threads and a vertical central passage 4, which discharges at the upper end through orifices 5, equal in number to the threads of the screw, and communicates at the lower end through the body 3 with the petroleum-supply pipe *s*. The enlarged lower portion of the part 2 is furnished with an annular groove which communicates by a passage 6 in the body 3 with a pipe *k* from the compressed-air reservoir *h* and by inclined passages 7 with the annular and helicoidal space left between the upper portion of the part 2 and the sleeve 1, which surrounds it.

Petroleum arriving through *s* rises in the passage 4 and escapes by the openings 5, from which it is ejected and atomized by the current of compressed air that passes successively through *k* 6 7 and the annular and helicoidal space. There is thus brought about a very intimate mixing of the petroleum and the air, which enables an exceedingly hot flame to be obtained at the orifice 8 of the sleeve 1. By means of passages 9, made at the top of the sleeve 1 near the mouths of the passages 5, the external air may be caused to enter at these points and the consumption of compressed air thereby diminished. For the purpose of igniting the burner an amianthus cord may be placed permanently in the groove 10 of the sleeve 1. As soon as petroleum enters 8 it overflows and is absorbed by the cord and will burst into flame on the application of a match. When the body of the burner becomes hot, the compressed air is admitted and the burner acts normally without an overflow of the liquid petroleum. This igniting device is not indispensable.

We claim—

A petroleum-burner for engines using heavy petroleum and the like, comprising a body 3 having an oil-inlet and an air-inlet thereto, a plug supported in the lower portion of said body and provided with oil and air passages and an exterior screw-thread, the oil-outlets discharging above the screw-thread, and the sleeve attached to the body 3 and forming with the plug and screw-thread thereon a tortuous duct for the flow of air to the oil-outlet, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

LOUIS CHARON.
FRÉDÉRIC MANAUT.

Witnesses:
EDWARD P. MACLEAN,
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