

June 5, 1934.

C. R. WASEIGE

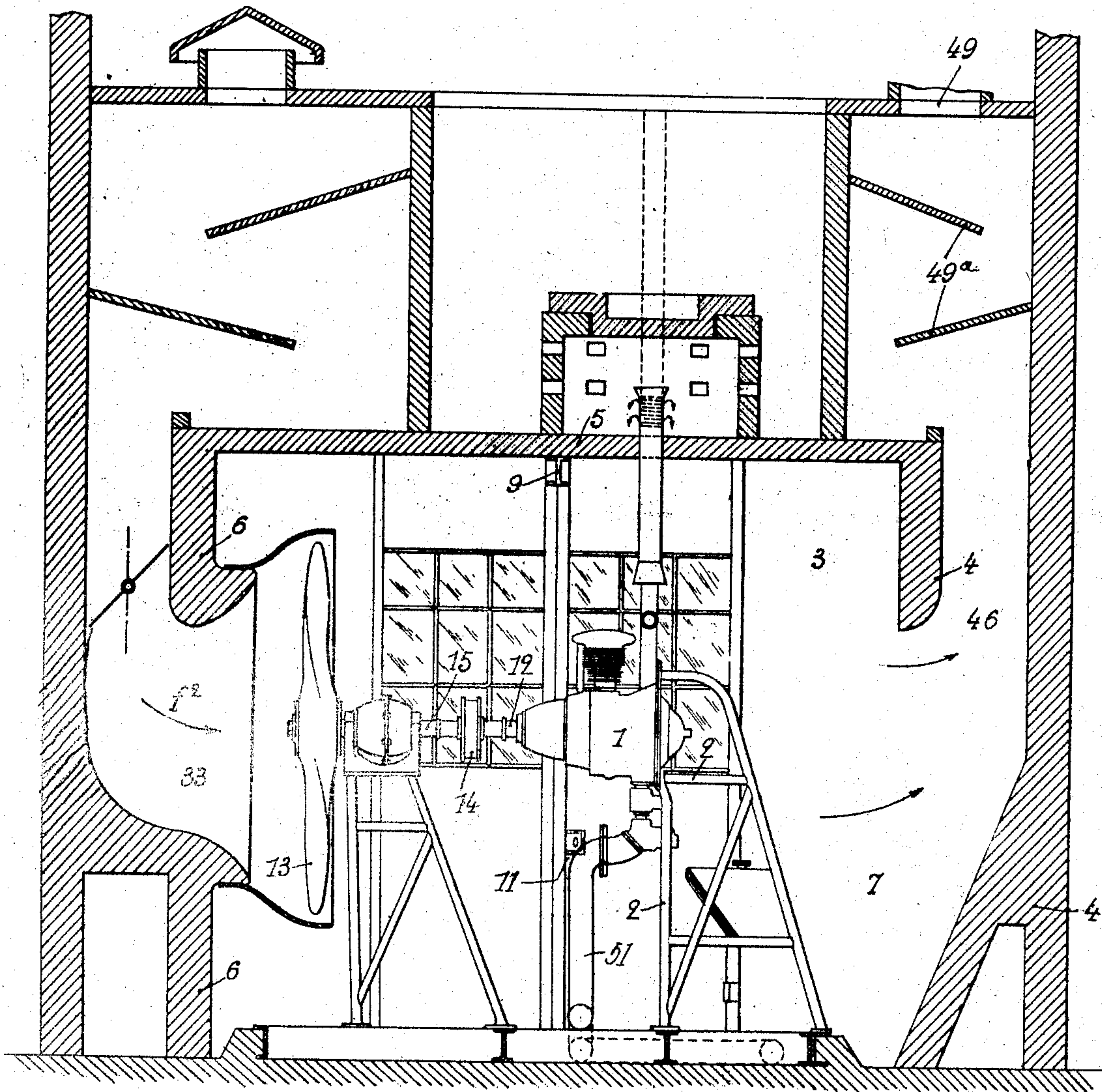
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TESTING PLANT FOR INTERNAL COMBUSTION ENGINES

Filed Oct. 24, 1929

2 Sheets-Sheet 1

Fig. 1



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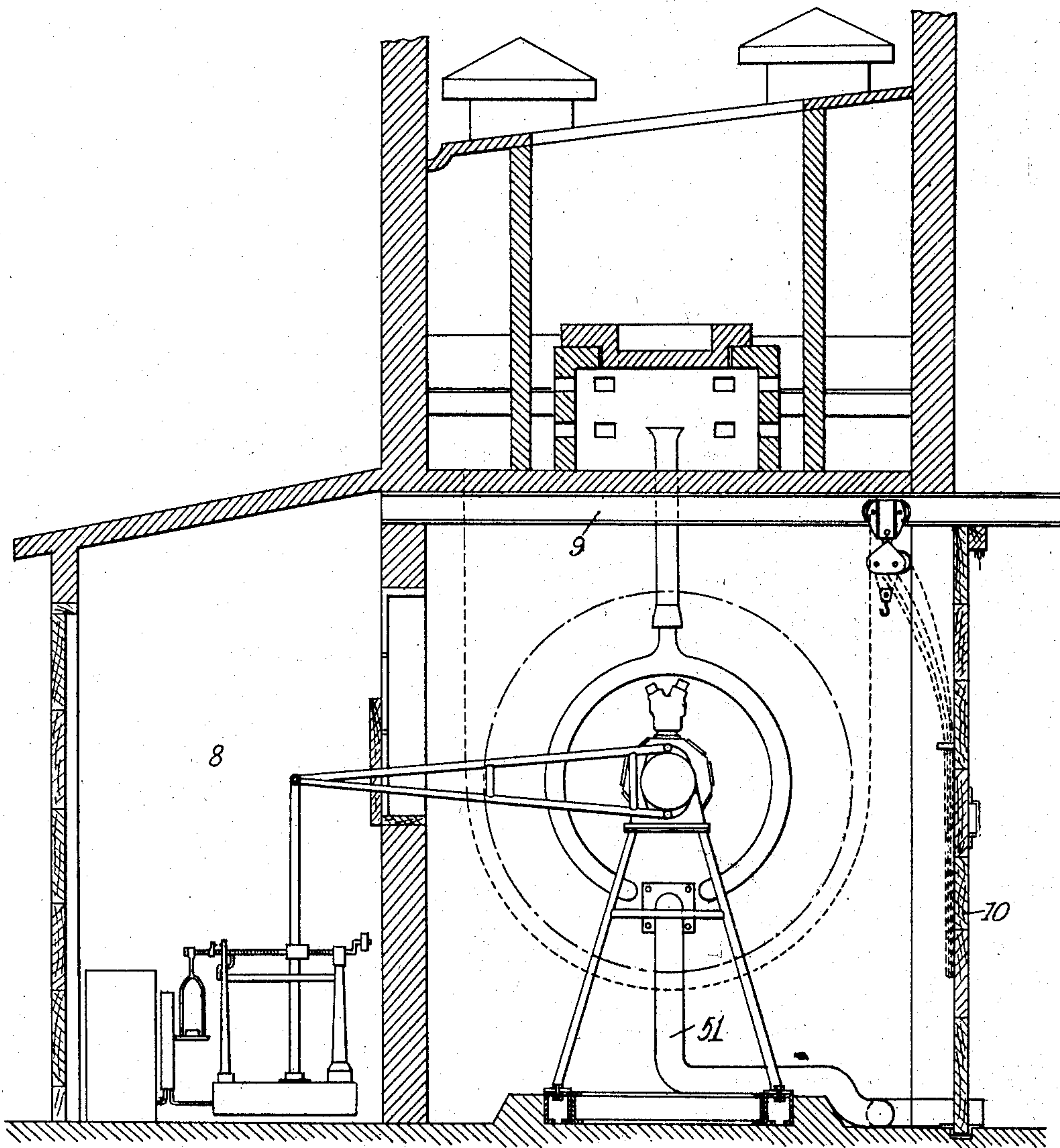
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2 Sheets-Sheet 2

Fig. 2



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## UNITED STATES PATENT OFFICE

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TESTING PLANT FOR INTERNAL  
COMBUSTION ENGINESCharles Raymond Waseige, Rueil, France, as-  
signor to Henry & Maurice Farman, Billan-  
court, FranceApplication October 24, 1929, Serial No. 402,183  
In France October 29, 1928

2 Claims. (Cl. 73—51)

My invention relates to a testing plant for internal combustion engines in which the air-braking means (vane-wheel, propeller or the-like) is associated with air-channels leading to the atmosphere in such manner that a strong air stream will be caused by said braking means to enter the testing room and flow away therefrom back to the atmosphere, whereby the room is thoroughly ventilated and the engine cooled. In this manner, air-cooled engines may be tested in the testing room without using auxiliary means to cool them. Further water-cooled engines may be tested together with the radiators in conditions substantially similar to those occurring when the engine is mounted on an aircraft or a motor vehicle, that is, in the normal operative conditions.

In the accompanying drawings which are given solely by way of example:

Fig. 1 is a vertical longitudinal diagrammatic section of the general arrangement of the testing building.

Fig. 2 is a vertical transverse diagrammatic section of the general arrangement of the said building.

The engine apparatus 1 is mounted upon a fixed support 2 in a chamber 3 of small size which is closed by the walls 4—5—6—7, in which are provided apertures or doors communicating with a surrounding space 8, thus forming a double-walled construction whose chief function is to eliminate the noise due to the engine itself, which noise is caused by the operating parts of the engine and by the various shocks which take place. The acoustic vibrations are arrested by the space 8.

The cooling apparatus and the tanks may be disposed in the chamber 3 or in the space 8. The persons occupied with the operation or the upkeep of the engine may move about in either of these spaces, and the overseers may be stationed in the space 8.

The apparatus for lifting the engine is movable on a rail or beam 9 traversing the chamber 8 and ending at the exterior, the said beam extending through an entrance 10 specially adapted for taking in the engine.

Another entrance 11 for the persons engaged is provided in the wall 7. The entrances 10 and 11 are closed during the functioning of the engine.

The engine is connected by the shaft 12 to the shaft 15 for rotating the propeller 13, which is mounted in the space 3, and for this purpose the shaft 12 comprises an elastic coupling 14.

Since the power of the engine is taken up by a propeller 13, there is produced through the aperture 33 for the flow of the air through the wall

6 of the chamber 3, a suction according to the arrow  $f^2$  (Figure 1), and this produces a thorough ventilation of the chamber 3, thus evacuating all vapours of petrol or oil, as well as all exhaust gas, from the said chamber.

The air from the propeller 13 is discharged through one or more conduits 46 of suitable length and cross-section (Figure 1) opening into the atmosphere at 49, with the optional use of baffles 49<sup>a</sup> for reducing the noise.

Air is preferably supplied to the engine carburetter or carburetters through conduits 51 opening to the atmosphere and having at the inner end a flange connectable with the air intake conduit of the carburetter, said conduit 51 being so arranged as to avoid all loss of pressure.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a testing plant for internal combustion engines, a sound proof test room for the engine, a stand in said room for receiving the engine, an air flue in communication with said room and with the atmosphere and having a flaring enlargement opening into said room, a propeller connectable with the engine shaft and adapted to fit said enlargement and to rotate therein for producing an air stream through said flue and said room, and a second air flue opening into the outer air and into said room substantially opposite the first flue with respect to said stand for guiding the air stream along the engine unit and the cooling means forming part thereof.

2. In a testing plant as claimed in claim 1, at least one conduit for directly supplying air at the atmospheric pressure to the carbureting means of the engine.

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