

W. E. SCRIPPS.  
INTAKE MANIFOLD.  
APPLICATION FILED APR. 10, 1911.

998,124.

Patented July 18, 1911.

2 SHEETS—SHEET 1.

Fig. 1

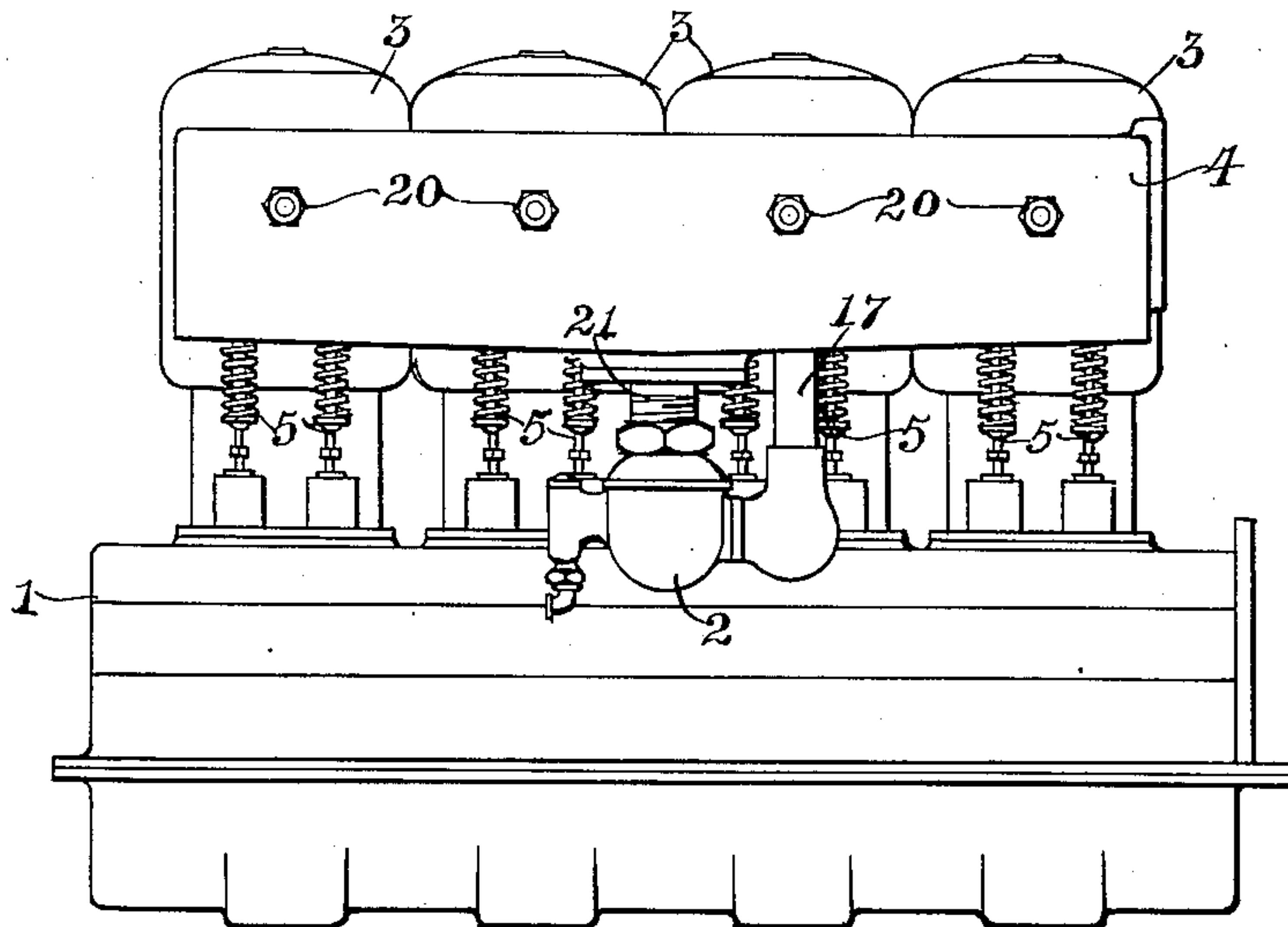
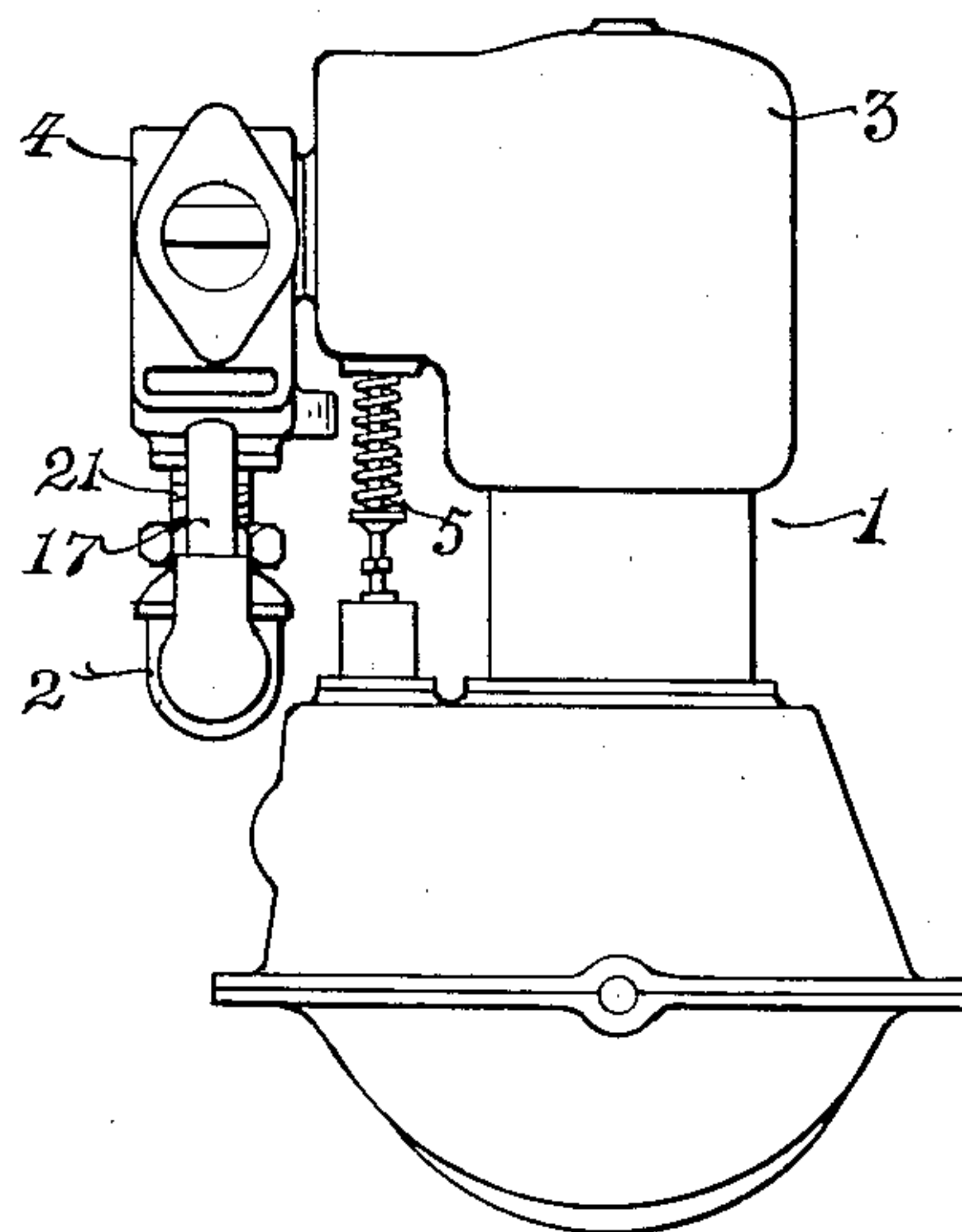


Fig. 2



Witnesses  
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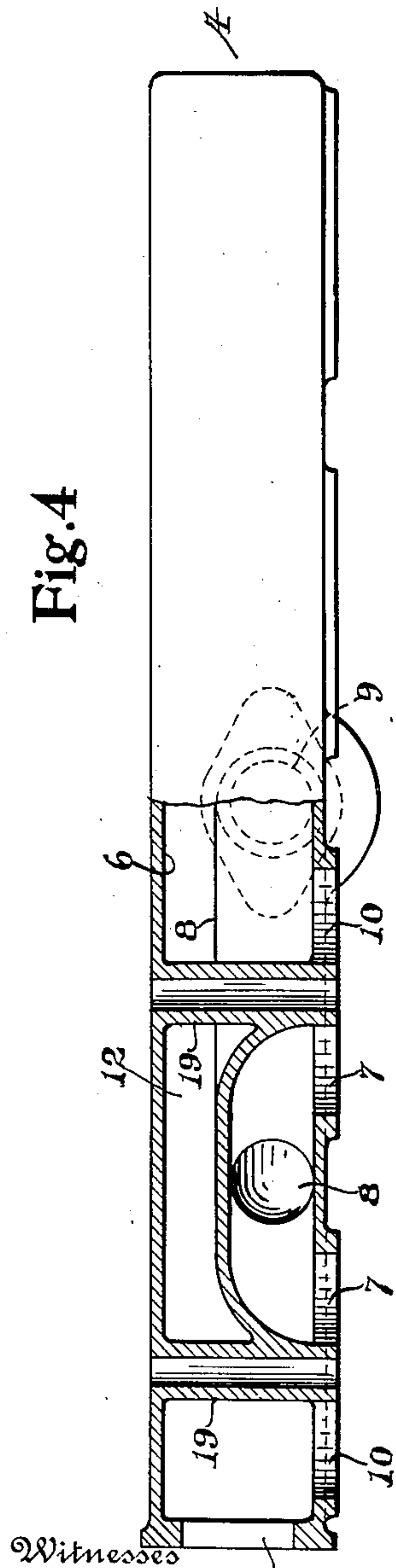
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2 SHEETS—SHEET 2.

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Fig. 4



Witnesses

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Fig. 5

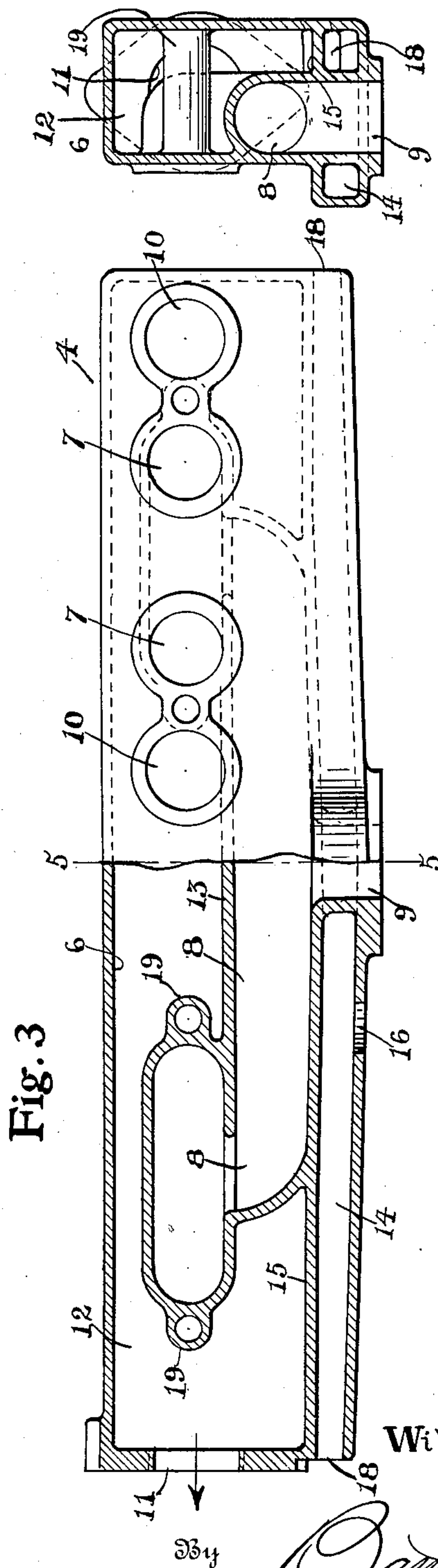
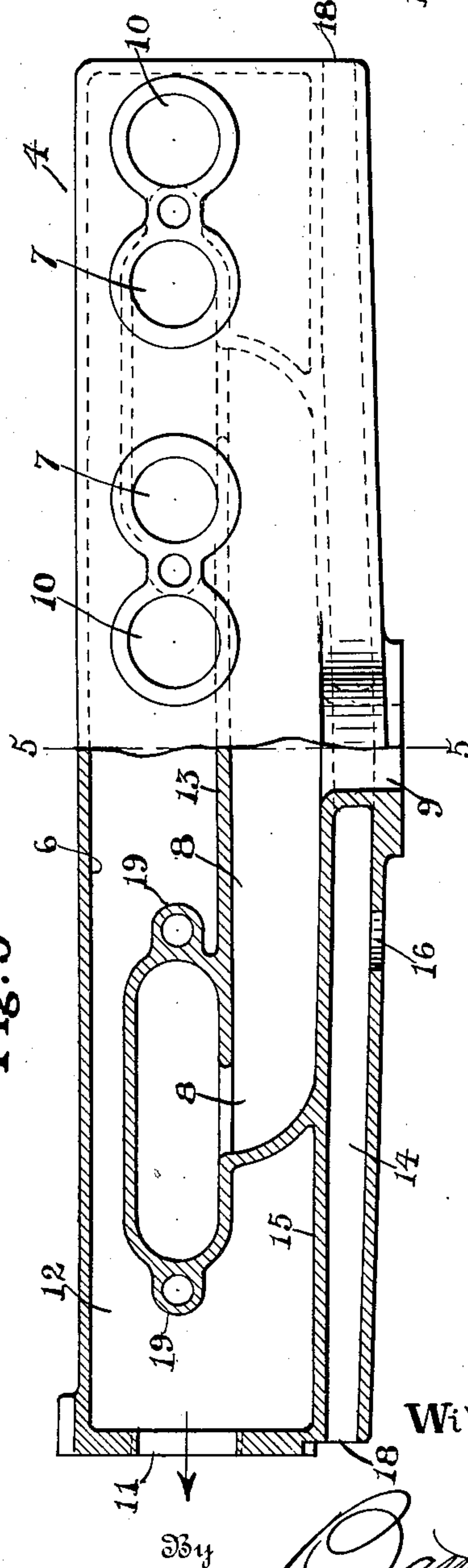


Fig. 3



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# UNITED STATES PATENT OFFICE

WILLIAM E. SCRIPPS, OF DETROIT, MICHIGAN.

## INTAKE-MANIFOLD.

998,124.

Specification of Letters Patent. Patented July 18, 1911.

Application filed April 10, 1911. Serial No. 620,242.

*To all whom it may concern:*

Be it known that I, WILLIAM E. SCRIPPS, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Intake-Manifolds, of which the following is a specification, reference being had therein to the accompanying drawings.

It is frequently desirable to use kerosene or the like for the fuel of an internal combustion motor that is otherwise generally adapted for use with gasoline or like volatile hydro-carbons.

This invention relates to a manifold for internal combustion motors which may be substituted for a manifold of conventional type used in connection with the consumption of gasoline or the like whereby the motor to which the manifold is attached may be driven by kerosene or a similar fuel.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in side elevation of a motor having a carbureter and a manifold that embodies features of the invention; Fig. 2 is a view in side elevation of the motor and attached parts; Fig. 3 is a view in detail, partially broken away, of the manifold on the engine side; Fig. 4 is a plan view partially broken away of the manifold; and Fig. 5 is a view in transverse section taken on or about line 5—5 of Fig. 3.

As herein indicated, an explosive engine 1 of conventional type is provided with a carbureter 2 that is in communication with the several inlet openings of the motor cylinders 3 through a manifold 4. The usual valve mechanism indicated at 5 of any preferred type controls the intake and exhaust from each cylinder in the usual manner.

As herein shown as a preferred form of construction, the manifold consists of an outer shell 6 having a plurality of fuel outlet openings 7 adapted to be connected to the corresponding intakes of the cylinders and in communication through a common fuel passage 8 with a fuel inlet opening 9 that is connected as by a fitting 21 or the like with the outlet of the carbureter 2. A plurality of exhaust intake openings 10 are in communication with the exhaust outlets of the cylinders and are connected to a common exhaust outlet 11 in the manifold by an exhaust passage 12 that is separated from the fuel passage 8 by an interior division wall 13, and is arranged to partially envelop or jacket the fuel passage. To further jacket the fuel passage an air duct 14 extends longitudinally through the manifold along an interior division wall 15 which divides it from the passages. An air outlet 16 may be connected, if desired, as by a suitable fitting 17, with the air intake of the carbureter 2 so as to draw air from the end openings 18 of the duct through the full length of the manifold and thereby warm the carbureter air supply.

As a preferred method of securing the manifold in place bolt tubes 19 extend transversely through the manifold to receive studs or bolts indicated at 20, the bores of the tubes not being in communication with the passages or ducts of the manifold.

While herein shown as an integrally formed structure, the manifold may be built up if desired.

The air outlet 16 is not necessarily connected with the carbureter if conditions do not require it.

By this construction a manifold is obtained which may be adapted for application to any form of internal combustion motor, and when so applied, constitutes an efficient means for maintaining desired temperature for effective use of kerosene or the like.

Obviously, changes in the details of construction may be made without departing from the spirit of the invention and I do not care to limit myself to any particular form or arrangement of parts.

What I claim is:—

1. A manifold for explosive engines having a fuel intake opening in communication with fuel outlets through a fuel passage, an exhaust outlet in communication with exhaust intake openings through an exhaust passage substantially enveloping the fuel passage, and an air outlet opening connected to air intake openings by an air duct separated from the fuel and exhaust passages by a division wall.

2. A manifold for explosive engines having a fuel intake opening in communication with fuel outlets through a fuel passage, an exhaust outlet in communication with exhaust intake openings through an exhaust passage substantially enveloping the fuel passage, an air outlet opening connected to air intake openings by an air duct separated



from the fuel and exhaust passages by a division wall, and with bolt holes extending completely through its body separate from the passages and ducts.

5 3. A manifold for explosive engines having a fuel intake opening connected to fuel outlet openings by a fuel passage, an exhaust outlet connected to exhaust intakes by an exhaust passage substantially inclosing  
10 the fuel passage from which it is separated by a division wall within the manifold, and an air outlet opening connected with air intake openings by an air duct separated from the fuel and exhaust passages by a division  
15 wall.

4. A manifold for explosive engines having a fuel intake opening in communication with a plurality of fuel outlets through a fuel passage, an exhaust outlet connected to  
20 exhaust intakes by an exhaust passage, and an air outlet connected to air inlets by an air passage, the fuel passage being substantially enveloped by the exhaust and air passages.

5 5. The combination with an explosive engine and a carbureter therefor, of a manifold having a fuel intake opening connected to the carbureter discharge, fuel outlets in communication with the cylinders connected  
30 by a fuel passage to the manifold fuel intake, exhaust intake openings in communication with the motor cylinder exhaust connected with an exhaust outlet by an exhaust passage substantially enveloping the fuel passage, and an air outlet opening connect-  
35 ed to air intake openings by an air duct separated from the fuel and exhaust passages by a division wall.

6. The combination with an explosive en-

gine and a carbureter therefor, of a manifold having fuel intake openings connected 40 to the carbureter discharge, fuel outlets in communication with the cylinders connected by a fuel passage to the manifold fuel intake, exhaust intake openings in communication with the motor cylinder exhaust con- 45 nected with an exhaust outlet by an exhaust passage substantially enveloping the fuel passage, and an air outlet opening connected to air intake openings by an air duct separated from the fuel and exhaust pas- 50 sages by a division wall, and a fitting adapted to connect the air outlet opening with the air intake opening of the carbureter.

7. The combination with an explosive engine and a carbureter therefor, of a mani- 55 fold having a fuel intake opening connected to the discharge of the carbureter, fuel outlet openings connected to the fuel intake opening by a fuel passage and to the fuel intake openings of the motor cylinders, an ex- 60 haust outlet, exhaust intakes connected to the outlet by an exhaust passage substantially inclosing the fuel passage from which it is separated by a division wall within the manifold and adapted to register with the 65 exhaust openings of the motor cylinders, and an air outlet connected with air intake openings by an air duct separated from the fuel and exhaust passages by a division wall connected to the air intake of the carbureter. 70

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. SCRIPPS.

Witnesses:

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G. E. McGRANN.