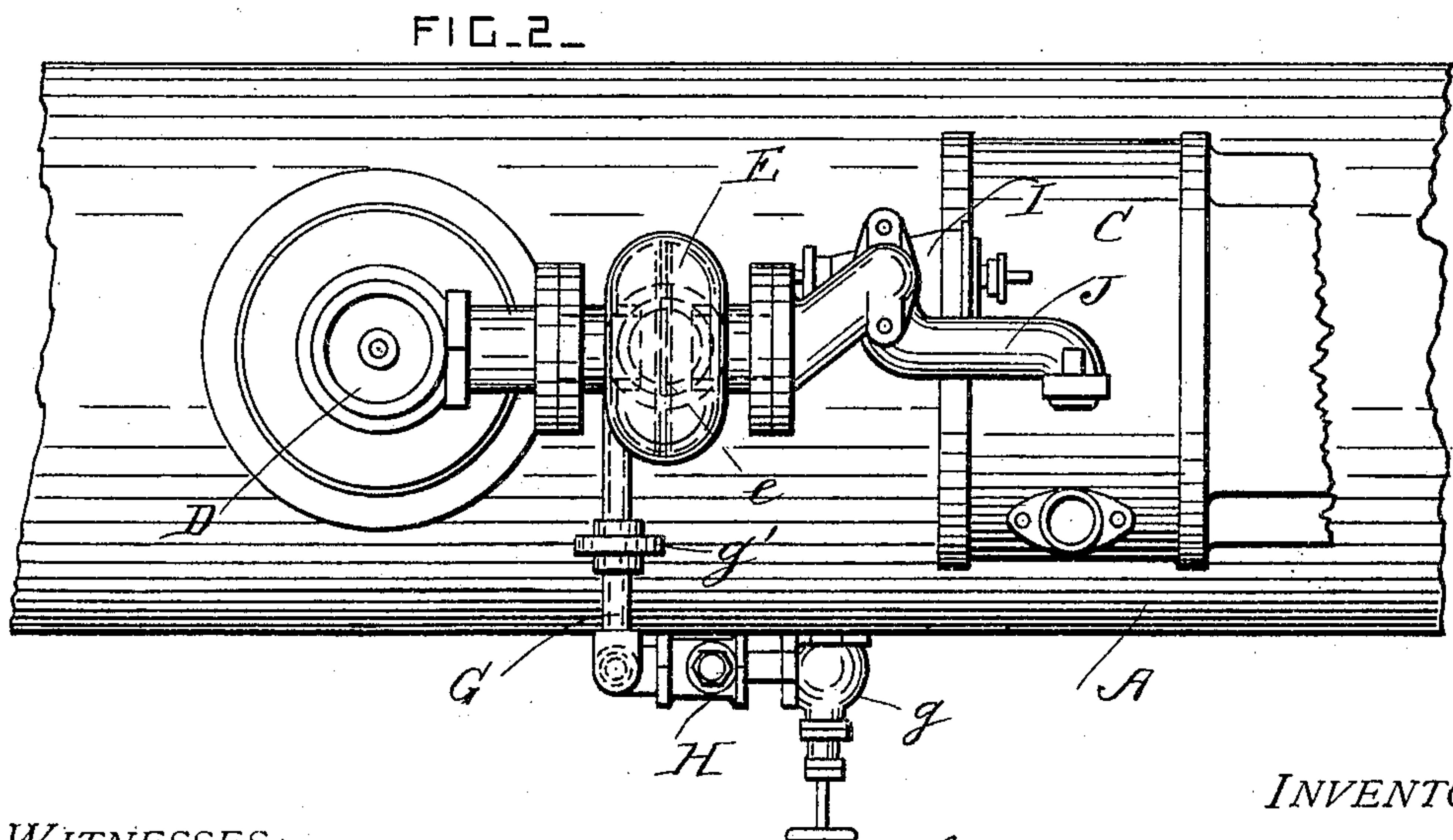
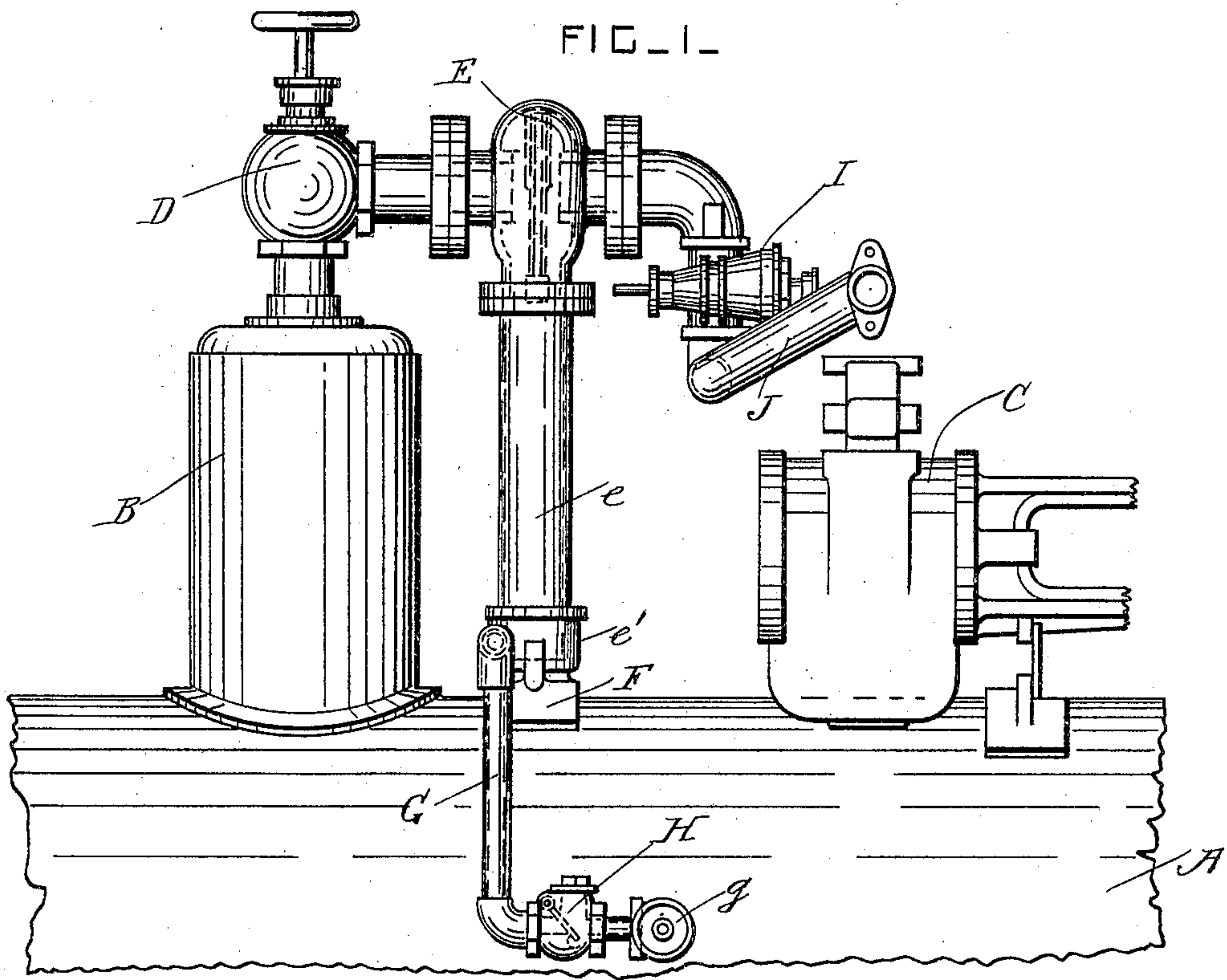


No. 818,216.

PATENTED APR. 17, 1906.

G. A. ANDERSON.
SEPARATOR.

APPLICATION FILED NOV. 18, 1905.



WITNESSES:

J. M. Pool
R. A. Cissel

INVENTOR

Gustaf Aavid Anderson

BY

Herbert W. J. Jenner

Attorney

UNITED STATES PATENT OFFICE.

GUSTAF ARVID ANDERSON, OF WAYNESBORO, PENNSYLVANIA, ASSIGNOR
TO THE GEISER MANUFACTURING COMPANY, OF WAYNESBORO, PENN-
SYLVANIA.

SEPARATOR.

No. 818,216.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed November 18, 1905. Serial No. 288,082.

To all whom it may concern:

Be it known that I, GUSTAF ARVID ANDERSON, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Separators for Traction-Engines; 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.

This invention relates to traction-engines; and it consists in providing a means for separating the water from the steam as it passes from the boiler to the engine-cylinder and supporting and connecting the said separator, as hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of a portion of the boiler and engine of a traction-engine, showing the water-separating mechanism. Fig. 2 is a plan view of the same.

A is a portion of the boiler of a traction-engine of any approved construction, and B is the steam-dome on top of the boiler.

C is the cylinder of the steam-engine, which is supported on top of the boiler to the rear of the steam-dome.

D is a steam stop-valve of any approved construction, which is secured to the upper part of the steam-dome.

E is a water-separator provided with any suitable deflecting-plates or other means for separating the water from the steam as it passes from the boiler to the engine-cylinder. This water-separator is connected to the stop-valve and is provided at its lower part with a water-receiver *e* in the form of a column. This water-receiver has a cap *e'* at its lower end, provided with a curved bracket F, which is secured to the top of the boiler adjacent to the steam-dome.

G is a water-pipe which is connected to the lower part of the water-receiver and preferably to its hollow cap. The other end of this water-pipe is connected to the boiler and is provided with a stop-valve *g*.

H is a check-valve in the pipe G adjacent to the stop-valve *g* to prevent the return of water from the boiler up the pipe G. The

pipe G is bent or jointed so as to extend part-way around the side of the barrel of the boiler, and it is provided with a union *g'* of approved construction, so that it may be attached to the boiler and water-receiver. 55

I is the regulating-valve of the steam-engine, which is connected to the water-separator and which is operated by hand by the engineer from the engine-platform in the usual manner. A speed-governor of approved construction (not shown in the drawings) is arranged on top of the engine-cylinder, and this governor is connected with the regulating-valve by means of an expansion-pipe J. This expansion-pipe has a double bend something like a letter S, and its ends are connected to the regulating-valve and to the governor in such a manner as to permit the various parts to have a slight movement with relation to each other as they expand and contract with the changes of temperature to which they are subjected. 60 65 70

The weight of the water-separator and the regulating-valve is supported from the top of the boiler by means of the column-shaped water-receiver, so that the governor and engine-cylinder are not subjected to any undesirable strain, and the pipe connections between the boiler and the cylinder always remain steam-tight. 75 80

The water which passes over from the boiler when the boiler primes, which the boilers of traction-engines are very liable to do, is caught by the water-separator and is conducted into the water-receiver, which is of large capacity to accommodate sudden and heavy rushes of water. The water drains back into the boiler through the small pipe connection. 85 90

What I claim is—

1. The combination, with a boiler provided with a steam-dome, of a water-separator connected to the upper part of the said dome, a water-receiver arranged adjacent to the said dome and supporting the said separator from the top of the boiler-shell, and a small pipe connection extending around the side of the boiler and connecting the lower part of the said receiver with the water-space of the boiler. 95 100

2
2. The combination, with a boiler provided with a steam-dome, of a water-separator connected to the upper part of the said dome, a water-receiver arranged under the said separator and supporting it from the top of the boiler-shell, a small pipe connection extending around the side of the boiler and connecting the lower part of the said receiver with

the water-space of the boiler, and a check-valve inserted in the said pipe connection. 10

In testimony whereof I have affixed my signature in the presence of two witnesses.

GUSTAF ARVID ANDERSON.

Witnesses:

WM. G. EPPLEY,
DANIEL S. BEARD.

WI
ref

30