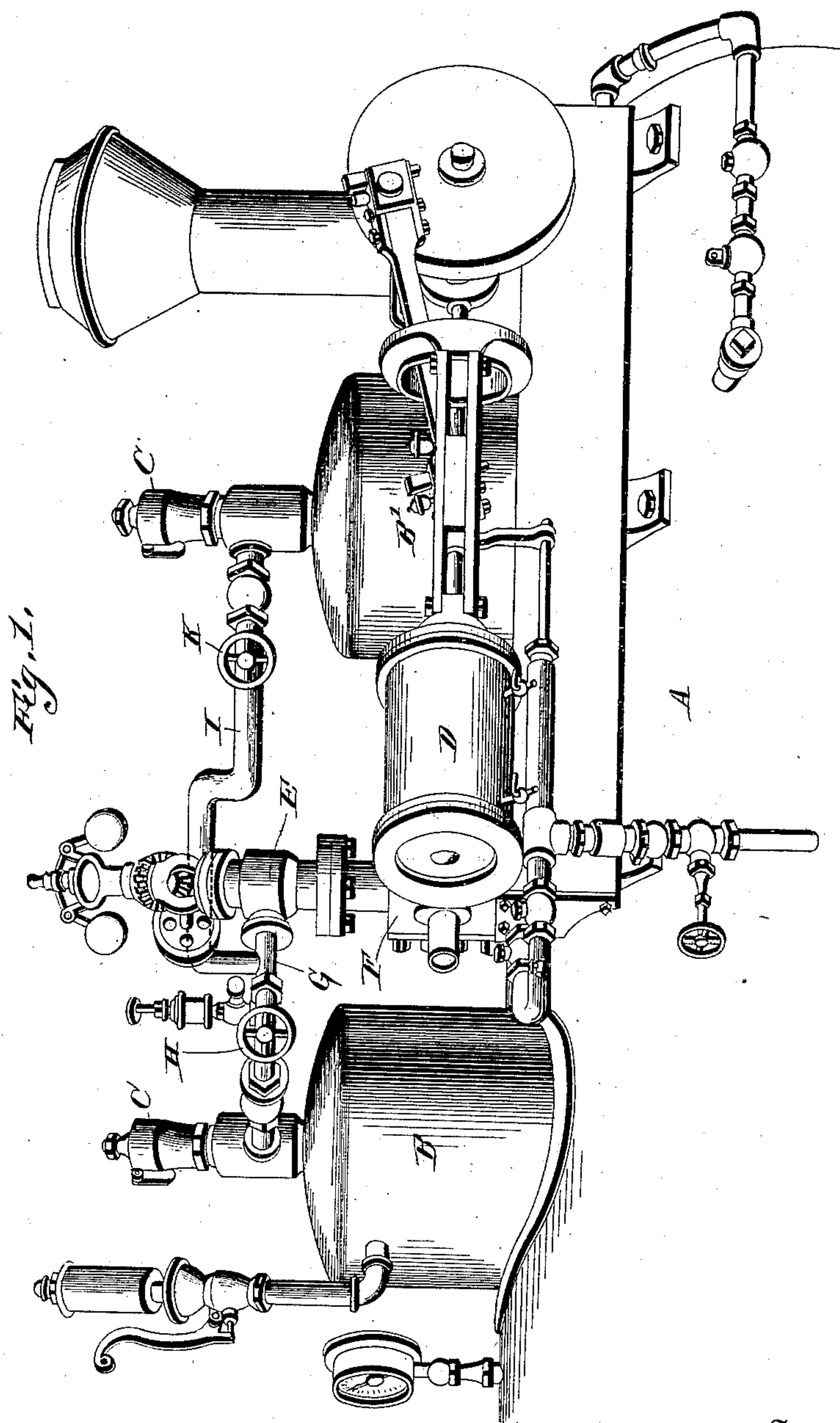


(No Model.)

A. K. GIBSON.  
TRACTION ENGINE.

No. 378,502.

Patented Feb. 28, 1888.



Witnesses  
*C. B. Taylor,*  
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By *Chas. A. Shaw* Attorneys.

# UNITED STATES PATENT OFFICE.

ANDREW K. GIBSON, OF KIMBOLTON, OHIO.

## TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 378,502, dated February 28, 1888.

Application filed September 30, 1887. Serial No. 251,139. (No model.)

### *To all whom it may concern:*

Be it known that I, ANDREW K. GIBSON, a citizen of the United States, residing at Kimbolton, in the county of Guernsey and State of Ohio, have invented a new and useful Improvement in Traction-Engines, of which the following is a specification.

My invention relates to an improvement in horizontal engines such as are employed on traction-engines, and my improvements are also adapted to be applied to locomotive-boilers; and they consist in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

The accompanying drawing is a perspective view illustrating a portable engine provided with my improved device.

A represents a horizontal steam-boiler, which is provided near opposite ends with a pair of steam-domes, B and B'. On the upper side of each steam-dome is a safety-valve, C.

D represents the cylinder of the engine, and E represents the steam-feed pipe, which communicates with the steam-chest F to supply steam thereto from the boiler. The pipe E is connected to one of the steam-domes by a pipe, G, which is provided with a valve, H, adapted to be opened or closed by the engineer, so as to establish or cut off communication between the dome B and the pipe E.

I represents a steam-pipe which connects the dome B' with the pipe G at a point between the valve H and the pipe E. The said pipe I is provided with a valve, K, which is similar to the valve H in pipe G, and is adapted to be opened or closed by the engineer, so as to establish or cut off communication between the dome B' and the pipe E.

The object of my invention is to provide means whereby the engine may be always supplied with dry steam unmixed with water, whether the boiler is arranged in a horizontal

plane or in an inclined position, and the operation thereof is as follows: When the boiler is in a horizontal position, the valve K is closed and the valve H is opened, and thereby steam from the dome B is caused to pass through the pipes G and E into the steam-chest, and the said valves are maintained in this position; also, when the engine is in an inclined position, with the front end of the boiler lower than the rear end thereof. When the engine is arranged in an inclined position, with the front end of the boiler higher than the rear end thereof, the valve H is closed, so as to cut off communication between the dome B and the steam-pipe E, and consequently prevent water from the said dome from entering the said pipe, and the valve K is opened, so as to establish communication between the dome B' and the pipe E, and thereby supply the engine with dry steam from the elevated dome B'.

My invention is especially adapted for use on the boilers of portable and traction engines, and it may also be advantageously employed on boilers of locomotive-engines.

Having thus described my invention, I claim—

The combination of the boiler having the steam-domes at opposite ends, the steam-engine having the vertical steam-pipe E, provided with the governor, the pipe G, connecting one of the domes to the pipe E, the pipe I, connecting the other dome to the pipe G, the cut-off valve K in the pipe I, and the cut-off valve H in the pipe G at a point between the juncture of pipe I with said pipe G and the adjacent dome, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ANDREW K. GIBSON.

Witnesses:

B. D. BUMGARDNER,  
S. W. LUCCOCK.