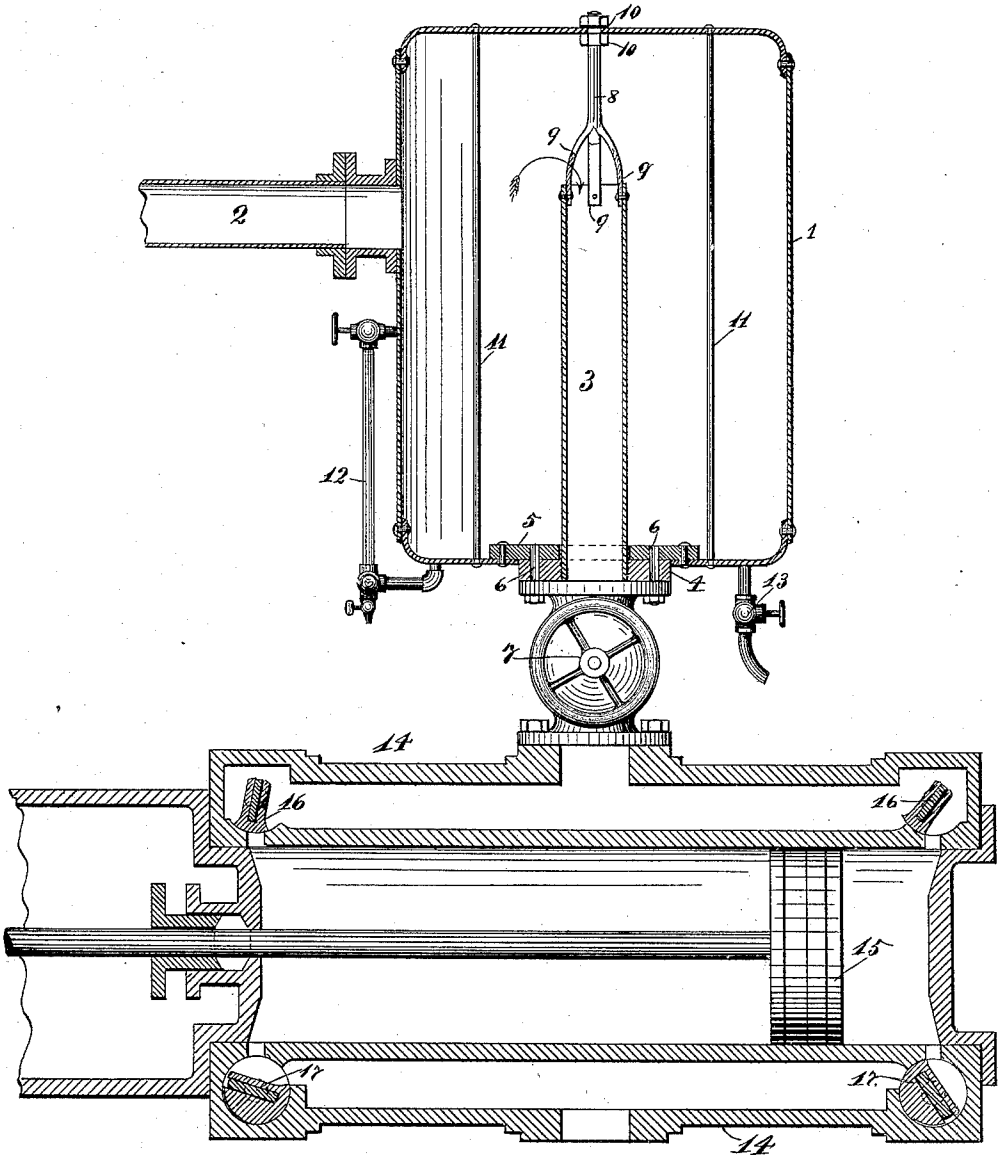
(No Model.)

C. F. BAKER.

ATTACHMENT FOR STEAM ENGINES.

No. 432,111. Patented July 15, 1890.

Fig. 1.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES F. BAKER, OF MINNEAPOLIS, MINNESOTA.

ATTACHMENT FOR STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 432,111, dated July 15, 1890.

Application filed February 6, 1890. Serial No. 339,504. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. BAKER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Attachments for Steam-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.

My invention relates to attachments for steam-engines, and comprises a receiver or drum made of boiler-iron plates suitably stayed and riveted together, said receiver or drum being placed adjacent to the cylinder of a high-pressure engine and being in communication with the boiler and with such cylinder. This receiver or drum acts as a reservoir for live steam at full boiler or initial pressure, from which steam can be drawn to supply the cylinder. Within this reservoir is a pipe shown as extending up to a point on about a line with the upper wall of the inlet of the boiler, although it can be differently located and arranged, said pipe being connected by a stay-bolt having arms riveted to the inner wall of the pipe, passing through and properly secured by jam-nuts in the top of the reservoir. The reservoir is also provided with a glass to indicate the amount of water of condensation it contains and with a blow-off cock and valve. At its lower end the vertical pipe is in communication with the throttle-valve leading to the steam-chamber of the cylinder, which contains the usual valves for admitting steam on each side of the piston. By the employment of this reservoir the steam in the cylinder is kept at its initial pressure up to the point of cut-off, thereby economizing the use of fuel and rendering it possible to obtain more horse-power from the consumption of a given amount of fuel. It also prevents the annoying pulsations in steam pipes and boilers used to supply steam to engines having automatic cut-offs, and, furthermore, permits a full supply of live steam unmixed with water to the cylinder, as if the blow-off pipes have been given proper attention not a particle of water can enter the cylinder.

In the accompanying drawing, in which like symbols are placed in like parts, the figure is a vertical section of my invention shown as in place on the steam-cylinder of a high-pressure engine, said cylinder being also represented in sections.

1 is a receiver or drum, and 2 is a pipe-connecting it with the boiler. (Not shown.) Centrally mounted in the receiver is a pipe 3, attached to a block or flange 4 at the bottom, said block being connected to another block 5, riveted in the inside of the receiver by bolts 6 6, which pass through the flange of the throttle-valve 7, on which block 4 is seated.

8 is a stay-bolt having branches 9 riveted to the inner wall of the top of tube 3. The stem of this bolt is threaded at its upper end and passes through the top of the drum, where it is secured in place by jam-nuts 10 10.

11 11 are brace-rods riveted in the top and bottom of the receiver and serving to brace and strengthen the same.

12 is a water glass or gage, which serves to indicate the height of the water of condensation in the drum.

13 is a blow-off pipe, through which the water of condensation is discharged.

14 is the cylinder of a steam-engine, and 15 is the piston therein.

16 16 and 17 17 are the usual valves governing the induction and eduction ports.

While I have shown pipe 3 as centrally mounted and as extended up to a line about on a level with the steam-inlet pipe, it is obvious that it could be differently located and arranged, and that it need not be extended so far up in the drum.

The arrangement of the blocks 5 6 is important. By riveting the block 5 to the inside of the drum a steam-tight joint is readily formed. The arms 9 9 of the stay-bolt 8 are riveted to the inside of tube 3, in order that said bolt may be readily passed through the opening in the drum and block 6. It is obvious that a suitable gasket can be placed between the block 4 and the bottom of the drum, if deemed necessary.

While the invention is shown as mounted on the cylinder of a reciprocating engine, yet it is obvious that it could be employed with a rotary, oscillating, or other form of engine.

Having thus described my invention, what I claim as new is—

1. The combination, with the cylinder of a steam-engine, of a reservoir or drum in communication with a boiler mounted on the throttle-valve thereof, a tube located in said drum, and a stay-bolt with branches riveted to the top of said tube, substantially as and for the purposes set forth.

2. The combination, with the cylinder of a steam-engine, of a reservoir or drum mounted on the throttle-valve thereof, a pipe connecting said drum with the boiler, a tube located in the drum with its upper end on a level with the steam-supply pipe, a block secured to the lower end of said tube, a block surrounding the tube and riveted to the inside of the drum, and bolts for securing the parts together, substantially as and for the purposes specified.

3. The combination, with the drum provided with a block secured to its inner wall at the bottom, of a tube, a block attached to the lower end thereof, and bolts securing the blocks together and to the flange of the throttle-valve of an engine, substantially as and for the purpose specified.

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

CHARLES F. BAKER.

Witnesses:

WM. H. BLODGETT,

FRANK D. MERCHANT.