

APPLICATION FILED JULY 22, 1909. RENEWED JAN. 12, 1911.

Patented Feb. 21, 1911.

2 SHEETS—SHEET 1.



Inventor
George C. Miller,
by *A. B. Wilson & Co*
Attorneys

G. C. MILLER.
BOILER FEEDER.

APPLICATION FILED JULY 22, 1909. RENEWED JAN. 12, 1911.

985,050.

Patented Feb. 21, 1911.

2 SHEETS—SHEET 2.

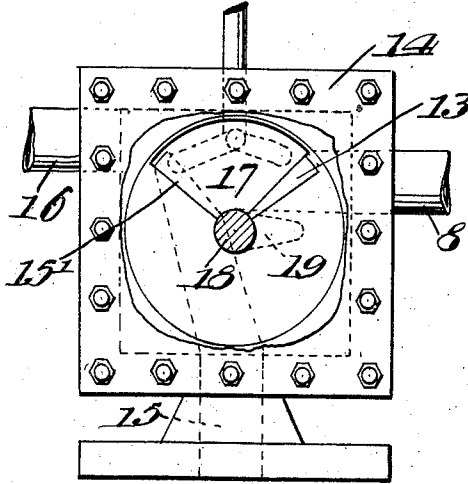


Fig. 2.

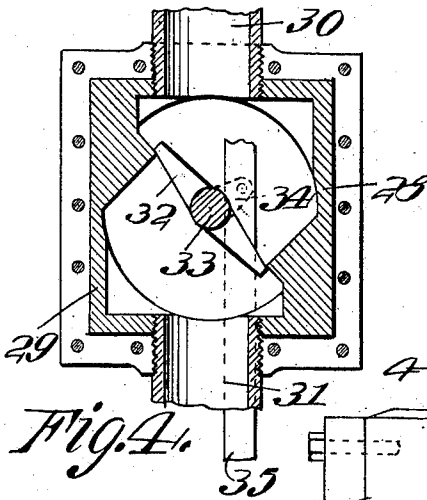


Fig. 4.

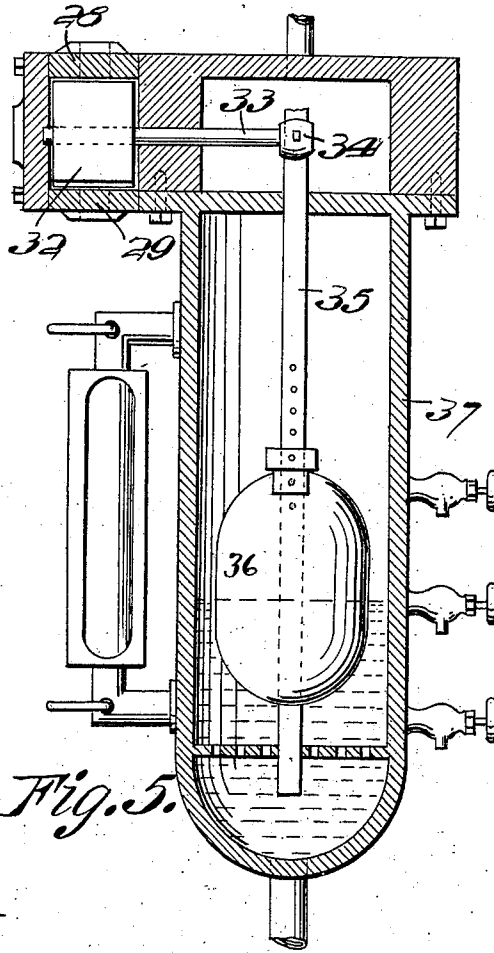


Fig. 5.

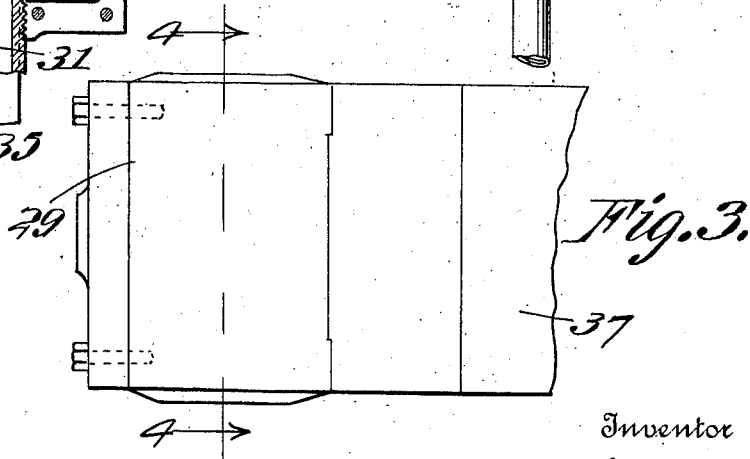


Fig. 3.

Witnesses
Edw. Brown
D. O. Heilston

Inventor
George C. Miller,
by A. B. Wilson & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE C. MILLER, OF FITCHBURG, MASSACHUSETTS, ASSIGNOR TO THE LEOMINSTER MACHINE SUPPLY COMPANY, OF LEOMINSTER, MASSACHUSETTS.

BOILER-FEEDER.

985,050.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed July 22, 1909, Serial No. 509,003. Renewed January 12, 1911. Serial No. 602,276.

To all whom it may concern:

Be it known that I, GEORGE C. MILLER, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Boiler-Feeders; and I do 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 boiler feeders and has for its object to provide an auxiliary attachment whereby the water is automatically fed to the boiler without the employment of pumps or such other like expensive devices.

A further object of the invention is to provide means whereby a predetermined level of the water in the boiler will be maintained at all times.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is an elevation, partly in section illustrating the application of my improved water feeding device. Fig. 2 is a fragmentary view of the valve and valve casing for controlling the course of the steam and water. Fig. 3, is an elevation, of the water valve. Fig. 4, is a vertical transverse section thereof taken on line 4-4 of Fig. 3; and, Fig. 5, is a front elevation, partly in section of the float device for operating the water cut-off valve.

Referring to the drawings for a more particular description of the invention, 1, indicates the boiler of the furnace and 2 the steam dome thereof.

3, indicates my improved attachment or device for automatically feeding water to the boiler. This device comprises the water tank 4, which is mounted below the boiler, the receiver 5, which communicates by means of the pipe 6, with the lower end of the tank; the water pipe 7, which projects into the receiver 5; the steam pipe 8, which extends in a parallel plane with the pipe 7, and the branch steam and water pipes 9 and 10, which communicate respectively with the lower ends of the main steam and

water pipes 8 and 7. The main water pipe 7, is bent intermediate of its ends to provide the heating coils 11, and is provided at its upper end with the horizontal section 12, which communicates with the auxiliary water chamber 23. The upper end of the steam pipe 8, communicates with the valve casing 14, by means of the valve opening 13. A branch steam pipe 16, extends from the inner side of the casing 14, to the steam dome 2, and a second steam pipe 15 which communicates with the rear side of the valve casing 14 by the valve opening 15' leads to the auxiliary water chamber. A segmental valve 17, in the form of a flat plate is revolubly mounted in the valve casing 14, and is adapted to close either of the openings 13 or 15'. This valve is formed upon a shaft 18, provided with the arm 19, which is connected by means of the link 20, with the free end of the pivoted bar or rod 21, the inner end of which carries a ball float 22. This float works in the auxiliary water chamber 23, and rises or falls to operate the cut-off valve 17. The coils 11, are inclosed by the casing 24, through which is passed by means of the pipes 25 and 26, the exhaust of the engine in order to heat the coils and give the water a preliminary heating before it is passed into the boiler. A feed pipe 27, extends from the bottom of the water casing or chamber 23, into the boiler.

In order to cut off the supply of water to the boiler after the predetermined level of the water in the boiler has been reached, a cut-off valve 28, is arranged between the ends of the pipe 27. This valve comprises a casing 29, to which is screwed the upper and lower sections 30 and 31, of the pipe 27. A vertically disposed cut-off valve 32, is arranged in the casing and extends across the entire width thereof, said valve being mounted upon one end of the rock shaft 33, with which is connected by means of the crank arm 34, the upper end of the vertical operating rod 35, carrying the float 36, which works in the casing 37, arranged at one side and communicating with the boiler by means of the pipe 38.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claim.

Having thus described my invention, what I claim is:

10 A structure of the character described
thereon, an attachment for the boiler comprising a water tank arranged below the boiler, a receiver having a pipe communicating with said tank, a main water pipe
15 projecting into the receiver and having a coil thereon medium of its length, a casing for inclosing the coil, means for heating the coil, said water pipe being extended above said casing and having a
20 horizontal section secured thereto which communicates with an auxiliary water chamber, a main steam pipe arranged parallel with the water pipe and having its lower end connected to the receiver and its
25 upper end connected to a valve casing by

means of a valve opening therein, a branch steam pipe extending from the inner side of said valve casing to said dome, a secondary steam pipe having communication with the rear side of said valve casing by 30
a valve opening, a segmental valve removably mounted in said valve casing for controlling said steam pipes; a float in the auxiliary water chamber for operating the segmental valve, a second float chamber connected with the water space of the boiler 35
and with the lower end of the auxiliary water chamber, and a valve controlled by a float in the second float chamber for controlling the flow of water from the lower 40
part of the auxiliary water chamber to the boiler.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE C. MILLER.

Witnesses:

FREDERICK A. CURRIER,
FESTUS C. CURRIER.