

(No Model.)

C. W. OLDS & E. L. MORAN.

FEEDER FOR STEAM BOILERS.

No. 304,354.

Patented Sept. 2, 1884.

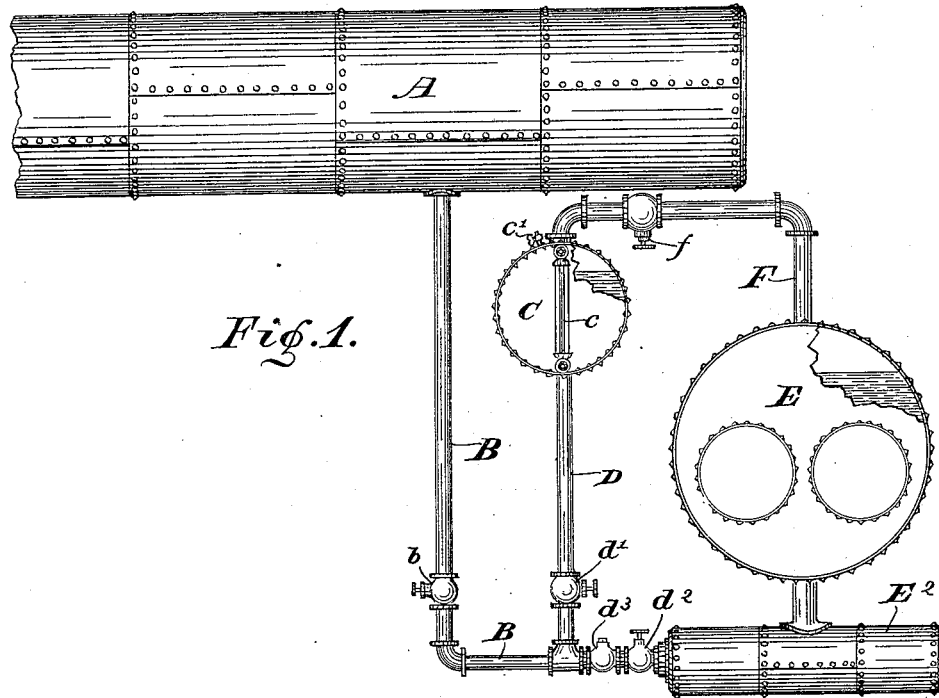
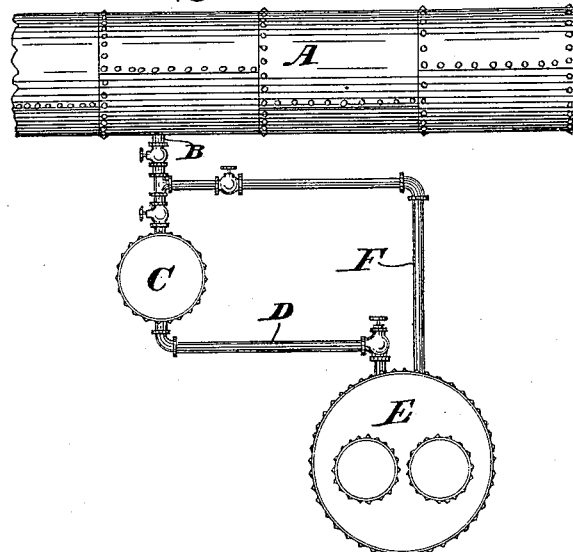


Fig. 1.

Fig. 2.



WITNESSES.

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CHARLES W. OLDS AND EDWIN L. MORAN, OF MARTINSVILLE, INDIANA.

FEEDER FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 304,354, dated September 2, 1884.

Application filed May 1, 1883. (No model.)

To all whom it may concern:

Be it known that we, CHARLES W. OLDS and EDWIN L. MORAN, of the town of Martinsville, county of Morgan, and State of Indiana, have invented certain new and useful Improvements in Feeders for Steam-Boilers, of which the following is a specification.

The object of our said invention is to provide means for filling a steam-boiler with water without the use of a pump or other forcing apparatus.

It consists in a combination of tanks and pipes provided with appropriate valves, as will be hereinafter described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is an end elevation of our improved apparatus, certain portions being broken away to show the interior; and Fig. 2, a view similar to Fig. 1, but illustrating an alternate arrangement of the apparatus.

In said drawings the portions marked A represent a water-tank; B, a pipe leading from said tank to the feeder; C, said feeder; D, a pipe leading from said feeder to the boiler; E, said boiler, and F a pipe leading from the top of said boiler back to the top of said feeder. The tank A may be any common construction of water-tank, and is located above the feeder, so that the water will run from said tank to said feeder without forcing or pumping. The pipe B may lead directly to the feeder, as shown in Fig. 4, or may run down to near the bottom of the boiler, and make use of a part of the pipe D in returning, as will be hereinafter described, and as is shown in Fig. 1. We prefer this last-described arrangement, for the reason that it brings most of the valves near together and within easy reach of the operator. This pipe is provided with the valve *b*, by which the flow of water may be controlled. The feeder C is an ordinary tank or boiler-shaped receptacle, from which the water is drawn to the boiler. It is provided with a water-gage, *c*, and an air-valve, *c'*. It is located above the water-line in the boiler E, so that said boiler may be filled to the point desired from said feeder without pumping or otherwise forcing the

water. The pipe D leads from the feeder either to the boiler or to the mud-drum connected therewith. When a portion of this pipe serves as a portion of the pipe B, there should be three valves therein—two globe-valves, *d'* and *d''*, and a check-valve, *d'''*. The use of these valves will be hereinafter explained. The boiler E is any ordinary steam-boiler. In most stationary boilers the mud-drum E' is preferably used; but such a drum does not affect our invention in any way. The pipe F leads from the top of the boiler E to the top of the feeder C, and is for the purpose of allowing the pressure in said boiler and said feeder to become equalized. It is provided with a valve, *f*, by which communication can be cut off when desired. The amount of water which passes through the pipe D during any given time may be controlled by adjusting one of the valves *d'* or *d''*—preferably the former—and the proper position for said valve can be determined at any time by an indicator of such character as may be desired. (Not shown.)

The operation of our said invention is as follows: The tank A being filled with water, it is then necessary to fill the feeder C. To do this the valves *d'* and *f* are closed and the valves *c'*, *b*, and *d''* opened, which permits a free passage of water from said tank to said feeder and a free escape of air from said feeder. When it is apparent from an inspection of the gage *c* that the feeder contains the desired amount of water, the valve *b* is closed, which shuts off the flow, and then, before communication is opened between the feeder and the boiler, the valve *c'* is also closed. When it is desired to introduce water into the boiler, the valves *f*, *d'*, and *d''* are opened, which causes the water to flow freely from feeder to the boiler through the pipe D. In first filling the boiler, before the fire is started, the valves *b* and *d'''* may be opened and the water introduced directly into the boiler from the tank A without passing through the feeder C.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the tank A, pipe B,

provided with valve *b*, feeder C, provided with
air-valve *c'*, pipe D, leading from said feeder
to the boiler or mud-drum, the boiler E, and
the steam-pipe F, said several pipes being
5 provided with appropriate check and stop
valves, whereby water may be introduced from
the tank to the boiler through the feeder, sub-
stantially as set forth.

In witness whereof we have hereunto set
our hands and seals at Indianapolis, Indiana, 10
this 24th day of April, A. D. 1883.

CHARLES W. OLDS. [L. S.]

EDWIN L. MORAN. [L. S.]

In presence of—

C. BRADFORD,

CHAS. L. THURBER.