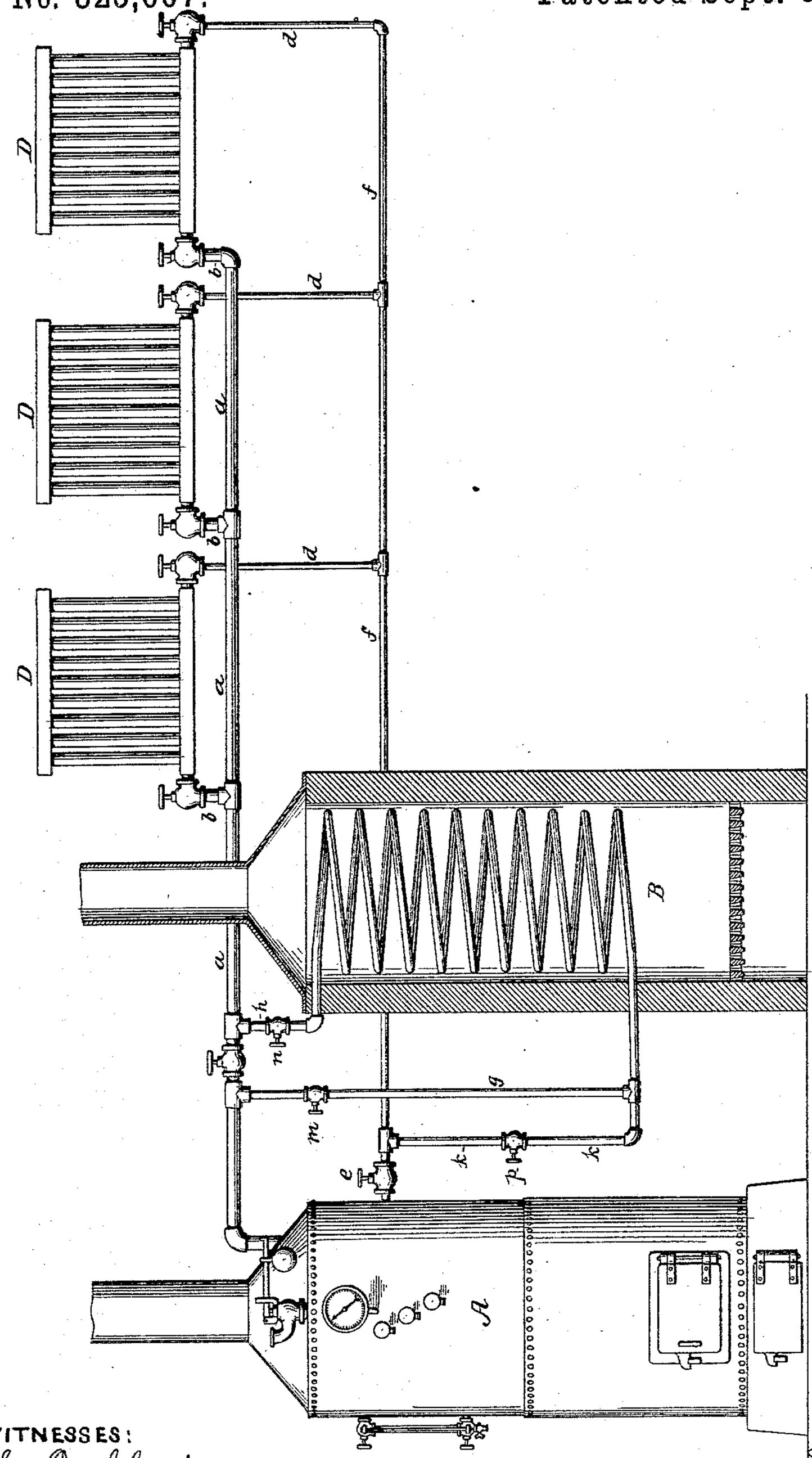
(No Model.)

M. FOREMAN.

SYSTEM OF STEAM HEATING.

No. 325,667. Patented Sept. 8, 1885.



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UNITED STATES PATENT OFFICE.

MILTON FOREMAN, OF PHILADELPHIA, PENNSYLVANIA.

SYSTEM OF STEAM-HEATING.

SPECIFICATION forming part of Letters Patent No. 325,667, dated September 8, 1885.

Application filed July 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, MILTON FOREMAN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented a certain Improved System of Steam-Heating, of which the following is a specification.

The object of my invention is to effect the thorough heating of buildings, rooms, or apartments by means of low-pressure steam, and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawing, which is a diagram illustrating an arrangement of apparatus for carrying out my invention.

A is a boiler of any desired construction; B, a superheater, and D a series of coils or radiators in a building, room, or apartment to be heated.

The steam-pipe *a* communicates through suitable branches, *b*, with the inlet ends of the radiators, the outlet ends of the latter communicating through branches *d* with a pipe, *f*, which leads into the boiler, preferably above the water-line, and is furnished with a valve, *e*. The pipe *a* communicates through a branch, *g*, having a valve, *m*, with the lower end of the superheating-coil B, and through a branch, *h*, having a valve, *n*, with the upper end of said coil, a valve, *i*, being interposed in the pipe *a* between the branches *g* and *h*. A branch, *k*, having a valve, *p*, forms a communication between the pipe *f* and the branch *g*.

In mild weather the apparatus may be used without the superheater, the valves *m*, *n*, and *p* in this case being closed, and the valves *i* and *e* opened, so that the low-pressure steam at low temperature passes directly through the pipe *a* and branches *b* to the radiators, the water of condensation returning to the boiler through the branches *d* and pipe *f*. When more heat is desired, however, the valve *i* is closed and the valves *m* and *n* opened, so that the steam is compelled to pass through the superheater before reaching the radiators. This superheating of the steam does not increase the pressure of the same, however, as the capacity of the pipe *a* is so much greater than that of the branch *g*, which supplies steam to the coil B, that the increased volume of steam can find a free outlet, there being a rapid condensation in the radiators, and consequently a rapid circulation through the same and through the pipes *a* and *f*.

If desired, the boiler can be cut out of the system after the circulation is established, the valves *i*, *m*, and *e* in this case being closed, and the valves *n* and *p* only remaining open, so that the water of condensation from the pipe *f* flows directly through the branch *k* to the superheater.

I claim as my invention—

1. The mode herein described of heating by steam, said mode consisting in first generating steam under low pressure, then raising the temperature of the steam without increasing the pressure, and then circulating the low-pressure high-temperature steam through the radiators, as set forth.

2. The mode herein described of heating by steam, said mode consisting in first generating steam under low pressure, then raising the temperature of the steam without increasing the pressure, then passing the low-pressure high-temperature steam to the radiators, and conveying the water of condensation from said radiators to the superheaters, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MILTON FOREMAN.

Witnesses:
JOHN M. CLAYTON,
HARRY SMITH.