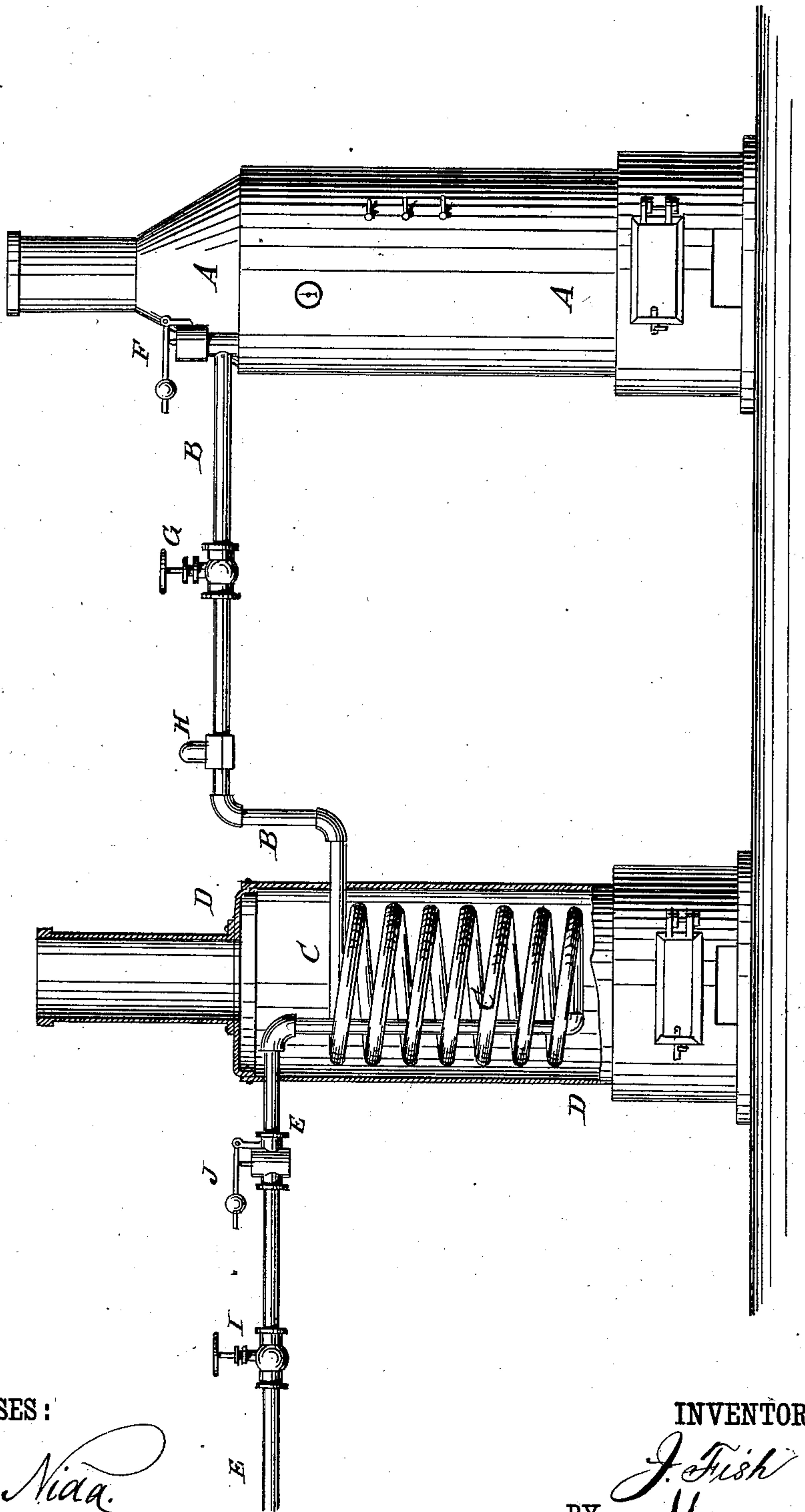


(No Model.)

J. FISH.
SUPERHEATER.

No. 255,271.

Patented Mar. 21, 1882.



WITNESSES:

Chas. Nida.
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UNITED STATES PATENT OFFICE.

JOHN FISH, OF SUMMIT, NEW JERSEY.

SUPERHEATER.

SPECIFICATION forming part of Letters Patent No. 255,271, dated March 21, 1882.

Application filed August 2, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN FISH, of Summit, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Combined Steam Generators and Superheaters, of which the following is a specification.

The drawing is a side elevation of my improvement, partly in section.

10 The object of this invention is to furnish an improved steam generator and superheater; and to this end the invention consists in the combination, with the valved pipe connecting the generator and superheater and the valved
15 discharge-pipe of the superheater, of a check-valve and a safety-valve located in the said pipes between the said valves and the superheating-pipe, whereby the steam can be heated to any desired temperature to the point at
20 which the safety-valve is set without causing a back flow of steam into the generator, as will be hereinafter fully described.

In the drawing, A represents the steam-generator, from the steam-space of which a pipe,
25 B, leads to the pipe C, coiled within the furnace D, and forming the superheater. From the coil C a pipe, E, leads to the place where the steam is to be used. The generator A is provided with a safety-valve, F, in the ordinary manner. The pipe B is provided with
30 a stop-valve, G, for preventing the escape of steam from the generator A, when desired. The pipe B is also provided with a check valve, H, opening toward the superheater. The discharge-pipe E of the superheater is provided
35 with a throttle-valve, I, so that the superheated steam can be detained in the superheater until raised to the desired temperature. The discharge-pipe E, between the throttle-valve I
40 and the superheating-coil C, is provided with a safety-valve, J, to prevent the pressure of

steam in the superheater from rising to a dangerous height.

With this construction, when the throttle-valve I is closed the steam can be superheated
45 until its pressure reaches the point at which the safety-valve J is set, and can be drawn off whenever desired by opening the throttle-valve I.

With this construction the check-valve H
50 prevents any back-pressure upon the generator from the superheated steam, so that a generator of ordinary strength can be used.

With this construction, also, when the superheated steam has been drawn off by opening
55 the throttle-valve I the pressure upon the side of the check-valve H next the superheater becomes less than the pressure upon the side next the generator, so that the said check-valve will open automatically and admit an-
60 other supply of steam to the superheater, the said check-valve remaining open until the steam-pressure in the superheater again becomes greater than the pressure in the generator, when the said valve again closes and the
65 steam can be again heated to the desired point.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

70 In a combined steam generator and superheater, the combination, with the superheater-pipe C and the pipes B E, provided with valves G I, of the check-valve H and the safety-valve J, located in the said pipes between the said
75 valves and the superheating-pipe, substantially as and for the purpose set forth.

JOHN FISH.

Witnesses:

JAMES T. GRAHAM,
C. SEDGWICK.