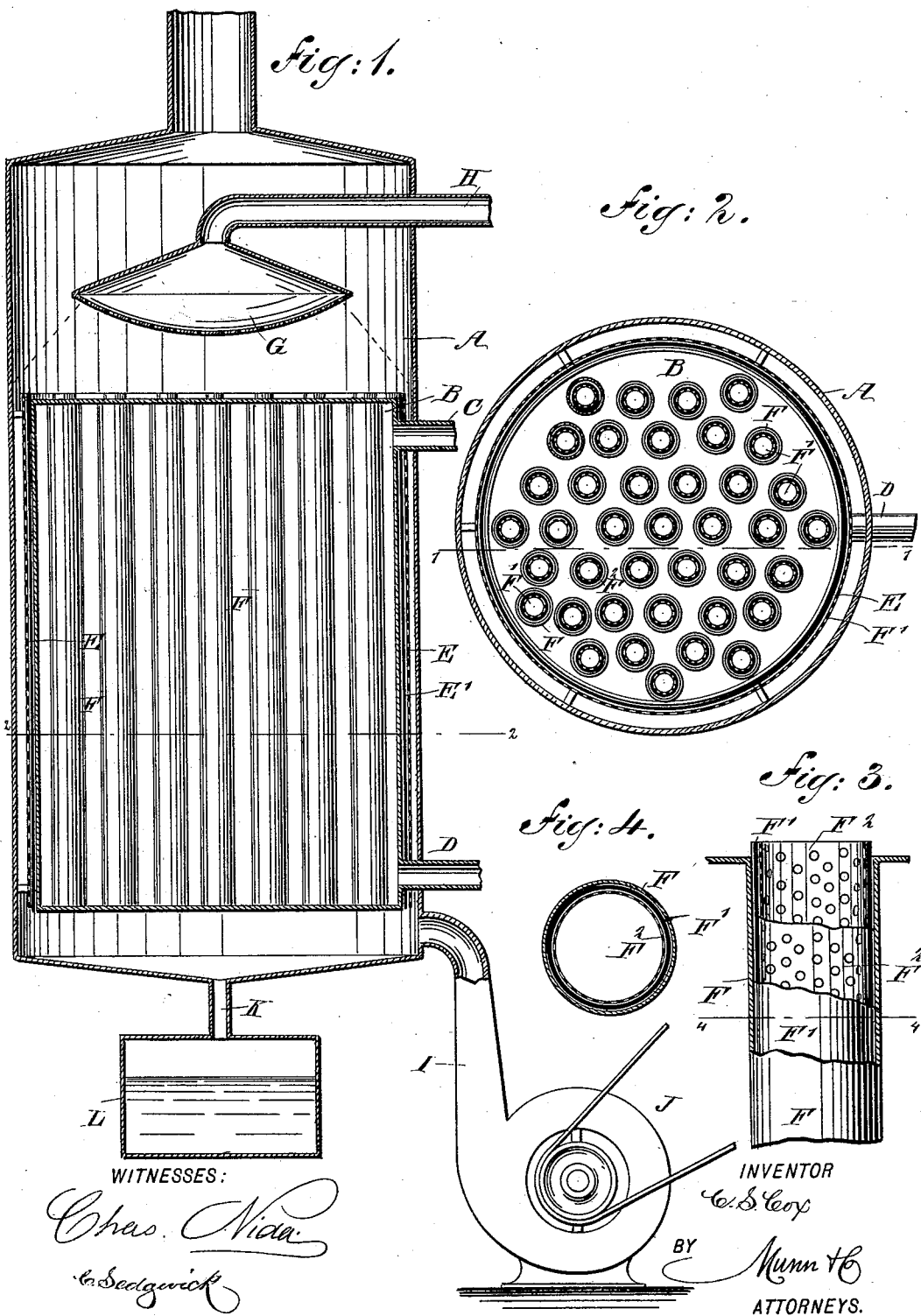


(No Model.)

C. S. COX.
CONDENSER.

No. 521,783.

Patented June 26, 1894.



WITNESSES:
Chas. Nida
& Sedgwick

INVENTOR
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UNITED STATES PATENT OFFICE.

CARY S. COX, OF SPOTTISWOOD, ASSIGNOR TO HIMSELF, AND HUGH A. BLODGET, OF BAKERSFIELD, CALIFORNIA.

CONDENSER.

SPECIFICATION forming part of Letters Patent No. 521,783, dated June 26, 1894.

Application filed August 2, 1893. Serial No. 482,172. (No model.)

To all whom it may concern:

Be it known that I, CARY S. COX, of Spottiswood, in the county of Kern and State of California, have invented a new and Improved Condenser, of which the following is a full, clear, and exact description.

The invention relates to condensers used for condensing the exhaust steam of engines, and its object is to provide a new and improved condenser, which is simple and durable in construction, and arranged to quickly condense the steam to prevent back pressure in the engine.

The invention is an improvement in that class of steam condensers which are provided with a series of tubes.

The invention is embodied in the construction and arrangement of parts hereinafter specified.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional plan view of the same on the line 2—2 of Fig. 1. Fig. 3 is an enlarged sectional side elevation of one of the water-receiving and evaporating pipes, parts being broken out; and Fig. 4 is a sectional plan view of the same on the line 4—4 in Fig. 3.

The improved condenser is provided with a shell A within which is arranged a drum B forming, with the shell A, a suitable air space as plainly shown in Figs. 1 and 2. Into the upper end of the drum B leads the steam pipe C connected with the engine, so that the exhaust steam passes from the latter into the said drum to be condensed in the latter, the water of condensation or highly saturated vapor passing out of the lower end of the drum by means of a pipe D. The drum B is covered on its outside, with a moisture-absorbing fabric E, such as cloth, and this cloth is held in place by a perforated metal sheet E' surrounding the cloth, as illustrated in the drawings.

The heads of the drum B are connected with each other by a series of tubes F each lined with a water-absorbing fabric, F', which

is held in place by a perforated metal sheet or tube F², the latter, as well as the fabric, preferably extending a suitable distance above the upper end of the pipe at the top head of the drum. The fabric E and its metal sheet E' likewise extend above the upper head of the drum, as indicated in Fig. 1.

In the upper part of the shell A directly above the upper head of the drum B is arranged a water sprinkler G connected at its apex with a water supply pipe H, connected with a suitable source of water supply, so that water can pass through the said pipe H to the sprinkler G, which latter distributes the water in small jets over the upper end of the drum B, so that the water passes into the several tubes F to moisten the fabrics F' held in the several tubes. The lower end of the shell A is connected by a pipe I with an exhaust fan J of any approved construction, so as to cause a circulation of air through the shell A, and the tubes F to assist in evaporating the water passing down the drum and its tubes.

The bottom of the shell A is connected by a small pipe K with a water-receiving receptacle L in which accumulates any water not evaporated while passing through the shell A and the tubes F. Now, it will be seen that the steam passing into the drum comes in contact with and heats the tubes F, so that the water contained in the fabric lining of the said tubes readily evaporates, thus taking up considerable heat, and thereby reducing the temperature within the drum B to cause a rapid condensation of the steam.

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

1. A condenser comprising a steam drum, a series of tubes passing through the heads of the drum and lined with water-absorbent fabric, and a means for holding such lining in place, as shown and described.

2. A condenser, comprising a steam drum, and a series of tubes connecting the heads of the said drum with each other, each tube being lined at its inside with water evaporating fabric, and a perforated metal sheet or covering for the said fabric within the tube, substantially as shown and described.

3. A condenser, comprising a shell through which air circulates, a drum contained within the said shell and provided with a steam inlet pipe, and a water outlet pipe, a series of
5 tubes connecting the heads of the drum with each other, each tube being lined at its inner surface with a water evaporating fabric, and

a water sprinkler arranged within the said shell above the upper head of the said drum, substantially as shown and described.

CARY S. COX.

Witnesses:

L. L. BROWN,
GEO. W. PRICE.