(No Model.)

O. T. X. ADAMS.

SLAG FURNACE.

No. 379,883. Patented Mar. 20, 1888.

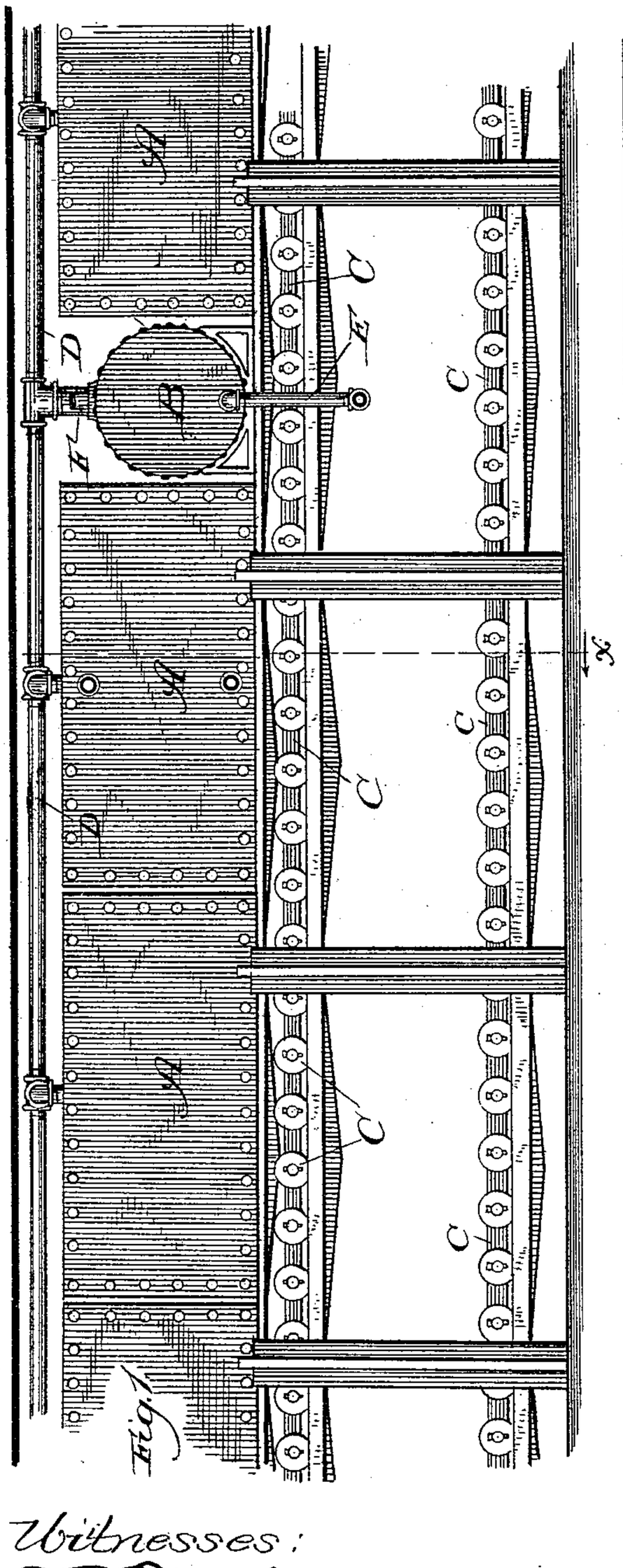

Fig. 1.

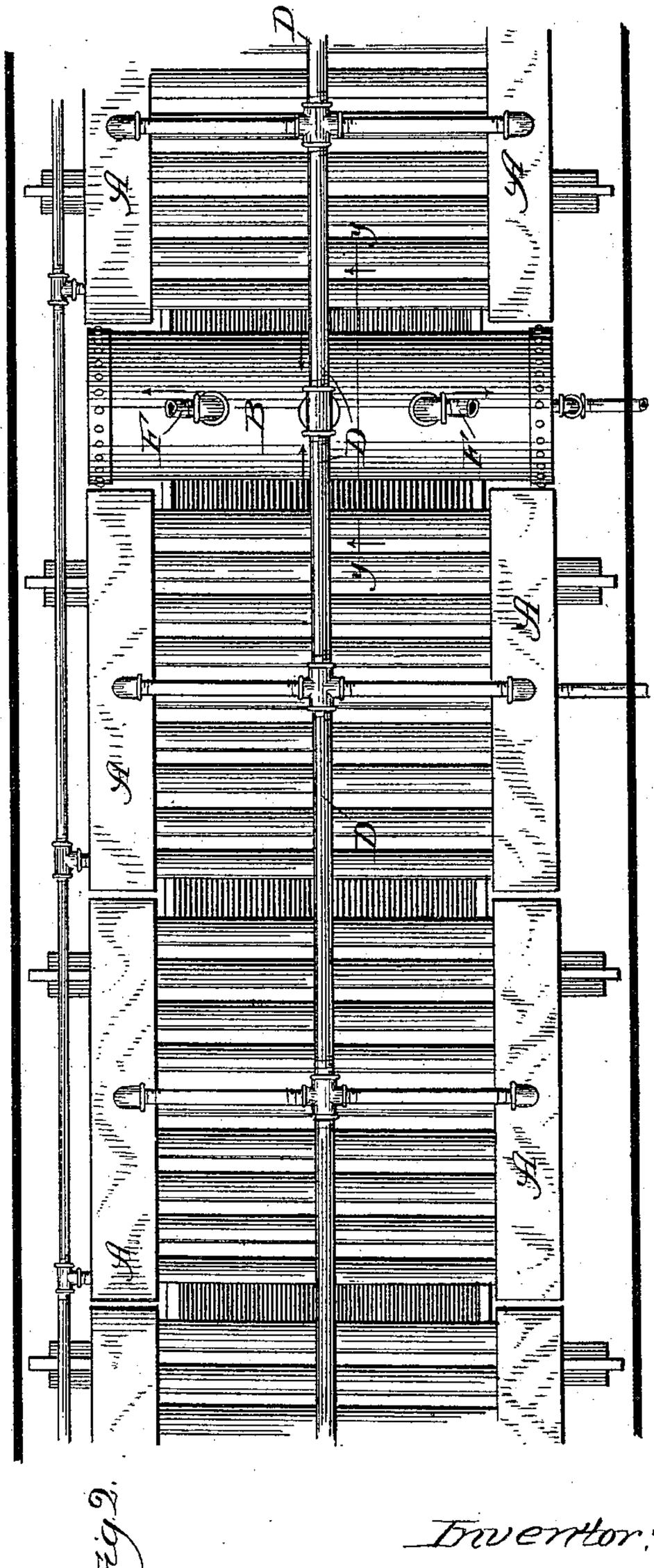

Fig. 2.

Witnesses:
Chas. E. Gaylord.
Chas. E. Gorton.

Inventor:
Orsemas T. X. Adams.
By Banning & Banning
Att'ys

UNITED STATES PATENT OFFICE.

ORSEMAS T. X. ADAMS, OF CHICAGO, ILLINOIS, ASSIGNOR TO MELINDA PECK, OF SAME PLACE.

SLAG-FURNACE.

SPECIFICATION forming part of Letters Patent No. 379,883, dated March 20, 1888.

Application filed February 10, 1888. Serial No. 263,645. (No model.)

To all whom it may concern:

Be it known that I, ORSEMAS T. X. ADAMS, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Slag-Furnaces, of which the following is a specification.

The object of my invention is to so locate the steam-drum of the generator as to reduce the height of the generator and prevent the steam in the drum from condensing; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 represents a side elevation of a slag-carrier and steam-generators, showing the end of the steam-drum; and Fig. 2 is a plan view of the same.

A is the steam-generating boiler; B, the steam-drum; C, the slag-carrier; D, the pipe for conveying the steam from the generating-boilers to the drum; E, a drainage-pipe leading from the steam-drum; F, steam-pipes leading from the drum to the place of use.

In making my improvements I make a slag-carrier and one or more steam-generating boilers located above the same, and support them in their proper position and operate the carrier and supply the heated slag substantially in the ways shown and described in the application of Phineas H. Adams, Jr., No. 258,773, filed December 22, 1887. I do not feel that it is necessary, therefore, to enter into any extended description of these matters. In steam-generators generally the steam-drum is located at the top and above the water-line. This is sometimes by the use of a separate drum at the top of the generator, or by the use of a space above the water, into which the steam collects, and from which it is drawn for use. These constructions, however, are open to the objection that they increase the height of the steam-generators and subject the steam to condensation. In slag steam-generators particularly it is important to reduce the height of the generators, as they are usually located above a slag-conveyer, which occupies considerable space, and often in excavations in the ground to receive them.

In constructing my slag steam-generator I make the steam-generating boilers as low as the generation of the quantity of steam desired will allow, and provide but a small space at the top above the water-line for the collection of steam. At a suitable place, and preferably over the slag-conveyer or other heating-surface, I locate a separate steam-drum connected with the steam-generating boilers by pipes leading therefrom to carry the steam to the steam-drum. As the steam-drum is thus located below the water-line of the steam-generating boilers, the pipes conveying the steam to the drum should open into the tops of the steam-generating boilers and lead therefrom to the steam-drum. The steam-drum, if placed immediately above the conveyer, will be exposed to the action of the heat as the heated or molten slag is carried along beneath the generating-boilers. In this way the steam which it contains will be constantly kept at a very high temperature and condensation prevented. The steam-drum may be provided with double walls or other means of protection on the side which is exposed to the heat of the slag as it passes underneath, to prevent overheating or injury to the steam-drum. Pipes will of course be provided to carry the steam from the drum to the place of use, and a drain-pipe should lead from the bottom to carry off the water which settles in the bottom of the steam drum when heat has ceased to be applied.

What I regard as new, and desire to secure by Letters Patent, is—

In a slag steam-generator, the combination of a steam-generating boiler, a carrier conveying heated or molten slag underneath the same, and a steam-drum arranged below the water-line of the water in the steam-generating boiler and over the heating-surface, substantially as described.

ORSEMAS T. X. ADAMS.

Witnesses:
GEORGE S. PAYSON,
M. F. FAIRBANKS.