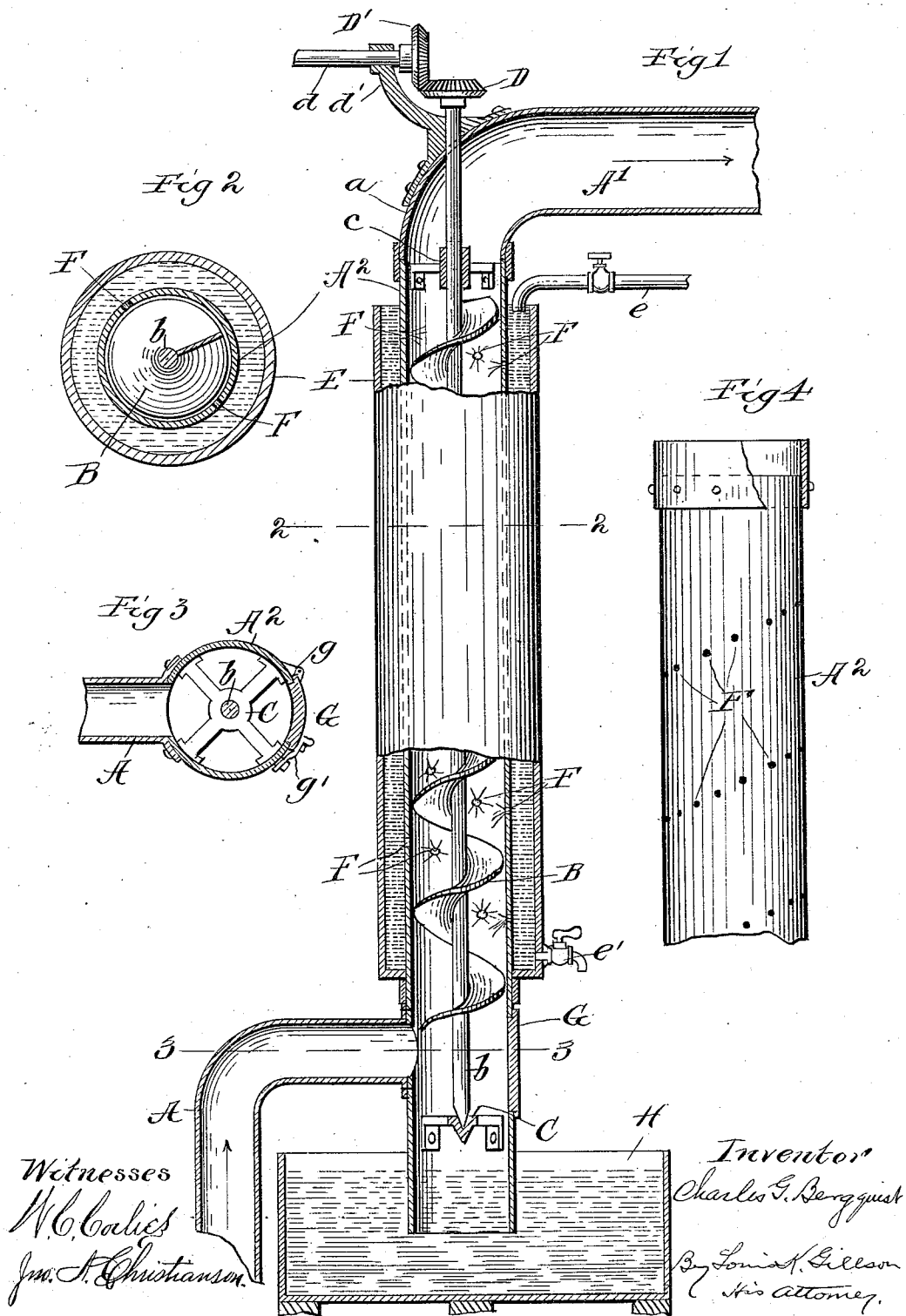


(No Model.)

C. G. BERGQUIST.
SMOKE PURIFIER.

No. 532,438.

Patented Jan. 15, 1895.



UNITED STATES PATENT OFFICE.

CHARLES G. BERGQUIST, OF CHICAGO, ILLINOIS.

SMOKE-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 532,438, dated January 15, 1895.

Application filed June 16, 1894. Serial No. 514,817. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. BERGQUIST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Smoke-Purifiers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of smoke purifiers in which water is used as a cleansing agent.

It consists of a flue section into which is thrown a number of fine jets of water, and within which a conveyer or blower is operated to advance the smoke.

The object of the invention is to eliminate from the smoke the carbon which is readily condensed, and which causes the nuisance experienced in the use of bituminous coal; the carbon being preserved in such manner that it is available for any use to which it may be desired to put it.

In the drawings illustrating my invention, Figure 1, is a vertical section of my apparatus, being partly in elevation. Fig. 2, is a transverse section on the line 2—2, of Fig. 1. Fig. 3, is a similar view on the line 3—3 of Fig. 1. Fig. 4, is a detail of a part of the apparatus.

The flue leading from the stove or furnace is shown at A, and the flue leading to the stack at A'. Between these two is interposed a piece of pipe, A², preferably vertical, and carrying within it a worm or screw conveyer, B, which is a sheet metal flange wound spirally upon a shaft, b, which has an end bearing upon a spider, C, secured to the walls of the pipe, A², and is journaled in a spider, c, at the upper end of the pipe, A². The shaft, b,

is prolonged upwardly so as to extend through an elbow, a, uniting the pipe A² to the flue A' and carries a beveled gear D which meshes with and is driven by a similar gear D' mounted upon a shaft, d, journaled in a bracket hanger, d', mounted upon the elbow, a.

The pipe, A², is inclosed by a water jacket, E, served by a pipe e, and having a drain cock, e'. The walls of the pipe, A², covered by the water jacket E, have numerous perforations, F, F, to admit small jets of water. A door, G, is placed in the lower end of the pipe A², being hung upon hinges, g, and secured by a latch, g'. The purpose of this door is simply to give access to the mechanism within the pipe. The lower end of the pipe, A², is open and submerged in a tank of water, H, into which the water discharged into the pipe through the jets, F, F, falls with the carbon washed from the smoke. The water necessarily chills the smoke, and the conveyer B is used to drive it through the flue.

I claim as my invention—

1. In a smoke purifier the combination with a section of flue having apertures for the admission of jets of water, of a conveyer as B within the flue section for advancing the smoke substantially as described.

2. In a smoke purifier the combination with the flues, A and A', of a vertical flue section, A², connecting such flues and having apertures for the admission of water jets, a water jacket encompassing the flue section A² and open to its apertures, a spiral conveyer B within the flue section A², and means for rotating such conveyer, substantially as described and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES G. BERGQUIST.

Witnesses:

SPENCER WARD,
LOUIS K. GILLSON.