

W. Y. CRUIKSHANK.

STOVE.

No. 172,711.

Patented Jan. 25, 1876.

Fig: 1.

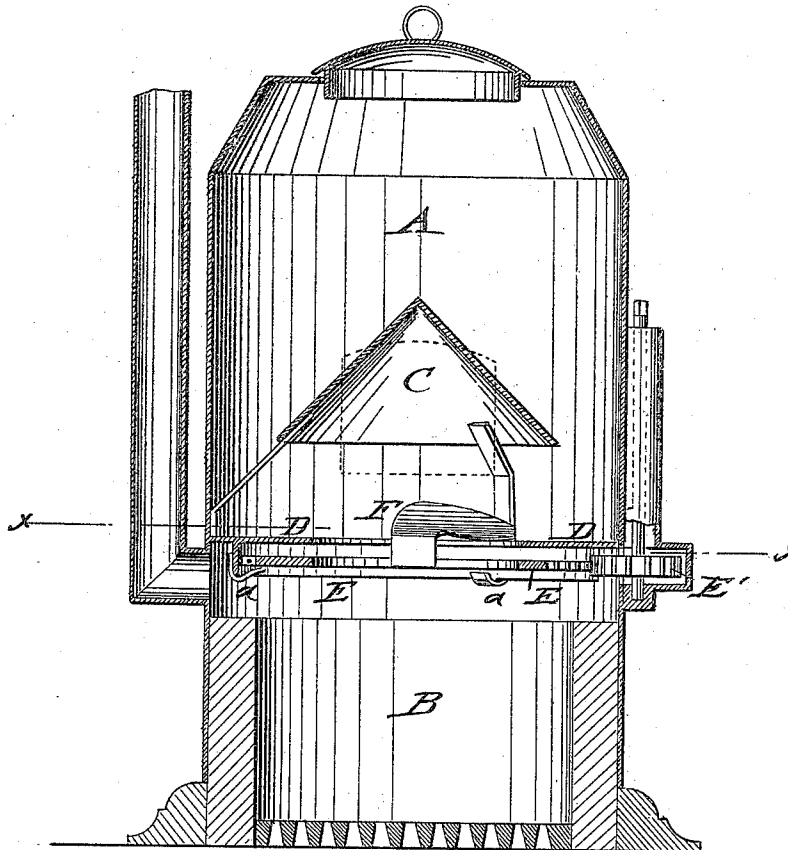
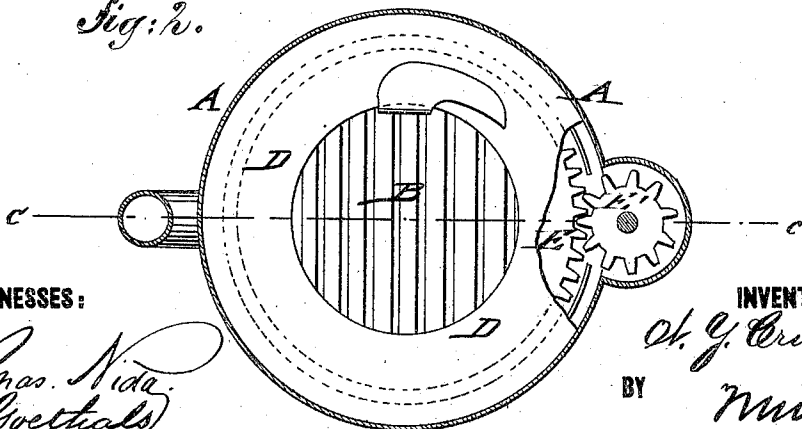


Fig: 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM YOUNG CRUIKSHANK, OF SHAMOKIN, PENNSYLVANIA.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **172,711**, dated January 25, 1876; application filed January 7, 1876.

To all whom it may concern:

Be it known that I, WILLIAM Y. CRUIKSHANK, of Shamokin, in the county of Northumberland and State of Pennsylvania, have invented a new and Improved Stove for Burning Coal-Dust, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section on line *c c*, Fig. 2, and Fig. 2 a horizontal section on line *x x*, Fig. 1, of my improved stove or furnace for burning coal-dust.

Similar letters of reference indicate corresponding parts.

The object of my invention is to utilize the vastly-accumulating anthracite coal-dust of coal-mines in direct manner, without special preparation and expense, so that the same is fed in dried, heated, and well-regulated state to be burned in the stove or furnace.

The invention consists of a distributing-cone, drying-plate, and revolving feeder, by which the coal-dust is conveyed in small and thin sheets continually to the fire below.

In the drawing, A represents a magazine, which is arranged on the top of the stove or furnace B, and filled with coal-dust through the aperture at the top.

A conical diaphragm of sheet metal is supported in suitable manner in central position in the magazine, for distributing the coal-dust equally by gravity to the drying plate D.

The diameter of the base of cone *c* is somewhat larger than the inner diameter of the ring-shaped drying-plate D, so that the coal-dust falls on the inner edge of the same, being thinly distributed therein, to be dried and heated by the fire.

Below the drying-plate D is arranged, on suitable supports *a*, a ring-shaped plate, E, having a corresponding interior opening and cogs at the outer circumference, which gear with a pinion, E'.

The ring-plate E is revolved by power applied to the shaft of the pinion by weight or spring, or in any other suitable manner.

A feeder plate or arm, F, is attached to the

revolving ring-plate E, and extended radially over the drying-plate, so as to carry the thin layer of coal-dust deposited therein into the fire.

The finer dust particles ignite and form a gas-flame, being thus consumed before reaching the grate, while the coarser particles fall onto the grate, and are there consumed in the usual way.

The gradual feeding of the dry and heated coal-dust before being conveyed to the fire utilizes even the finest particles, while the coarser particles are fed regularly and so slowly that the quantity is not too great to prevent the ready passage of the air through the same, so as to assist in their complete combustion.

The coal-dust may be burned in large quantities without choking up the stove or furnace, and thereby employed without special preparation for various heating and other purposes.

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

1. In a stove or furnace for burning coal-dust, the combination, with the magazine supplied with coal-dust, of a distributing cone or diaphragm, a ring-shaped drying-plate, and a revolving feeder that throws the thin layer of coal-dust into the fire below, substantially in the manner and for the purpose set forth.

2. In a stove or furnace for burning coal-dust a distributing cone or diaphragm, whose diameter at the base is somewhat larger than the interior opening of the ring-shaped drying-plate to drop the coal-dust near the inner circumference of the same, substantially for the purpose described.

3. In a stove or furnace for burning coal-dust, a revolving ring-plate with radial feeder, to clear drying-plate continually from dust, substantially as set forth.

WILLIAM YOUNG CRUIKSHANK.

Witnesses:

J. M. CALDWELL,
J. B. VAN ZANT.