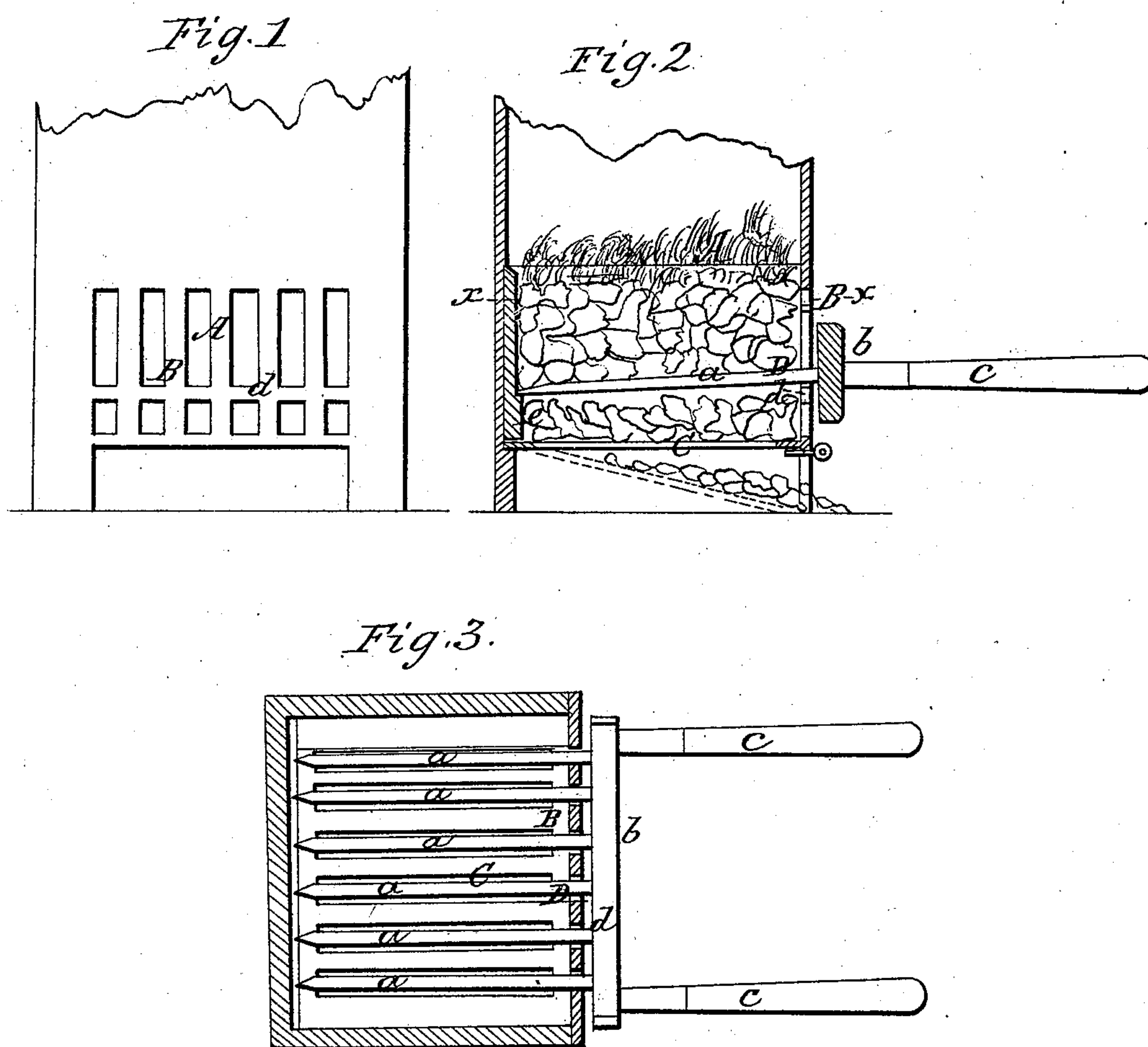


B. F. FOERING.

Stove Grate.

No. 14,356.

Patented March 4, 1856.



UNITED STATES PATENT OFFICE.

B. F. FOERING, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SUPPLEMENTARY GRATING FOR STOVES, FURNACES, &c.

Specification forming part of Letters Patent No. **14,356**, dated March 4, 1856.

To all whom it may concern:

Be it known that I, B. F. FOERING, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and improved mode of removing slate, cinders, clinkers, and other impure or incombustible materials which accumulate at the bottoms of the fire-chambers of stoves, grates, furnaces, &c., in which anthracite coal is consumed; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of the grate of a stove or furnace. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a horizontal section of the same, *x x*, Fig. 2, showing the plane of section.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in inserting a supplementary grating within the fire-chamber a requisite distance above the usual grating or fire-grate, so that the latter may be removed or let down, the coal being held or sustained by the supplementary grating, while the slate, cinders, &c., are removed from the lower part of the fire-chamber.

In the annexed drawings, A represents the fire-chamber of a stove or furnace.

B is the grate, and C is the fire-bars or grate at the bottom of the fire-chamber. The grate C is hinged or jointed at its back end, so that it may be let down when required.

D is a supplementary grating, which is formed of a series of rods, *a*, the outer ends of which are pointed, and the inner ends are secured to a bar, *b*, to which handles *c c* are attached. (See Figs. 2 and 3.)

The stove or furnace is cleaned out as follows: The supplementary grating D is inserted in the fire-chamber A through the grate B, the inner ends of the rods *a* resting upon a cross-bar, *d*, of the grate, which bar is at a suitable height from the grate C, the outer ends of the rods resting, if necessary, upon a ledge, *e*, at the back part of the fire-chamber. The bottom or fire grate, C, is then let down while the coal is burning in the stove, and the slate,

cinders, clinkers, and all impure incombustible substances which settle or fall to the bottom of the fire-chamber, and which are below the supplementary grating, are removed, the coal being supported or held by the supplementary grating D. When the fire-chamber is cleaned, the fire-grate C is raised and secured in proper position, and the supplementary grating D withdrawn, and the coal falls upon the fire-grate C, and has an unobstructed draft.

In close stoves where no open grates B are employed, holes or apertures are made a requisite distance above the fire-grate C to allow the rods *a* to pass into the fire-chamber, and said rods are made of varying length for cylindrical stoves, so that the grating may conform to the shape of stove. It would be preferable to have the rods *a* connected to a bar, *b*, as shown; but detached rods may be employed.

The advantages of this improvement is that the stove or furnace may be cleaned or have all impure or foreign substances which obstruct the draft removed from it while the coal is burning, so that a continuous fire may be kept up. Where anthracite coal is used clinkers will form, especially during a rapid combustion, and the clinkers, slate, and other impurities gradually settle to the lower part of the fire-chamber. If these are not removed the draft will be checked and the fire correspondently reduced. Consequently it has been hitherto necessary to allow anthracite coal-fires to burn out frequently in order to clean out the furnace or stove.

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

Cleaning or removing foreign substances—such as slate, cinders, clinkers, &c.—from stoves, furnaces, or other heating devices in which anthracite coal is burned by means of the supplementary grating D applied to the stove or furnace or inserted within it, substantially as herein shown and described.

BENJ. F. FOERING.

Witnesses:

W. G. CONROW,
J. B. STINES.