G. A. WING.

Stove Grate.

No. 106,442. Patented Aug. 16, 1870.

Fig. 3

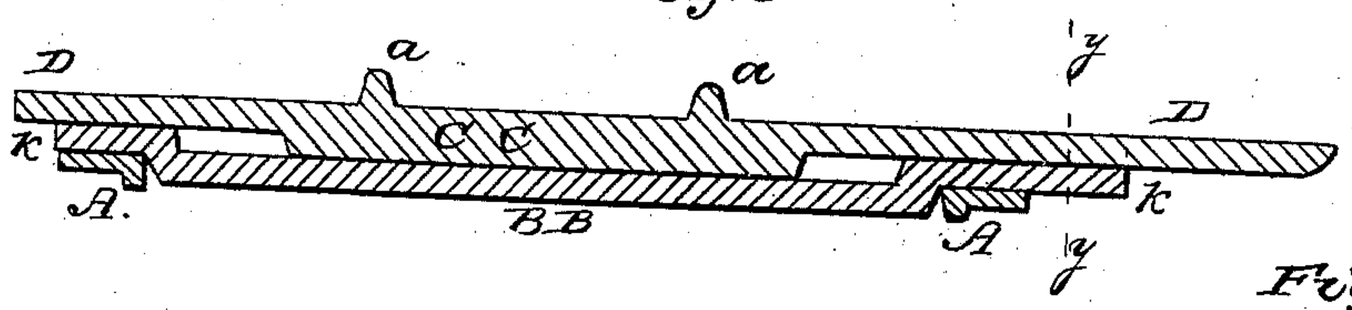

Fig. 2

Fig. 1.

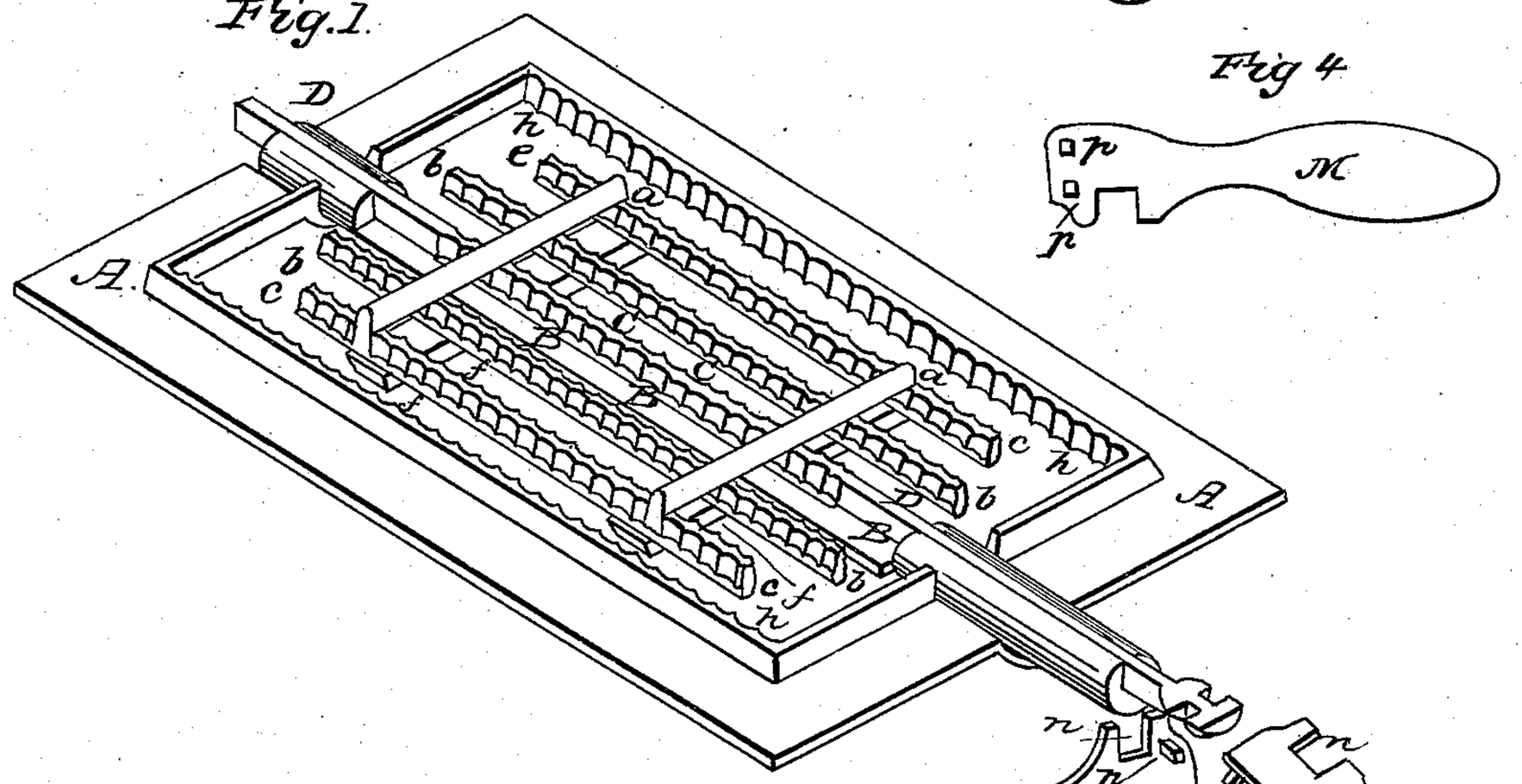

Fig 4

Witnesses

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Letters Patent No. 106,442, *dated August* 16, 1870.

STOVE OR FURNACE-GRATE.

The Schedule referred to in these Letters Patent and making part of the same

I, GEORGE A. WING, of Albany, in the county of Albany and State of New York, have invented certain Improvements in Stove and Furnace-Grates, of which the following is a description, reference being had to the accompanying drawing.

The object of my invention is to construct a stove or furnace-grate that is particularly designed for rectangular fire-boxes of cook-stoves or furnaces for steam-engines or other calorific engines; also, to construct such a grate in such a manner that the bed of coals and fire lying upon it may be thoroughly agitated, so that every part of the fire-bed may be cleared of ashes and other unconsumed products of combustion; also, to construct a dumper and shaker for such a grate, by which it may be easily operated for the above-mentioned purposes.

In the accompanying drawing—

Figure 1 is a perspective view of my invention.

Figure 2 is a cross-sectional view of one end of the rock-shaft B B and sliding shaft C C.

Figure 3 is a central longitudinal section.

Figure 4 is a view of the shaker and dumper M.

A is the bed-plate for the support of the grate. It is a frame of rectangular form, having the sides of its inner edges raised, and its two opposite inner and longest sides corrugated, as shown in fig. 1. The grate is suspended in and supported by this frame A in the usual manner.

My improved grate is constructed in two distinct parts, one fixed or stationary, the other movable or sliding upon the stationary part, and both fixed and movable parts are together capable of being rotated, so as to dump the contents of the fire-box whenever required.

The fixed part of the grate consists of a central rock-shaft, B B.

Its two ends or bearings D, which are supported upon the bed-plate A, are made rounding in the usual manner.

The middle portion of rock-shaft B B is flat and depressed below the level of its ends, as shown in figs. 1 and 3.

Extending from each side of the central part of shaft B B are arms *f f*, upon which are secured the stationary grate-bars *b b*.

Arms *f f* extend nearly to the full width of the opening in the bed-plate or frame A, forming supports to the sliding bars *c c*, as shown in fig. 1.

The movable or sliding part of the grate consists of a central shaft, C C, its middle portion corrugated and its two ends of a rectangular form, to fit and slide easily into a similarly-shaped recess in the upper part of the ends of rock-shaft B B, as shown in section in fig. 2.

Secured to central shaft C C are two cross-pieces, *a a*, bearing beneath their ends the sliding grate-bars *c c*.

One end of shaft C C is made to project beyond the end of the rock-shaft B B, and is constructed with two recesses, *e*, into which two pins, *p p*, on the shaker M, are inserted when it is required to shake the grate.

M is a shaking and dumping attachment to the grate. Its form is shown in fig. 4, and its mode of operation indicated in fig. 1.

It will be seen from the above description that this grate may be easily dumped by placing the opening *n* of dumper M upon the long or projecting end of rock-shaft B B, and then overturning it. Also, that to shake the grate we insert the pins *p p* of the shaker M into recesses or slots *e* at the outer end of sliding bar C C, and then, by a reciprocating motion of shaker, we clear the whole lower part of the fire-box of all ashes and clinkers and other refuse substances.

I claim as my invention—

1. The combination and arrangement of rock-shaft B B, arms *f f*, and grate-bars *b b*, with sliding shaft C C, arms *a a*, and grate-bars *c c*, substantially as herein shown and for the purpose set forth.

2. In a grate constructed as above described, the corrugations in the fixed and movable bars *b b* and *c c*, and the corrugations *h h* on the inner sides of the bed-plate A.

3. The combination and arrangement of shaking and dumping attachment M with sliding shaft C C and rock-shaft B B, substantially as and for the purpose herein shown and described.

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