(No Model.)

D. ELSINGER.

STOVE GRATE.

No. 271,229. Patented Jan. 30, 1883.

Fig. 1.

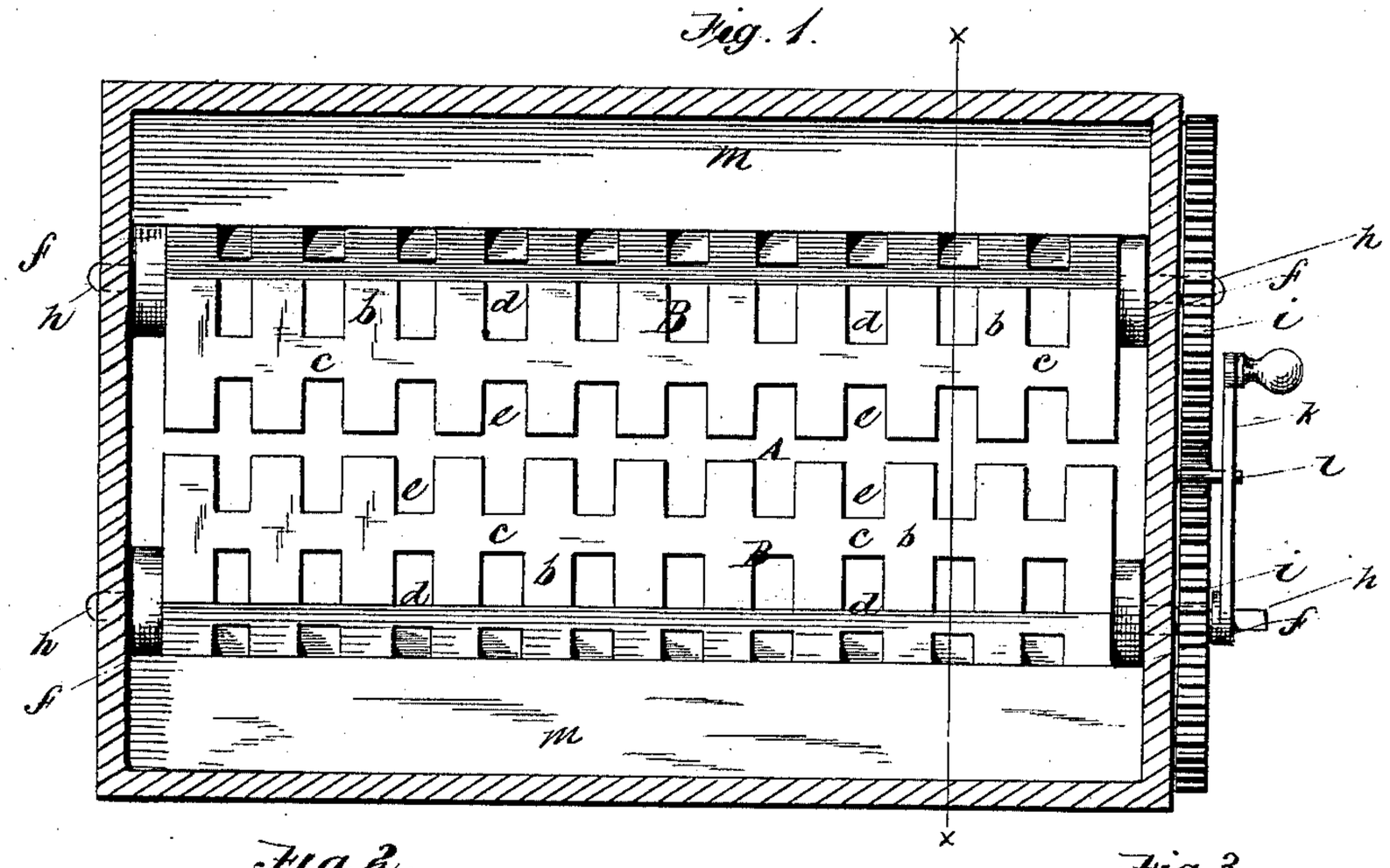


Fig. 2.

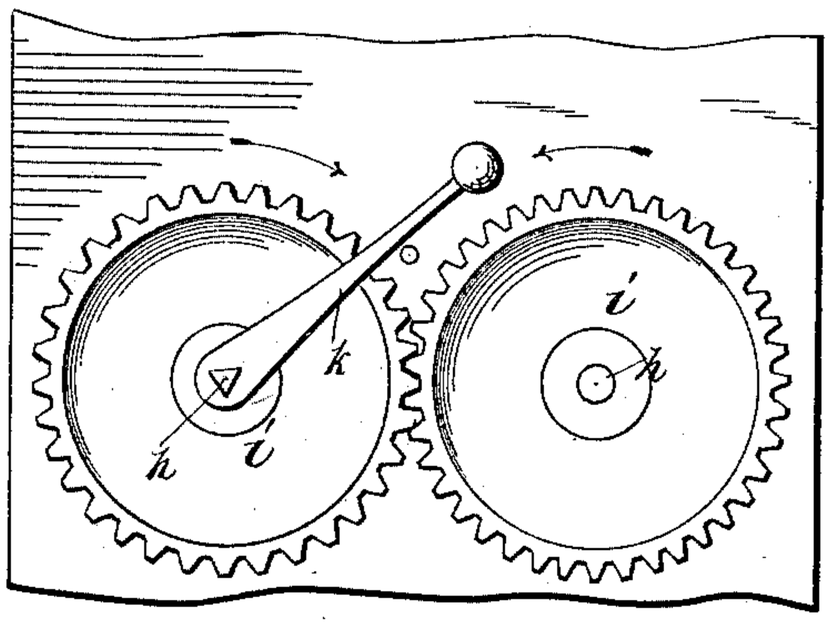


Fig 3

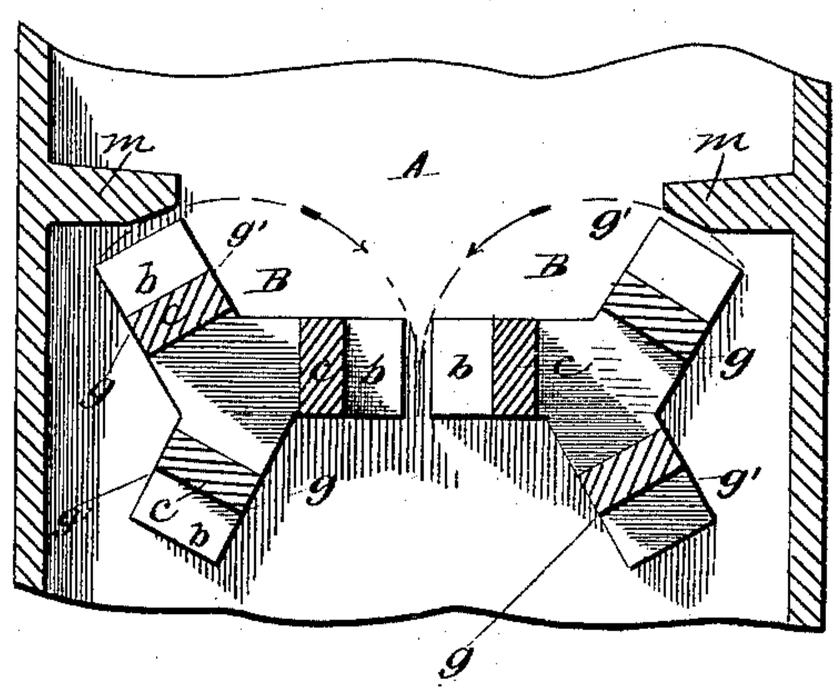
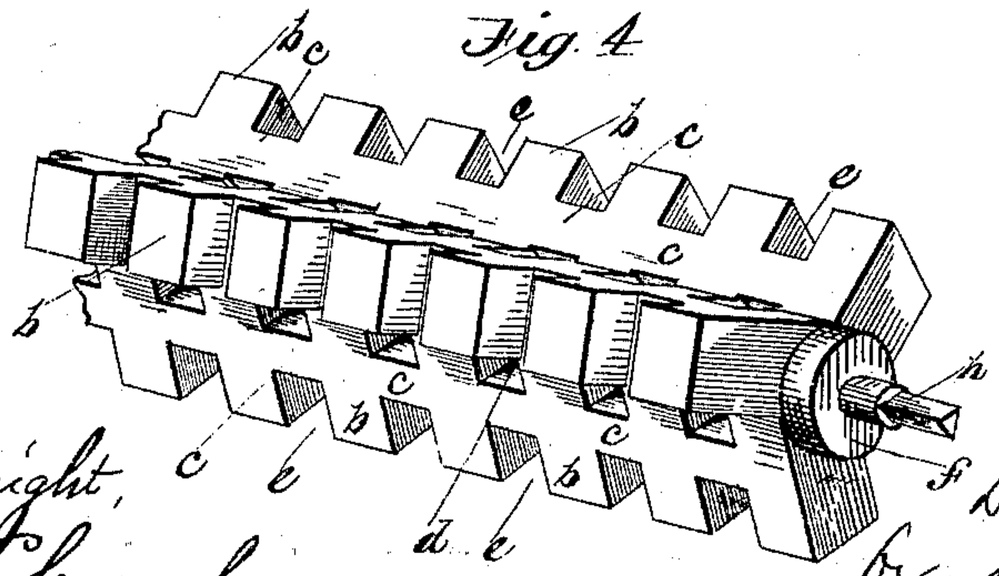


Fig. 4



WITNESSES:

W. H. Knight,

H. H. Church

INVENTOR.

Daniel Elsinger

by Melville Church

His Attorney.

UNITED STATES PATENT OFFICE.

DANIEL ELSINGER, OF SCRANTON, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO MORRIS W. HUGHES, OF SAME PLACE.

STOVE-GRATE.

SPECIFICATION forming part of Letters Patent No. 271,229, dated January 30, 1883.

Application filed August 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, DANIEL ELSINGER, of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Stove-Grates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a grate constructed in accordance with my invention. Fig. 2 is an end view of the same. Fig. 3 is a transverse section taken on the line *x x*, Fig. 1. Fig. 4 is a perspective view of one of the grate-sections.

Similar letters in the several figures denote the same parts.

This invention relates to that class of stove-grates which have two grate-sections geared together so as to revolve simultaneously, and adapted, when revolved, to cut out the contents of the lower part of the fire-pot of the stove and discharge it into the ash-pit below, and at the same time present another supporting-surface to the body of fuel retained above the grate similar in form to the surface turned down, each grate-section being provided with three like faces or supporting-surfaces adapted for successive use.

In grates of this class as usually constructed each grate-section consists of a longitudinal central shaft or mandrel, from which project a series of transverse bars formed with or rigidly secured to the shaft, and serving to support the fire; but this construction is defective, because the central shaft from exposure to the heat becomes warped and bent, and, being the "backbone" of the section, causes the latter to become distorted and to bind in its bearings and become in many cases inoperative, while the transverse bars, from their lack of lateral support, also become warped and twisted and interfere with the proper air-supply to the fuel through the section.

It is the object of my invention to remedy these defects, and I accomplish the result by forming each grate-section preferably in a single casting, with three supporting-surfaces of peculiar configuration formed of transverse bars and supported laterally by connecting webs of metal located between the center and ends of said transverse arms, so as to leave spaces between the transverse bars, at the center as well as at the ends, for the free passage and circulation of air, thereby keeping the section cool and preventing warping and affording unobstructed draft to the fire, all as I will now proceed to describe.

Referring to the accompanying drawings, A represents the fire-pot of the stove, and B B my improved grate-sections, each consisting preferably of a single casting composed of transverse bars *b*, connected together and spaced by webs *c* on opposite sides of the longitudinal center of the section, so as to leave open spaces *d* at the center between the bars and other spaces, *e*, between the bars near the ends of the same, as shown. Projecting hubs *f* are also formed on the sections at the ends, so as to provide for the free passage and circulation of the air at those points also.

Upon inspection of Figs. 3 and 4 it will be noticed that each grate-section has three like supporting-surfaces, each of which surfaces is of obtuse angular form, the portion *g* of each surface being larger than the portion *g'* of the same.

Each section is mounted at its ends upon spindles *h h*, projecting through the stove-casing and entering the hubs *f*, and upon the outer ends of the spindles, at one end of the casing and on the outside thereof, are mounted intermeshing gear-wheels *i i*, as shown in Fig. 2. One of the spindles is preferably made of triangular form at its end to adapt it to receive the correspondingly-formed socket of an operating handle or crank, *k*, and a stop, *l*, is provided for arresting the rotating of the handle at the proper point to present one or the other of the supporting-surfaces of the grate-sections uppermost.

m are guards or ledges within the fire-pot, serving to hold back the contents of the fire-pot when the sections are turned, and also to support the fire-brick lining of the fire-pot. The normal position of the grate-sections is shown in Fig. 3, one of the three surfaces of each section being uppermost, and both together forming an even and symmetrical grate, having numerous openings through it at its sides and ends for the passage of air, and with the large depending portions out of contact with the fire extending into the air-space below and

cooling, to a considerable extent, by conduction, the body of the grate.

When it is desired to clear out the ashes, &c., from the lower part of the fire-pot, the lever or crank is applied to the spindle *h* and turned toward the stop *l* in the direction indicated by the arrow, which causes the sections to revolve and the outer edge of each to rise and sweep toward the middle and carry the contents of the lower part of the fire-pot into the ash-pit below, at the same time presenting another like surface for the support of the contents remaining above.

By applying the handle at diffeent positions the sections may be given one-third or two-thirds of a revolution before being arrested by the striking of the handle against the stop; but the handle cannot be so applied that when it finally is arrested by the stop it will leave the sections in any position other than that shown in Fig. 3, with one or the other of the surfaces uppermost.

Having thus described my invention, I claim as new—

1. The herein-described grate-section, composed of the transverse bars united by the webs on opposite sides of the longitudinal axis of the section, and having the three like supporting-surfaces, with the spaces *d* and *e* between the bars for the free passage and circulation of the air, as set forth.

2. The combination, with the fire-pot, of the grate-sections geared together and operating simultaneously, as described, each grate-section being composed of the transverse bars united by the webs on opposite sides of the longitudinal axis of the section, and having the three like supporting-surfaces with the spaces *d* and *e* between the bars for the free passage and circulation of air, as set forth.

DANIEL ELSINGER.

Witnesses:
B. G. MORGAN,
JOHN L. JENKINS.