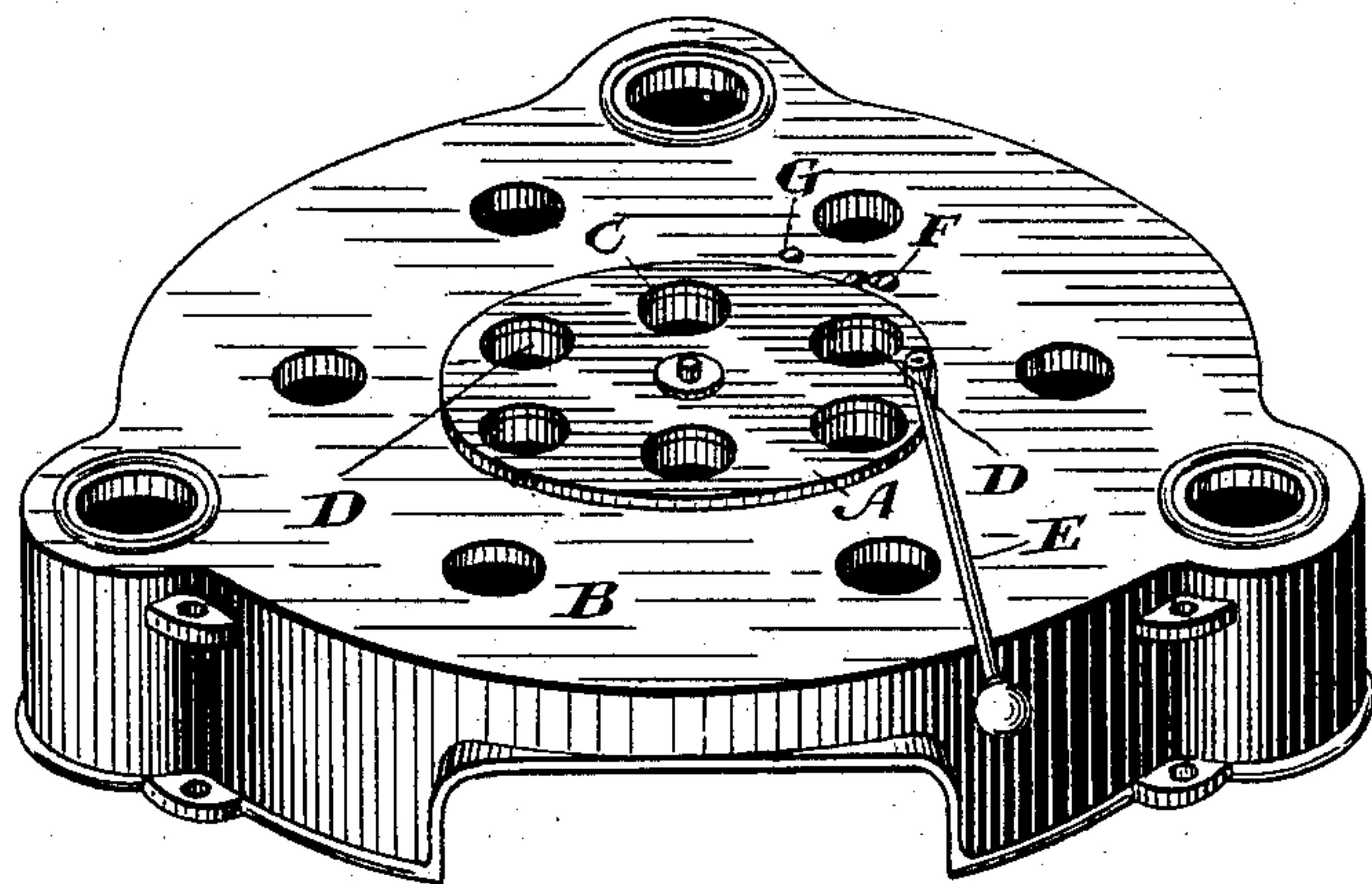


(No Model.)

E. GURNEY.
SECTIONAL BOILER.

No. 389,460.

Patented Sept. 11, 1888.



Witnesses.

J. M. Jackson
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Inventor.

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UNITED STATES PATENT OFFICE.

EDWARD GURNEY, OF TORONTO, ONTARIO, CANADA.

SECTIONAL BOILER.

SPECIFICATION forming part of Letters Patent No. 389,460, dated September 11, 1888.

Application filed May 21, 1888. Serial No. 274,561. (No model.)

To all whom it may concern:

Be it known that I, EDWARD GURNEY, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, manufacturer, have invented a certain new and useful Improvement in Sectional Hot-Water Boilers, of which the following is a specification.

The invention relates to that class of boilers constructed of a series of horizontal sections, each section being hollow to contain water, and all the sections connected together by water-legs, so that the water shall flow freely from one section to the other, spaces being left between the sections, through each of which vertical smoke flues are formed, the combined area of which is sufficient for the full requirements of the boiler.

The object of the present invention is to arrange a simple damper by which the area of the center flues in the top section may be reduced or completely stopped at will to retain the heat as long as possible in the lower sections; and it consists, essentially, of a disk-shaped valve pivoted on the center of the top section, and having a series of holes made through it to correspond with the center smoke-flues in the top section, which flues should be an equal distance apart, substantially as hereinafter more particularly explained.

The drawing represents a perspective top view of a section of a boiler, showing the application of my cut-off damper.

A represents a disk-shaped damper pivoted in the center of the section B.

C are a series of holes made in the damper A, the centers of which holes are made on a radius struck from the center and pivot-point of the damper.

D represents the center flues in the section B. These flues correspond with the holes C, and their centers are on the same radius as the centers of the holes C.

E is a handle permanently or detachably connected to the damper A, and extending outside of the section B.

F and G are two stops projecting above the surface of the section B at such points that when the damper A is turned on its pivot so as to bring the handle E against the stop F the holes C register with the flues D, thus leaving them full open, and when the damper A is turned on its pivot, so as to bring the handle E against the stop G, the center flues, D, will be completely covered by the damper. In this way the center flues will be opened, so as to give the full draft of the boiler for kindling or other purposes, and when closed to retain the heat as long as possible in the lower sections. Any desired condition of draft may be had by adjusting the damper at any desired point between the stops F and G. By the adoption of this damper I am enabled to reduce the area of the smoke-flues, thereby checking the draft and forcing the products of combustion to escape through the outer smoke-flues.

What I claim as my invention is—

1. In a sectional hot-water boiler, a section having a series of vertical smoke-flues made in its center, in combination with a disk-shaped damper pivoted in the center of the section, and having holes pierced through it to correspond with the smoke flues in the section, the whole being arranged substantially as and for the purpose specified.

2. In a sectional hot-water boiler, a section having a series of vertical smoke-flues, D, made in its center, in combination with a disk-shaped damper, A, pivoted in the center of the section and having holes C pierced through it to correspond with the smoke-flues D in the section B, stops F and G, extending above the section B, and a handle, E, attached to the damper A and extending to the outside of the section B, substantially as and for the purpose specified.

Toronto, May 4, 1888.

EDWARD GURNEY.

In presence of—

CHARLES C. BALDWIN,
CHAS. H. RICHES.