

(No Model.)

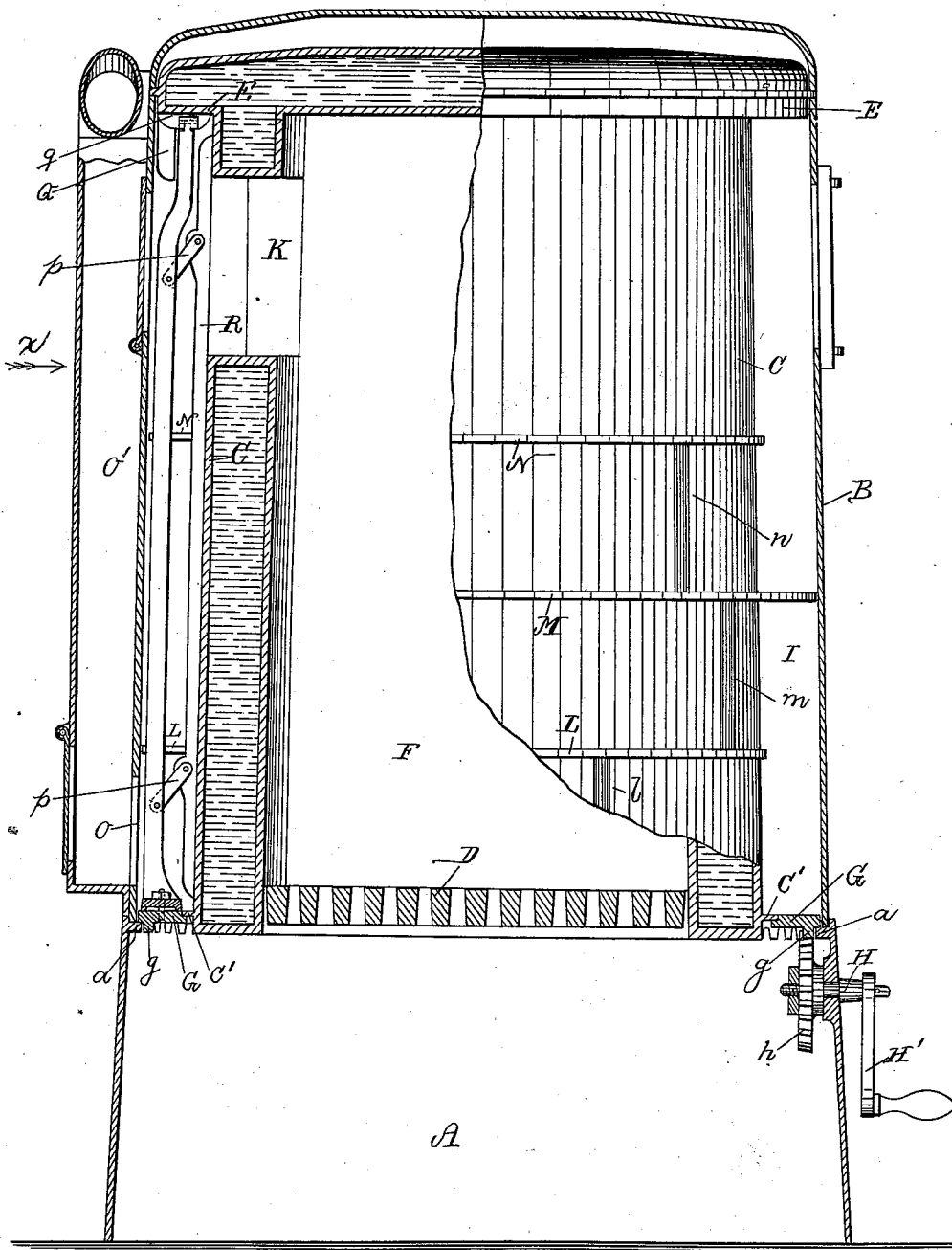
2 Sheets—Sheet 1.

C. A. JOHNSON.

CLEANING DEVICE FOR HOT WATER HEATERS.

No. 568,765.

Patented Oct. 6, 1896.



Witnesses.

Lauritz N. Möller.
Charles A. Harris.

Fig. 1.

Inventor.

Charles A. Johnson
by *Alvan Andrieu*
his atty.

(No Model.)

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Fig. 2.

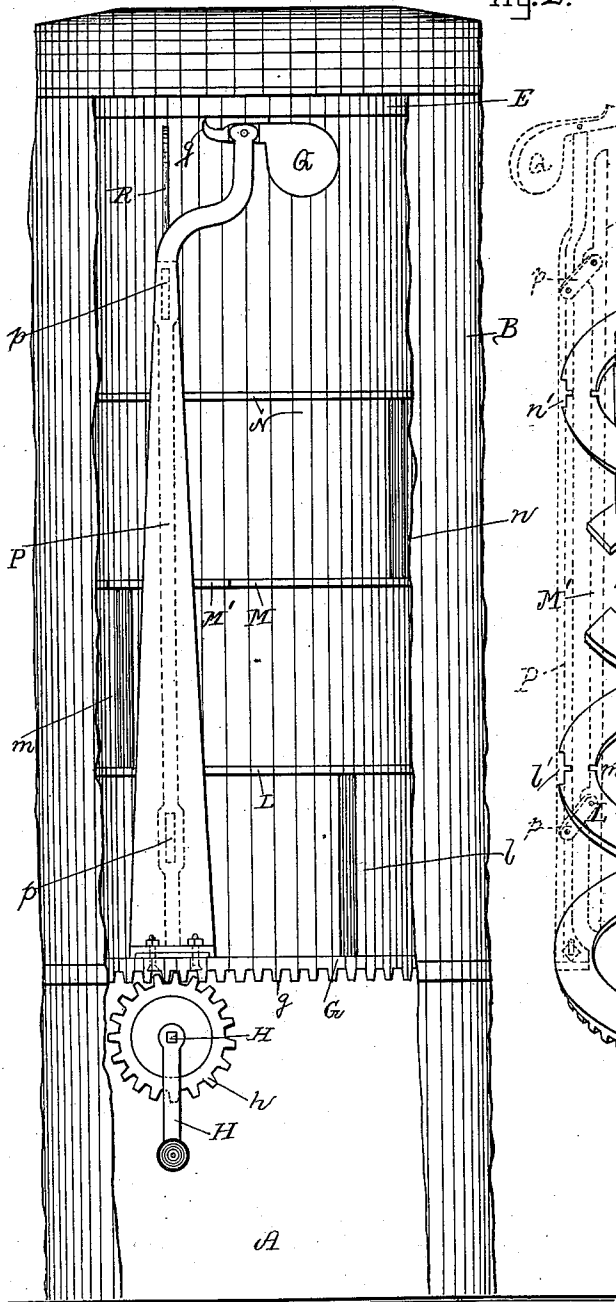
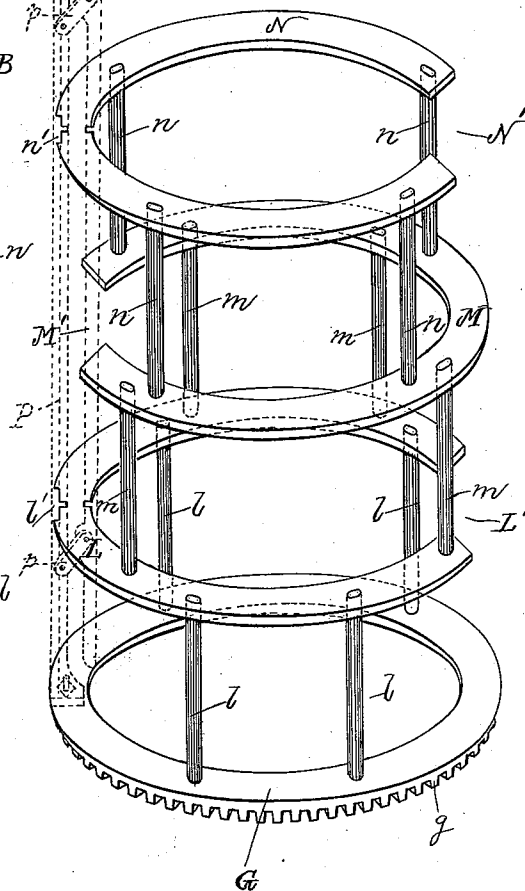


Fig. 3.



Witnesses.

Lauritz N. Möller.
Charles A. Harris.

Inventor.

Charles A. Johnson
by Elwan Andrieu
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UNITED STATES PATENT OFFICE.

CHARLES A. JOHNSON, OF EVERETT, MASSACHUSETTS.

CLEANING DEVICE FOR HOT-WATER HEATERS.

SPECIFICATION forming part of Letters Patent No. 568,765, dated October 6, 1896.

Application filed July 18, 1896. Serial No. 599,697. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. JOHNSON, a citizen of the United States, and a resident of Everett, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Cleaning Devices for Hot-Water Heaters, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in cleaning devices for hot-water heaters, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a vertical section of a hot-water heater provided with my improved cleaning device, parts being shown in elevation. Fig. 2 represents a side elevation as seen from X in Fig. 1, and Fig. 3 represents a detail perspective view of the rotary scraper-carrying rings.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In Fig. 1 A represents the base of any well-known form of a hot-water heater, on which B is the inclosing shell, C the water-chamber, D the grate, and E the crown water-space, as is common in devices of this kind.

F is the fire-pot, inside the water-chamber C, as usual.

At the upper portion of the cylindrical base A is arranged an inwardly-projecting annular ring *a*, upon which is loosely supported a gear-ring G, having teeth *g* on its under side meshing in a pinion *h*, secured to a shaft H, journaled in a bearing in the wall of the base A, as shown in Figs. 1 and 2.

H' is a crank secured to the shaft H for the purpose of rotating the pinion *h* and gear-ring G *g*.

On the outside of the cylindrical water-chamber C is an annular lip C', which serves as a guide for the ring G, and also serves to prevent the heated products from the fire-pot from passing from the annular smoke-chamber I into the hollow base A, as shown in Fig. 1.

K is the conduit, leading from the upper part of the fire-pot F to the annular smoke-chamber I, as usual in devices of this kind.

To the gear-ring G are secured a series of vertical posts or braces *l l l*, the upper ends

of which are secured to a segmental ring L. To said ring L are likewise secured a series of vertical posts or braces *m m m*, the upper ends of which are secured to another segmental ring M, as shown. *n n n* are similar vertical posts or braces secured to the ring M and having their upper ends secured to a similar segmental ring N, as shown in the drawings. Said rings are arranged in the smoke-chamber I between the inside of the shell B and outer wall of the water-chamber C and adapted to rotate freely in such smoke-chamber, as shown in Fig. 1.

L' M' N' are cut-away portions on the respective rings L M N, as shown in Fig. 3. The open space L' is made opposite or nearly so to the open space M', and the latter is made opposite or nearly so to the space N', as shown in said Fig. 3.

By having the cut-away portions L' M' N' arranged alternately on the rings L M N, the heat products from the fire-pot are brought in a more immediate contact with the exterior of the water-chamber C as said products pass from the conduit K downward through the smoke-chamber I and out through the lower opening O, connected with the smoke-pipe or chimney O', and in this manner a great saving in fuel is accomplished with increased heating capacity.

To the upper side of the gear-ring G is secured a vertical post P, which is preferably guided in recesses *l' n'* in the segmental rings L N. Said post P is located within the annular smoke-chamber I and has pivoted to its upper end a weighted lever Q, having a scraper *q*, adapted to be held by gravity against the under side of the crown water-chamber E for the purpose of cleaning said under side of the chamber E and removing soot and accumulations thereon during the rotation of the gear-rings L M N, as shown in Figs. 1 and 2.

To the vertical post P are pivoted links *p p*, the inner ends of which are pivotally connected to a vertical scraper-bar R, held by gravity against the outside of the water-chamber C for the purpose of cleaning the latter from soot and accumulations while such cleaning devices or scraper is being rotated.

Having thus fully described the nature,

construction, and operation of my invention,
I wish to secure by Letters Patent and claim—

1. In a hot-water heater a rotary gear-ring
and means for rotating the same, combined
5 with a series of segmental rings secured at
intervals to said gear-ring, a post secured to
said gear-ring and having pivotally connected
to its upper end, a weighted scraper for the
purpose of cleaning the under side of the
10 crown water-chamber of the heating device
substantially as and for the purpose set forth.

2. In a hot-water heater a rotary gear-ring
G and a series of segmental rings L, M, N,
secured thereto, combined with a vertical

post P secured to said gear-ring, links *p, p* 15
pivotally connected to said post and to a
scraper-bar R adapted to be held by gravity
against the exterior of the water-chamber C
substantially as and for the purpose set forth.

In testimony whereof I have signed my 20
name to this specification, in the presence of
two subscribing witnesses, on this 2d day of
July, A. D. 1896.

CHARLES A. JOHNSON.

Witnesses:

ALBAN ANDRÉN,

CHARLES A. HARRIS.