

No. 815,274.

PATENTED MAR. 13, 1906.

G. E. DIXON.
WATER HEATING ATTACHMENT.

APPLICATION FILED FEB. 16, 1905.

2 SHEETS—SHEET 1.

Fig. 1

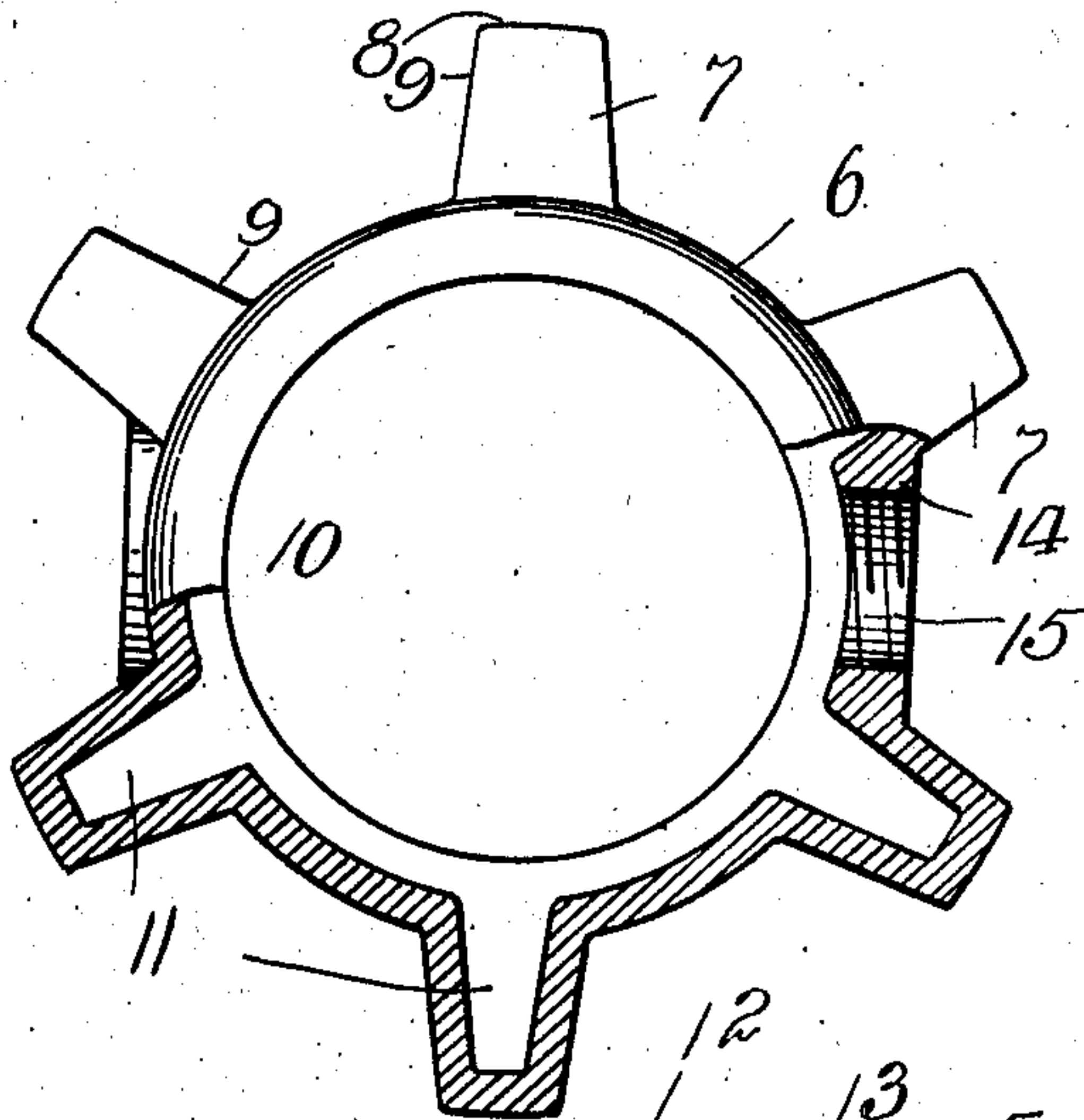
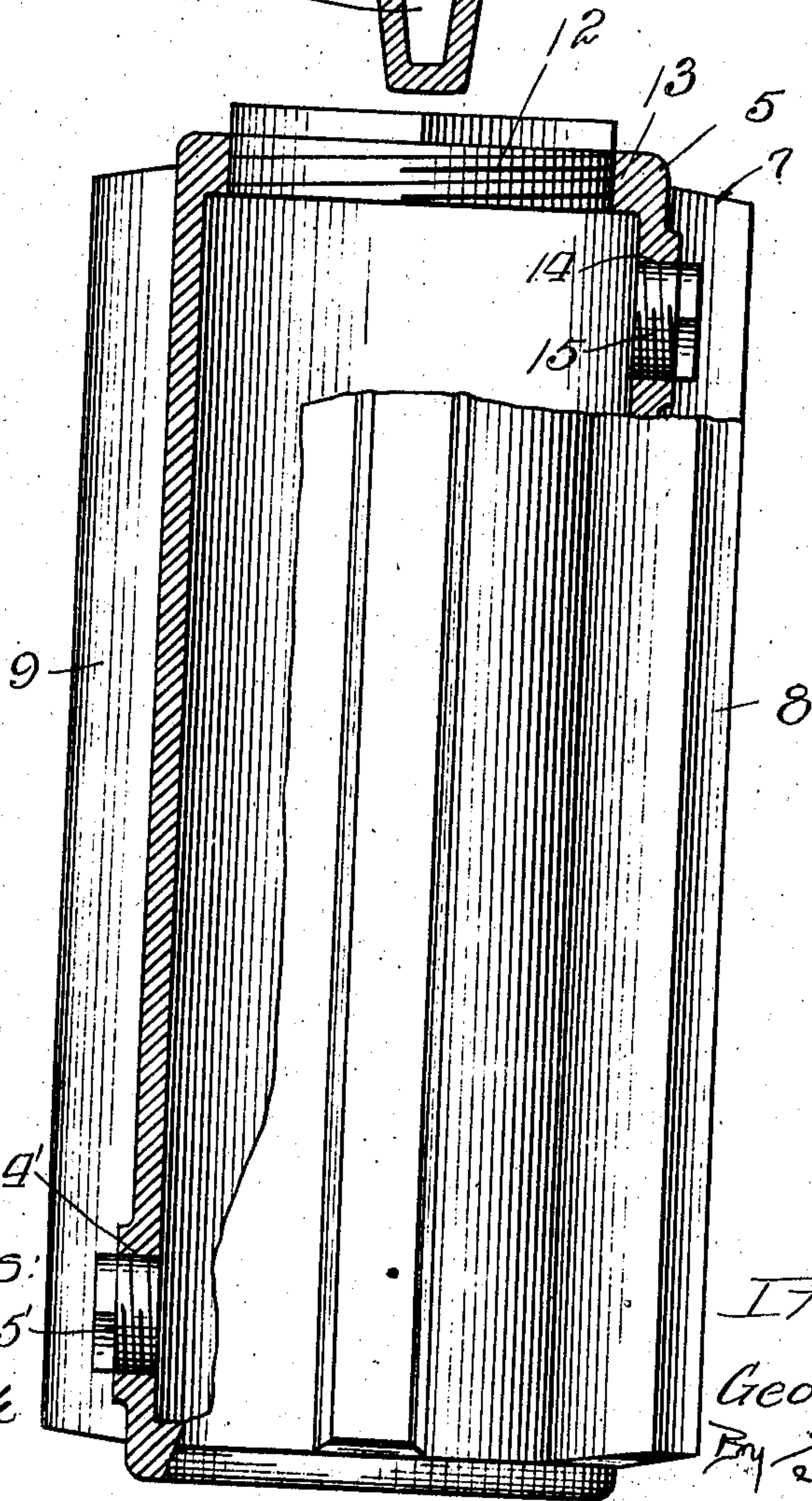


Fig. 2



Witnesses:
Ray White.
Henry White.

Inventor:
George E. Dixon.
By Jesse Bain
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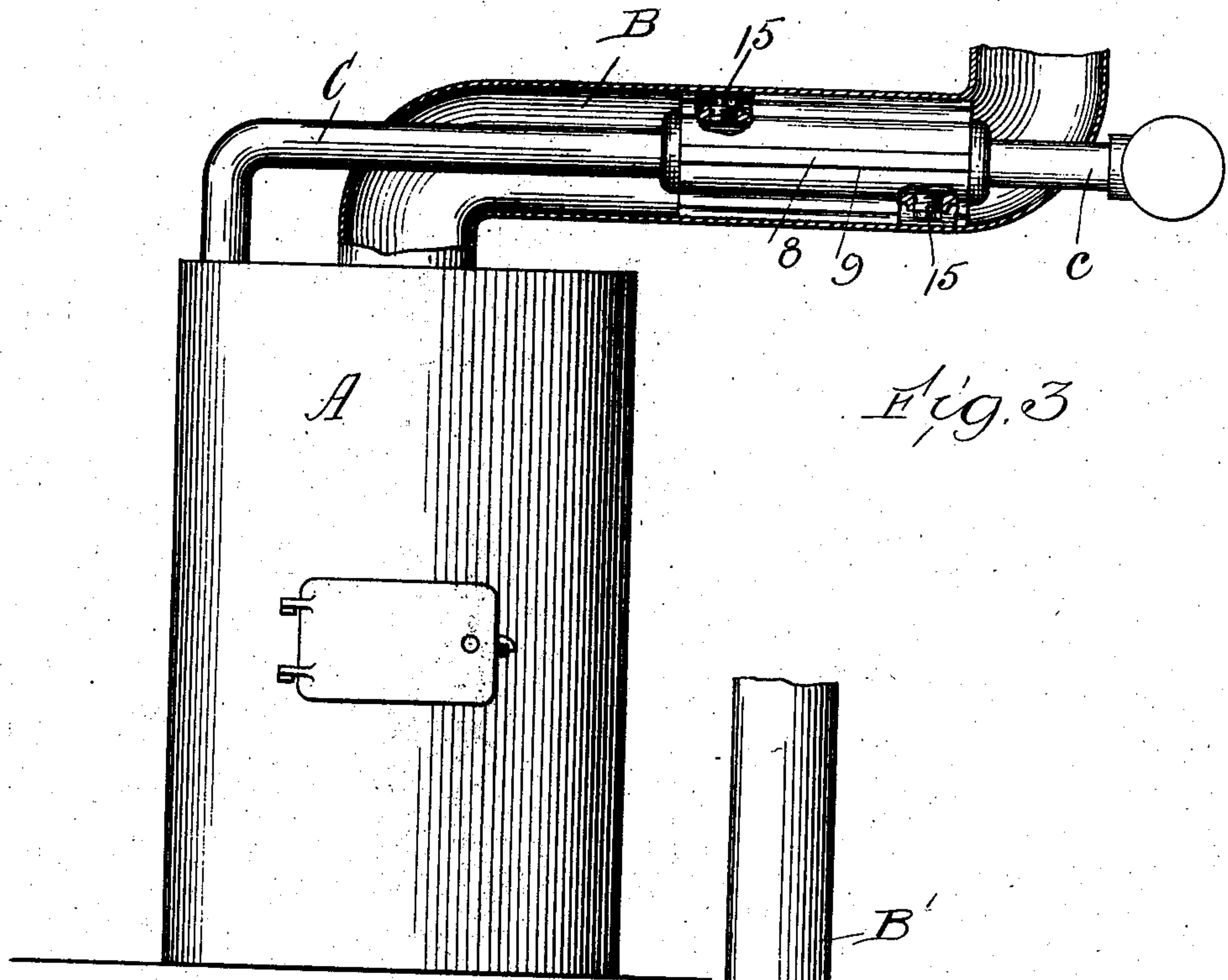


Fig. 3

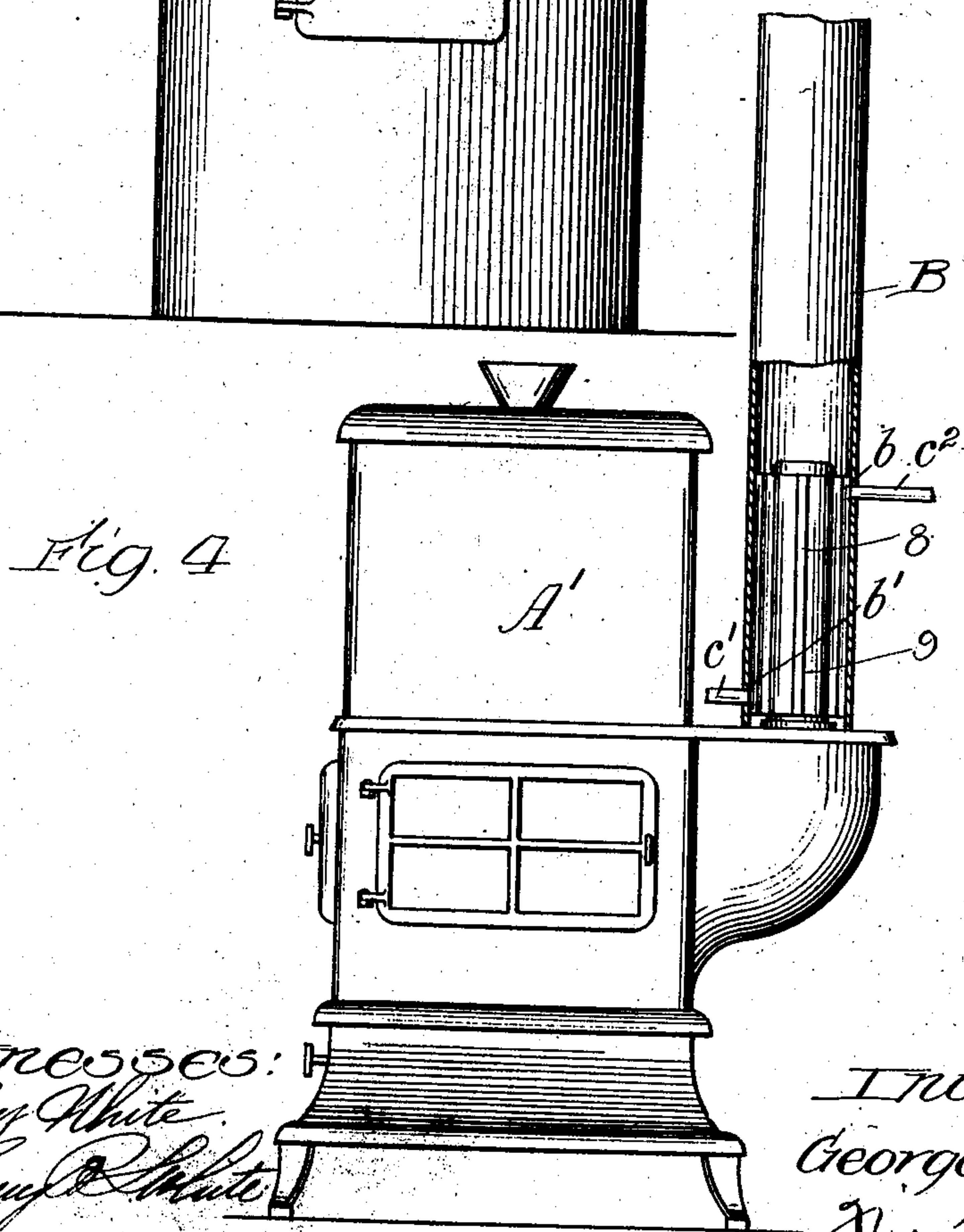


Fig. 4

Witnesses:
Ray White
Camp White

By

Inventor
George E. Dixon
Jesse Baird
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE E. DIXON, OF CHICAGO, ILLINOIS.

WATER-HEATING ATTACHMENT.

No. 815,274.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed February 16, 1905. Serial No. 245,862.

To all whom it may concern:

Be it known that I, GEORGE E. DIXON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Water-Heating Attachments; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to water-heating attachments for flues or other heated areas, and has for its salient object to provide a simple, readily-attachable, and durable water-heater adapted for employment with ordinary flues or piping used in conducting heat from stoves, furnaces, or the like.

In the drawings, Figure 1 is an end elevation with parts broken away of a water-heater embodying my invention. Fig. 2 is a side elevation with parts broken away. Fig. 3 illustrates the application of my improved heater to a furnace-flue. Fig. 4 illustrates its application to a stove-flue.

Throughout the drawings like characters of reference refer always to like parts.

In the drawings, 5 indicates a heater-shell, of metal or other heat-conducting material, preferably of substantially uniform thickness throughout its entire length, and disposed to inclose a chamber of stellate form, uniform in cross-section and symmetrical with respect to a longitudinal or a transverse axis. Preferably the radially innermost portions 6 of the body are disposed like segmental portions of a cylinder of suitable diameter, said segmental portions 6 being separated by the rib or point portions 7, projecting outward therefrom and extending lengthwise of the body from end to end thereof. These ribs or points 7 preferably have their outer surfaces 8 struck on arcs having the longitudinal axis of the casing as a center, so that they may closely conform to the interior of a pipe of suitable dimensions. Further, said ribs are preferably tapered on their side faces 9, so that there is exposed by the body 5 a very large surface.

The chamber 10 within the body extends into the hollow portions 11 of the ribs 7 and is preferably uninterrupted throughout its length.

At its ends the chamber may be closed by removable plugs 12, preferably screw-threaded

for engagement with suitable threaded apertures 13, formed in the said ends of the casing. Lateral openings 14 and 14' are provided at diagonally opposite points of the casing in the wall thereof, one aperture being near one end on one side and the other diametrically opposite near the other end. Suitable plugs 15 15' are provided to close said apertures when necessary, said apertures and said plugs being screw-threaded. By this arrangement of alternative apertures my device is adapted for use either in a horizontal or a vertical position and with large or small water-flow pipes.

In Fig. 3 I have illustrated my heater as applied to the horizontally-disposed portion of an outtake-flue of the furnace, A indicating the furnace, and B the flue thereof. The body 5 is preferably made of such size that it fits snugly within the flue B, and the heat in the flue being usually intense, so that relatively large quantities of water may be heated thereby, the water-piping is connected to the large openings 13 13 at the opposite end of the heater. Specifically, C indicates the water-pipe, tapped at opposite ends into the openings 13. When thus used, the plugs 15 15' are applied to close the chamber throughout except at its end openings. It will be apparent that the hot gas of the furnace escapes through the spaces between the ribs 7 and in its escape imparts heat to the large surface offered by the heater, the heat being transmitted through the metal shell to the water within the heater.

In Fig. 4 I have shown the application of my heater to the vertical pipe B' of a suitable stove A'. In such cases I prefer that the pipes C' C' be connected with the smaller lateral openings 14 14', and it will be apparent that the device is supported in place by the engagement of said pipes C' C' with the openings b b' in the stove-pipe, through which said piping passes. When the device is so used, the plugs 12 12 are inserted and the casing closed, save for its inlet and outlet openings 14' 14. The gases escape, as before, between the ribs 7.

Having thus described my invention and indicated practical methods of its application, what I claim as new, and desire to secure by Letters Patent of the United States, is—

As an article of manufacture, a water-heat-

ing attachment for flues, comprising a body
of uniform stellate cross-section inclosing a
chamber of like form, said body having aper-
tures at opposite ends and two apertures in
5 its side, and removable closures for said aper-
tures.

In testimony that I claim the foregoing as

my own I affix my signature in presence of
two witnesses.

GEORGE E. DIXON.

In presence of—

GEORGE T. MAY, Jr.,
MARY F. ALLEN.