

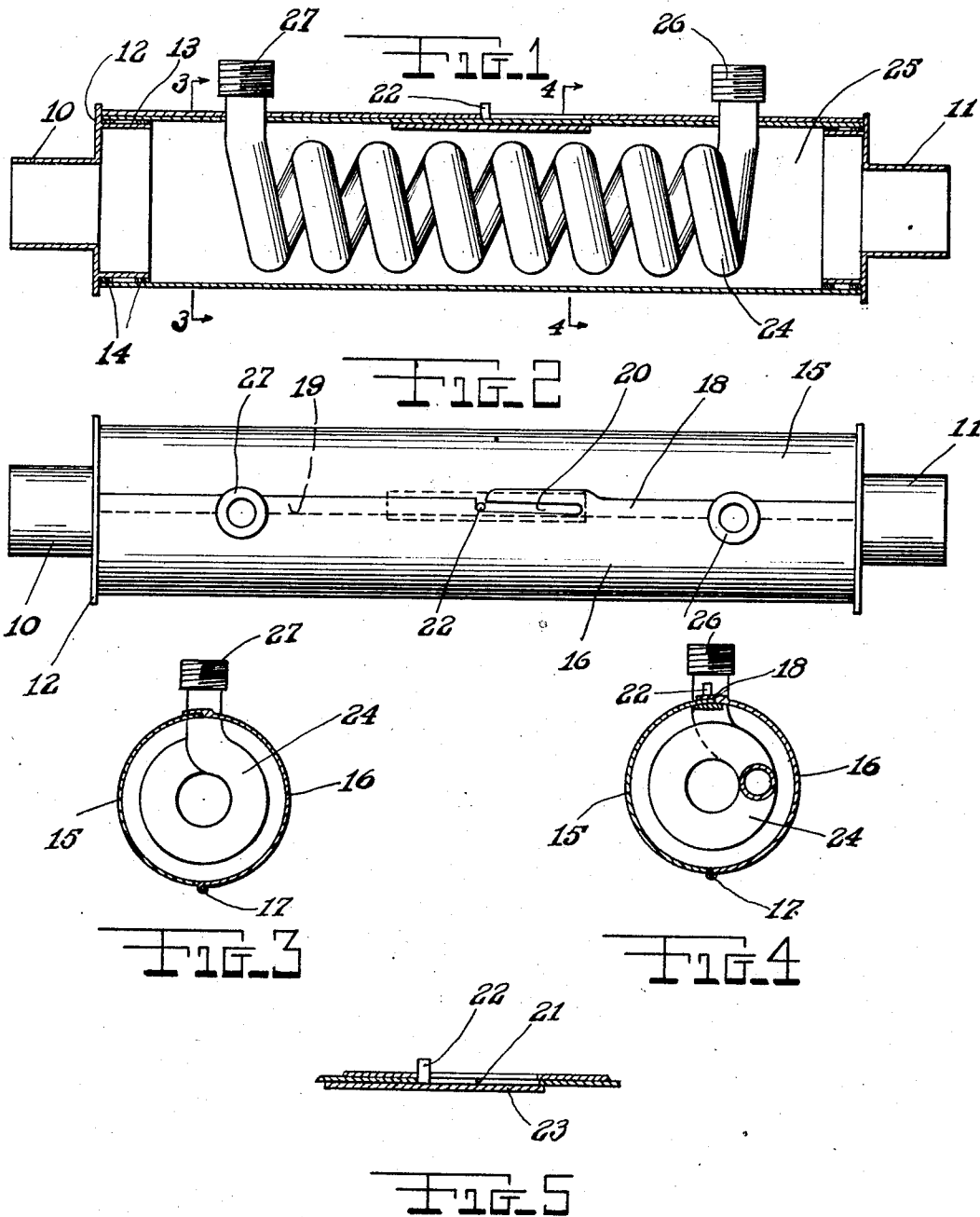
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H. GOLDHAGEN

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FLUE WATER HEATER

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Inventor  
*H. Goldhagen*

By his Attorney *J. Ledermann*

# UNITED STATES PATENT OFFICE

HARRY GOLDHAGEN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO ELI GOLDHAGEN,  
OF NEW YORK, N. Y.

## FLUE WATER HEATER

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The main object of this invention is to provide a device arranged in series in an exhaust flue and provided with a water coil for the purpose of utilizing the exhaust gases for heating the liquid in the coil.

Another object of this invention is to provide a flue water heater for utilizing the exhaust gases for heating the contents of a coil, the device being constructed in such manner that any of its parts may be readily removed for cleaning or the like.

The above and other objects will become apparent in the description below in which characters of reference refer to like-named parts in the drawing.

Referring briefly to the drawing Figure 1 is a longitudinal sectional elevational view through the device.

Figure 2 is a top plan view of Figure 1 showing the means for securing the casing in folded condition.

Figure 3 is a cross sectional view taken on line 3—3 of Figure 1.

Figure 4 is a cross sectional view taken on line 4—4 of Figure 1.

Figure 5 is a fragmentary sectional elevational view of the casing showing the latching pin in disengaged position.

Referring in detail to the drawing, the numerals 10 and 11 indicate a pair of oppositely disposed collars. Each of these collars is provided with a face flange 12 at one end, from one side of which an encircling rim 13 extends. A pair of soft packing rings 14 are mounted on each of the rims and are used to form a smoke-proof fit between the casing hereinafter described and the rims 13.

The casing comprises a pair of longitudinal semi-circularly curved aprons 15 and 16. One of the longitudinally curved edges of each apron is provided with cooperating hinge sleeves which are interlocked by a hinge pin 17. The opposing longitudinal edges of the aprons are adapted to overlap each other, the edge of apron 16 being offset over the edge of apron 15, said offset 18 forming an internal shoulder against which rests the longitudinal edge 19 of the apron 15. Intermediate the length of the edge 18 the latter is flared to provide sufficient area for the forma-

tion of an inclined bayonet slot 20 whose one end opens on the edge of the apron 16. Adjacent the edge 19 of the apron 15 a slot 21 of like length is formed and extends parallel to the edge 19. These slots are superimposed one above the other and are adapted to have slidably mounted therein a locking pin 22. This locking pin 22 is anchored to a slide plate 23, which is movably secured to the apron 15 in any desired manner. A helically wound coil 24 is mounted in the compartment 25 formed by the folded aprons 15 and 16. This coil is provided with a threaded inlet nipple 26 which projects from the side of the closed apron. The opposite end of the coil is provided with a delivery nipple 27 which is also provided with threads so that the coils may be secured to a source of water supply.

The device is adapted to be placed in series in a flue pipe line. The flue which has the dimensions of the collar 10 receives the latter and the enlarged portions formed by the aprons 15 and 16 form a conduit and communicating channel with the flue for the purpose of having the flue gases passing there-through. The nipples 26 and 27 are tapped to a source of water supply which finds ready circulation through the coil 24 and as the gases pass through the compartment 25, the liquid in the coils 24 will be heated and may be caused to circulate into a reservoir or the like. To retain the device in smoke-proof condition, the rims 13 of the collars 10 have packing rings 14 mounted thereon, over which the aprons 15 and 16 are adapted to be folded in circular conformation, these aprons being located above the rims 13 by having the locking pin 22 engage in the inclined slot 20 formed on the marginal edge 18 of the apron 16.

It is to be noted that certain changes in form and construction may be made without departing from the spirit and scope of the invention.

I claim:

A device of the class described comprising a pair of complementary semi-cylindrical aprons forming a substantially cylindrical chamber having a pipe coil therein, said aprons being hinged to each other on one

side, and means for locking the opposite sides of said aprons to each other comprising a raised tongue on one of said aprons forming a shoulder in the edge of said last-named apron, the adjacent edge of the other apron registering in said shoulder, said tongue and said adjacent edge having slots therein, a plate slidably mounted on said adjacent edge, and a pin rigid with said plate passing through said slots.

10 In testimony whereof I affix my signature.  
HARRY GOLDHAGEN.

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