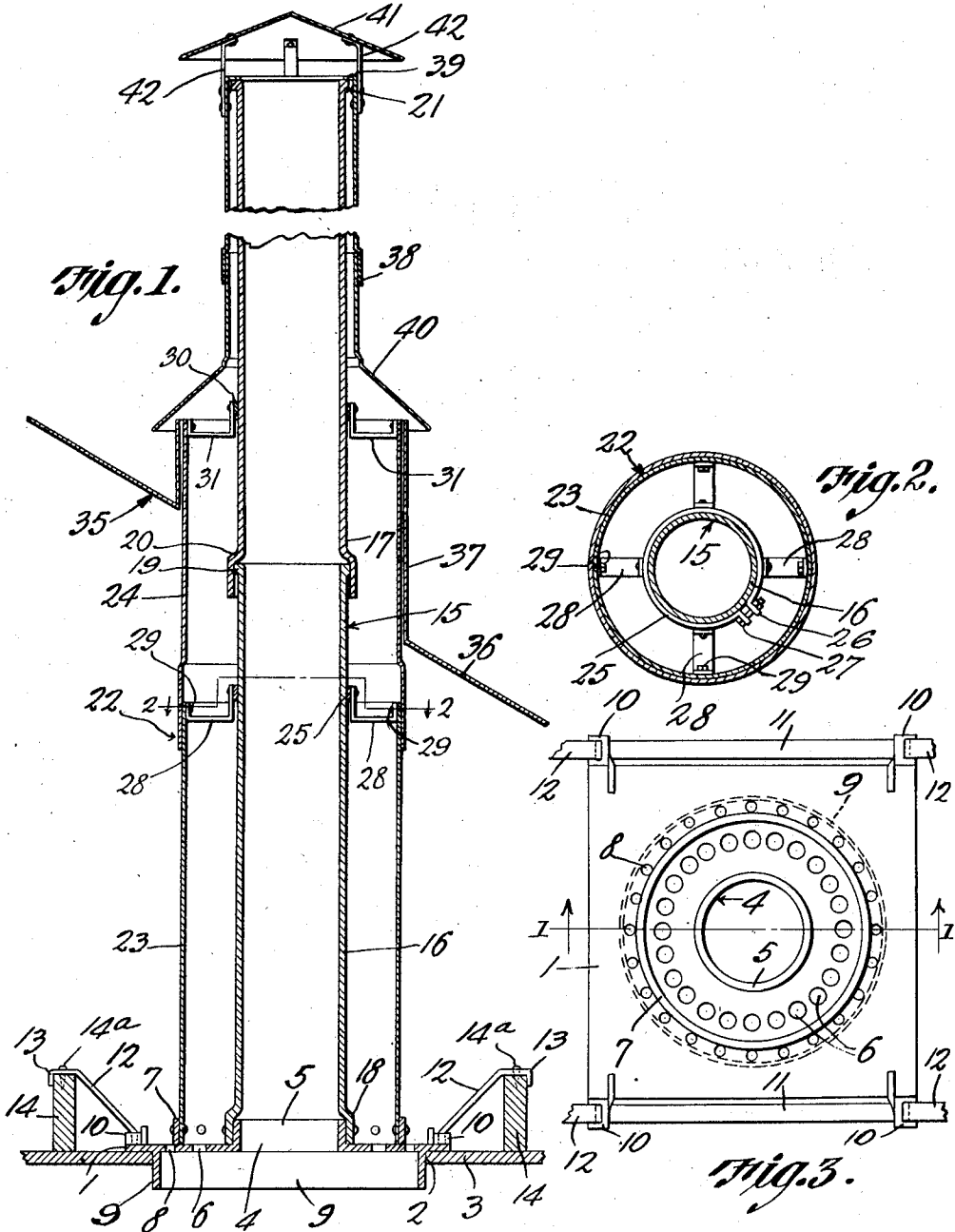


R. A. CARL.  
COMBINATION FLUE.  
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1,328,647.

Patented Jan. 20, 1920.



Witnesses

*J. R. Lane*  
*R. L. Parker*

*Reinhold A. Carl* Inventor

by *C. A. Snow & Co.*  
Attorneys

# UNITED STATES PATENT OFFICE.

REINHOLD ADOLPH CARL, OF ELGIN, TEXAS.

COMBINATION-FLUE.

1,328,647.

Specification of Letters Patent.

Patented Jan. 20, 1920.

Application filed March 13, 1917. Serial No. 154,638.

## *To all whom it may concern:*

Be it known that I, REINHOLD A. CARL, a citizen of the United States, residing at Elgin, in the county of Bastrop and State of Texas, have invented a new and useful Combination-Flue, of which the following is a specification.

The present invention appertains to flues, and is more particularly an improvement over the combination flue disclosed in my former Patent No. 1,085,889 issued February 3, 1914.

The present improvements reside in the unique manner of assembling and mounting the various parts of the flue structure, whereby the parts may be readily assembled, will be properly supported, and will serve their functions in a highly efficient and practical manner.

It is also within the scope of the invention to provide a combination flue having the characteristics, and which at the same time is comparatively simple, non-encumbering and inexpensive in construction.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is a vertical section of the structure, partially on the line 1—1 of Fig. 3, portions being broken away.

Fig. 2 is a horizontal or cross sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of the base or supporting plate of the flue structure.

In carrying out the invention, there is provided a rectangular base or supporting plate 1 adapted to be disposed above an opening 2 formed in the ceiling 3. This plate 1 has a central opening 4 for receiving the upper end of the stove pipe, and has an upstanding annular flange or collar 5 surrounding the opening 4. The plate 1 has an annular series of ventilating apertures 6 surrounding the flange 5, and an upstanding annular flange 7 surrounding the apertures 6. The

plate 1 is also provided with an annular series of apertures 8 surrounding the flange 7, and with an annular depending flange 9 surrounding the apertures 8 adapted to fit within the opening 2 in the ceiling. As a means for conveniently and efficiently supporting the plate 1 above the ceiling 3, the corners of the plate 1 are provided with upwardly offset loops or slotted projections 10 extending toward opposite sides, and a pair of metallic straps 11 extend along opposite side edges of the plate 1 and pass upwardly through the slots of the loops or projections 10. From the loops 10, the straps 11 extend upwardly, as at 12, and the upper ends of the limbs or portions 12, or the terminals of the straps, are bent, as at 13, to seat upon and fit around the upper edges of the joists 14 between which the plate 1 is arranged. The terminals 13 of the straps may be secured upon the joists by means of nails or other securing elements 14<sup>a</sup>, whereby the straps 11 serve as hangers for rigidly supporting the plate 1. The straps or hangers 11 may be bent in various manners, so that the plate 1 may be held at the proper position and height under various conditions. The straps thus permit of the adjustment of the plate 1 to the proper position.

The plate 1 carries an upstanding smoke flue 15 comprising the lower and upper sections 16 and 17, respectively, which are preferably in the form of soil pipes. The lower section or pipe 16 has a bell 18 at its lower end slipped downwardly upon and fitting around the flange 5, whereby the section or pipe 16 is supported by the plate 1, and the section 16 has an outstanding annular rib 19 at its upper end. The upper section or pipe 17 is provided at its lower end with a bell 20 slipped over and fitting around the rib or upper end 19 of the lower section 16, whereby the section 17 is supported upon the section 16. The upper end of the section or pipe 17 has an outstanding annular rib 21.

An upstanding ventilating sleeve or shell is also carried by the plate 1 around the flue 15, the flue and sleeve 22 being concentric. The sleeve 22 comprises lower and upper sections 23 and 24, respectively, which have their adjacent ends fitting together telescopically to provide a split joint. The lower end of the section 23 is slipped within the flange 7, whereby the apertures 6 establish

communication between the room below the ceiling and the annular ventilating passage between the flue 15 and sleeve 22.

The lower sections 16 and 23 of the flue 5 and sleeve, respectively, are connected, whereby they brace each other, and to this end, a split ring or clamp 25 embraces the section or pipe 16 adjacent to the upper end section 23 of the sleeve and is provided with 10 outturned ends 26 through which a clamping bolt 27 is engaged, to cause the ring 25 to tightly embrace the section 16. Radial bars 28 are disposed between the rings 25 and section 23 of the sleeve, and have their 15 ends bent angularly upward and bolted or otherwise secured to the ring 25 and section 23, as at 29.

The upper end of the upper section 24 of the sleeve is also connected to the flue, 20 and to this end, a ring or clamp 30 like the ring 25 embraces the upper section 17 and is connected by bars 31 with the upper end of the section 24 of the sleeve, similar to the bars 28.

25 The upper end of the sleeve 22 fits within a roof flashing 35, said flashing embodying an inclined roof plate 36 having an upstanding sleeve 37 receiving the upper end of the section 24.

30 A sleeve 38 having telescopic sections is fitted loosely upon the upper end portion of the flue section or pipe 17, and is provided at its upper end with an inturned annular flange 39 seating upon the rib or 35 upper end 21 of the section 17, whereby the sleeve 38 is supported from the upper end of the section 17. The lower end of the sleeve 38 is provided with a flared or frusto-conical apron 40 overhanging the sleeve 37, 40 whereby to shed rain to one side of the sleeves 37 and 22. The apron 40 is spaced slightly above the sleeve 37 of the flashing, in order that the foul air which rises through the sleeve 22 may escape from the 45 upper end of the sleeve 22 and out under the apron 40.

A conical cap 41 is disposed above the upper ends of the flue 15 and sleeve 38, the cap 41 overhanging the sleeve 38, to prevent 50 rain or snow from falling down the flue 15 or sleeve 38. This cap 41 is carried by bars or standards 42 secured at their upper ends to the cap 41, and secured at their lower ends to the upper end of the sleeve 55 38. The cap 41 allows the smoke to pass freely from the upper end of the flue 15, but prevents rain or snow from passing down into the structure.

It will be apparent, without lengthy discussion, that the several parts of the structure may be readily assembled, and in the manner above pointed out, will be supported

in a thoroughly desirable and effective manner. This structure is comparatively cheap, since the plate 1 may be cast, while the flue 15 may be composed of the soil 65 pipes. The parts 23, 24, 35, 38 and 41 may all be constructed of sheet metal, if preferred, although no limitation to any particular material is necessary. 70

The upper end of the smoke pipe (not shown) may be slipped into the flange or collar 5, so that the smoke may pass upwardly through the flue 15 to the atmosphere from below the cap 41, while the foul 75 air within the room can pass upwardly through the aperture 6, sleeve 22, thence outwardly through the annular outlet between the upper end of the flashing 35 and apron 40. The foul air may also flow upwardly 80 through the aperture 8 into the attic or loft.

From the foregoing, taken in connection with the drawing, the advantages and attributes of the structure are thought to be obvious to those versed in the art, without 85 further comment being necessary.

Having thus described the invention, what is claimed as new is:—

In a device of the class described, a flue having an outstanding flange at its upper 90 end; a lower ventilating sleeve surrounding the lower end of the flue and open at its upper end; an upper sleeve surrounding the upper end of the flue and provided at its lower end with an apron spaced from the 95 upper end of the lower sleeve and extended outwardly beyond the periphery of the same; a cap carried by the upper end of the upper sleeve and located above the upper end of the flue; and an inwardly projecting flange on the upper sleeve, said flange 100 cooperating with the flange of the flue to support the upper sleeve and to space the apron from the upper end of the lower sleeve, the flange on the flue cooperating 105 with the upper sleeve to space the same transversely from the upper end of the flue and to define an air chamber about the upper end of the flue, the chamber being adapted to receive heated air from the lower 1 sleeve, by way of the apron, and to confine the heated air about the upper end of the flue, thereby increasing the upward flow of the products of combustion through the flue and increasing the upward flow through 110 the lower ventilating sleeve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

REINHOLD ADOLPH CARL.

Witnesses:

CHAS. HEINTZ,  
H. C. GRIFFIN.