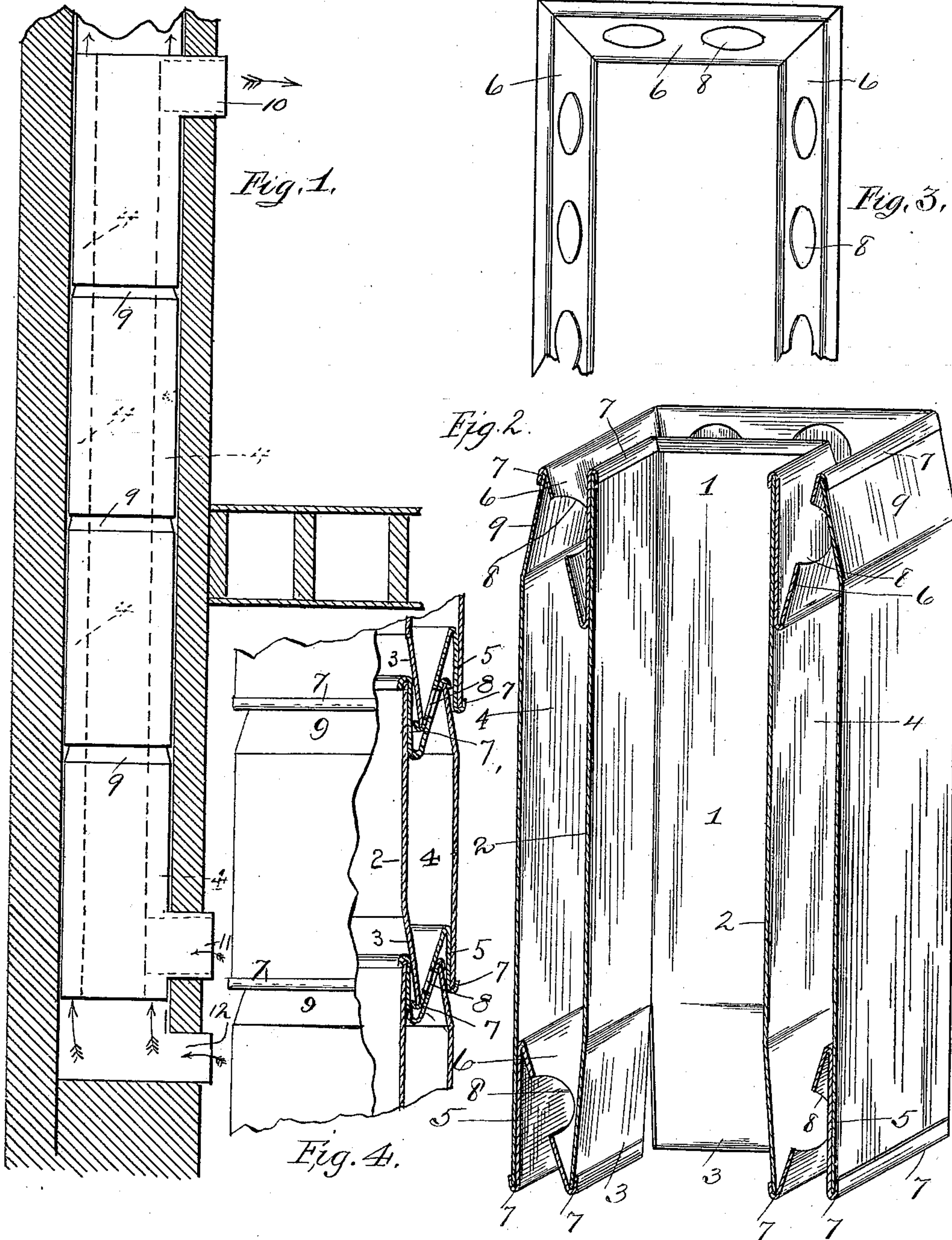


(No Model.)

G. A. BARNES.
HOT AIR FLUE.

No. 601,542.

Patented Mar. 29, 1898.



WITNESSES:
H. E. Jamison,
H. W. Stevenson

Inventor,
George A. Barnes.
by J. H. Stevenson,
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE A. BARNES, OF ALLEGHENY, PENNSYLVANIA.

HOT-AIR FLUE.

SPECIFICATION forming part of Letters Patent No. 601,542, dated March 29, 1898.

Application filed March 12, 1897. Serial No. 627,239. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BARNES, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Hot-Air Flues; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in the construction of hot-air flues; and it consists in forming the flues in sections, the one connecting with the other, and surrounding the said flue by a cold-air passage, thereby preventing the dangerous heating of the walls in which the flue is placed, together with certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side sectional elevation of a wall of a building, showing my improved hot-air flue arranged therein, said view being constructed and arranged in accordance with my invention. Fig. 2 is an enlarged sectional perspective view of one section of my improved hot-air flue, showing the interior construction and arrangement of the parts. Fig. 3 is a plan view of a portion of the same, and Fig. 4 is a broken partially-sectional view of a portion of a flue embodying my invention.

To construct a hot-air flue in accordance with my invention, I construct from thin sheet metal a rectangular box-shaped flue 1 of a suitable size, the lower portion of which is slightly flared outwardly to form an enlarged portion 3 to fit over the edges of the adjoining section below. Surrounding this inner flue 1 is an outer casing or covering 5, leaving an annular space 4 for the purpose of permitting a current of cold air to freely circulate therein. This outer casing 5 is formed with an inwardly-flaring portion 9 at the top, which will admit of the same being entered a short distance into the cold-air flue 4 of the section immediately above. These two casings 2 and 5 are joined together at the top and bottom

by two pieces of metal, each of which consists in a strip substantially V-shaped in cross-section extending from the periphery of the outer casing down the inner sides 5, then bent at an angle to engage with the periphery of the inner casing, and the whole attached in position by overlapping the edges 7. These angular sides 6 are provided with a series of openings 8, each of which is located in a position to register with the corresponding opening in the adjoining section, thereby forming a passage for the cold air from one section to the other.

By inclining the upper end of the outer casing toward the inner casing and inclining the lower end of the inner casing toward the outer one, one leg of the angular strip will lie flat against the straight side of the casing and the other leg will be inclined toward the inclined portion of the other casing, thereby rigidly bracing the two casings relatively to each other and also permitting the ends of the sections of the flue telescoping one within the other.

In operation the sections above described are joined the one with the other by simply telescoping the ends and arranged in the wall with an inlet-opening 11 and outlet 10 for the hot air and a separate inlet 12 and outlet for the cold air.

The advantages of this construction and arrangement are apparent and obvious. By keeping a current of cold air circulating constantly about the hot-air flue all danger from fire from heated flues is avoided, and the construction, being simple, durable, and of small cost, will meet a long-felt want in the art.

It is obvious that slight modifications may be made from the construction shown and described without departing from the spirit of my invention. Therefore I do not confine myself to such.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a section for hot-air flues, the combination, with two casings, one within the other, one end of the outer casing being inclined toward the inner one and the opposite end of the inner casing being inclined toward the outer one, of a connecting-strip secured to

each end of the section by overlapping edges,
each of said strips being substantially V-
shaped in cross-section, one leg lying flat
against the straight side of one casing and
5 the other leg being inclined toward the in-
clined portion of the other casing, substan-
tially as set forth.

In testimony whereof I affix my signature
in presence of two witnesses.

GEO. A. BARNES.

Witnesses:

D. McKELVEY,
T. M. BARNES.