

No. 648,726.

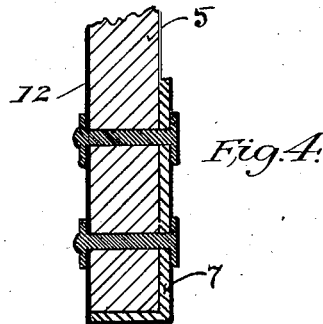
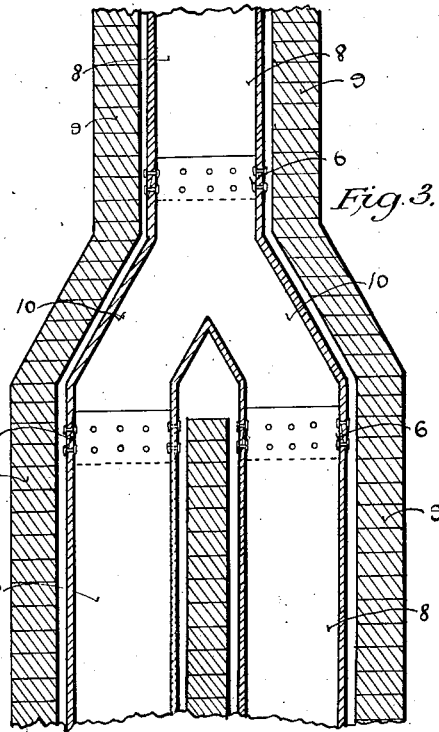
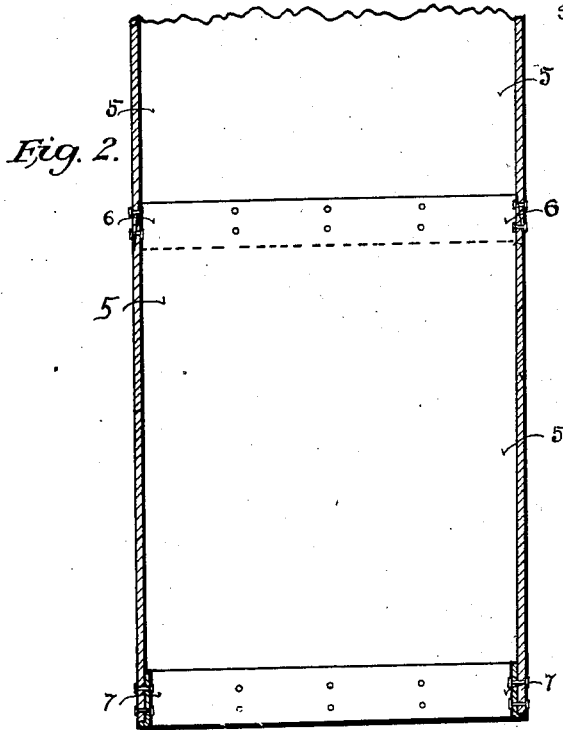
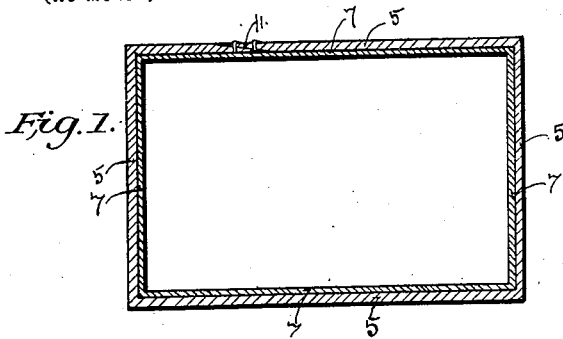
Patented May 1, 1900.

T. P. CORDREY.

INTERNAL FLUE FOR CHIMNEYS OR SMOKE FLUES.

(Application filed Jan. 13, 1900.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS P. CORDREY, OF FORT WAYNE, INDIANA.

INTERNAL FLUE FOR CHIMNEYS OR SMOKE-FLUES.

SPECIFICATION forming part of Letters Patent No. 648,726, dated May 1, 1900.

Application filed January 13, 1900. Serial No. 1,320. (No model.)

To all whom it may concern:

Be it known that I, THOMAS P. CORDREY, a citizen of the United States, residing in the city of Fort Wayne, in the county of Allen and State of Indiana, have invented a new and useful Internal Flue for Chimneys or Smoke-Flues, of which the following is a specification.

My invention relates to improvements in chimneys or smoke-flues designed to carry off the products of combustion; and the objects of my improvement are, first, to provide an internal flue for a chimney that shall thoroughly protect its walls from the action of deleterious fumes and gases; second, to provide an internal flue that may be more easily cleansed; third, to provide an internal flue that can be readily placed within an existing chimney.

Other objects and advantages will hereinafter appear from the description; and the invention consists in the construction and novel combination of parts hereinafter described, pointed out in the appended claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the supporting-frame. Fig. 2 is a sectional view showing the method of attaching the sections of the device. Fig. 3 is a vertical section of device in place in an angle in a chimney. Fig. 4 is an enlarged detail showing the flue connected to the angle-iron.

Similar numerals of reference refer to similar parts throughout the several views.

It is well known that the mortar and cement used in building and lining brick chimneys disintegrate from various causes and especially from the deleterious gases and fumes of combustion. This disintegration becomes so rapid where natural gas is used that within a year or two the chimney is usually stripped of its lining or cement coating, portions of the mortar between the bricks have fallen out, and the chimney is left thereby in a dangerous condition. Frequent fires result therefrom, and it is then especially unsafe to change to a light fuel, such as wood. I have discovered a cheap and speedy process by which sheets of asbestos up to half an inch or more in thickness can be bent in form of a rectangular or other angular flue, so that

it will substantially maintain such form, the forming being done without tearing or injuriously affecting the fibers of the sheet. I also have discovered that when an asbestos flue shall become coated by the products of combustion it can be readily cleansed by passing through such flue certain metallic fumes in connection with the products of combustion, the result being that such coating is thereby entirely detached from the asbestos walls of the flue without injuring the same and falls down without any manipulation. These processes of cleansing asbestos flues and of forming asbestos flues in sectional lengths I reserve as the subject-matter for other applications. I preferably coat such asbestos flues on the outside with asphaltum or other waterproof coating to thoroughly protect it from external dampness. Such coating is applied by a brush or other suitable means similar to the application of a coat of paint.

The flue is constructed as follows: Sheets of asbestos are made into sectional parts or joints of the form and size desired and preferably thirty-six inches in length, one end of each section being adapted to enter the other end of the section to be placed over it, the overlappings being preferably about two inches in length, which sections when joined are preferably further secured by riveting them together to further secure them in place to form a continuous flue. One end of such section may be crimped similar to the crimping of stovepipe-sections for the same purpose. The first section or bottom of the flue is provided with a frame, made of angle-iron and conforming in size and shape to the flue, as shown in Fig. 1. The horizontal part of the angle-iron does not project beyond the thickness of the wall of the flue, and its vertical sides are attached to the bottom of the flue by rivets or in any other suitable manner, so as to be securely attached. (See Figs. 1 and 4.) The asbestos sheets when shaped to conform to the size and form of the flue in cross-section have their vertical edges riveted together or otherwise secured, the lap being preferably two inches. This is a preferable method of securing the sides in place to preserve the form of the flue.

Where a new chimney is constructed, my

device is built into the chimney preferably so that a small air-space shall exist between the internal flue 8 and the chimney 9. As the chimney advances in construction sections are added until the top of the chimney is completed. Where the chimney has two flues angling from the main upper flue or there is an angle in the chimney, the construction of the internal flue for such angle is shown in Fig. 3. In such cases a specially-formed section 10 of the internal flue adapted to fit such angular space is formed, as shown in Fig. 3, the vertically-placed flues having their tops and bottoms at right angles to the line of the flue and the angling all being provided for by such special section 10, as shown in said drawing. Where such flues are in an existing chimney, it is necessary to remove a portion of the brick of the chimney on one side of the place where such angling is made to put in such special sections at that place and then replace the wall of the chimney.

My flue is constructed, as before stated, entirely of asbestos sheets, preferably of one-half inch in thickness and preferably coated on the outside, as before stated, with waterproof coating to exclude dampness. An existing chimney where the cement and mortar by reason of disintegration have become loose and fallen down, leaving dangerous cracks and crevices in the chimney, is thoroughly protected by the insertion of my device. The internal flue itself is easily cleaned by the use of metallic fumes produced by fire and causing them to ascend up through the flue. My device therefore, in addition to protecting the walls of the outer chimney and other advantages, is a thoroughly fire and water proof flue. The small space between it and the walls of the chimney proper furnishes additional protection to said chimney, and the material used permits the use of metallic fumes of a character to quickly cleanse its walls of

all deposits from the products of combustion. Its construction permits the sections to be lowered into an existing chimney singly, the sections being placed and securely attached as they are lowered from the top. Such internal flues can be made cheaply, easily supported and secured in position, and where placed in a new chimney the cement lining may be dispensed with. My internal flue thus made and placed is almost indestructible.

Flues constructed in sections or joints riveted or secured to each other to form an entire flue are very old. I do not claim such construction; but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination with a chimney or smoke-flues of an internal flue composed of asbestos, shaped to conform to the flue of said chimney or smoke-flues, and placed therein so that a small air-space shall be formed around it; and waterproof coating to the outside of said internal flue.

2. As an article of manufacture, short flues formed of asbestos preferably thirty-six inches in length and adapted to be secured to each other to form a continuous flue and provided with a waterproof coating on their external surfaces.

3. An internal flue formed of asbestos adapted to be placed inside of a chimney or smoke-flues formed in sections adapted to be secured to each other to form a continuous flue, and a metallic frame securely attached to the lower end of the bottom section.

In witness whereof I have hereunto set my hand, in the presence of two witnesses, at the city of Fort Wayne, Indiana, this 11th day of January, 1900.

THOMAS P. CORDREY.

Witnesses:

R. E. THAIN,
H. A. HARTMAN.