

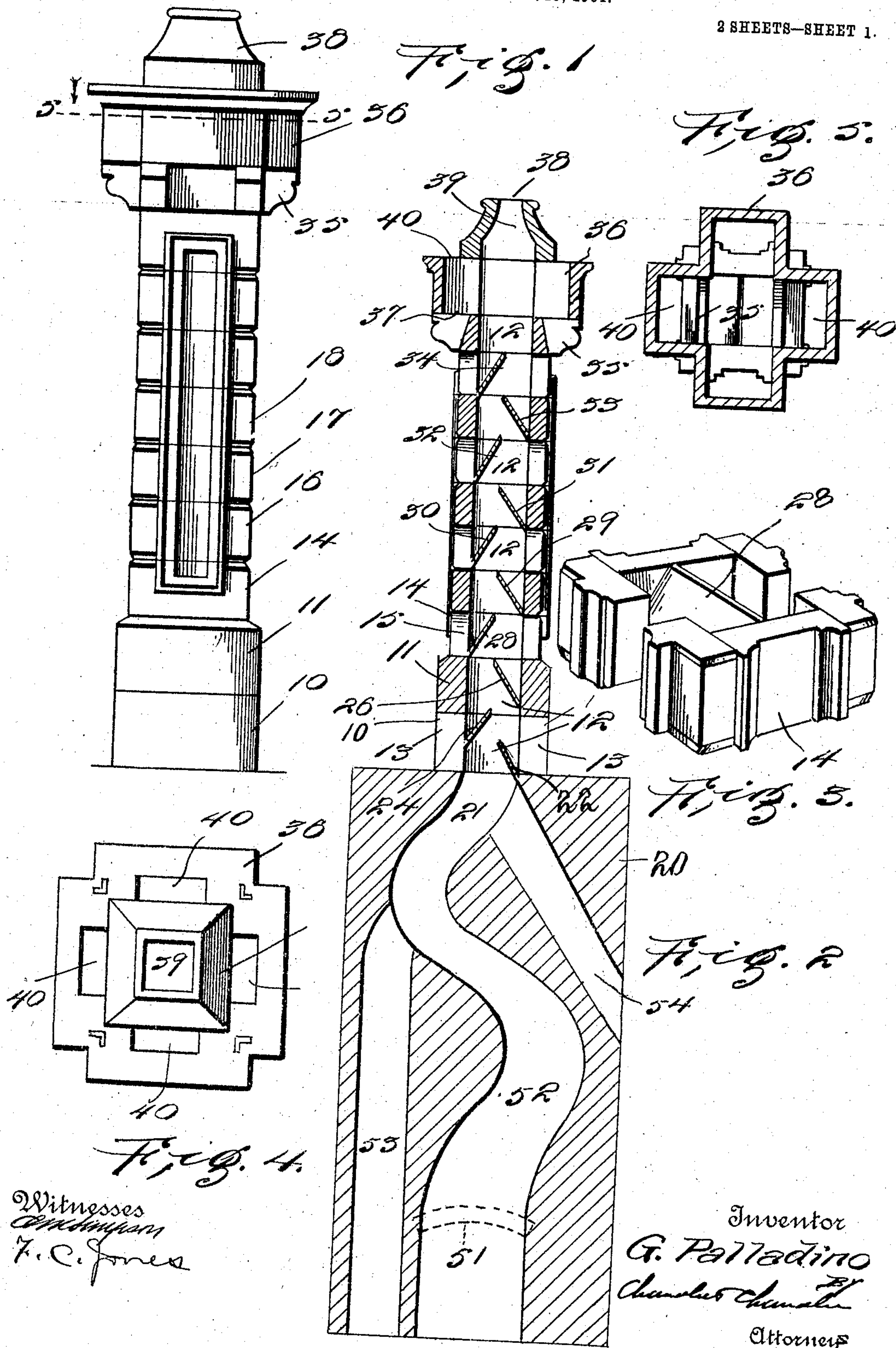
No. 780,378

PATENTED JAN. 17, 1905.

G. PALLADINO.  
CHIMNEY.

APPLICATION FILED FEB. 13, 1904.

2 SHEETS—SHEET 1.



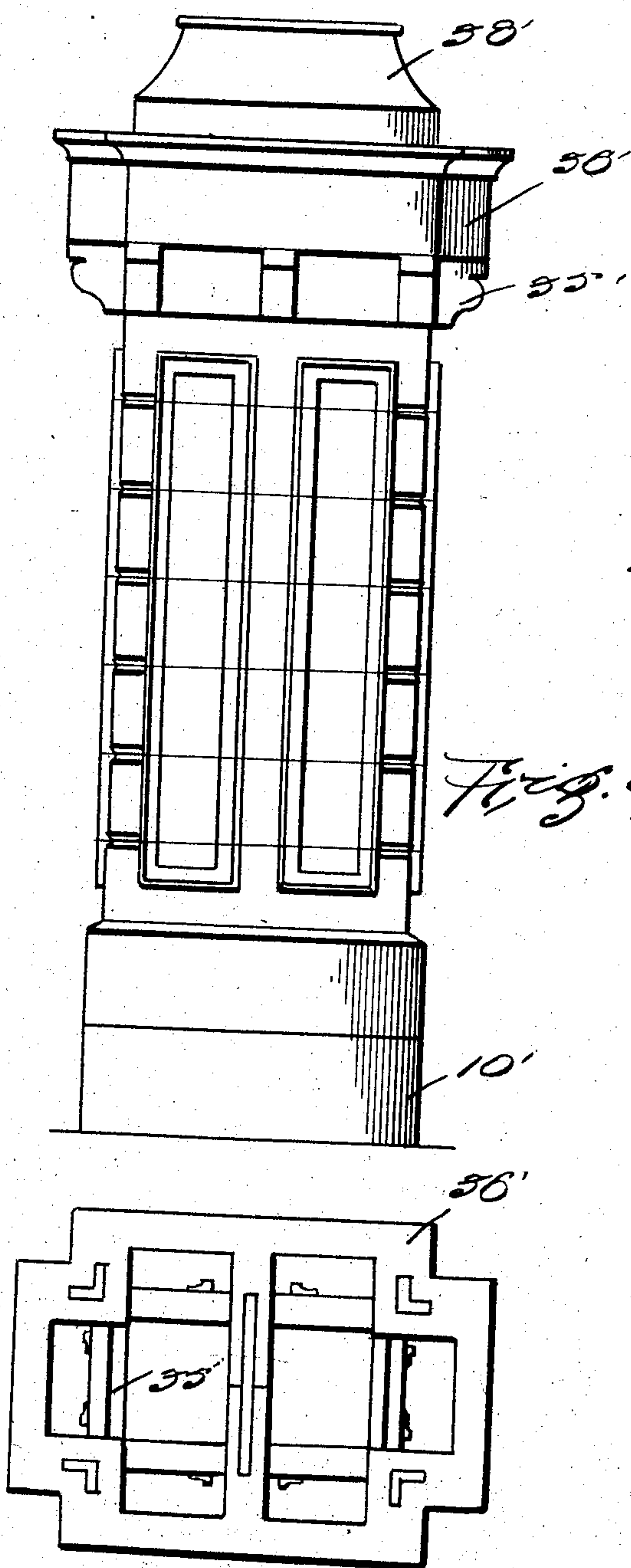
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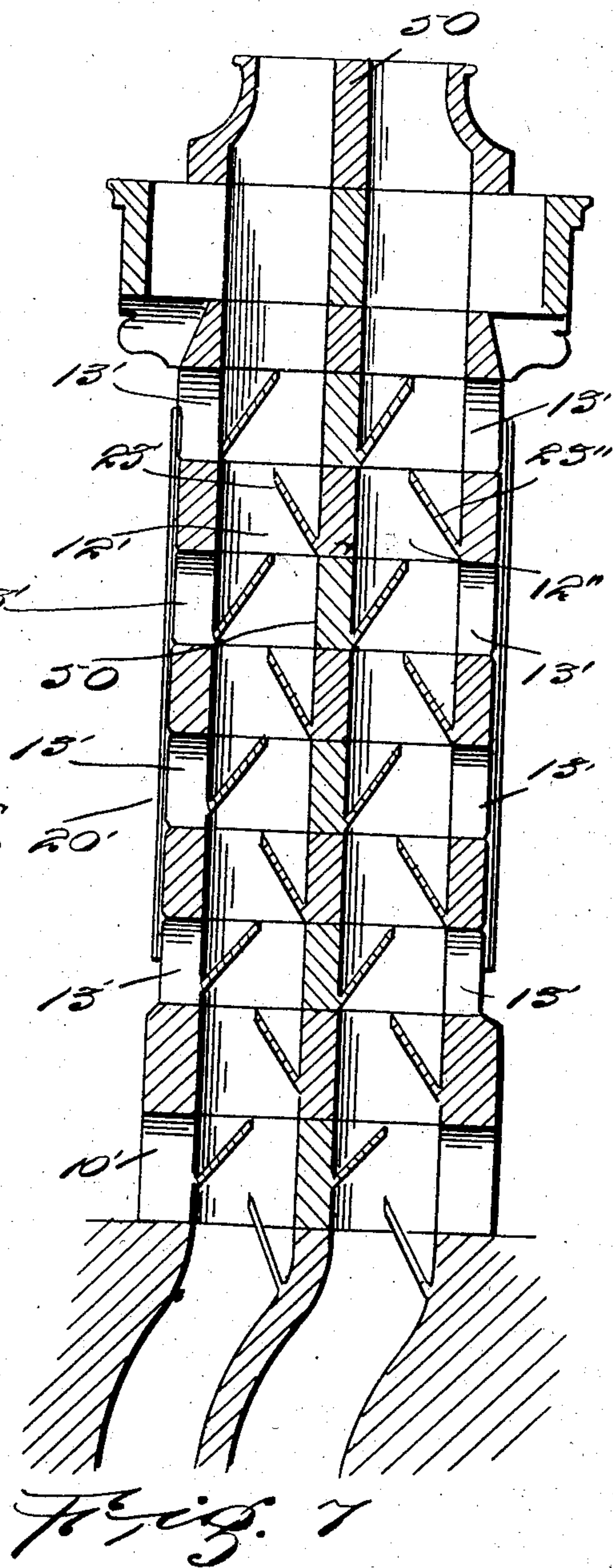
2 SHEETS—SHEET 2.



*Fig. 6.*

*Fig. 8.*

Witnesses  
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*Fig. 7.*

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# UNITED STATES PATENT OFFICE.

GAETANO PALLADINO, OF EL PASO, TEXAS.

## CHIMNEY.

SPECIFICATION forming part of Letters Patent No. 780,378, dated January 17, 1905.

Application filed February 13, 1904. Serial No. 193,455.

*To all whom it may concern:*

Be it known that I, GAETANO PALLADINO, a citizen of the United States, residing at El Paso, in the county of El Paso, State of Texas, have invented certain new and useful Improvements in Chimneys; and I do hereby 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.

This invention relates to chimneys or smokestacks; and it has for its object to provide a construction wherein there will be an efficient feeding of air into the chimney to insure complete combustion, so that there will be no smoke emitted from the top of the chimney.

A further object of the invention is to provide a chimney of such construction that it may be readily built of various heights to satisfy different specific conditions without affecting the principle of operation of the chimney.

A further object of the invention is to provide a construction which may be embodied in either a single or a multiple flue chimney.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevation showing the invention embodied in a single-flue chimney. Fig. 2 is a section taken vertically through the chimney shown in Fig. 1. Fig. 3 is a detail perspective view of one of the sections of the chimney, showing a portion of the wing at one side thereof. Fig. 4 is a top plan view of the chimney shown in Fig. 1. Fig. 5 is a horizontal section on line 5 5 of Fig. 1 just below the top corner. Fig. 6 is a view similar to Fig. 1, showing the invention embodied in a chimney having two flues. Fig. 7 is a vertical section through the chimney shown in Fig. 6. Fig. 8 is a top plan view of the double chimney with the cap removed, the position of the latter being indicated by dotted lines.

Referring now to the drawings, and more particularly to Figs. 1 to 5, inclusive, the chimney shown therein comprises a base which is rectangular, as illustrated, and which com-

prises a lower member 10 and an upper member 11, set thereon, this base in practice being disposed directly upon the body of the chimney at the level of the roof, "the body of the chimney" signifying that portion of the chimney that is below the level of the roof. The sections 10 and 11 have each a central rectangular opening 12 formed vertically therethrough, and through two of the opposite sides of the member 10 are formed rectangular openings 13, the section 11 being without openings in its sides. Upon the section 11 is placed a section 14 of reduced exterior diameter and through which is also a vertical rectangular passage 12, with which communicate the openings 15 in two of the opposite sides of said sections, the openings 15 being directly above or in the same sides of the completed chimney as are the openings 13. Upon the section 14 is disposed a section 16 of the same dimensions and similar in every way to the section 14, with the exception that it has no openings in its sides. Upon the section 16 is disposed a section 17, similar in every way to the section 14, and upon the section 17 is disposed a section 18, similar in every way to the section 16, the chimney being continued to the proper height, with the exception of the head and cap, by adding alternately sections similar, respectively, to the sections 14 and 16. From the body of the chimney (illustrated at 20) at one side of the wall of the flue 21 therein below one of the openings 13 there projects upwardly at an acute angle a wing or baffle-plate 22, the width of this baffle-plate being equal to the diameter of the flue and the upper edge thereof terminating at a line within and centrally of the flue or passage 12 in the section 10. From the side of the passage through the section 10 opposite to the baffle-plate 22 there projects upwardly at an acute angle a baffle-plate 24, which extends upwardly into the section 11, the base of the plate 24 being substantially midway of the height of the section 10. From the inner wall of the section 11, slightly above the bottom thereof and at the opposite side from the plate 24, there projects upwardly at an acute angle a baffle-plate 26, the upper edge of which is



in the plane of the top of the section 11. The succeeding sections of the chimney are provided with baffle-plates 28, 29, 30, 31, 32, 33, and 34, respectively, which project alternately from opposite sides of the continuous flues 12, each of these baffle-plates rising from the bottom of its respective section at an acute angle to the latter and terminating in the plane of the top of its section. With this arrangement of baffle-plates the smoke in rising through the chimney will have a zig-zag course and will pass first to one side and then to the other of the chimney. Furthermore, as the smoke passes upwardly through the chimney it serves to draw air into the chimney through the openings in the sides of the alternate sections, and this air in mixing with the smoke supplies sufficient additional oxygen to insure complete combustion, so that no smoke is discharged from the top of the chimney. The uppermost one of the sections having a baffle-plate is a section having openings through its sides, and upon this uppermost section is disposed the bottom section 35 of the head of the chimney, which said section has also a central vertical opening or flue 12, which alines or registers with the similar openings in the sections below. The member 35 is rectangular in cross-section and is of greater diameter than the sections therebelow, so that it projects therebeyond, and upon this section 35 is disposed a section 36 of the same exterior dimensions, the shape of these members 35 and 36 in top plan being the shape of a cross of St. George, the member 36 comprising exterior walls, within which is a similar cross-shaped inclosure. From the sides and bottom of the overhanging portion of the member 35 there lead upwardly the passages 37, which communicate with the end portions of the inclosure of the member 36, so that smoke may pass from the member 36 downwardly and outwardly through these passages 37. Upon the member 36 is disposed a cap 38, beyond which at the sides thereof project the end portions of the cross-shaped inclosure of the member 36, the cap 38 having an upwardly-tapering opening 39 there-through, the lower end portion of which registers with or alines with the passages or flues 12, above referred to. It will thus be seen that smoke from the member 36 may pass also upwardly and outwardly through the openings 40 between the member 36 and the cap 38 and may pass also in part upwardly through the opening 39. The chimney thus has nine openings in the head thereof, through which the smoke may be discharged.

In a chimney having two flues, such as illustrated in Figs. 6, 7, and 8, the general arrangement is the same as that above illustrated, the sections that are built one upon another to form the chimney having the same heights as the corresponding sections in the single chimney, and the same breadths, but having greater

lengths, to permit of an intermediate transverse partition 50 in each section, which divides that section into two flues 12' and 12''. The baffle-plates 23' and 23'' are arranged one in each of the flues in the body of the chimney 20' and project in the same manner as the baffle-plate 22, each of the sections of the chimney beginning with the lower base-section 10' and ending with the section directly below the lower head-section 35', having in each of its flues a baffle-plate corresponding exactly in position and in every other way with the baffle-plate in the corresponding section of the single-flue chimney. Furthermore, each alternate section of these sections which have baffle-plates therein, beginning with the section 10', has openings 13' in its end. The head of the chimney comprises a section 36', corresponding to the section 36, and a cap 38', corresponding to the cap 38, the sections 35' and 36' and the cap 38' having also each a transverse partition 50, which divides its inclosure into two parts corresponding to and communicating with the divisions of the inclosures of the sections therebelow.

The passage of air into each flue of the double chimney above described is the same as into the single flue of the single chimney, the head of the double chimney, however, having seven openings for passage of smoke from each of the flues.

The body of the chimney shown in Fig. 2 is illustrated as having a fireplace 51 at the bottom thereof, from which leads the gradually-tapered flue 52, which has a serpentine course upwardly through the body of the chimney and the upper end of which communicates with and is of the same diameter as the opening 12 in the lower member 10 of the base of the chimney, meaning the base of that portion of the chimney which is above the roof-line. Through the body of the chimney or chimney-breast there is formed a vertical air-passage 53, which communicates with the under side of a laterally-directed portion of the flue 52, and a second air-passage 54 communicates with the under portion of the flue 52 at the upper end of the latter, so that air may be fed to the flue 52.

What is claimed is—

1. A chimney having oppositely-disposed lateral openings at regular intervals of its length, baffle-plates disposed within the chimney between the openings at one side of the chimney and arranged to direct the smoke laterally away from said openings and toward those at the opposite side of the chimney and a baffle-plate disposed below each of the last-mentioned openings and arranged to direct the smoke away from them and toward the first-mentioned openings.

2. A chimney having lateral openings at intervals of its height, baffle-plates disposed within the chimney between the openings and arranged to direct the smoke laterally away



from the openings, and additional baffle-plates opposite to the openings arranged to direct the smoke toward the openings.

3. A chimney comprising a body, a head  
5 and intermediate sections, the body having a serpentine flue extending upwardly there-  
through, and said intermediate sections hav-  
ing a straight flue with which the serpentine  
flue communicates, the body portion having  
10 an air-passage extending upwardly there-  
through and communicating with the serpen-  
tine flue through the under side of a later-  
ally-directed portion thereof.

4. A chimney comprising a body and upper  
15 sections thereabove adapted to project above  
a roof-line, the body having a serpentine flue

extending upwardly therethrough and said  
upper sections having a straight flue with  
which the serpentine flue communicates, the  
body, having an air-passage extending up- 20  
wardly therethrough and communicating with  
the serpentine flue through the under side of  
a laterally-directed portion thereof, and said  
upper sections having air-inlet openings  
through their sides and baffle-plates disposed 25  
to give to the smoke a serpentine course.

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

GAETANO PALLADINO.

Witnesses:

W. B. McLACHLEN,

L. L. MERRILL.