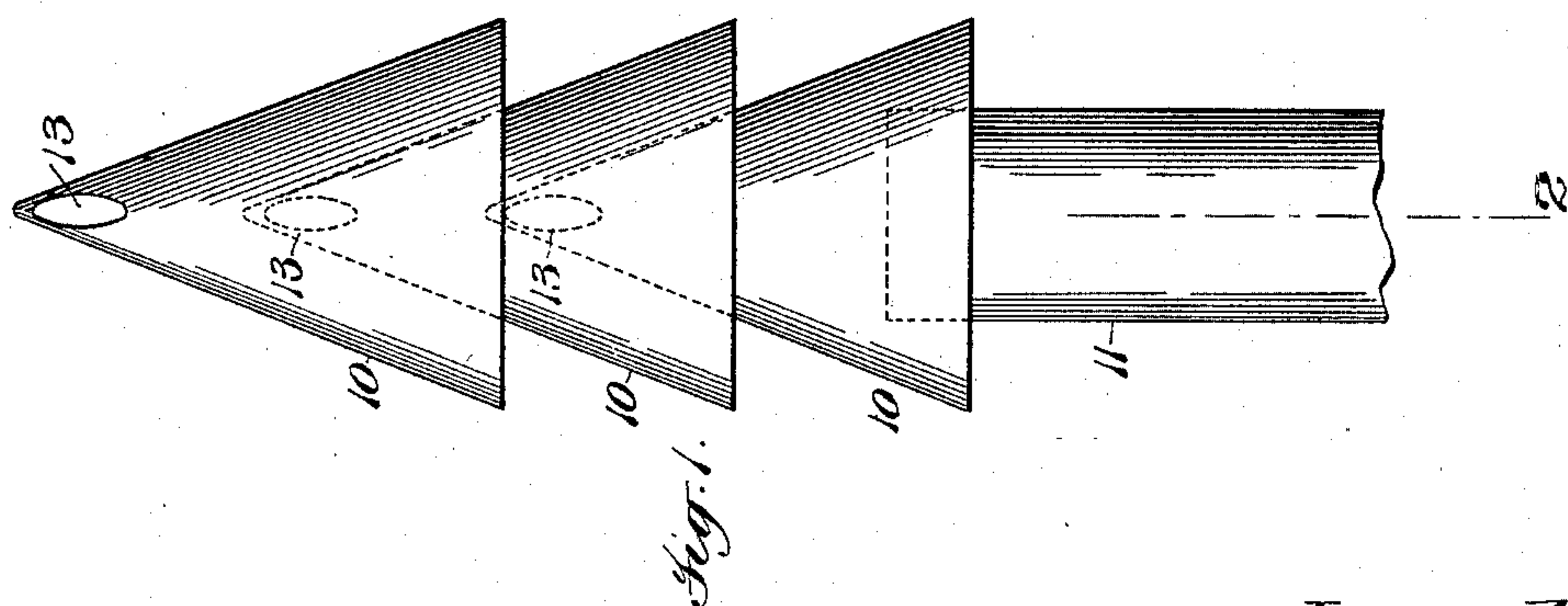
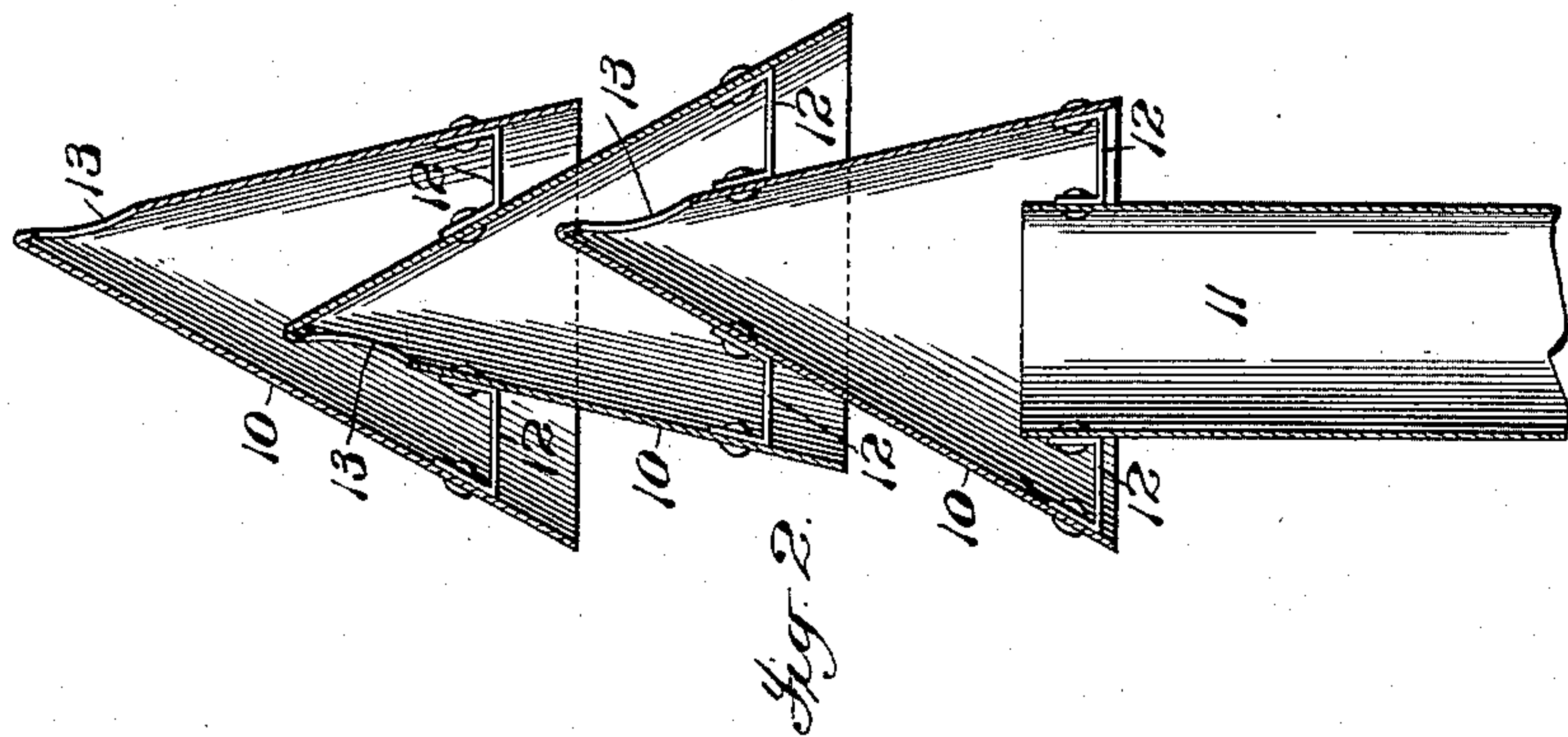
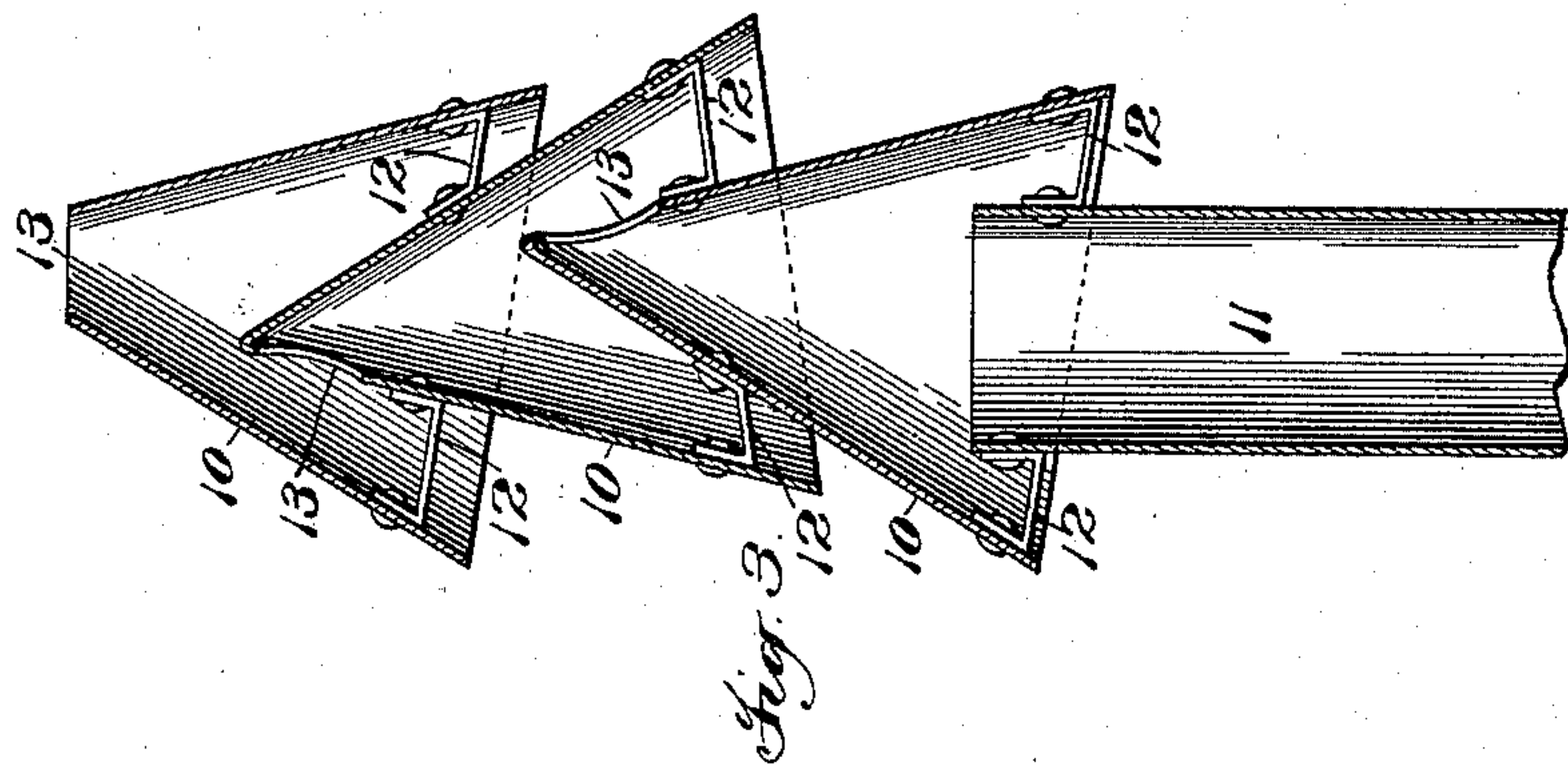


(No Model.)

O. KUPHAL.
CHIMNEY COWL.

No. 603,881.

Patented May 10, 1898.



Attest:
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UNITED STATES PATENT OFFICE.

OTTO KUPHAL, OF NEW YORK, N. Y.

CHIMNEY-COWL.

SPECIFICATION forming part of Letters Patent No. 603,881, dated May 10, 1898.

Application filed February 26, 1897. Serial No. 625,115. (No model.)

To all whom it may concern:

Be it known that I, OTTO KUPHAL, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Chimney-Cowls, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to chimney hoods or cowls. Great difficulty has heretofore been experienced in providing a chimney-cowl which will operate satisfactorily under all conditions, and especially where the chimney is in close proximity to a wall extending above the top of the chimney, on account of the different directions from which the wind and reflected air-currents strike the top of the chimney.

The present invention aims especially to produce a chimney-cowl which will act satisfactorily under such and all conditions. To this end, in the preferred manner of carrying out the invention, I form a cowl of a series of hollow cones having openings near their vertexes and arranged with the vertex of each cone except the top one extending into the cone above it and with the axes of alternate cones set obliquely in opposite directions, all as hereinafter more fully described, and specifically set forth in the claims.

The accompanying drawings show preferred constructions embodying the various features of the invention.

Figure 1 shows in elevation the preferred form of cowl embodying the invention. Fig. 2 is a section on line 2 of Fig. 1. Fig. 3 is a sectional view similar to Fig. 2, but showing a slightly-modified construction.

Referring to the drawings, the cowl is formed of a series of hollow cones 10, formed, preferably, of sheet metal and arranged successively with the vertex and upper portion of one cone extending into the cone above and with the lower cone extending about the top of the chimney-stack or chimney-pot 11.

The successive cones of the series may be secured together and to the chimney-stack in any suitable manner, as by brackets or arms 12. Near the top of each cone is a smoke-exit opening 13.

In the preferred construction shown the cones are supported so that the axes of alternate cones extend obliquely in opposite directions, and the openings 13 are formed in the sides of the cones in the sides nearest parallel with the general axis of the series. By this arrangement the cones may be in such relation to each other that a line drawn from any point of the opening 13 in one cone cannot pass into the next lower cone through its opening 13, this result being accomplished when the opening is formed merely in the side of the cone and without the necessity of any protecting, overhanging, or projecting cap, whereby the free passage of the smoke or heated air from the cone would be obstructed.

It will be seen by referring to the drawings that with the cones arranged as above described and as shown when an air-current strikes the chimney-cowl—say from the right in Fig. 2—it will enter the opening 13 of the uppermost cone, but that no matter at what angle it may strike it cannot blow directly into the opening 13 of the next lower cone, since, as above stated, the cones in the preferred arrangement shown are so related that a line drawn from any point in the opening 13 of the upper cone cannot enter the next lower cone through its opening 13; also, when air entering through the opening 13 of the upper cone strikes the inside of the opposite side of the cone and is reflected or thrown back therefrom only a very small proportion, if any, will enter the opening 13 of the next lower cone. There can consequently be at the worst but a very slight downdraft through the second cone, and when a third cone is provided, as shown in the drawings, it will be practically impossible for any downward current to enter the opening 13 of such third cone to create a downdraft through said cone. I prefer, therefore, to form the cowl with three or more cones, since with this number of cones the cowl may be made so that it will be both theoretically and practically impossible for the wind to cause any downdraft to the top of the chimney, and the use of three or more cones forms an important feature of the invention.

With my construction, moreover, the air striking the outside of the lower cones will be

reflected upwardly into the cones next above, thereby tending to create an upward current of air past and through the openings 13.

The cones 10 may be right cones set obliquely, as in Fig. 3; but I prefer to use oblique cones, so that their bases may be parallel and at right angles to the general axis of the series of cones, as in Figs. 1 and 2, since thereby the openings 13 of the lower cones will be well protected, while allowing a greater exposure of the cones for the purpose of deflecting air upward than in the arrangement shown in Fig. 3.

In Fig. 3 I have shown also the top cone with the opening 13 formed by cutting off the vertex of the cone in a horizontal plane, so that the wind, unless it strike downward, will not enter the top cone from whichever way it may blow. It is evident that this feature of cutting off the vertex of the top cone in a horizontal plane might equally well be applied and would be equally useful where the cones forming the cowl are oblique cones, such as are shown in Figs. 1 and 2.

Other modifications within the invention, as defined in the claims, will doubtless suggest themselves.

What I claim is—

1. A chimney-cowl formed of a plurality of hollow cones arranged with the vertex of each cone except the top one extending into the cone above it, said cones having openings near their vertexes, substantially as described.

2. A chimney-cowl formed of a plurality of hollow cones arranged with the axes of alternate cones set obliquely in opposite directions and with the vertex of each cone except the top one extending into the cone above it, and said cones having openings near their vertexes in the sides nearest parallel with the general axis of the series, substantially as described.

3. A chimney-cowl formed of three hollow cones arranged with the axes of alternate

cones set obliquely in opposite directions and with the vertex of each cone except the top one extending into the cone above it, and said cones having openings near their vertexes in the sides nearest parallel with the general axis of the series, substantially as described.

4. A chimney-cowl formed of a plurality of hollow cones arranged with the axes of alternate cones set obliquely in opposite directions and with the vertex of each cone except the top one extending into the cone above it, and said cones except the top one, having openings near their vertexes in the sides nearest parallel with the general axis of the series, said top cone having its vertex cut off in a horizontal plane, substantially as described.

5. A chimney-cowl formed of a plurality of hollow cones arranged with the axes of alternate cones set obliquely in opposite directions and with the vertex of each cone except the top one extending into the cone above it, and said cones having openings near their vertexes, the openings in one or more of the cones being in the sides of the cones nearest parallel with the general axis of the series, substantially as described.

6. A chimney-cowl formed of a plurality of hollow oblique cones arranged with their bases parallel and their axes extending alternately in opposite directions and with the vertex of each cone except the top one extending into the cone above it, and said cones having openings near their vertexes, the openings in one or more of the cones being in the sides nearest parallel with the general axis of the series, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

OTTO KUPHAL.

Witnesses:

A. L. KENT,
T. F. KEHOE.