

R. J. EVANS.
SMOKE JACK FOR RAILWAY ENGINE HOUSES.
APPLICATION FILED DEC. 18, 1907.

920,041.

Patented Apr. 27, 1909.

Fig. 1.

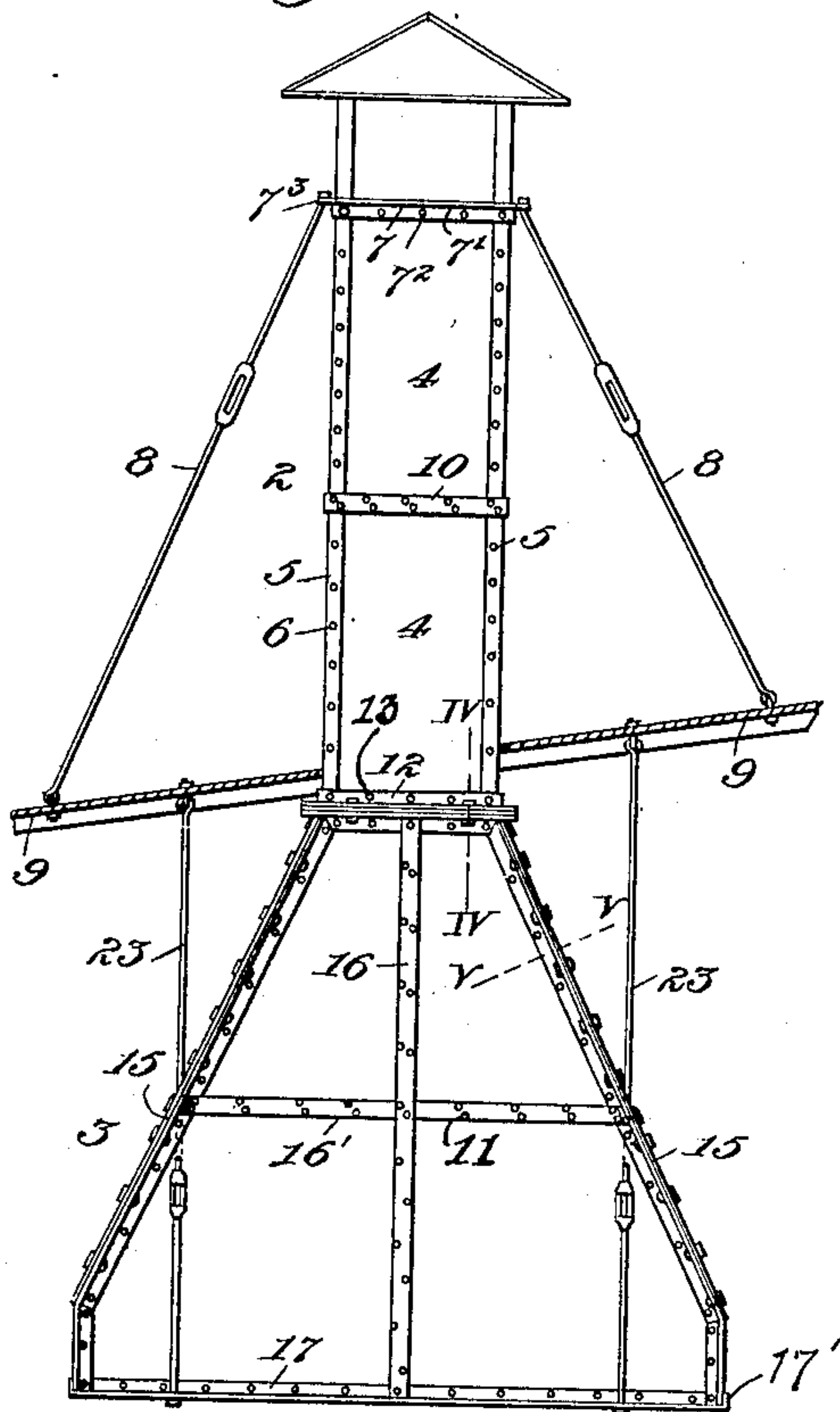


Fig. 2.

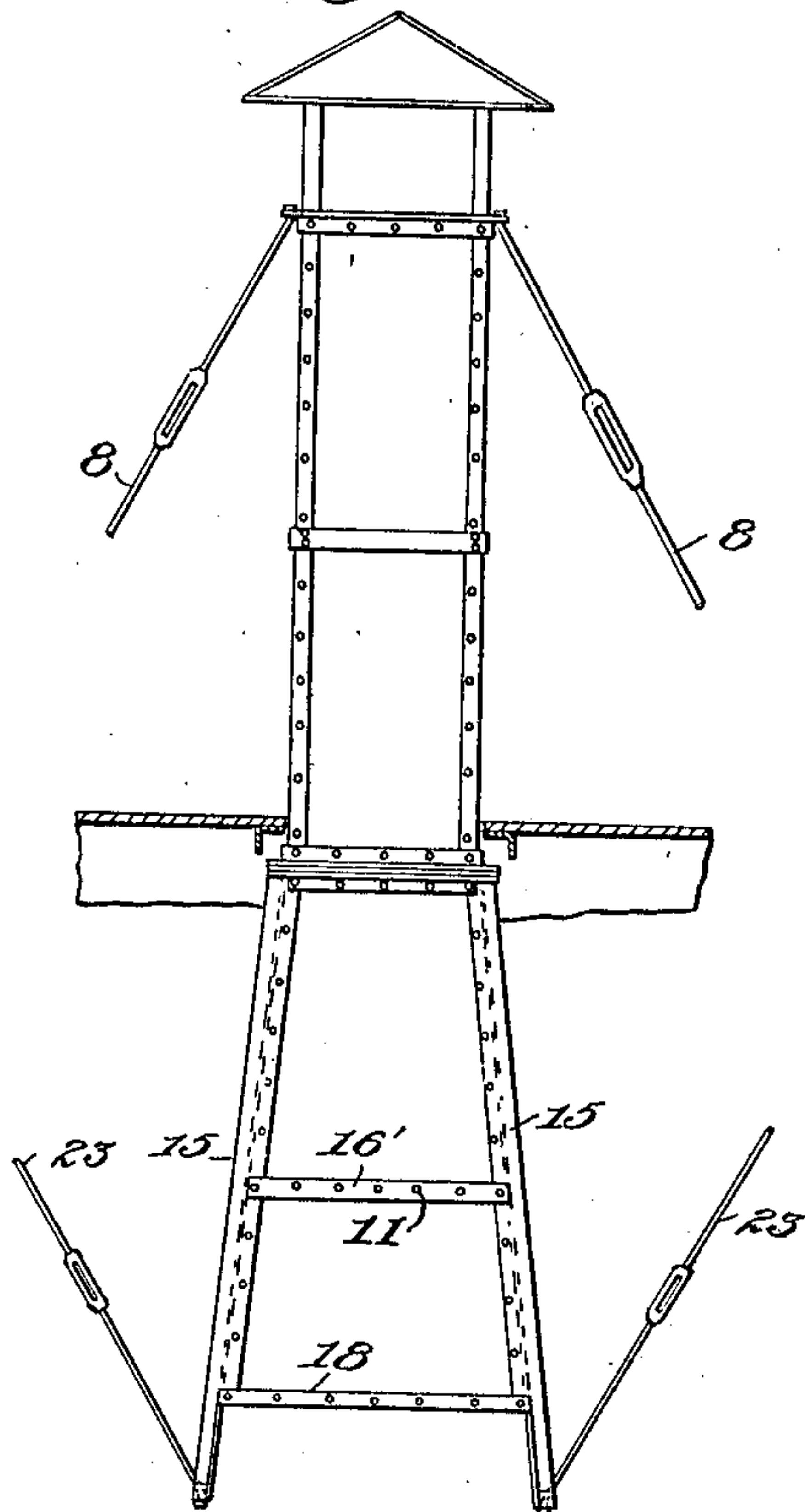


Fig. 3.

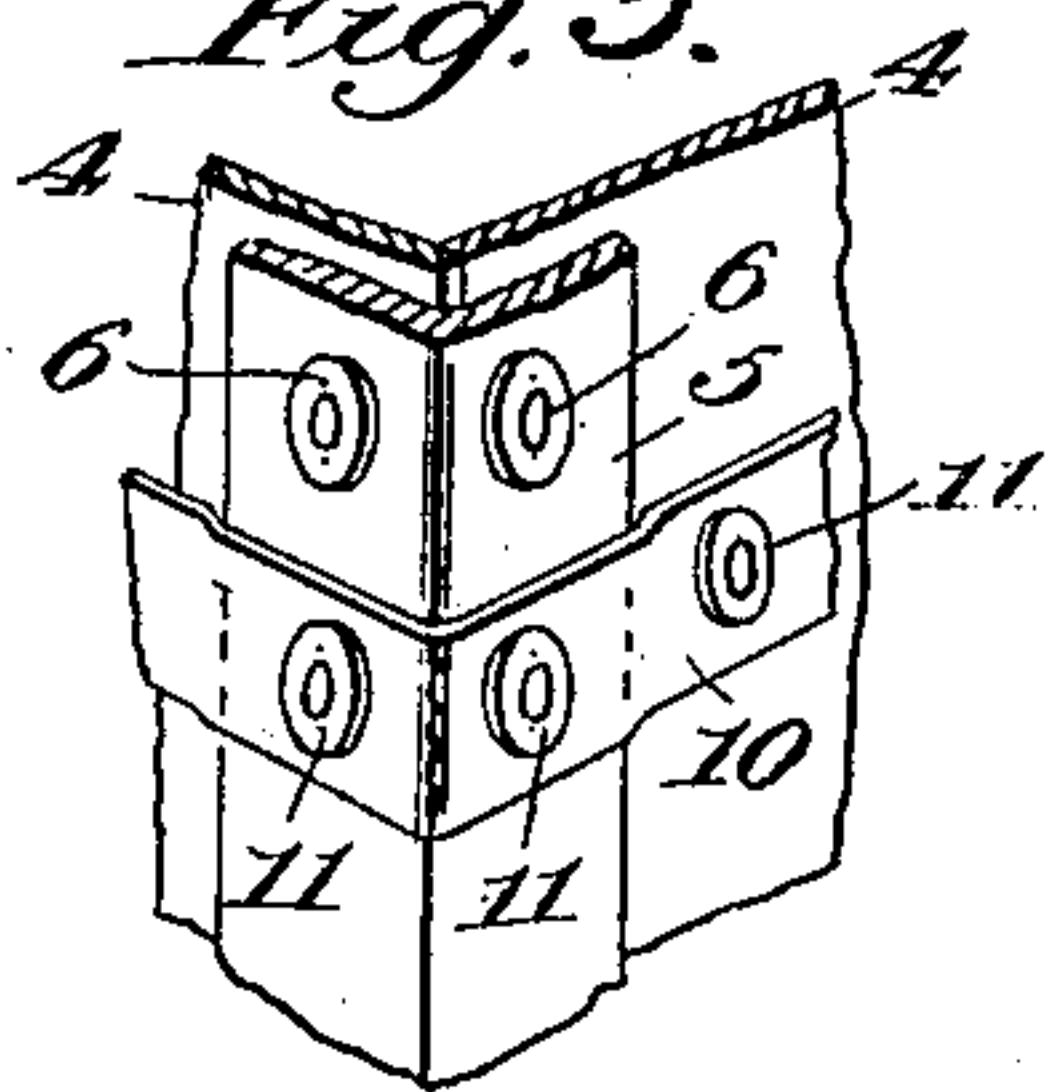


Fig. 4.

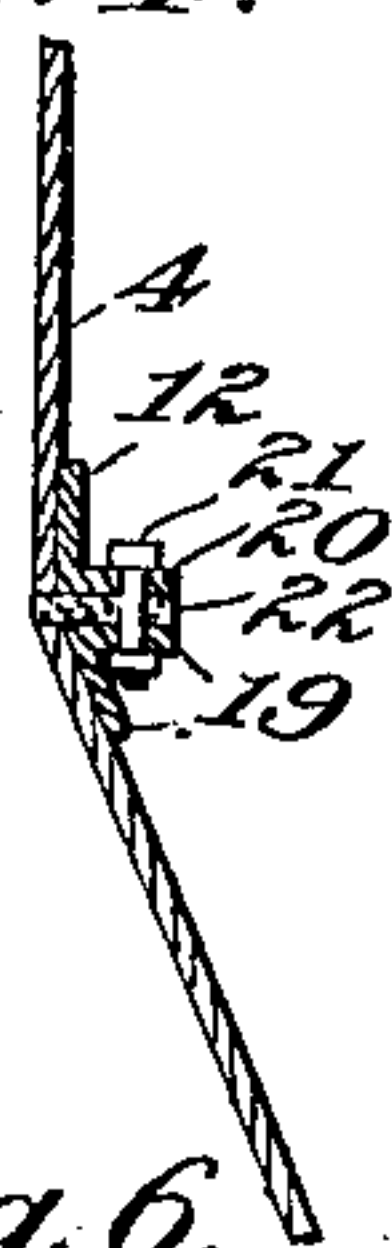


Fig. 5.

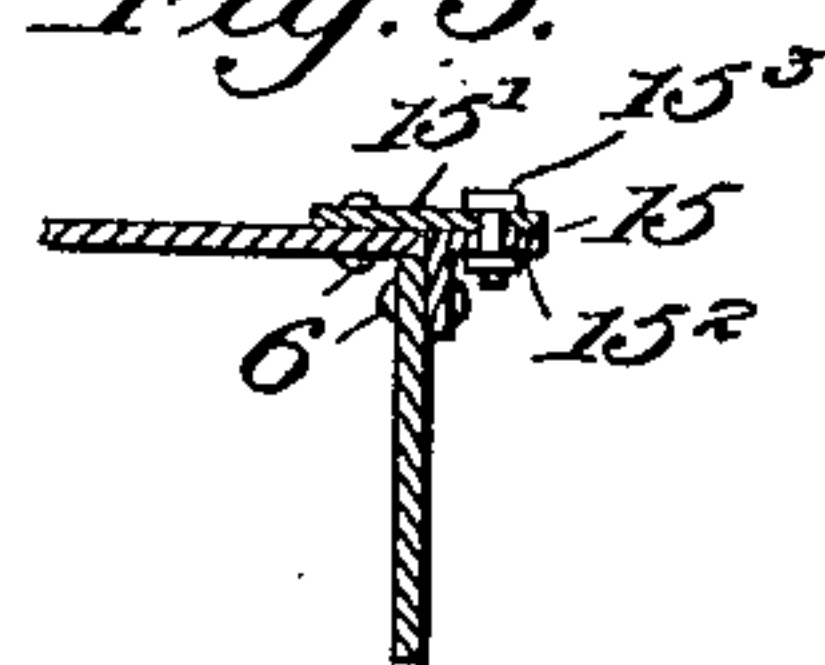
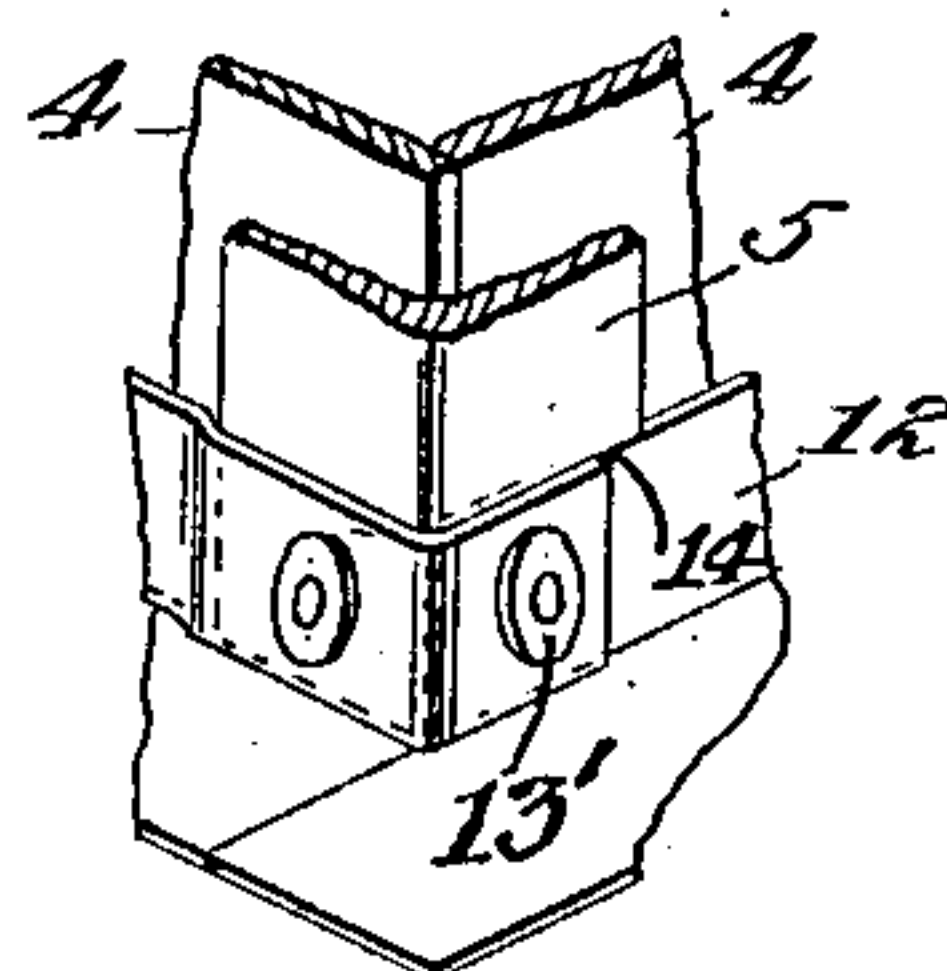


Fig. 6.



Witnesses:
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Att'y.

UNITED STATES PATENT OFFICE.

RICHARD J. EVANS, OF FRANKLIN, PENNSYLVANIA, ASSIGNOR TO THE FRANKLIN MANUFACTURING COMPANY, OF FRANKLIN, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

SMOKE-JACK FOR RAILWAY ENGINE-HOUSES.

No. 920,041.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed December 16, 1907. Serial No. 406,718.

To all whom it may concern:

Be it known that I, RICHARD J. EVANS, a citizen of the United States, and residing at Franklin, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Smoke-Jacks for Railway Engine-Houses, of which the following is a specification.

The principal objections to smoke-jacks commonly in use at the present time are that they are too heavy and expensive and present more or less iron work on their interior surfaces which is corroded and destroyed by the sulfuric and other acids and substances formed by the escaping steam and smoke and other gases of combustion from the locomotive. Such deterioration of the iron work compels frequent repairs and renewals to the jacks and renders them a heavy item of expense and trouble.

My invention is designed to obviate such objections and to provide a smoke-jack which, in addition to being fire-proof, may be easily constructed, will be lasting in character, and much lighter in weight.

I shall now describe my invention, so that others skilled in the art may manufacture and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a side elevation of a smoke-jack constructed in accordance with my invention. Fig. 2 is an end view of the same. Fig. 3 is an enlarged detail view, showing the manner of application of the strengthening band to the throat of the jack. Fig. 4 is an enlarged vertical section on the line IV—IV of Fig. 1, showing the manner of connecting the throat and mouth portions of the jack. Fig. 5 is an enlarged cross-section on the line V—V of Fig. 1, showing the manner of connecting the sides of the mouth portion of the jack. Fig. 6 is an enlarged detail view of the bottom of the throat of the jack.

Like symbols of reference indicate like parts in each of the figures.

In the drawing, 2 indicates the throat of my improved jack, and 3 the mouth portion thereof. The sides of the throat 2 are made up of boards 4 of asbestos lumber, which is a lumber composed principally of fibrous asbestos and a hardening and binding material, so that the same may be formed and cut up into boards in the fashion of ordi-

nary wood lumber. The boards 4 are fastened closely and rigidly together at the edges by the outside angle-irons 5, which angle-irons are connected to the boards 4 by aluminum rivets and washers 6. At the top of the throat 2, the angle irons 5 are connected together by an angle-iron piece 7, one angle plate 7' of which is connected to the angle-irons 5 and to the asbestos boards 4 by aluminum rivets 7², the other angle plate 7³ being provided for the attachment of the stay-rods 8 by which the jack is held in its proper relation to the roof 9 of the engine-house. About midway of the height of the throat, the same is provided with an encircling iron strap 10, which is connected to the boards 4 by aluminum rivets 11, said rivets 11 at the corners also passing through the angle irons 5. At the bottom, the throat is further strengthened by an encircling angle iron 12, connected to the boards 4 by aluminum rivets 13, the said rivets 13 at the corners also extending through the angle-irons 5. One side of one of the angle-irons 5 is cut away as at 14, to permit one end of the band 12 to extend under and be connected to the other end of the band and to the boards 4 by the rivet 13'.

The body of the mouth 3 of the smoke-jack is composed of boards 4 similar to the boards 4 of the throat 2, said boards being rigidly held against each other at the edges by angle-irons 15, said angle-irons 15, however, being of different construction from the angle-irons 5 of the throat. The angle-irons 15 are constructed of two parts, the flat piece 15' and the angle-piece 15² rigidly connected together by iron bolts 15³, and the said two parts being connected to the boards 4 by aluminum rivets 6, as in the case of the throat. The mouth of the jack is further strengthened by horizontal iron strips 16', extending between the angle pieces 15 and fastened to the same and to the boards 4 by aluminum rivets 11, similar to the rivets 11 of the throat. The mouth is provided at the bottom, on the sides, with angle-irons 17 attached to the angle-pieces 15 and to the boards 4 by aluminum rivets, and having their ends turned up as at 17' outside of the bottoms of the angle-irons 15. At the ends of the mouth iron strips 18 are similarly attached to the boards 4 and to the angle-irons 15. At the upper end of the mouth of the jack, four angle-irons 19 extend between

the angle pieces 15 and are connected to the same and to the boards 4 by suitable aluminum rivets.

Extending around the outer side of the lower end of the throat 2, are angle-irons 20, the horizontal flanges thereof being connected to the angle-irons 19 by iron bolts 21, which also extend through an asbestos gasket 22 interposed between the throat and mouth of the jack. The mouth of the jack is suspended from the roof 9 by suspension rods 23 connected to the angle-irons 17, the angle irons 17 thus supporting the entire weight of the jack.

The advantages of my invention will be appreciated by those having occasion to use smoke-jacks. My improved jack presents an interior surface absolutely unassailable by the products coming from the engine, or any combinations formed by the same after their emission therefrom, as it is composed of boards of asbestos lumber connected to their supporting iron framework by aluminum rivets, both of which are fire-proof and corrosion proof. Also in my construction, no portion of the asbestos lumber is subjected to strain of any nature, all horizontal and longitudinal and other strains being taken up by the iron framework.

I claim:—

1. A smoke-jack for locomotive engine-houses, the interior of which is composed of boards of asbestos lumber supported at the corners and tops and bottom by an exterior angle-iron framework attached to said boards by aluminum rivets; substantially as described.

2. A smoke-jack for locomotive engine-houses, consisting of a throat the interior of which is composed of boards of asbestos lumber supported at the corners by an angle iron framework attached to the outside of the boards by aluminum rivets, and angle-iron pieces at the top and bottom of said throat connected to said first named angle-irons and to the asbestos boards by aluminum rivets; substantially as described.

3. A smoke-jack for locomotive engine-houses, consisting of a throat the interior of which is composed of boards of asbestos lumber supported at the corners by exterior angle-irons attached to said boards by aluminum rivets, and angle-iron pieces at the top and bottom of said throat connected to said first named angle-irons and to the asbestos boards by aluminum rivets, and an iron strap intermediate said top and bottom angle-irons and encircling the throat and

said first named angle-irons and attached to the same and to said boards by aluminum rivets; substantially as described.

4. A smoke-jack for locomotive engine-houses, consisting of a mouth portion the interior of which is composed of boards of asbestos lumber supported at the corners by exterior angle-irons attached to said boards by aluminum rivets, and exterior angle-iron pieces at the top and bottom of said mouth connected to said first named angle-pieces and to the asbestos boards by aluminum rivets; and an exterior horizontal iron strip on each side and end of the mouth intermediate said top and bottom angle pieces and connected to said first named angle pieces and to the asbestos boards by aluminum rivets; and an exterior vertical strip of iron on each exterior side of said mouth and connected to said top and bottom angle pieces and to said intermediate strips by aluminum rivets; substantially as described.

5. A smoke-jack for locomotive engine-houses, consisting of a throat the interior of which is composed of boards of asbestos lumber supported at the corners by exterior angle-irons attached to said boards by aluminum rivets, exterior angle-iron pieces at the top and bottom of said throat connected to said first named angle-irons and to the asbestos boards by aluminum rivets; a mouth for the smoke-jack having a construction similar to that just described for the throat; and devices for connecting the throat and mouth together; as described.

6. A smoke-jack for locomotive-engine houses, consisting of a throat the interior of which is composed of boards of asbestos lumber supported at the corners by exterior angle-irons attached to said boards by aluminum rivets, angle-iron pieces at the top and bottom of said throat connected to said first named angle-irons and to the asbestos lumber by aluminum rivets; a mouth for the smoke-jack having a construction substantially similar to that just claimed for the throat; an asbestos gasket between the lower end of the throat and the upper end of the mouth; and devices for connecting the throat, mouth and gasket firmly together; substantially as described.

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

RICHARD J. EVANS.

Witnesses:

F. M. SIMPKINS,
ELMER C. DAVIS.