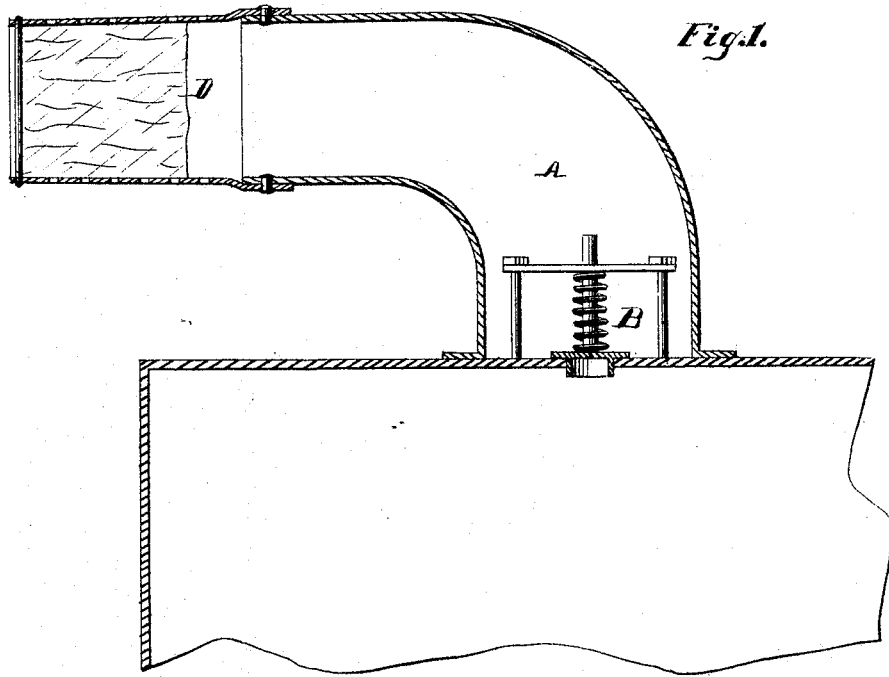


H. WHITE & M. LEVY.  
Exhaust-Nozzle.

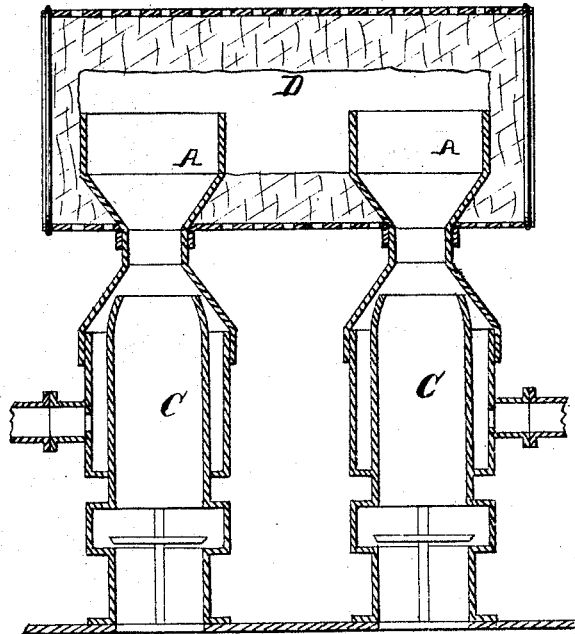
No. 166,910.

Patented Aug. 17, 1875.



*Fig. 1.*

*Fig. 2.*



Witnesses.  
*Otto Schupeland*  
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Inventors.  
*Hartshorn White*  
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# UNITED STATES PATENT OFFICE.

HARTSHORN WHITE AND MORRIS LEVY, OF PHILLIPSBURG, NEW JERSEY.

## IMPROVEMENT IN EXHAUST-NOZZLES.

Specification forming part of Letters Patent No. **166,910**, dated August 17, 1875; application filed July 14, 1875.

*To all whom it may concern:*

Be it known that we, HARTSHORN WHITE and MORRIS LEVY, of Phillipsburg, in the county of Warren and State of New Jersey, have invented a new and Improved Device for Preventing Noise from Steam Escaping into the Atmosphere which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a vertical section of our apparatus as applied to the safety-valve of a steam-boiler. Fig. 2 is a similar section of the same as applied to steam-nozzles used for exhausting air.

Similar letters indicate corresponding parts.

This invention consists in the combination, with a steam-escape pipe, of a hood made of a sheet of vulcanized india-rubber, or other suitable flexible material, and filled with sponge or other porous material capable of absorbing water, in such a manner that the steam which issues from the escape-pipe has to pass through the absorbent material contained in the hood, whereby a portion of the steam is condensed, its tension is materially reduced, and the noise generally produced by steam escaping into the atmosphere is avoided. The object of constructing the hood or integument of a flexible material is, that it can be applied to the mouths of different-sized pipes.

In the drawing, the letter A designates a pipe through which steam escapes into the atmosphere. This pipe may either be used in connection with the safety-valve B of a steam-boiler, as shown in Fig. 1, or it may be used in connection with a steam-nozzle, C, as shown in Fig. 2; or it may be used in connection with any valve or device which serves to let off steam from a boiler, generator, or vessel of any kind, combined with a hood or integument, D, made of a sheet of india-rubber. The said hood is perforated with a large number of holes, and it is filled with sponge or any other

porous material capable of absorbing water. The steam which issues from the escape-pipe or pipes A, on coming in contact with the absorbent material in the hood D is partly condensed, and its tension is reduced to such a degree that the same, as it finally escapes into the atmosphere, produces no perceptible noise. In the example represented by Fig. 2 of the drawing, we have shown two escape-pipes, which are covered by one and the same hood A.

It is obvious that the form or shape of our hood must be changed according to the position in which it is to be used, and we do not wish to be confined in this respect to either of the shapes represented in the drawing. That portion of the steam which is not condensed in its passage through the absorbent material contained in the hood A escapes through the perforations in said hood, and it is desirable that the hood shall be made of such material which will not be liable to produce a noise by the action of the steam passing through its perforations. By constructing the hood or integument for the fibrous absorbent of flexible material the same can be applied to the mouths of different-sized pipes; and, moreover, the flexible material, as before stated, effectually prevents any noise of the steam passing through its perforations.

What we claim as new, and desire to secure by Letters Patent, is—

The combination, with a steam-pipe, of a perforated hood or integument constructed of rubber or other flexible material, and filled with an absorbent material, substantially as and for the object specified.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 10th day of July, 1875.

HARTSHORN WHITE. [L. S.]  
MORRIS LEVY. [L. S.]

Witnesses:

JOS. KING ARNDT,  
LEWIS OPPER.