

(No Model.)

H. O. OLSON.
EXHAUST NOZZLE.

No. 546,495.

Patented Sept. 17, 1895.

Fig. 1.

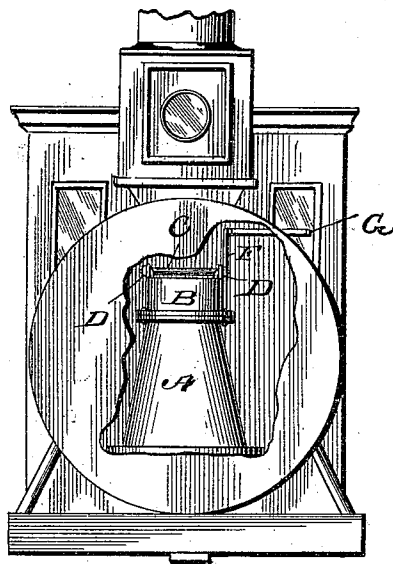


Fig. 2.

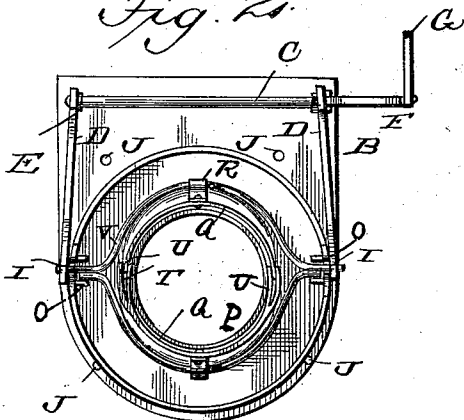


Fig. 3.

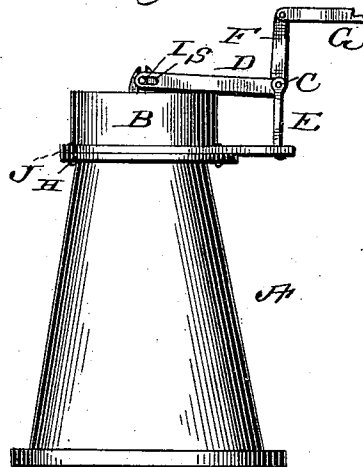


Fig. 4.

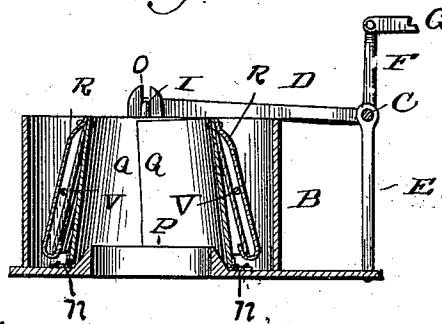
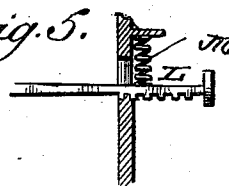


Fig. 5.



Inventor

Hans Oth Olson.

Witnesses
John Grinnell
John Olson.

UNITED STATES PATENT OFFICE.

HANS OTTO OLSON, OF TWO HARBORS, MINNESOTA.

EXHAUST-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 546,495, dated September 17, 1895.

Application filed February 21, 1895. Serial No. 539,316. (No model.)

To all whom it may concern:

Be it known that I, HANS OTTO OLSON, a citizen of the United States, residing at Two Harbors, in the county of Lake and State of Minnesota, have invented a new and useful Exhaust-Nozzle; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part thereof.

The object of the invention is to provide a new and improved attachment for an exhaust-nozzle for engines, especially locomotive-engines, which is simple and durable in construction, and serves to govern the exhaust by increasing or diminishing the outlet.

The invention consists in certain parts, which will be described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the invention as applied to a locomotive-engine. Fig. 2 is a top plan view of the exhaust-nozzle, and Fig. 3 is a side elevation of the same. Fig. 4 is a central vertical section of my improved attachment as applied. Fig. 5 shows the locking device for regulating said improved exhaust-nozzle.

A represents an ordinary exhaust-stand having my improved exhaust-nozzle B attached by bolts H through holes J J.

C shows the shaft journaled in standards E E, having arms D D attached.

F shows the arm connecting shaft C and regulating rod G, which for convenience I extend back to the engine-cab.

V shows the circular hoop working in guides R R and O O, having its ends I I projecting into slots S S in arms D D.

L shows the locking device in cab, being held in place by spiral spring M.

P shows a guide to guide the passage of steam from the nozzle.

Q Q show two circular halves hinged at their lower ends at N N, one of said circular halves having apertures U U, wherein the other circular half interposes, thereby preventing all escape of steam through the sides of said exhaust-head.

The operation is as follows: When it is desired to increase the steam-passage I lift hoop V by means of lever G, that in turn opens the circular halves Q Q and hence increases the opening, and when I desire to diminish the passage for the steam I lower said hoop, and that closes said circular halves closer together, and hence reduces the passage. As will be observed, guides R R are on an incline. By raising said hoop V they open, and by lowering same they close, said nozzle.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an exhaust nozzle for a locomotive engine, the combination of a circular casing having guides on its inner sides, a regulating hoop working in said guides, two circular halves hinged adjacent to a circular elevation in the base of said casing, one of said circular halves having apertures, wherein the other interposes, substantially as described and shown.

2. In an exhaust-nozzle the combination of a circular casing, two circular halves hinged to said casing, a circular hoop working in said casing to regulate said circular halves by means of two incline guides on the outside of the circular halves, substantially as described and shown.

3. In an improvement for an exhaust-nozzle the combination of a circular casing with guides on its inner sides, two circular halves hinged to said casing, and being regulated by a circular hoop working in said guides, the ends of said hoop projecting outside of said casing, and engaged in arms having slotted holes for said ends to work in, and extending to a shaft at a convenient place, said shaft being journaled in standards; an arm extending from said shaft and connecting to a rod which may be extended back to the engine-cab or to any convenient place substantially as described and shown.

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

HANS OTTO OLSON.

Witnesses:

CHARLES M. FLOATER,
JOHN OLSON.