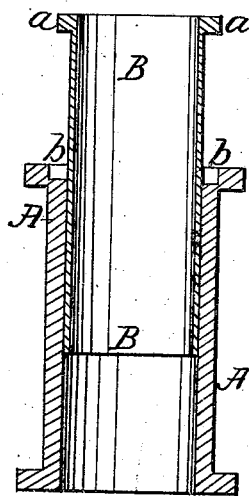


*W. Eddy,*  
*Steam Engine Attachment,*  
*Nº 5024,                      Patented Mar. 20, 1847.*



# UNITED STATES PATENT OFFICE.

WILSON EDDY, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO SEPTIMUS NORRIS, OF PHILADELPHIA, PENNSYLVANIA.

## STEAM-CYLINDER.

Specification of Letters Patent No. 5,024, dated March 20, 1847.

*To all whom it may concern:*

Be it known that I, WILSON EDDY, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful improvement in the manner of constructing the cylinders of steam engines, which improvement is equally applicable to those used for locomotives or stationary purposes; and I do hereby declare that the following is a full and exact description thereof.

It is well known to engineers that the insides of the cylinders of steam engines after having been in use for some time, become irregular in form, being frequently cut into ridges and hollows by the continued action of the piston, which not only increases the friction, but admits of the passing of steam from one side of the piston to the other. The remedy in this case has been to bore out the cylinder anew, a process that is not only attended with considerable loss of time, but likewise increases the capacity of the cylinder, and that sometimes to an extent that renders the supply of steam from the boiler insufficient, and additions have actually been made to boilers from this cause.

My improvement removes this difficulty entirely. It consists in making the steam cylinder double, one cylinder being placed within the other. The outer cylinder, in this case has the same appearance with those now in use, being provided with the ordinary stuffing boxes, and steam ways, and the appendages for attaching it in place.

The inner cylinder I make of iron, brass, or any other suitable metal, or composition of metals, its inner diameter being such as is required by the engine, and its outer diameter such as will enable it just to pass into the outer cylinder. This outer cylinder may, if desired, be bored throughout in the man-

ner of the ordinary steam cylinder, but it is not necessary that it should be a perfect cylinder as it may be furnished with projecting fillets, or bearings, on its inside, which being made true the inner cylinder will be fitted and inserted with greater care than in the former case. The inner cylinder must, of course have openings through it corresponding with the steam openings in the outer cylinder, and it must be of such length as that when inserted in the outer cylinder the ends of the two shall be perfectly flush, and the ordinary cylinder heads shall cover both accurately.

The accompanying drawing represents a section through the axis of my combined cylinders. A, A, is the outer, and B, B, the inner cylinder; this latter is represented as having a rim, or fillet, at *a, a*, that falls into a corresponding rebate *b, b*, in the end of the outer cylinder.

When I first construct my combined cylinders I prepare one or more inner cylinders, in addition to that in actual use, and when it becomes requisite to renew the inner cylinder this may be readily done at the usual station without loss of time.

Having thus fully described the nature of my improvement in cylinders of steam engines what I claim therein as new, and desire to secure by Letters Patent, is—

The combining together of two cylinders, an exterior and an interior, as herein set forth, the exterior cylinder being permanently attached to the engine in the ordinary way, and the interior cylinder being renewable at pleasure, as herein fully made known.

WILSON EDDY.

Witnesses:

LORENZO NORTON,  
E. W. BOND.