

*D. C. McMillen,*

*Tuyere,*

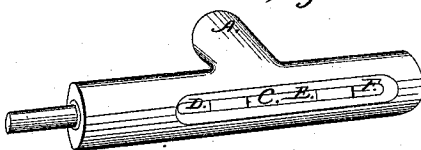
*N<sup>o</sup> 4855*

*Patented Nov. 14, 1846*

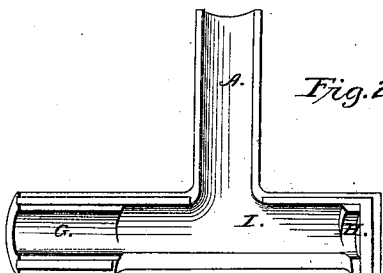
*Fig. 4.*



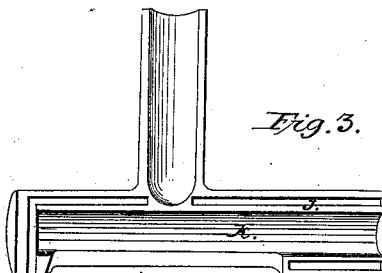
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



# UNITED STATES PATENT OFFICE.

DANIEL C. McMILLEN, OF PERSIA, NEW YORK.

TWYER.

Specification of Letters Patent No. 4,855, dated November 14, 1846.

*To all whom it may concern:*

Be it known that I, DANIEL C. McMILLEN, of Persia, in the county of Cattaraugus and State of New York, have invented a new and useful Improvement in Blacksmith's Twyers; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in having a shell or cylinder placed on to the front end of the pipe which connects with the bellows in the shape of a T from which the blast issues with a piston or roller inside of this cylinder so formed as to admit by turning of one or more discharges for the blast and so that each or all of such discharges may be increased or lessened and the blast thereby regulated and changed to suit the work.

I construct my twyer of cast iron and I cast it in three parts—the upper part—the lower part and the roller.

The following is a full clear and exact description of the construction of my twyer, reference being had to the annexed drawings making a part of this specification in which—

Figure 1 is a perspective view of the twyer complete. Fig. 2 is the inside of the lower part Fig. 3 the inside of the upper part and Fig. 4 the roller or piston.

In constructing my twyer for an ordinary forge I make the tube A connecting with the bellows pipe about two inches in diameter; this tube leads to the concavity I, in the cylinder under and behind the roller, which concavity is made in a scroll form and is about seven inches long. Excepting this concavity the inside of the cylinder is made round and the roller is made to fit it excepting where its shape is changed to admit and regulate the blast. I make an issue C in the front side of the cylinder about seven inches long with the upper lip beveled to give a proper direction to the

blast—the upper lip projecting beyond the under lip and the under lip being also beveled to prevent clogging. The blast issuing from the concavity I, passes under the roller and through the grooves D, E, F made in the roller in an upward direction to the fire. The roller being in one position the blast issues only through the groove E—turning it a little over it issues through the grooves E and D, turning it farther it issues through the grooves E, D, and F and turning it still farther the blast is in the shape of a thin sheet of wind extending the whole length of the issue C in the cylinder. By having differently shaped rollers the blast may be made to issue in any desired form. The blast may be also varied and regulated by having a piston or roller to move lengthwise. However much the blast may be contracted or expanded the direction of the wind remains the same. The upper and lower part of the twyer are matched together by a groove and tongue J. The inside of the upper part of the cylinder K, is made round to fit the roller. The inside of the lower part is made to fit the roller at H and both ends of the concavity. L is a rod attached to the roller to turn it. By this arrangement the blast from the twyer is susceptible of many variations without changing the direction of the wind and is the most easily adapted to any kind of business.

What I claim as my invention and desire to secure by Letters Patent is—

The construction of an adjustable bellows twyer by the combination of a cylinder or shell with a piston or roller placed therein to regulate and vary the blast in the manner aforesaid.

DANIEL C. McMILLEN.

Witnesses:

E. H. SOUTHWICK,  
JOHN B. WILBOR.