

W. McEwen,

Water-Back for Forges;

N<sup>o</sup> 2,349.

Patented Nov. 10, 1841.

Fig. 2.

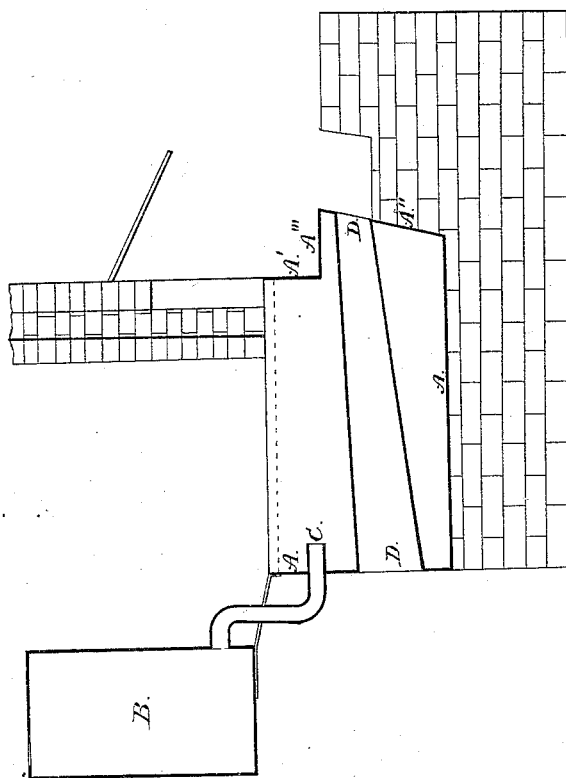
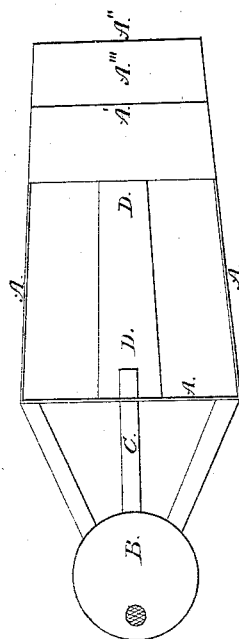


Fig. 1.



# UNITED STATES PATENT OFFICE.

WM. McEWEN, OF NORRISTOWN, PENNSYLVANIA.

## METHOD OF CONSTRUCTING WATER-BACKS FOR FORGES AND FURNACES.

Specification of Letters Patent No. 2,349, dated November 10, 1841.

*To all whom it may concern:*

Be it known that I, WILLIAM McEWEN, M. D., of Norristown, in the county of Montgomery and State of Pennsylvania, have invented an Improvement in the Manner of Constructing Water-Backs for Forges; and I do hereby declare that the following is a full and exact description thereof.

The principal improvement in my water back consists in so constructing it as that the cast-iron box, or tank, which contains the water, and the fore end of which constitutes the forge back, shall project into the body of the forge to a distance beyond the wall, or stack, which constitutes the brick-work, or masonry, thereof, so that the blast shall issue from the nozzle, or twyer, in advance of the ordinary forge back; by which improvement it is specially adapted to the heating of wide bars, or other large masses of iron.

In the accompanying drawing, Figure 1, is a top view, and Fig. 2, a vertical section through my water back.

A, A, is a cast-iron box, or tank, the fore end of which A', A'', constitutes the forge back.

B, is a barrel, or other reservoir, from which water may be supplied to the box A, A; but where a stream of water can be commanded, it may be kept running into and out of the said box; the manner of furnishing this supply being dependent upon the particular situation of the forge.

C, is a tube through which the water may run from B.

D, D, is a tube for the passing of the nozzle of the bellows.

A', is the line of the chimney, or stack of masonry, at the back of the forge, which is built above it.

A'', is an offset extending horizontally forward from the line A', at the level of the hearth of the forge, so as to project the front plate, A'', of the box forward, and thus to cause the blast to escape from the nozzle at a distance from the line A', equal to the width of the offset A'', which distance must be determined by the nature of the work to be done.

Having thus, fully described the nature of my improvement in the water backs for forges, &c., what I claim therein as new, and desire to secure by Letters Patent, is—

The forming of the box, or tank, A, A, with a projection, or offset, as shown at A'', so as to cause the blast from the bellows to escape from the nozzle, or twyer, in advance of the line of the ordinary forge back, in the manner and for the purpose above described.

WILLIAM McEWEN.

Witnesses:

THOS. P. JONES,  
B. WOODCOCK.