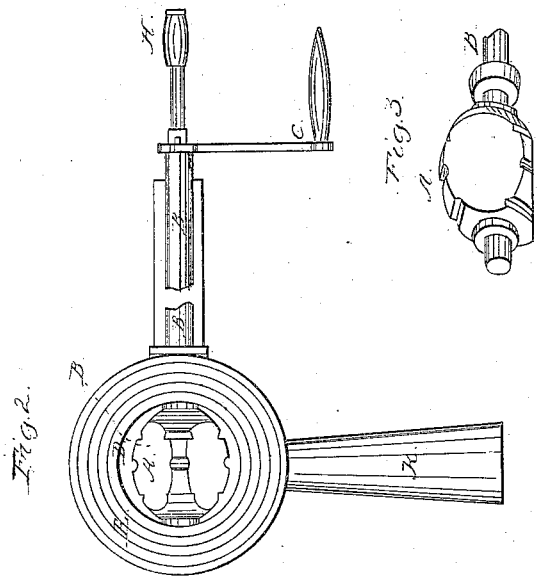
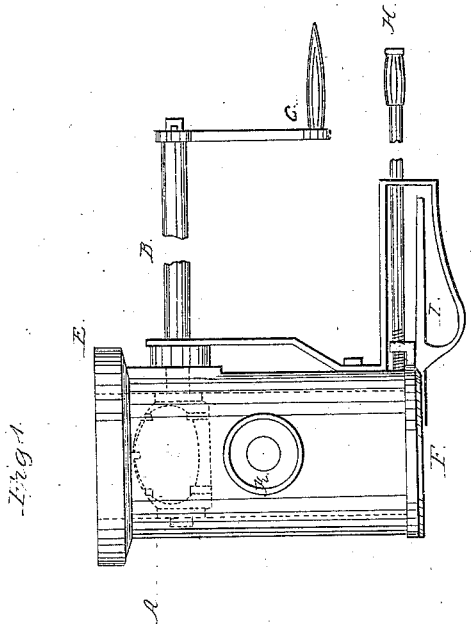
J. Laubach,

Tuyere,

No. 2,348. Patented Nov. 10, 1841.





UNITED STATES PATENT OFFICE.

JOSEPH LAUBACH, OF MIDDLETOWN, PENNSYLVANIA.

CONSTRUCTION OF BLACKSMITH OR FORGE HEARTHS.

Specification of Letters Patent No. 2,348, dated November 10, 1841.

To all whom it may concern:

Be it known that I, JOSEPH LAUBACH, of Middletown, Dauphin county, State of Pennsylvania, have invented a new and useful Improvement in the Construction of Forges for Blacksmiths, called "the Improved Pennsylvania Tew-Iron," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side elevation. Fig. 2 is a plan. Fig. 3 is a perspective view of the revolving hearth.

Similar letters refer to corresponding parts.

In the use of the common tew irons the nozzle of the bellows is liable to be stopped with coal and when the blast is given with considerable force to drive the coal upward and to make a very irregular blast, besides other evils which the blacksmith has long suffered. Shugert's patented tew irons are liable to become stopped up and quickly burned out besides producing an irregular blast. The perforated hearth in Kaign's patent and the grate in Bissey's are also liable to be choked, and burned out, in a very short time.

My invention and improvement is designed to remove the evils above enumerated and consists of a large three sided solid piece of cast iron A, fixed on a horizontal axle B, passing through the forge, with a crank C on the end by which it is turned at the front of the forge for shaking or stirring the coal instead of using the poker; which revolving, or vibrating piece of cast iron is placed in the hearth where the fire is made; it is perforated with a square aperture corresponding with the square part of the axle upon which it is secured.

A vertical cylinder D about 8 or 10 inches high and 4 or 5 inches diameter, open at both ends having a rim E around the upper end which is made concave or basoning on the top surface corresponding with the depression of the hearth for containing the coal, is placed in the forge with the concave end E, before described, placed in the hearth so as to correspond therewith and form part of the same—the grating in said cylinder being entirely omitted and its place supplied by the before mentioned revolving piece of thick cast iron which is placed in the upper part of the cylinder leaving spaces between the outer surfaces and the inside of the cylinder for the passage of the blast from the nozzle of the bellows which is inserted into the cylinder near the bottom thereof—the lower end of the cylinder being closed by a valve F during the operation of the blast to prevent the escape of the air except through the spaces before mentioned. By this arrangement the blast is rendered uniform and regular and free, but may be increased or diminished at pleasure without the danger of blowing the coals up from the hearth; or the passages for the blast becoming stopped; or the revolving grate being burnt out very soon, or the nozzle of the bellows becoming at all affected by the heat. Besides the blacksmith can agitate the coals with the greatest facility and effect without the use of a poker by simply turning the cast iron three sided hearth or agitator A by means of the crank C at the front of the forge. The poker, however, may also be used.

The small cinders which fall through the spaces between the revolving hearth A and the cylinder D are received into said cylinder D and before they accumulate so as to stop the nozzle of the bellows, are removed or discharged from the cylinder by drawing the valve F by means of the handle H, at the front of the forge—the valve moving in grooves or on a way I under the cylinder.

The nozzle is inserted into a tube K projecting from the side of the cylinder—or it may be inserted directly into the cylinder.

The revolving hearth may be of a polygonal shape and grooved at the angle or corners crosswise to increase the draft through the fire.

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

Constructing the blacksmith's forge with a revolving or vibrating hearth in the manner and for the purpose herein set forth and in combination therewith the cylinder with a basoned rim forming part of the hearth and having a tube to receive the nozzle of the bellows—said cylinder receiving the blast from the bellows and serving as a receiver for the small cinders as before described.

JOSEPH LAUBACH.

Witnesses:
WM. P. ELLIOT,
EDM. MAHER.