W. DUNKERLY.

Improvement in Forge-Bonnets.

No. 114,115. Patented April 25, 1871.

Fig.1.

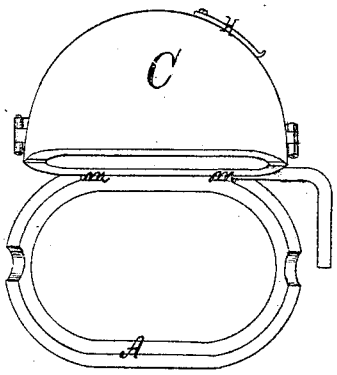


Fig.2.

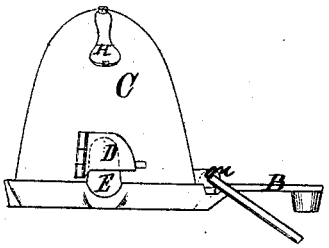


Fig.3.

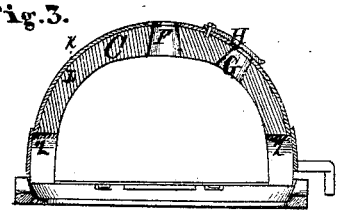
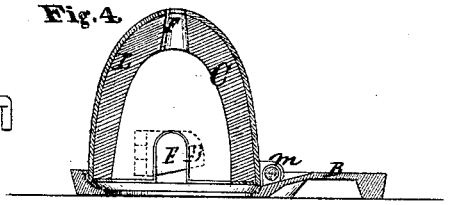


Fig.4.



Witnesses.

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WALTER DUNKERLY, OF WOONSOCKET, RHODE ISLAND.

Letters Patent No. 114,115, dated April 25, 1871.

IMPROVEMENT IN FORGE-BONNETS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WALTER DUNKERLY, of Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and valuable Improvement in "Forge-Furnaces;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a plan view of my invention with the bonnet thrown back.

Figure 2 is a side view.

Figures 3 and 4 are central vertical sections.

My invention has relation to an improvement in forge-furnaces; and

It consists in the construction and novel arrangement of devices designed to enable the bonnet to be removed from the fire at a moment's warning, as hereinafter described.

The letter A of the drawing designates a base piece or rim, which is seated on the top of the forge-frame surrounding the fire.

This base rim is provided with a projection or ledge, B, extending to the rear, and serving as a rest for the bonnet when it is thrown back.

The base rim is made upwardly flaring in such a manner that it will receive the base of the forge-bonnet within it when the bonnet is thrown forward over the fire. The upper edge of the rim is notched at each side to correspond with the openings in the base of the forge-bonnet.

C represents the forge-bonnet, which may be of any desirable form. It is preferably made in the form of an oval dome.

D D represent the doors, which close the openings E at the base of the bonnet on each side.

F designates the bore or aperture at the top of the bonnet for the escape of the gases.

G represents the sight-hole, usually placed between the bore and the opening E, and designed to permit a view of the irons.

The sight-hole is provided with a pivoted stop, H, arranged to swing into place over the hole when the displacing force is removed.

The bonnet is usually formed of plate metal, and its exterior surface should be polished or brightened in order to retard radiation.

From the base of the bonnet a ledge, *k*, extends inwardly around the entire circumference, passing over the openings E E by an upward bend, Z, at each point.

L designates a lining of cement, fire-brick, or other non-conducting substance, with which the interior of the bonnet is coated. This lining extends inwardly until it is flush with the edge of the ledge *k*.

The bore F in its passage through the lining is made upwardly tapering. So, also, is the passage through the lining which leads to the sight-hole.

The upward bends Z of the ledge K serve to protect the openings E E, and to keep the lining from becoming abraded or breaking away above these openings.

The bonnet is attached to the base rim A by means of a hinge, *m*.

Z represents a crank, whereby the bonnet may be moved on its hinge. Usually the shaft to which the crank is attached is an extension of the pivot-rod of the hinge, this pivot-rod, lettered *v* on the drawing, being rigidly keyed or attached to the lugs of the bonnet. Instead of a crank the bonnet may be moved by means of a wheel.

The entire attachment, both rim and bonnet, being removable, can be used or not, as may be desirable.

When in use the bonnet should be thrown back until the fire is kindled and the coarser products of combustion have passed off. The bonnet is then thrown over the fire, and the forge-furnace is ready for the introduction of the irons.

Having now described the construction and operation of my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The bonnet C, constructed substantially as described.

2. Jointly, the bonnet C and base rim A, hinged together, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WALTER DUNKERLY.

Witnesses:

HENRY HOLBROKE ROBINSON,

DANIEL M. EDWARDS.