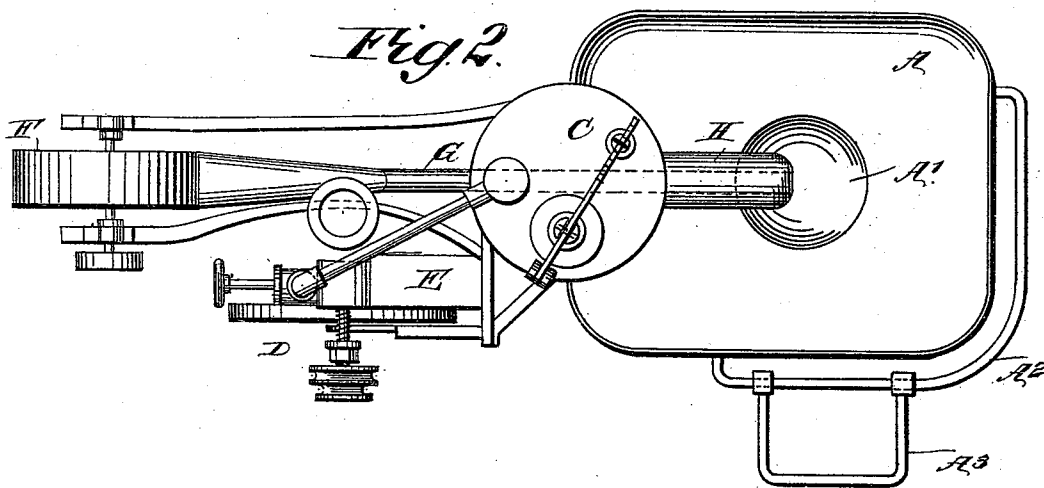
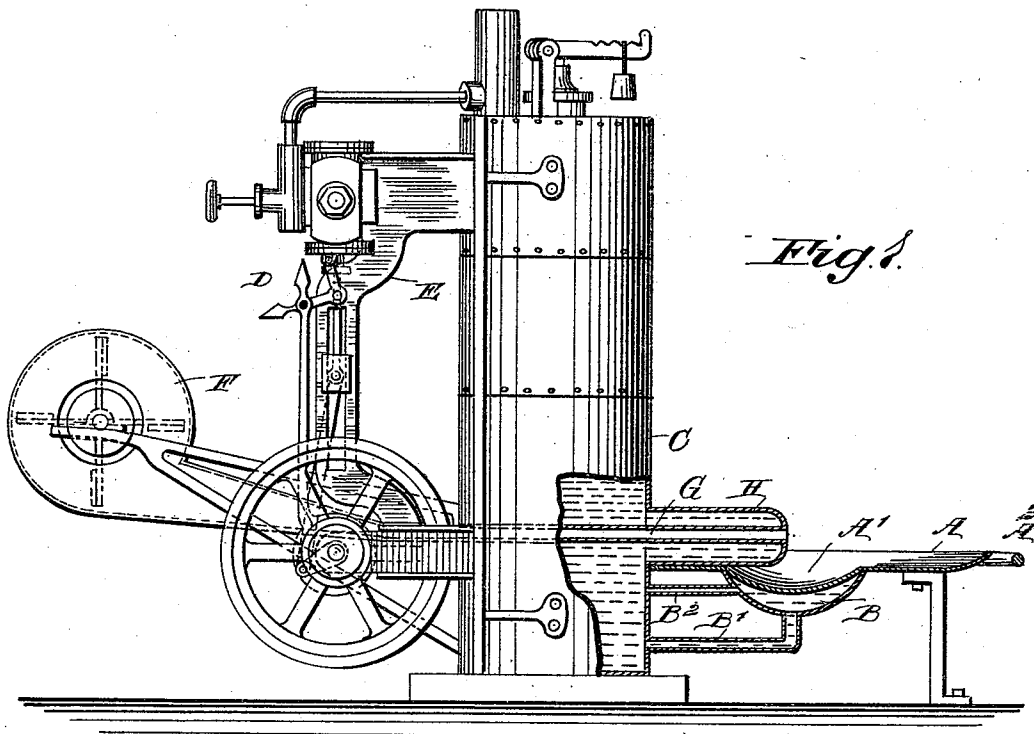


(No Model.)

A. RICE.
FORGE.

No. 536,581.

Patented Mar. 26, 1895.



WITNESSES:

J. M. Arde
Thos. G. Hooton

INVENTOR

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

AARON RICE, OF NORTHPORT, ASSIGNOR OF ONE-HALF TO JACOB RICH, OF
TUSCALOOSA, ALABAMA.

FORGE.

SPECIFICATION forming part of Letters Patent No. 536,581, dated March 26, 1895.

Application filed May 23, 1894. Serial No. 512,155. (No model.)

To all whom it may concern:

Be it known that I, AARON RICE, of Northport, in the county of Tuscaloosa and State of Alabama, have invented a new and Improved
5 Forge, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved forge, more especially designed for use by blacksmiths, and which is
10 comparatively simple and durable in construction, very effective in operation, and arranged to utilize the heat of the burning fuel for heating the iron and to generate steam for actuating a blower to supply the fuel with
15 an air blast.

The invention consists principally of a hearth having a double bottom in its basin, to form a water compartment connected with the boiler.

20 The invention further consists of an air blast pipe for the hearth, surrounded by a water jacket connected with the boiler.

The invention also consists in certain parts and details, and combinations of the same, as
25 will be hereinafter fully described and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate
30 corresponding parts in both views.

Figure 1 is a side elevation of the improvement, with parts in section, and Fig. 2 is a plan view of the same.

The improved forge is provided with a suitably constructed hearth A, formed in its center with a basin A', in which the fuel is placed for generating heat for heating the iron used in forging or other blacksmithing purposes. On the under side of this basin
40 A', is formed a water compartment B, connected by the pipes B' and B² with the lower end of a boiler C, erected in the immediate neighborhood of the hearth A, the latter being preferably attached at one end to the sides
45 of the boiler, as indicated in the drawings. The pipes B' and B² are located one above the other, to establish a circulation of water from the boiler through the compartment B.

The steam generated in the boiler C is utilized to actuate an engine D of any approved construction, supported on a frame E fastened to the shell of the boiler C, and this engine is adapted to drive a blower F supported from the boiler C and the frame E, as illustrated

in Fig. 1 and 2. The air blast pipe G leading 55 from the blower F passes through the boiler C, to extend at its front end onto the fuel contained in the basin A', so as to supply the said fuel with an air blast which is heated by its passage through the pipe G extending 60 through the hot water in the boiler C. The hot air blast pipe G is surrounded at its front projecting end by a water jacket H, opening into the boiler C, as plainly indicated in Fig. 1, so that the water from the boiler can circulate around the said air blast pipe, and at the same time the water is heated in the jacket H, by the heat generated in the basin A' by the fuel burning therein. Thus it will be seen that the heat generated by the fuel in 70 the basin A', is utilized to heat the water in the compartment B, and also the water contained in the jacket H, so that steam is quickly generated in the boiler C, and this steam is utilized to drive the engine D, for setting the 75 fan F in motion.

On the front and on one side of the hearth A is arranged the usual tool support A², provided with an extension A³ at the side, as illustrated in Fig. 2. 80

It will be seen that when the forge is in operation, the fan F, driven from the engine D, supplied with steam from the boiler C, forces an air blast through the pipe G, into the fuel, so as to insure proper combustion, 85 and also to generate the proper heat for blacksmithing and other purposes. At the same time the heat thus generated serves to generate steam in the boiler, by heating the water in the compartment B and the jacket H. 90

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a forge, the combination with a hearth having a water compartment under its basin, 95 of a boiler, pipes one above the other and connecting the compartment with the boiler, an engine driven by the boiler, a blower driven by the engine and provided with a blast pipe extending through the boiler and projecting 100 over the basin of the hearth, and a water jacket on the front of the boiler and surrounding the blast pipe, substantially as described.

AARON RICE.

Witnesses:

S. F. VORTISCH,
J. RICH.