

(No Model.)

J. T. ACE.
FIRE BOX FOR FORGING.

No. 506,576.

Patented Oct. 10, 1893.

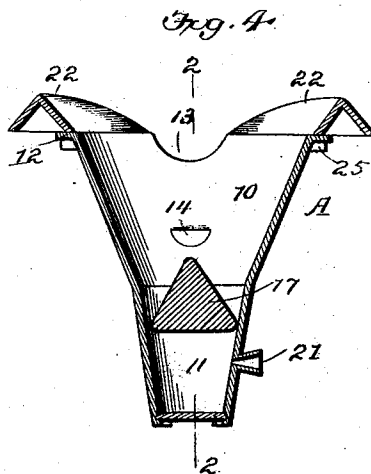
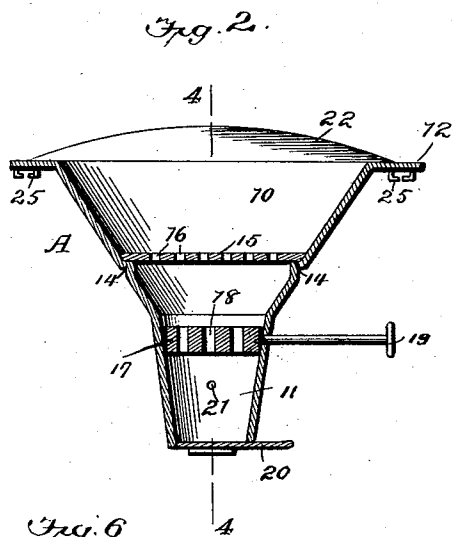
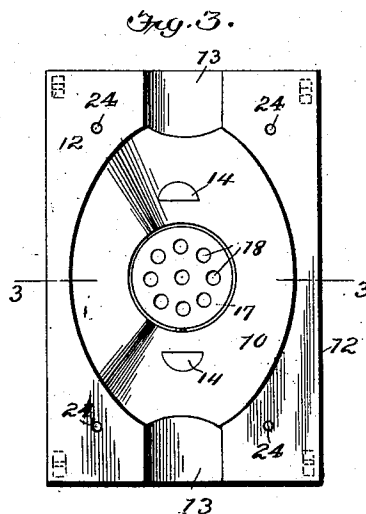
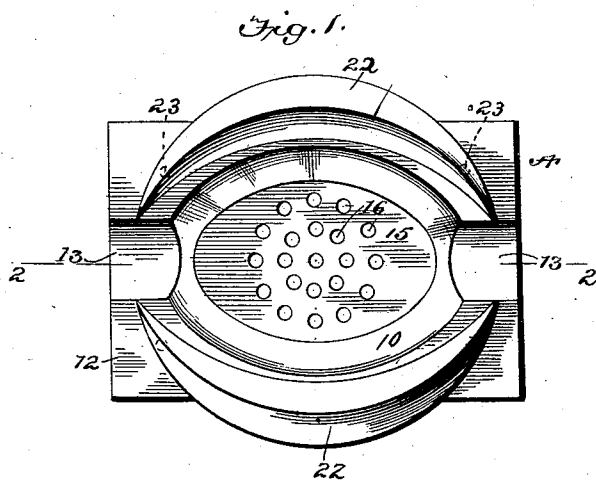


Fig. 6

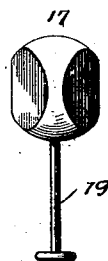
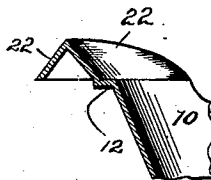


Fig. 5.



Witnesses

John D. mine
[Signature]

Inventor
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UNITED STATES PATENT OFFICE.

JAMES T. ACE, OF WILKES-BARRÉ, PENNSYLVANIA.

FIRE-BOX FOR FORGING.

SPECIFICATION forming part of Letters Patent No. 506,576, dated October 10, 1893.

Application filed April 13, 1893. Serial No. 470,181. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. ACE, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Fire-Boxes for Forging; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in fire-boxes for forging, and the objects of my improvements are to provide a box which dispenses with brick and other linings; which is durable and simple in construction; which is adapted to burn either hard or soft coal; and which may be easily and quickly cleaned.

To this end my invention consists in the novel construction and combination of these several parts as will be hereinafter more fully set forth and then pointed out in the claims, reference being had to the accompanying drawings and the letters and figures of reference marked thereon, in which—

Figure 1 is a plan view of the fire box. Fig. 2 is a sectional view taken on the lines 2—2 of Figs. 1 and 4. Fig. 3 is a plan view of the fire-box with the crescent-like pieces and the supplemental grate removed. Fig. 4 is a transverse vertical section with the supplemental grate removed and a modified form of rocking grate shown, the said view taken on the lines 4—4 of Figs. 2 and 3. Fig. 5 is a fragmentary section of a modified form of the fire-box. Fig. 6 is a plan view of the form of rocking grate shown in Fig. 4.

In the drawings A is the fire-box comprising the fuel-chamber 10 and the air-chamber 11. The fuel-chamber 10 is preferably elliptical in cross section which admits of a greater length and less width to the fire and is provided at its upper extremity with the rectangular flange 12, the said flange having the groove 13 extending in line with the major axis of the elliptical fuel-chamber. This groove 13 admits of placing the bar of iron to be heated into the fire to a greater degree than would be the case should the surface of the flange be perfectly flat, thus causing the iron to be more quickly and thoroughly heated. Within the fuel-chamber and somewhat above

the point where said chamber joins the air-chamber are the lugs or projections 14 upon which is adapted to rest the removable supplemental grate or plate 15, the said plate having the apertures 16 for the egress of the ashes that would otherwise collect thereon. Below the fuel-chamber and formed integrally with said chamber is the air-chamber 11. At a point near the top and journaled in the casing of the air-chamber is a rocking grate 17, the said grate conforming to the shape of the air-chamber and provided with apertures 18 for the egress of ashes. The rocking grate is further provided with the handle 19 which serves as a means for rocking as well as a journal for the grate. At the extreme lower portion of the air-chamber 11 a sliding plate or valve 20 is provided, the said plate having beveled edges to fit into like grooves in the casing of the air-chamber. This removable sliding plate or valve when opened will allow the ashes or other collections to descend into any receptacle placed under the plate for that purpose. The plate or valve 20 when closed directs the air, that enters the tuyere opening 21, in an upward course through the fuel. The tuyere opening 21 is located below the rocking grate 17 and above the sliding valve or grate 20, the said opening being connected direct to the blast-pipe of a blast-engine or bellows. The flange 12 has upon its upper surface and located at the sides of the opening of the fuel-chamber the crescent-like pieces 22. These crescent-like pieces are preferably V-shaped in cross section and are removably connected to the flange 12 by the lugs or pins 23 fitting into the apertures 24 of said flange. The crescent-like pieces prevent a lateral displacement of the fuel when a piece of metal is inserted therein. Depending from the flange 12 are the L-shaped projections or lugs 25, the said lugs adapted to receive the ends of legs for the further support of the fire-box.

When hard coal or fuel is used the fuel-chamber need not have the depth required for soft coal. For this purpose the supplemental grate is supplied, while the supplemental grate is removed and the rocking grate used when burning soft coal or fuel.

I wish it distinctly understood that I do not confine myself to the exact form or construc-

tion shown, as this may be changed somewhat without departing from the spirit of my invention, such for instance as shown in Figs. 5 and 6.

5 In Fig. 5 the crescent-like pieces are formed integral with the flange of the fire-box.

Fig. 6 is a plan view of a rocking grate that is round and approximately triangular in cross section, the grate being shown in cross section in Fig. 4.

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

1. A fire-box having a fuel-chamber and an 15 air-chamber, a rocking-grate held in said air-chamber, and a removable supplemental grate in the fuel-chamber, substantially as described.

2. The combination, with a fire-box provided 20 with a grate for supporting the fuel, of crescent-like pieces on said fire-box to prevent the lateral displacement of the fire or fuel, substantially as described.

3. A fire-box having an air-chamber and a 25 fuel-chamber, and a flange upon the fire-box having crescent-like V-shaped pieces removably connected thereto to prevent the lateral displacement of the fire or fuel, substantially as described.

30 4. The combination with a fire-box having a fuel-chamber an air chamber and a flange upon the fuel-chamber, of a groove in said flange and extending into the fuel-chamber

the said air-chamber having a rocking grate held therein and a removable supplemental 35 grate arranged within the fuel-chamber, substantially as described.

5. The combination with a fire-box having a fuel-chamber an air-chamber and a flange 40 upon the fuel-chamber, of crescent-like pieces arranged upon the flange and to the side of the fuel-chamber, the air-chamber having a grate held therein, and a removable supplemental grate located in the fuel-chamber, sub- 45 stantially as described.

6. The combination with a fire-box, having a fuel-chamber an air-chamber, and a flange 45 upon the fuel-chamber, of a groove in said flange and extending into the fuel-chamber and crescent-like pieces arranged upon said 50 flange, substantially as described.

7. A fire-box having a fuel-chamber an air-chamber and crescent-like pieces arranged 55 above and to the side of said fuel-chamber, an aperture for the ingress of air in the air-chamber, a sliding plate or valve held removably in the air-chamber below the air inlet to direct the air in an upward course and as a support for the ashes, and a grate for supporting the fuel, substantially as described. 50

In testimony whereof I affix my signature in presence of two witnesses.

JAMES T. ACE.

Witnesses:

E. D. NICHOLS,
HARRY KOONS.